

APPENDIX G2

Macquarie Geotechnical— Laboratory Results

Part 3 of 3

BORDER TO GOWRIE REVISED DRAFT ENVIRONMENTAL IMPACT STATEMENT

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	01/10/2021
Project Name:	Inland Rail B2G	Completed:	01/10/2021
Hole Location:	N3 - Brookstead to Gowrie	Logged By:	A.Sharma
Hole Coordinates:	379602.0 m E 6954326.7 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	Comacchio 305	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	427.11 m
		Datum:	AHD
		Operator:	J.Komung



310-03-BH3610 Depth Range: 7.50 - 7.95 m

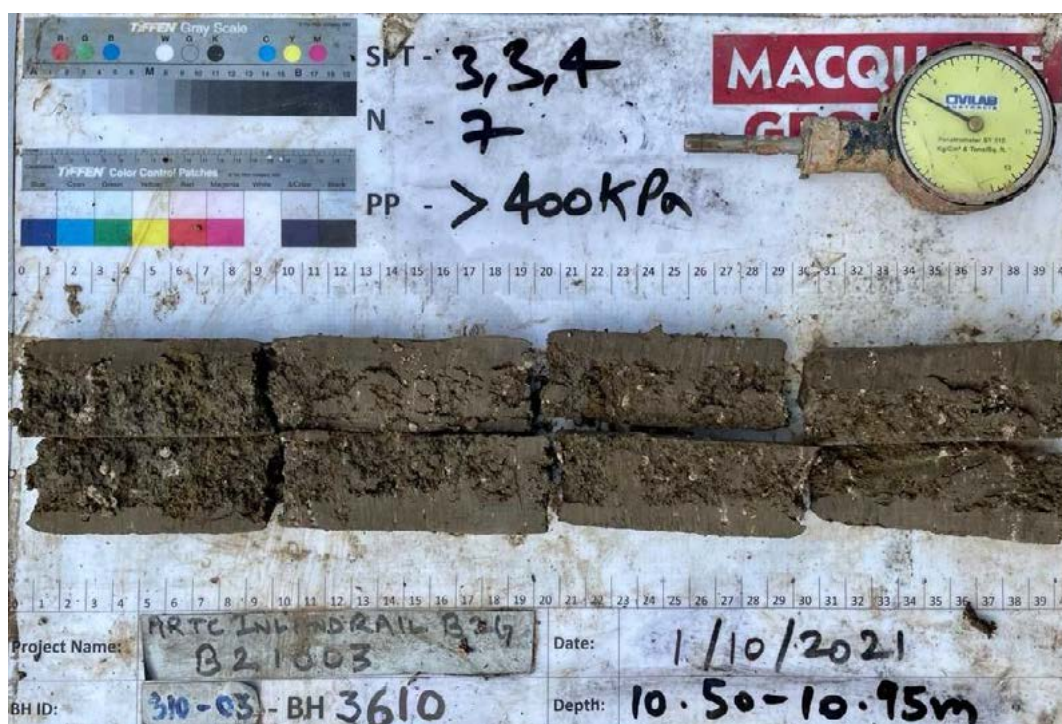


310-03-BH3610 Depth Range: 9.00 - 9.45 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	01/10/2021
Project Name:	Inland Rail B2G	Completed:	01/10/2021
Hole Location:	N3 - Brookstead to Gowrie	Logged By:	A.Sharma
Hole Coordinates:	379602.0 m E 6954326.7 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	Comacchio 305	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	427.11 m
		Datum:	AHD
		Operator:	J.Komung



310-03-BH3610 Depth Range: 10.50 - 10.95 m



310-03-BH3610 Depth Range: 12.00 - 12.45 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	01/10/2021
Project Name:	Inland Rail B2G	Completed:	01/10/2021
Hole Location:	N3 - Brookstead to Gowrie	Logged By:	A.Sharma
Hole Coordinates:	379602.0 m E 6954326.7 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	Comacchio 305	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	427.11 m
		Datum:	AHD
		Operator:	J.Komung



310-03-BH3610 Depth Range: 13.50 - 13.95 m

POSITION : E: 361968.3, N: 6933646.9 (MGA94 Zone 56)

SURFACE ELEVATION : 503.75 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 13/09/2021

LOGGED BY : T.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE

EXCAVATION INFORMATION				MATERIAL						
VE PENETRATION E F H	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
			0.0			TOPSOIL: SILT with clay trace cobbles: low plasticity fines, brown, sub-angular cobbles (<200mm) trace rootlets (<1mm).				TOPSOIL
			503.3							
		0.50m B00050	0.5		CH	Silty CLAY trace sand: high plasticity fines, orange brown, fine grained sand	M (<PL)	H		RESIDUAL SOIL
	Not Observed		502.8							
		0.90m	1.0							
		1.20m B00120	1.5			BASALT: fine crystalline, pale yellow brown and grey, high to very high strength, highly weathered with Fe staining: Recovered as sandy GRAVEL with clay and cobbles trace sand and boulders				HIGHLY WEATHERED BEDROCK
			502.3							
			1.70m							
			501.8			Hole Terminated at 1.70 m Refusal on rock Testpit reinstated to surface				
			2.0							
			501.3							
			2.5							
			500.8							
			3.0							
			500.3							
			3.5							
			4.0							
PHOTOGRAPHS NOTES										
METHOD N Natural Exposure X Existing Excavation BH Backhoe Bucket B Bulldozer Blade R Ripper		PENETRATION VE WH VH No Resistance WATER 10 Oct., 73 Water Level on Date shown water inflow water outflow		SAMPLES & FIELD TESTS U - Undisturbed Sample D - Disturbed Sample B - Bulk Disturbed Sample MC - Moisture Content PP - Pocket Penetrometer (UCS kPa) VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)			CLASSIFICATION SYMBOLS & SOIL DESCRIPTION Based on Unified Classification System MOISTURE D - Dry M - Moist W - Wet M > PL- Moisture Content > Plastic Limit M ~ PL- Moisture Content = Plastic Limit M < PL- Moisture Content < Plastic Limit		CONSISTENCY/ RELATIVE DENSITY VS - Very Soft S - Soft F - Firm St - Stiff VSst - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense	

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

POSITION : E: 361968.3, N: 6933646.9 (MGA94 Zone 56)	SURFACE ELEVATION : 503.75 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 13/09/2021	LOGGED BY : T.Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE		



310-03-TP3143 - 1 Depth Range: 0.00 - 1.70 m



310-03-TP3143 - 2 Depth Range: 0.00 - 1.70 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 361968.3, N: 6933646.9 (MGA94 Zone 56)

SURFACE ELEVATION : 503.75 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 13/09/2021

LOGGED BY : T.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3143 - 3 Depth Range: 0.00 - 1.70 m



310-03-TP3143 - 4 Depth Range: 0.00 - 1.70 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

CLIENT : ARTC
LOCATION : N3 - Brookstead to Gowrie

PROJECT : Inland Rail B2G

FILE / JOB NO : B21003
SHEET : 4 OF 4

POSITION : E: 361968.3, N: 6933646.9 (MGA94 Zone 56)	SURFACE ELEVATION : 503.75 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 13/09/2021	LOGGED BY : T.Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE		



310-03-TP3143 - 5 Depth Range: 0.00 - 1.70 m

POSITION : E: 362854.6, N: 6933592.6 (MGA94 Zone 56)

SURFACE ELEVATION : 504.76 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 13/09/2021

LOGGED BY : T.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE

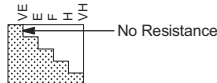
EXCAVATION INFORMATION					MATERIAL									
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER 100 200 300 400 kPa	STRUCTURE & Other Observations		
				0.0			TOPSOIL: SILT with clay trace gravel and cobbles: low plasticity fines, dark brown and grey, fine to medium sub-rounded to sub-angular gravel, sub-angular cobbles (<200mm) with roots (<2mm)					TOPSOIL		
				0.30m										RESIDUAL SOIL
				0.40m										0.40: PP In-situ =500 kPa
				0.5										EXTREMELY WEATHERED MATERIAL
				0.60m										
				1.00m										
				1.5										
				2.00m										
				2.30m										
								502.3			Hole Terminated at 2.30 m Target depth Testpit reinstated to surface			
				2.5										
				3.0										
				3.5										
				4.0										
PHOTOGRAPHS NOTES														
METHOD		PENETRATION		SAMPLES & FIELD TESTS			CLASSIFICATION SYMBOLS & SOIL DESCRIPTION		CONSISTENCY/ RELATIVE DENSITY					
N Natural Exposure X Existing Excavation BH Backhoe Bucket B Bulldozer Blade R Ripper				U - Undisturbed Sample D - Disturbed Sample B - Bulk Disturbed Sample MC - Moisture Content PP - Pocket Penetrometer (UCS kPa) VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)			Based on Unified Classification System		VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense					
		WATER 10 Oct., 73 Water Level on Date shown water inflow water outflow					MOISTURE D - Dry M - Moist W - Wet M > PL - Moisture Content > Plastic Limit M ~ PL - Moisture Content = Plastic Limit M < PL - Moisture Content < Plastic Limit							

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 362854.6, N: 6933592.6 (MGA94 Zone 56)	SURFACE ELEVATION : 504.76 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 13/09/2021	LOGGED BY : T.Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE		



310-03-TP3144 - 1 Depth Range: 0.00 - 2.30 m



310-03-TP3144 - 2 Depth Range: 0.00 - 2.30 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 362854.6, N: 6933592.6 (MGA94 Zone 56)	SURFACE ELEVATION : 504.76 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 13/09/2021	LOGGED BY : T.Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE		



310-03-TP3144 - 3 Depth Range: 0.00 - 2.30 m



310-03-TP3144 - 4 Depth Range: 0.00 - 2.30 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 362854.6, N: 6933592.6 (MGA94 Zone 56)	SURFACE ELEVATION : 504.76 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 13/09/2021	LOGGED BY : T.Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE		



310-03-TP3144 - 5 Depth Range: 0.00 - 2.30 m

POSITION : E: 363672.2, N: 6933958.6 (MGA94 Zone 56)

SURFACE ELEVATION : 505.13 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 25/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.30 m WIDE

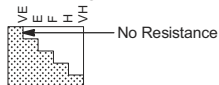
EXCAVATION INFORMATION					MATERIAL				
VE PENETRATION E F H	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
			0.0			TOPSOIL.			TOPSOIL
		0.10m D00010							
		0.20m							
		0.30m D00030							
		0.50m	504.6			0.40m			
		0.60m	0.5			Extremely weathered BASALT recovered as COBBLES with clay: medium-plasticity, pale brown.			EXTREMELY WEATHERED BEDROCK
		0.70m B00060							
		0.80m D00070							
		1.00m	504.1						
			1.0						
			503.6						
			1.5			Hole Terminated at 1.50 m Refusal on rock Testpit reinstated to surface			
			503.1						
			2.0						
			502.6						
			2.5						
			502.1						
			3.0						
			501.6						
			3.5						
			4.0						

PHOTOGRAPHS
NOTES

METHOD

- N Natural Exposure
- X Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

- U - Undisturbed Sample
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- PP - Pocket Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

- D - Dry
- M - Moist
- W - Wet
- M > PL- Moisture Content > Plastic Limit
- M ~ PL- Moisture Content = Plastic Limit
- M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

- VS - Very Soft
- S - Soft
- F - Firm
- St - Stiff
- VSt - Very Stiff
- H - Hard
- VL - Very Loose
- L - Loose
- MD - Medium Dense
- D - Dense
- VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 363672.2, N: 6933958.6 (MGA94 Zone 56)	SURFACE ELEVATION : 505.13 (AHD)
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 25/08/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.30 m LONG 1.30 m WIDE	CHECKED BY : J.Boyle



310-03-TP3146 - 1 Depth Range: 0.00 - 1.50 m



310-03-TP3146 - 2 Depth Range: 0.00 - 1.50 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 363672.2, N: 6933958.6 (MGA94 Zone 56)	SURFACE ELEVATION : 505.13 (AHD)
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 25/08/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.30 m LONG 1.30 m WIDE	CHECKED BY : J.Boyle



310-03-TP3146 - 3 Depth Range: 0.00 - 1.50 m



310-03-TP3146 - 4 Depth Range: 0.00 - 1.50 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 364118.6, N: 6934257.7 (MGA94 Zone 56)

SURFACE ELEVATION : 498.93 (AHD)

EQUIPMENT TYPE : Backhoe

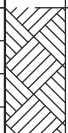
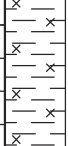
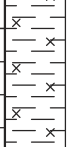
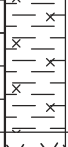
METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 25/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.30 m WIDE

EXCAVATION INFORMATION					MATERIAL								
PENETRATION VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
Not Observed			D00000 0.10m	0.0		TOPSOIL.						TOPSOIL	
			0.50m D00050 U00050 0.60m 0.70m B00070	498.4 0.5		0.40m	Silty CLAY trace sand and gravel: medium plasticity, fine to coarse grained sand, fine to medium sub angular gravel.	F to St M (-PL)			0.20: PP In-situ =140 kPa		
			0.90m	497.9									
			1.00m	1.0									
			1.30m B00130	497.4									
			1.60m	1.5			At 1.30m: trace fine to medium sub-angular gravel.	VSt to H			0.70: PP In-situ =260 kPa		
			1.80m	1.8									
			1.90m B00190	496.9									
			2.10m	2.0									
	496.4			Extremely weathered BASALT low strength recovered as gravelly CLAY with sand: medium-plasticity, red brown mottled grey, fine to coarse sub-rounded to sub-angular gravel, fine to coarse grained sand.				1.50: PP In-situ =300 kPa					
2.50m	2.5												
2.80m B00280	495.9												
3.00m	3.0												
	495.4		3.20m	Hole Terminated at 3.20 m Target depth Testpit reinstated to surface									
				495.4									

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 364118.6, N: 6934257.7 (MGA94 Zone 56)

SURFACE ELEVATION : 498.93 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 25/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.30 m WIDE



310-03-TP3147 - 1 Depth Range: 0.00 - 3.20 m



310-03-TP3147 - 2 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 364118.6, N: 6934257.7 (MGA94 Zone 56)	SURFACE ELEVATION : 498.93 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 25/08/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.30 m WIDE		



310-03-TP3147 - 3 Depth Range: 0.00 - 3.20 m



310-03-TP3147 - 4 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 364434.0, N: 6934448.4 (MGA94 Zone 56)

SURFACE ELEVATION : 504.14 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 13/09/2021

LOGGED BY : T.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE

EXCAVATION INFORMATION					MATERIAL									
PENETRATION			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm	POCKET PENETROMETER kPa	STRUCTURE & Other Observations
VE	E	F												
					0.0			TOPSOIL: CLAY with silt: high plasticity, black, with rootlets (<2mm)						TOPSOIL
					0.20m									
					0.30m			0.30m						
					503.6			Silty CLAY trace sand: high plasticity, dark grey brown, fine to medium grained sand.						ALLUVIAL SOIL
					0.50m									
					0.60m									
					0.90m									
					1.00m									
					1.30m			1.30m						
					1.60m			Silty CLAY: medium to high plasticity, brown mottled purple						
					502.6									
					502.1									
					501.6									
					2.50m			2.50m						
					501.1			Clayey SILT trace cobbles: low plasticity fines, purple and brown mottled white and grey, sub-angular cobbles (<200mm)						RESIDUAL SOIL
					3.00m									
					500.6									
					3.50m									
					4.00m									
					4.50m									
					5.00m									
					5.50m									
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					79.50m</									

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 364434.0, N: 6934448.4 (MGA94 Zone 56)	SURFACE ELEVATION : 504.14 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 13/09/2021	LOGGED BY : T.Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE		



310-03-TP3148 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3148 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 364434.0, N: 6934448.4 (MGA94 Zone 56)	SURFACE ELEVATION : 504.14 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 13/09/2021	LOGGED BY : T.Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE		



310-03-TP3148 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3148 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 364434.0, N: 6934448.4 (MGA94 Zone 56)

SURFACE ELEVATION : 504.14 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 13/09/2021

LOGGED BY : T.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3148 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 364785.2, N: 6934658.4 (MGA94 Zone 56)

SURFACE ELEVATION : 519.87 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 15/09/2021

LOGGED BY : T.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE

EXCAVATION INFORMATION						MATERIAL												
VE PENETRATION E F H	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations							
	Not Observed	B000060 1.10m	0.0			TOPSOIL: Clayey sandy SILT: low plasticity fines, dark brown, fine to mdium grained sand, with rootlets (<2mm)					TOPSOIL							
			519.4			Highly Weathered BASALT: fine crystalline, dark grey and orange mottled pale yellow white: Recovered as GRAVEL AND COBBLES					HIGHLY WEATHERED BEDROCK							
	Not Observed	1.10m	0.5			Hole Terminated at 1.80 m Practical Refusal Testpit reinstated to surface												
			518.9															
	Not Observed	1.10m	1.0			Hole Terminated at 1.80 m Practical Refusal Testpit reinstated to surface												
			518.4															
	Not Observed	1.10m	1.5			Hole Terminated at 1.80 m Practical Refusal Testpit reinstated to surface												
			517.9															
	Not Observed	1.10m	2.0			Hole Terminated at 1.80 m Practical Refusal Testpit reinstated to surface												
			517.4															
	Not Observed	1.10m	2.5			Hole Terminated at 1.80 m Practical Refusal Testpit reinstated to surface												
			516.9															
	Not Observed	1.10m	3.0			Hole Terminated at 1.80 m Practical Refusal Testpit reinstated to surface												
			516.4															
	Not Observed	1.10m	3.5			Hole Terminated at 1.80 m Practical Refusal Testpit reinstated to surface												
			4.0															
PHOTOGRAPHS NOTES																		
METHOD N Natural Exposure X Existing Excavation BH Backhoe Bucket B Bulldozer Blade R Ripper			PENETRATION 			SAMPLES & FIELD TESTS U - Undisturbed Sample D - Disturbed Sample B - Bulk Disturbed Sample MC - Moisture Content PP - Pocket Penetrometer (UCS kPa) VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)			CLASSIFICATION SYMBOLS & SOIL DESCRIPTION Based on Unified Classification System MOISTURE D - Dry M - Moist W - Wet M > PL- Moisture Content > Plastic Limit M ~ PL- Moisture Content = Plastic Limit M < PL- Moisture Content < Plastic Limit			CONSISTENCY/ RELATIVE DENSITY VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense						

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

POSITION : E: 364785.2, N: 6934658.4 (MGA94 Zone 56)	SURFACE ELEVATION : 519.87 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 15/09/2021	LOGGED BY : T.Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE		



310-03-TP3149 - 1 Depth Range: 0.00 - 1.80 m



310-03-TP3149 - 2 Depth Range: 0.00 - 1.80 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 364785.2, N: 6934658.4 (MGA94 Zone 56)

SURFACE ELEVATION : 519.87 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 15/09/2021

LOGGED BY : T.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3149 - 3 Depth Range: 0.00 - 1.80 m



310-03-TP3149 - 4 Depth Range: 0.00 - 1.80 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 364785.2, N: 6934658.4 (MGA94 Zone 56)	SURFACE ELEVATION : 519.87 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 15/09/2021	LOGGED BY : T.Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE		



310-03-TP3149 - 5 Depth Range: 0.00 - 1.80 m

POSITION : E: 365887.4, N: 6935479.4 (MGA94 Zone 56)

SURFACE ELEVATION : 521.94 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.60 m WIDE

EXCAVATION INFORMATION						MATERIAL					
VE E F H	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 0 100 200 300 400	STRUCTURE & Other Observations
		D00000 0.10m	0-0			TOPSOIL.					TOPSOIL
		0.30m D00030 0.40m	0.30 0.40		ML- MH	Gravelly SILT: medium to high plasticity, brown; gravel fine to coarse , sub angular trace rootlets (<1mm)	M (~PL)	H			RESIDUAL SOIL
		0.60m B00060	0.60			Extremely Weathered BASALT low to medium strength, highly fractured, Recovered as Cobbles and GRAVEL with sand and clay: fine to coarse sub-angular, brown and dark grey mottled orange, < 150mm sub-angular cobble, fine to coarse grained sand, low plasticity clay.					EXTREMELY WEATHERED BEDROCK
		0.80m	0.80								
			520.9	1.0							
			520.4	1.5							
			519.9	2.0			From 1.90m: less weathered with depth.				
			519.4	2.5							
		2.60m B00260									
		2.80m									
			518.9	3.0							
			3.30m								
			518.4	3.5		Hole Terminated at 3.30 m Target depth Testpit reinstated to surface					
			4.0								

PHOTOGRAPHS
NOTES

METHOD	PENETRATION	SAMPLES & FIELD TESTS	CLASSIFICATION SYMBOLS & SOIL DESCRIPTION	CONSISTENCY/ RELATIVE DENSITY
N Natural Exposure		U - Undisturbed Sample	Based on Unified Classification System	VS - Very Soft
X Existing Excavation		D - Disturbed Sample		S - Soft
BH Backhoe Bucket		B - Bulk Disturbed Sample		F - Firm
B Bulldozer Blade		MC - Moisture Content	MOISTURE D - Dry M - Moist W - Wet M > PL - Moisture Content > Plastic Limit M ~ PL - Moisture Content = Plastic Limit M < PL - Moisture Content < Plastic Limit	St - Stiff
R Ripper		PP - Pocket Penetrometer (UCS kPa)		VSt - Very Stiff
		VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)		H - Hard
				VL - Very Loose
				L - Loose
				MD - Medium Dense
				D - Dense
				VD - Very Dense

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 365887.4, N: 6935479.4 (MGA94 Zone 56)

SURFACE ELEVATION : 521.94 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.60 m WIDE



310-03-TP3151 - 1 Depth Range: 0.00 - 3.30 m



310-03-TP3151 - 2 Depth Range: 0.00 - 3.30 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 365887.4, N: 6935479.4 (MGA94 Zone 56)	SURFACE ELEVATION : 521.94 (AHD)
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 26/08/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 4.80 m LONG 1.60 m WIDE	CHECKED BY : J.Boyle



310-03-TP3151 - 3 Depth Range: 0.00 - 3.30 m



310-03-TP3151 - 4 Depth Range: 0.00 - 3.30 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 365887.4, N: 6935479.4 (MGA94 Zone 56)	SURFACE ELEVATION : 521.94 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 26/08/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.80 m LONG 1.60 m WIDE		



310-03-TP3151 - 5 Depth Range: 0.00 - 3.30 m



310-03-TP3151 - 6 Depth Range: 0.00 - 3.30 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 366175.5, N: 6935593.9 (MGA94 Zone 56)

SURFACE ELEVATION : 530.59 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.10 m LONG 1.40 m WIDE

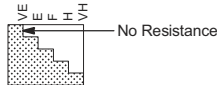
EXCAVATION INFORMATION					MATERIAL				
VE PENETRATION E F H	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
			0.0						
			0.40m B00040						
			0.5						
			529.6						
			1.00m						
			1.0						
			529.1						
			1.40m						
			1.5						
			528.6						
			2.0						
			528.1						
			2.5						
			527.6						
			3.0						
			527.1						
			3.5						
			4.0						

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSst - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 366175.5, N: 6935593.9 (MGA94 Zone 56)

SURFACE ELEVATION : 530.59 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

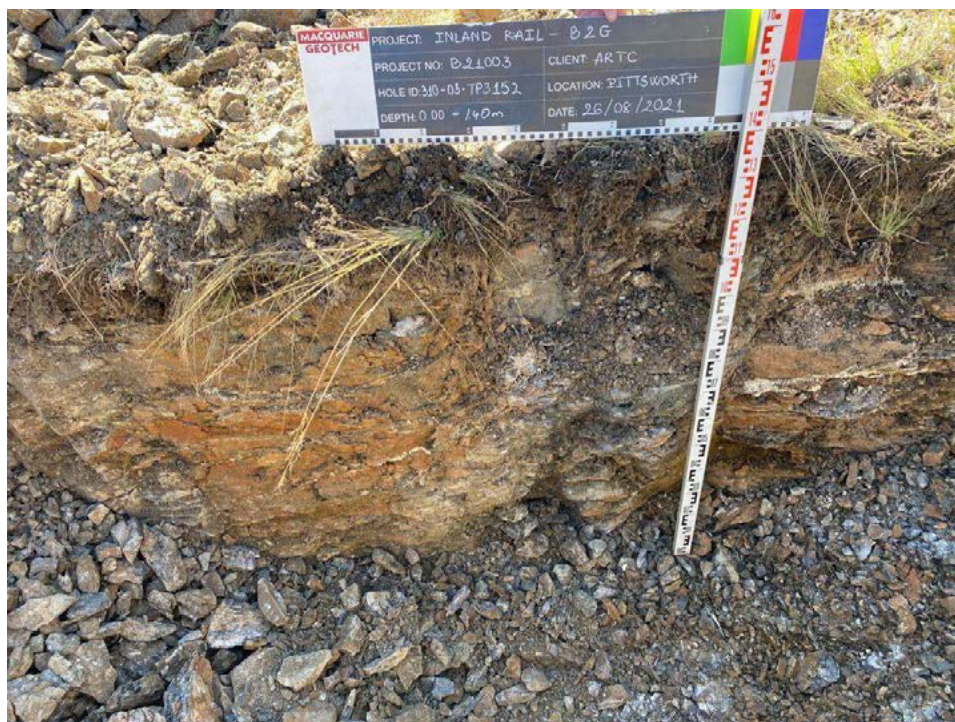
LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.10 m LONG 1.40 m WIDE



310-03-TP3152 - 1 Depth Range: 0.00 - 1.40 m



310-03-TP3152 - 2 Depth Range: 0.00 - 1.40 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 366175.5, N: 6935593.9 (MGA94 Zone 56)	SURFACE ELEVATION : 530.59 (AHD)
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 26/08/2021	LOGGED BY : J.Cooper
EXCAVATION DIMENSIONS : 5.10 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3152 - 3 Depth Range: 0.00 - 1.40 m



310-03-TP3152 - 4 Depth Range: 0.00 - 1.40 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

CLIENT : ARTC
LOCATION : N3 - Brookstead to Gowrie

PROJECT : Inland Rail B2G

FILE / JOB NO : B21003
SHEET : 4 OF 4

POSITION : E: 366175.5, N: 6935593.9 (MGA94 Zone 56)	SURFACE ELEVATION : 530.59 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 26/08/2021	LOGGED BY : J.Cooper	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.10 m LONG 1.40 m WIDE		



310-03-TP3152 - 5 Depth Range: 0.00 - 1.40 m

POSITION : E: 366868.3, N: 6935573.9 (MGA94 Zone 56)

SURFACE ELEVATION : 543.31 (AHD)

EQUIPMENT TYPE : Backhoe

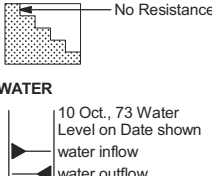
METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : T.Nimalsiri

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.10 m LONG 1.40 m WIDE

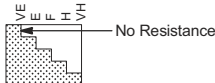
EXCAVATION INFORMATION				MATERIAL								
PENETRATION VE F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER 100 200 300 400	STRUCTURE & Other Observations
				0.0			0.10m TOPSOIL Silty CLAY trace sand: low to medium plasticity, dark brown black; sand fine to medium grained; with rootlets.					TOPSOIL
				0.40m B00040			Silty CLAY trace sand trace gravel: high plasticity, dark brown black; sand fine grained; gravel fine, sub angular gravel; with rootlets.	St				RESIDUAL SOIL
				0.5		CH		M (~PL)	St to VSt			
				0.80m								
		Not Observed		0.90m			0.90m GRAVEL: fine to coarse grained, sub-angular to angular, dark red-brown; with clay seams.	D to VD				EXTREMELY WEATHERED MATERIAL
				1.0		GP						
				1.20m B00120			Highly Weathered BASALT recovered as GRAVEL with cobble: fine to coarse sub-angular to angular, dark red-brown, < 200mm sub-angular to angular cobble, trace clay seams.	D				HIGHLY WEATHERED MATERIAL
				1.50m				VD				
				1.90m								
				2.0			Hole Terminated at 1.90 m Refusal on rock Testpit reinstated to surface					
				2.5								
				3.0								
				3.5								
				4.0								
PHOTOGRAPHS NOTES												
METHOD		PENETRATION		SAMPLES & FIELD TESTS		CLASSIFICATION SYMBOLS & SOIL DESCRIPTION		CONSISTENCY/ RELATIVE DENSITY				
N Natural Exposure X Existing Excavation BH Backhoe Bucket B Bulldozer Blade R Ripper				U Undisturbed Sample D Disturbed Sample B Bulk Disturbed Sample MC Moisture Content PP Pocket Penetrometer (UCS kPa) VS Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)		Based on Unified Classification System		VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense				
						MOISTURE						
						D - Dry M - Moist W - Wet M > PL - Moisture Content > Plastic Limit M ~ PL - Moisture Content = Plastic Limit M < PL - Moisture Content < Plastic Limit						

PHOTOGRAPHS
NOTES

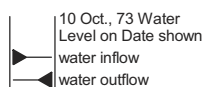
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 366868.3, N: 6935573.9 (MGA94 Zone 56)	SURFACE ELEVATION : 543.31 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 26/08/2021	LOGGED BY : T.Nimalsiri	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.10 m LONG 1.40 m WIDE		



310-03-TP3153 - 1 Depth Range: 0.00 - 1.90 m



310-03-TP3153 - 2 Depth Range: 0.00 - 1.90 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 366868.3, N: 6935573.9 (MGA94 Zone 56)	SURFACE ELEVATION : 543.31 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 26/08/2021	LOGGED BY : T.Nimalsiri	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.10 m LONG 1.40 m WIDE		



310-03-TP3153 - 3 Depth Range: 0.00 - 1.90 m



310-03-TP3153 - 4 Depth Range: 0.00 - 1.90 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 368613.8, N: 6936242.2 (MGA94 Zone 56)

SURFACE ELEVATION : 556.84 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : T.Nimalsiri

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE

EXCAVATION INFORMATION				MATERIAL									
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER 100 200 300 400	STRUCTURE & Other Observations	
		Not Observed	D00000 0.10m	0.0		0.10m	TOPSOIL Silty CLAY trace gravel: low to medium plasticity, black; gravel medium to coarse sub-angular.	M ($<PL$)	St to VSt			TOPSOIL	
			B00010 0.30m			0.30m	Silty CLAY trace gravel trace sand: medium to high plasticity, dark brown-black; trace cobbles; $<200\text{mm}$ sub-angular to angular (basalt).					RESIDUAL SOIL	
				556.3	0.5					Moderately Weathered BASALT medium strength: Recovered as COBBLES with gravel and boulder: $<200\text{mm}$ sub-angular to angular, dark brown, fine to coarse sub-angular to angular gravel, $<600\text{mm}$ sub-angular to angular boulder.			SLIGHTLY WEATHERED BEDROCK
				555.8	1.0		1.00m			Hole Terminated at 1.00 m Refusal on rock Testpit reinstated to surface			
				555.3	1.5								
				554.8	2.0								
				554.3	2.5								
				553.8	3.0								
				553.3	3.5								
				4.0									
PHOTOGRAPHS NOTES													
METHOD		PENETRATION		SAMPLES & FIELD TESTS		CLASSIFICATION SYMBOLS & SOIL DESCRIPTION			CONSISTENCY/RELATIVE DENSITY				
N Natural Exposure X Existing Excavation BH Backhoe Bucket B Bulldozer Blade R Ripper		 10 Oct., 73 Water Level on Date shown water inflow water outflow		U - Undisturbed Sample D - Disturbed Sample B - Bulk Disturbed Sample MC - Moisture Content PP - Pocket Penetrometer (UCS kPa) VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)		Based on Unified Classification System			VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense				
						MOISTURE							
						D - Dry M - Moist W - Wet M $>$ PL - Moisture Content $>$ Plastic Limit M $\sim$ PL - Moisture Content = Plastic Limit M $<$ PL - Moisture Content $<$ Plastic Limit							

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
Vst - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 368613.8, N: 6936242.2 (MGA94 Zone 56)	SURFACE ELEVATION : 556.84 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 26/08/2021	LOGGED BY : T.Nimalsiri	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE		



310-03-TP3156 - 1 Depth Range: 0.00 - 1.00 m



310-03-TP3156 - 2 Depth Range: 0.00 - 1.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

CLIENT : ARTC
LOCATION : N3 - Brookstead to Gowrie

PROJECT : Inland Rail B2G

FILE / JOB NO : B21003
SHEET : 3 OF 3

POSITION : E: 368613.8, N: 6936242.2 (MGA94 Zone 56)	SURFACE ELEVATION : 556.84 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 26/08/2021	LOGGED BY : T.Nimalsiri
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3156 - 3 Depth Range: 0.00 - 1.00 m

POSITION : E: 371642.6, N: 6938952.6 (MGA94 Zone 56)

SURFACE ELEVATION : 548.45 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.50 m WIDE

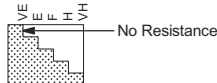
EXCAVATION INFORMATION				MATERIAL										
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
Not Observed				0.0		TOPSOIL: Silty CLAY: medium plasticity, dark brown, trace rootlets (<2mm)							TOPSOIL	
				0.30m		Silty CLAY trace sand and gravel: high plasticity, black, fine to medium grained sand, fine sub-angular gravel							ALLUVIAL SOIL	
				0.50m U-U00050						St			0.50: PP Samp =320 kPa	
				0.70m B-B00070										
				0.90m			CH							
				1.00m										
				1.10m D-D00110				Below 1.10m pale brown		VSt			1.00: PP Samp >600 kPa	
				1.30m										
				1.50m B-B00150				Silty sandy CLAY trace sand: high plasticity, pale brown, medium to coarse grained sand, fine sub-angular gravel, trace rootlets (<1mm)	M (<PL)				RESIDUAL SOIL	
				1.70m										
				2.0			CH			H				
				2.5										
				2.60m B-B00260				Silty CLAY with gravel: medium plasticity, pale brown, fine to coarse sub-angular gravel						
				2.80m			CI							
				3.00m				Hole Terminated at 3.00 m Target depth Testpit reinstated to surface						
				3.5										

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

CLIENT : ARTC
LOCATION : N3 - Brookstead to Gowrie

PROJECT : Inland Rail B2G

FILE / JOB NO : B21003
SHEET : 2 OF 3

POSITION : E: 371642.6, N: 6938952.6 (MGA94 Zone 56)	SURFACE ELEVATION : 548.45 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 26/08/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.80 m LONG 1.50 m WIDE		



310-03-TP3162 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3162 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 371642.6, N: 6938952.6 (MGA94 Zone 56)	SURFACE ELEVATION : 548.45 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 26/08/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.80 m LONG 1.50 m WIDE		



310-03-TP3162 - 3 Depth Range: 0.00 - 3.00 m

POSITION : E: 372123.2, N: 6939885.0 (MGA94 Zone 56)

SURFACE ELEVATION : 548.88 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 15/09/2021

LOGGED BY : T.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE

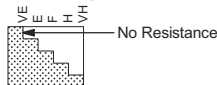
EXCAVATION INFORMATION					MATERIAL										
PENETRATION				GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER kPa 100 200 300 400	STRUCTURE & Other Observations
VE	E	F	H												
Not Observed						0.0			TOPSOIL: SILT with clay trace gravel and cobbles: low plasticity fines, dark brown and grey, fine to medium sub-rounded to sub-angular gravel, sub-angular cobbles (<200mm) with roots (<2mm)						

PHOTOGRAPHS
NOTES

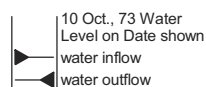
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSst - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 372123.2, N: 6939885.0 (MGA94 Zone 56)	SURFACE ELEVATION : 548.88 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 15/09/2021	LOGGED BY : T.Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE		



310-03-TP3164 - 1 Depth Range: 0.00 - 2.60 m



310-03-TP3164 - 2 Depth Range: 0.00 - 2.60 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 372123.2, N: 6939885.0 (MGA94 Zone 56)

SURFACE ELEVATION : 548.88 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 15/09/2021

LOGGED BY : T.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3164 - 3 Depth Range: 0.00 - 2.60 m



310-03-TP3164 - 4 Depth Range: 0.00 - 2.60 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

CLIENT : ARTC
LOCATION : N3 - Brookstead to Gowrie

PROJECT : Inland Rail B2G

FILE / JOB NO : B21003
SHEET : 4 OF 4

POSITION : E: 372123.2, N: 6939885.0 (MGA94 Zone 56)	SURFACE ELEVATION : 548.88 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 15/09/2021	LOGGED BY : T.Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE		



310-03-TP3164 - 5 Depth Range: 0.00 - 2.60 m

MG 4.02 LIB.GLB Log MG TEST PPT MG 4.02 GPJ <DrawingFile> 07/03/2022 22:00 10/02/00.04 Dated Lib and in Situ Tool - DGD | Lib: DGDTP 4.01 2 Apr 3.04 2018-07-02 Ppt DGDTP 4.00 6 2017-11-25

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 373783.3, N: 6940845.4 (MGA94 Zone 56)

SURFACE ELEVATION : 539.85 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 15/09/2021

LOGGED BY : T.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.60 m WIDE

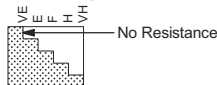
EXCAVATION INFORMATION				MATERIAL									
VE E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed		0.0		TOPSOIL: Clayey SILT: medium plasticity fines, pale brown, trace rootlets (<2mm)							

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 373783.3, N: 6940845.4 (MGA94 Zone 56)	SURFACE ELEVATION : 539.85 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 15/09/2021	LOGGED BY : T.Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.50 m LONG 1.60 m WIDE		



310-03-TP3166 - 1 Depth Range: 0.00 - 2.10 m



310-03-TP3166 - 2 Depth Range: 0.00 - 2.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 373783.3, N: 6940845.4 (MGA94 Zone 56)

SURFACE ELEVATION : 539.85 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 15/09/2021

LOGGED BY : T.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.60 m WIDE



310-03-TP3166 - 3 Depth Range: 0.00 - 2.10 m



310-03-TP3166 - 4 Depth Range: 0.00 - 2.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 373783.3, N: 6940845.4 (MGA94 Zone 56)

SURFACE ELEVATION : 539.85 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 15/09/2021

LOGGED BY : T.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.60 m WIDE



310-03-TP3166 - 5 Depth Range: 0.00 - 2.10 m

POSITION : E: 374742.0, N: 6941523.0 (MGA94 Zone 56)

SURFACE ELEVATION : 531.20 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 15/09/2021

LOGGED BY : T.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.40 m WIDE

EXCAVATION INFORMATION					MATERIAL							
VE E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
Not Observed		0.30m B-B00030	530.7	0.30m	TOPSOIL: Clayey SILT with sand: low plasticity fines, dark brown and grey, fine to medium sub-rounded to sub-angular gravel, sub-angular cobbles (<200mm) with roots (<2mm)	M (<PL)	St to VSt			TOPSOIL		
		0.60m	0.5	0.60m	Silty CLAY trace sand and gravel: high plasticity, medium to high plasticity, dark brown and brown, fine to coarse grained sand, fine, sub angular gravel.					RESIDUAL SOIL		
		0.80m B-B00080	530.2		Extremely Weathered BASALT low to medium strength: fine crystalline, dark grey and orange mottled pale yellow white: Recovered as sandy GRAVEL with cobbles					EXTREMELY WEATHERED BEDROCK		
		1.10m	1.0									
			529.7									
			1.5									
			529.2									
			2.0									
				2.20m								
			528.7				Hole Terminated at 2.20 m Practical Refusal Testpit reinstated to surface					
			2.5									
			528.2									
			3.0									
			527.7									
			3.5									

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 374742.0, N: 6941523.0 (MGA94 Zone 56)	SURFACE ELEVATION : 531.20 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 15/09/2021	LOGGED BY : T.Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.80 m LONG 1.40 m WIDE		



310-03-TP3170 - 1 Depth Range: 0.00 - 2.20 m



310-03-TP3170 - 2 Depth Range: 0.00 - 2.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 374742.0, N: 6941523.0 (MGA94 Zone 56)

SURFACE ELEVATION : 531.20 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 15/09/2021

LOGGED BY : T.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.40 m WIDE



310-03-TP3170 - 3 Depth Range: 0.00 - 2.20 m



310-03-TP3170 - 4 Depth Range: 0.00 - 2.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 374742.0, N: 6941523.0 (MGA94 Zone 56)

SURFACE ELEVATION : 531.20 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 15/09/2021

LOGGED BY : T.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.40 m WIDE



310-03-TP3170 - 5 Depth Range: 0.00 - 2.20 m

POSITION : E: 377213.8, N: 6943588.0 (MGA94 Zone 56)

SURFACE ELEVATION : 532.91 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 15/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.90 m LONG 1.40 m WIDE

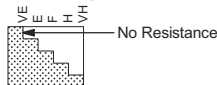
EXCAVATION INFORMATION						MATERIAL						
VE E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed		0.0		TOPSOIL: Silty CLAY trace gravel: medium plasticity, brown mottled orange, fine to medium sub-angular gravel with roots (<2mm)					TOPSOIL	
				0.30m		Silty CLAY: high plasticity, purple brown		Vst		X	RESIDUAL SOIL 0.30: PP In-situ =350 kPa	
	0.50m B00050 U00050		0.5					M (~PL)			X	0.60: PP In-situ =310 kPa
	0.90m		531.9		CH			F to St				
	1.00m B00100		1.0			Below 1.00m: brown; with sand					X	1.00: PP In-situ >600 kPa
	1.20m							M (<PL)	VSt to H			
			531.4				1.50m					EXTREMELY WEATHERED BEDROCK
			530.9									
	2.10m B00210		2.0									
	2.40m	530.4										
		2.5				2.60m	Hole Terminated at 2.60 m Refusal - Very Slow Progress Testpit reinstated to surface					
				529.9								
				529.4								

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 377213.8, N: 6943588.0 (MGA94 Zone 56)	SURFACE ELEVATION : 532.91 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 15/09/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 4.90 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3174 - 1 Depth Range: 0.00 - 2.60 m



310-03-TP3174 - 2 Depth Range: 0.00 - 2.60 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 377213.8, N: 6943588.0 (MGA94 Zone 56)	SURFACE ELEVATION : 532.91 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 15/09/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 4.90 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3174 - 3 Depth Range: 0.00 - 2.60 m



310-03-TP3174 - 4 Depth Range: 0.00 - 2.60 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

CLIENT : ARTC
LOCATION : N3 - Brookstead to Gowrie

PROJECT : Inland Rail B2G

FILE / JOB NO : B21003
SHEET : 4 OF 4

POSITION : E: 377213.8, N: 6943588.0 (MGA94 Zone 56)	SURFACE ELEVATION : 532.91 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 15/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.90 m LONG 1.40 m WIDE		



310-03-TP3174 - 5 Depth Range: 0.00 - 2.60 m

POSITION : E: 377290.0, N: 6943767.0 (MGA94 Zone 56)

SURFACE ELEVATION : 536.50 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.90 m LONG 1.40 m WIDE

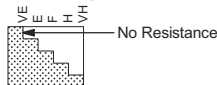
EXCAVATION INFORMATION						MATERIAL							
VE PENETRATION F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
				0.0			TOPSOIL: Silty CLAY: high-plasticity, brown, with rootlets (<2mm)						TOPSOIL
				0.40m B-B00040 0.50m U-U00050		CH	CLAY trace sand and gravel: high-plasticity, brown, fine to medium grained, fine, sub angular gravel	M (<PL)	VSt				0.20: PP In-situ =410 kPa RESIDUAL SOIL 0.40: PP In-situ =450 kPa
				0.70m			Extremely Weathered BASALT low to medium strength: fine crystalline, dark grey mottled orange: Recovered as GRAVEL and COBBLES trace boulders, fine to coarse, sub-angular, boulders <450mm.		H				EXTREMELY WEATHERED MATERIAL
				1.00m									
				1.60m B-B00160									
				2.00m									
				2.80m B-B00280									
				3.40m			Highly Weathered GRANITE medium strength: pale brown and yellow white: Recovered as Silty GRAVEL with cobbles trace boulders, fine to coarse, sub-angular, boulders <350mm.						HIGHLY WEATHERED BEDROCK
				3.40m			Hole Terminated at 3.40 m Target depth Testpit reinstated to surface						
				3.5									
				4.0									

PHOTOGRAPHS
NOTES

METHOD

- N Natural Exposure
- X Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

- U - Undisturbed Sample
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- PP - Pocket Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

- D - Dry
- M - Moist
- W - Wet
- M > PL - Moisture Content > Plastic Limit
- M ~ PL - Moisture Content = Plastic Limit
- M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

- VS - Very Soft
- S - Soft
- F - Firm
- St - Stiff
- VSt - Very Stiff
- H - Hard
- VL - Very Loose
- L - Loose
- MD - Medium Dense
- D - Dense
- VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 377290.0, N: 6943767.0 (MGA94 Zone 56)	SURFACE ELEVATION : 536.50 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 16/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.90 m LONG 1.40 m WIDE		



310-03-TP3175 - 1 Depth Range: 0.00 - 3.40 m



310-03-TP3175 - 2 Depth Range: 0.00 - 3.40 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 377290.0, N: 6943767.0 (MGA94 Zone 56)

SURFACE ELEVATION : 536.50 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/09/2021

LOGGED BY : T. Tran

CHECKED BY : J. Boyle

EXCAVATION DIMENSIONS : 4.90 m LONG 1.40 m WIDE



310-03-TP3175 - 3 Depth Range: 0.00 - 3.40 m



310-03-TP3175 - 4 Depth Range: 0.00 - 3.40 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 377290.0, N: 6943767.0 (MGA94 Zone 56)

SURFACE ELEVATION : 536.50 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.90 m LONG 1.40 m WIDE



310-03-TP3175 - 5 Depth Range: 0.00 - 3.40 m

POSITION : E: 377369.9, N: 6944155.8 (MGA94 Zone 56)

SURFACE ELEVATION : 532.04 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.40 m LONG 1.40 m WIDE

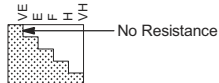
EXCAVATION INFORMATION					MATERIAL									
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations
Not Observed					0.0			TOPSOIL: CLAY trace sand: medium-plasticity, dark brown, fine grained sand, with rootlets (<2mm)						TOPSOIL
					0.30m		Sandy CLAY trace gravel and cobble: high plasticity, brown and dark grey, fine to coarse sand, sub angular gravel, sub angular cobble <200mm						RESIDUAL SOIL	
			0.50m	B00050 U00050	0.5	CH								0.40: PP In-situ =550 kPa
			0.80m											
			1.00m		1.0									
		1.20m	B00120	1.2		1.20m	Moderately Weathered BASALT medium to high strength: fine crystalline, dark grey and orange: Recovered as GRAVEL with cobbles trace boulders, fine to coarse, sub-angular, boulders <300mm.					MODERATELY WEATHERED BEDROCK		
		1.50m		1.5	530.5									
					530.0									
					2.0									
					529.5									
					2.5									
					529.0									
					3.0									
					3.10m									
					528.5			Hole Terminated at 3.10 m Target depth Testpit reinstated to surface						
					3.5									
					4.0									

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 377369.9, N: 6944155.8 (MGA94 Zone 56)	SURFACE ELEVATION : 532.04 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 16/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.40 m LONG 1.40 m WIDE		



310-03-TP3176 - 1 Depth Range: 0.00 - 3.10 m



310-03-TP3176 - 2 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 377369.9, N: 6944155.8 (MGA94 Zone 56)

SURFACE ELEVATION : 532.04 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/09/2021

LOGGED BY : T. Tran

CHECKED BY : J. Boyle

EXCAVATION DIMENSIONS : 4.40 m LONG 1.40 m WIDE



310-03-TP3176 - 3 Depth Range: 0.00 - 3.10 m



310-03-TP3176 - 4 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 377369.9, N: 6944155.8 (MGA94 Zone 56)

SURFACE ELEVATION : 532.04 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/09/2021

LOGGED BY : T. Tran

CHECKED BY : J. Boyle

EXCAVATION DIMENSIONS : 4.40 m LONG 1.40 m WIDE



310-03-TP3176 - 5 Depth Range: 0.00 - 3.10 m

POSITION : E: 378170.2, N: 6946556.6 (MGA94 Zone 56)

SURFACE ELEVATION : 502.88 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 02/10/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.40 m LONG 1.40 m WIDE

EXCAVATION INFORMATION				MATERIAL								
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
Not Observed				0.0			TOPSOIL: CLAY: medium to high-plasticity, dark brown, trace rootlets (<2mm)					

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378170.2, N: 6946556.6 (MGA94 Zone 56)	SURFACE ELEVATION : 502.88 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 02/10/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.40 m LONG 1.40 m WIDE		



310-03-TP3179 - 1 Depth Range: 0.00 - 2.40 m



310-03-TP3179 - 2 Depth Range: 0.00 - 2.40 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378170.2, N: 6946556.6 (MGA94 Zone 56)	SURFACE ELEVATION : 502.88 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 02/10/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.40 m LONG 1.40 m WIDE		



310-03-TP3179 - 3 Depth Range: 0.00 - 2.40 m



310-03-TP3179 - 4 Depth Range: 0.00 - 2.40 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378170.2, N: 6946556.6 (MGA94 Zone 56)	SURFACE ELEVATION : 502.88 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 02/10/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.40 m LONG 1.40 m WIDE		



310-03-TP3179 - 5 Depth Range: 0.00 - 2.40 m

POSITION : E: 378401.4, N: 6947979.2 (MGA94 Zone 56)

SURFACE ELEVATION : 467.16 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 02/10/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.00 m LONG 1.40 m WIDE

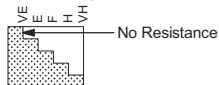
EXCAVATION INFORMATION				MATERIAL									
VE PENETRATION F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	Blows/100mm DCP 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations	
		Not Observed	0.70m B00070	0.0			TOPSOIL: CLAY: medium to high-plasticity, dark brown, trace rootlets (<2mm)					TOPSOIL	
				466.7		0.30m	CLAY with silt trace sand and gravel: high plasticity, dark brown to black, fine to medium grained sand, fine sub rounded gravel.					X	0.20: PP In-situ =240 kPa
				466.2						F to St		X	0.60: PP In-situ =240 kPa
				465.7			CH					X	0.90: PP In-situ =270 kPa
				465.2						M (>PL)		X	1.10: PP In-situ =200 kPa
		2.90m B00290		464.7					VSt				
				464.2		2.90m	Silty CLAY: medium plasticity, brown mottled orange brown						RESIDUAL SOIL
				463.7			CI						
		3.60m		3.60m			Hole Terminated at 3.60 m Target depth Testpit reinstated to surface						

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378401.4, N: 6947979.2 (MGA94 Zone 56)

SURFACE ELEVATION : 467.16 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 02/10/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.00 m LONG 1.40 m WIDE



310-03-TP3180 - 1 Depth Range: 0.00 - 3.60 m



310-03-TP3180 - 2 Depth Range: 0.00 - 3.60 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378401.4, N: 6947979.2 (MGA94 Zone 56)

SURFACE ELEVATION : 467.16 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 02/10/2021

LOGGED BY : T. Tran

CHECKED BY : J. Boyle

EXCAVATION DIMENSIONS : 4.00 m LONG 1.40 m WIDE



310-03-TP3180 - 3 Depth Range: 0.00 - 3.60 m



310-03-TP3180 - 4 Depth Range: 0.00 - 3.60 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378401.4, N: 6947979.2 (MGA94 Zone 56)	SURFACE ELEVATION : 467.16 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 02/10/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 4.00 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3180 - 5 Depth Range: 0.00 - 3.60 m

POSITION : E: 378471.1, N: 6948416.4 (MGA94 Zone 56)

SURFACE ELEVATION : 482.72 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE

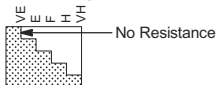
EXCAVATION INFORMATION					MATERIAL									
PENETRATION			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm	POCKET PENETROMETER kPa	STRUCTURE & Other Observations
VE	E	F												
					0.0			TOPSOIL Silty CLAY: medium to high plasticity, dark brown; rootlets (<1mm).						TOPSOIL
				0.10m D00010 0.20m				0.30m						RESIDUAL SOIL 0.30: PP In-situ >600 kPa
				0.40m D00040 0.50m	482.2	CI	Silty CLAY: medium plasticity, dark brown; trace rootlets (<1mm).	0.60m	M (<PL)	St to VSt				
				0.70m B00070 0.90m	481.7		Gravelly SAND with cobbles trace boulders: fine to coarse grained, pale brown mottled orange; gravel fine to coarse sub-rounded to sub-angular; cobbles sub-rounded to sub-angular (<200mm); boulders sub-angular to angular (<400mm).						EXTREMELY WEATHERED MATERIAL	
					481.2	SP			D	D to VD				
					480.7									
					480.2			2.50m						
					479.7		Hole Terminated at 2.50 m Refusal - Very Slow Progress Testpit reinstated to surface							
					479.2									

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378471.1, N: 6948416.4 (MGA94 Zone 56)	SURFACE ELEVATION : 482.72 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 31/08/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE		



310-03-TP3181 - 1 Depth Range: 0.00 - 2.50 m



310-03-TP3181 - 2 Depth Range: 0.00 - 2.50 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378471.1, N: 6948416.4 (MGA94 Zone 56)	SURFACE ELEVATION : 482.72 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 31/08/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE		



310-03-TP3181 - 3 Depth Range: 0.00 - 2.50 m



310-03-TP3181 - 4 Depth Range: 0.00 - 2.50 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech



Macquarie Geotech

POSITION : E: 378687.0, N: 6949504.0 (MGA94 Zone 56)

SURFACE ELEVATION : 471.50 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.20 m LONG 1.30 m WIDE

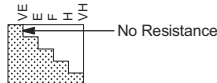
EXCAVATION INFORMATION				MATERIAL									
GROUND WATER LEVELS			SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER kPa 100 200 300 400	STRUCTURE & Other Observations
VE	E	F											

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378687.0, N: 6949504.0 (MGA94 Zone 56)	SURFACE ELEVATION : 471.50 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 31/08/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.20 m LONG 1.30 m WIDE		



310-03-TP3182 - 1 Depth Range: 0.00 - 2.60 m



310-03-TP3182 - 2 Depth Range: 0.00 - 2.60 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378687.0, N: 6949504.0 (MGA94 Zone 56)	SURFACE ELEVATION : 471.50 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 31/08/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.20 m LONG 1.30 m WIDE	CHECKED BY : J.Boyle



310-03-TP3182 - 3 Depth Range: 0.00 - 2.60 m



310-03-TP3182 - 4 Depth Range: 0.00 - 2.60 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

CLIENT : ARTC
LOCATION : N3 - Brookstead to Gowrie

PROJECT : Inland Rail B2G

FILE / JOB NO : B21003
SHEET : 4 OF 4

POSITION : E: 378687.0, N: 6949504.0 (MGA94 Zone 56)	SURFACE ELEVATION : 471.50 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 31/08/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.20 m LONG 1.30 m WIDE	CHECKED BY : J. Boyle



310-03-TP3182 - 5 Depth Range: 0.00 - 2.60 m

POSITION : E: 378745.7, N: 6949759.7 (MGA94 Zone 56)

SURFACE ELEVATION : 472.79 (AHD)

EQUIPMENT TYPE : 9t Backhoe

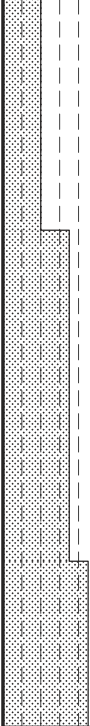
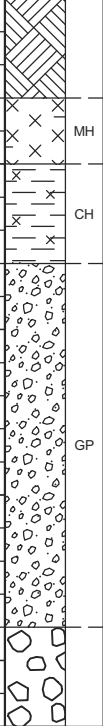
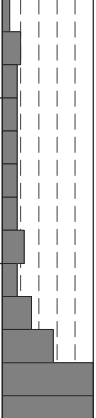
METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE

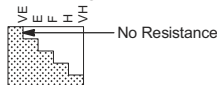
EXCAVATION INFORMATION					MATERIAL									
PENETRATION VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations	
			Not Observed	0.0m		MH	TOPSOIL Clayey SILT: high plasticity, dark brown; some roots (<5mm).	M (<PL)	St			TOPSOIL		
				0.20m D00020 0.30m		0.30m	Clayey SILT: high plasticity, dark brown.					0.20: PP In-situ =220 kPa		
				0.40m D00040 0.50m		0.50m	Silty CLAY with gravel trace sand: high plasticity, dark brown; gravel fine to coarse, sub angular; sand fine to coarse grained; trace rootlets (<1mm).					0.40: PP In-situ =200 kPa		
				B00050		0.80m	Sandy GRAVEL trace cobbles: fine to coarse grained, sub-rounded to sub-angular, pale brown and red-orange mottled grey; sand fine to coarse grained; cobbles sub-angular to angular (100mm).					0.70: PP In-situ >600 kPa		
				1.30m B00130		1.90m	COBBLES with gravel trace boulders: to 200 mm, sub-rounded to sub-angular, red-brown and grey; gravel fine to coarse sub-rounded to sub-angular; boulders sub-angular (<450mm).					EXTREMELY WEATHERED MATERIAL		
				1.50m		2.20m	Hole Terminated at 2.20 m Refusal - Very Slow Progress Testpit reinstated to surface							
				2.00m B00200										
				2.20m										

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378745.7, N: 6949759.7 (MGA94 Zone 56)	SURFACE ELEVATION : 472.79 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 30/08/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE		



310-03-TP3183 - 1 Depth Range: 0.00 - 2.20 m



310-03-TP3183 - 2 Depth Range: 0.00 - 2.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378745.7, N: 6949759.7 (MGA94 Zone 56)	SURFACE ELEVATION : 472.79 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 30/08/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3183 - 3 Depth Range: 0.00 - 2.20 m



310-03-TP3183 - 4 Depth Range: 0.00 - 2.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378745.7, N: 6949759.7 (MGA94 Zone 56)	SURFACE ELEVATION : 472.79 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 30/08/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3183 - 5 Depth Range: 0.00 - 2.20 m



310-03-TP3183 - 6 Depth Range: 0.00 - 2.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378854.2, N: 6950316.5 (MGA94 Zone 56)

SURFACE ELEVATION : 467.66 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE

EXCAVATION INFORMATION				MATERIAL																					
VE E F H		GROUND WATER LEVELS		SAMPLES & FIELD TESTS		ELEVATION (RL) DEPTH (M)		GRAPHIC LOG		CLASSIFICATION SYMBOL		MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components		MOISTURE CONDITION		CONSISTENCY RELATIVE DENSITY		DCP Blows/100mm 5 10 15 20		POCKET PENETROMETER kPa 100 200 300 400		STRUCTURE & Other Observations			
		Not Observed		D00000 0.10m		0.0						TOPSOIL Clayey SILT: low plasticity, dark brown; trace rootlets (<1mm).										TOPSOIL			
				0.40m D00040 0.50m B00050		0.40 0.5				CI		Silty CLAY: medium plasticity, dark brown; trace rootlets (<1mm).		M (<PL)		F				X		RESIDUAL SOIL			
				0.70m 0.80m B00080		0.7 0.8				SC		Sandy Clayey GRAVEL trace cobbles: fine to coarse grained, sub-angular, pale brown and grey mottled orange and white; clay medium plasticity; sand fine to coarse grained; cobbles rounded to sub-rounded (<120mm); trace CaCO3 inclusions (<5%).		D		St to VSt				X		0.50: PP In-situ =300 kPa			
				1.00m		1.0						Sandy CLAY with gravel: medium to high plasticity, pale brown-orange mottled grey and white; sand fine to coarse grained; gravel fine to coarse sub-angular to angular; trace CaCO3 inclusions (<5%).				VD						0.80: PP In-situ >600 kPa			
				1.90m B00190		1.9				CI-CH		Sandy GRAVEL with cobbles: fine to coarse grained, sub-rounded to sub-angular, pale orange-brown and grey; sand fine to coarse grained; cobbles sub-rounded to sub-angular (<120mm).		M (<PL)		H									
				2.10m		2.1																			
				2.70m B00270		2.7				GP				D		VD								EXTREMELY WEATHERED MATERIAL	
				3.00m		3.0																			

POSITION : E: 378854.2, N: 6950316.5 (MGA94 Zone 56)

SURFACE ELEVATION : 467.66 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE



310-03-TP3184 - 1 Depth Range: 0.00 - 3.10 m



310-03-TP3184 - 2 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378854.2, N: 6950316.5 (MGA94 Zone 56)	SURFACE ELEVATION : 467.66 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 30/08/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE		



310-03-TP3184 - 3 Depth Range: 0.00 - 3.10 m



310-03-TP3184 - 4 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378854.2, N: 6950316.5 (MGA94 Zone 56)	SURFACE ELEVATION : 467.66 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 30/08/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3184 - 5 Depth Range: 0.00 - 3.10 m



310-03-TP3184 - 6 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378929.6, N: 6950794.9 (MGA94 Zone 56)

SURFACE ELEVATION : 457.58 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.30 m WIDE

EXCAVATION INFORMATION					MATERIAL				
VE PENETRATION F H	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
		0.10m D00010 0.20m	0.0			Gravelly SILT with cobbles: low plasticity, dark brown; gravel fine to coarse sub-angular to angular; cobbles sub-angular to angular (<200mm); with roots (<30mm) and rootlets (<2mm).	NA	NA	REWORKED TOPSOIL
		0.50m B00050	457.1 0.5			Gravelly COBBLES with clay trace boulders: to 200 mm, sub-rounded to sub-angular, brown mottled grey; gravel fine to coarse sub-rounded to sub-angular; clay low plasticity; boulders sub-round to angular (200-500mm).			EXTREMELY WEATHERED MATERIAL
	Not Observed	0.90m	456.6 1.0		GP		D	VD	
		1.60m D00160 1.70m	456.1 1.5			At 1.50m: colour changing to pale brown-grey mottled orange.			
			455.6 2.0			Hole Terminated at 2.00 m Refusal on boulders Testpit reinstated to surface			
			455.1 2.5						
			454.6 3.0						
			454.1 3.5						
			4.0						

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION

VE
W
U
H

No Resistance

WATER

10 Oct., 73 Water
Level on Date shown

water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION

Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

POSITION : E: 378929.6, N: 6950794.9 (MGA94 Zone 56)	SURFACE ELEVATION : 457.58 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 30/08/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.30 m WIDE		



310-03-TP3185 - 1 Depth Range: 0.00 - 2.00 m



310-03-TP3185 - 2 Depth Range: 0.00 - 2.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378929.6, N: 6950794.9 (MGA94 Zone 56)	SURFACE ELEVATION : 457.58 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 30/08/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.30 m WIDE		



310-03-TP3185 - 3 Depth Range: 0.00 - 2.00 m



310-03-TP3185 - 4 Depth Range: 0.00 - 2.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378929.6, N: 6950794.9 (MGA94 Zone 56)	SURFACE ELEVATION : 457.58 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 30/08/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.30 m LONG 1.30 m WIDE	CHECKED BY : J.Boyle



310-03-TP3185 - 5 Depth Range: 0.00 - 2.00 m



310-03-TP3185 - 6 Depth Range: 0.00 - 2.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378968.3, N: 6951339.6 (MGA94 Zone 56)

SURFACE ELEVATION : 437.66 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE

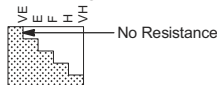
EXCAVATION INFORMATION				MATERIAL									
VE PENETRATION F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations	
		Not Observed		0.0			TOPSOIL Sandy Silty CLAY trace gravel: medium plasticity, dark brown; sand fine to coarse grained; gravel fine to coarse sub-angular; rootlets (<1mm).					TOPSOIL	
				0.20m			Silty CLAY: medium to high plasticity, brown.						RESIDUAL SOIL 0.20: PP In-situ =140 kPa
				0.40m D00040 0.50m		CI-CH	At 0.50m: with fine to coarse grained sand.	M (>PL)	F to St				
				0.70m B00070			Silty CLAY with sand trace gravel: high plasticity, pale brown mottled orange; sand fine grained; gravel fine to medium sub-angular.						
				0.90m		CH							
				1.30m B00130			Gravelly SILT: medium to high plasticity, pale brown mottled orange; gravel fine to coarse sub-angular.		VSt				
				1.50m									
				2.0		ML- MH	At 2.00m: pale brown-grey, with low to medium plasticity fines.	M (<PL)					
				2.5					H				
				2.80m B00280									
				3.00m			Hole Terminated at 3.00 m Target depth Testpit reinstated to surface						
				3.5									

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378968.3, N: 6951339.6 (MGA94 Zone 56)

SURFACE ELEVATION : 437.66 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE



310-03-TP3186 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3186 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378968.3, N: 6951339.6 (MGA94 Zone 56)

SURFACE ELEVATION : 437.66 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE



310-03-TP3186 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3186 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

CLIENT : ARTC
LOCATION : N3 - Brookstead to Gowrie

PROJECT : Inland Rail B2G

FILE / JOB NO : B21003
SHEET : 4 OF 4

POSITION : E: 378968.3, N: 6951339.6 (MGA94 Zone 56)	SURFACE ELEVATION : 437.66 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 27/08/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3186 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 378906.2, N: 6951789.6 (MGA94 Zone 56)

SURFACE ELEVATION : 432.19 (AHD)

EQUIPMENT TYPE : 9t Backhoe

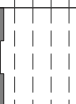
METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.40 m LONG 1.30 m WIDE

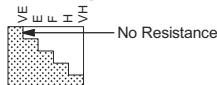
EXCAVATION INFORMATION					MATERIAL									
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations	
			Not Observed		0.0			TOPSOIL Silty CLAY: medium to high plasticity, dark brown; rootlets (<1mm).					TOPSOIL	
					0.30m			CLAY with silt: high plasticity, dark brown; trace rootlets (<1mm).					RESIDUAL SOIL	
				0.50m	431.7									
				U00050	0.5									
				0.60m										
				B00060										
				0.80m										
				1.00m	431.2		CH			M (>PL)			0.70: PP In-situ =110 kPa	
				1.50m	430.7								1.00: PP In-situ =200 kPa	
				1.60m	1.5				Silty CLAY trace sand trace gravel: high plasticity, brown; sand fine grained; gravel fine sub angular.					1.50: PP In-situ =410 kPa
			B00160											
			1.90m	430.2										
			2.00m	2.0										
			2.50m	429.7		CH								
			2.80m	2.8				At 2.60m: brown mottled orange, trace fine to coarse grained sub-angular to angular gravel.					2.80: PP In-situ =320 kPa	
			B00280											
			3.00m	429.2										
			3.10m	3.0										
				3.10m				Hole Terminated at 3.10 m Target depth Testpit reinstated to surface						
				428.7										
				3.5										
				4.0										

PHOTOGRAPHS
NOTES

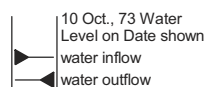
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378906.2, N: 6951789.6 (MGA94 Zone 56)	SURFACE ELEVATION : 432.19 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 27/08/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.40 m LONG 1.30 m WIDE	CHECKED BY : J.Boyle



310-03-TP3187 - 1 Depth Range: 0.00 - 3.10 m



310-03-TP3187 - 2 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378906.2, N: 6951789.6 (MGA94 Zone 56)	SURFACE ELEVATION : 432.19 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 27/08/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.40 m LONG 1.30 m WIDE		



310-03-TP3187 - 3 Depth Range: 0.00 - 3.10 m



310-03-TP3187 - 4 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378906.2, N: 6951789.6 (MGA94 Zone 56)	SURFACE ELEVATION : 432.19 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 27/08/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.40 m LONG 1.30 m WIDE		



310-03-TP3187 - 5 Depth Range: 0.00 - 3.10 m

POSITION : E: 378750.0, N: 6952831.7 (MGA94 Zone 56)

SURFACE ELEVATION : 436.91 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.20 m LONG 1.30 m WIDE

EXCAVATION INFORMATION							MATERIAL								
VE E F H		GROUND WATER LEVELS		SAMPLES & FIELD TESTS		ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20		POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations

PHOTOGRAPHS
NOTES

METHOD	PENETRATION	SAMPLES & FIELD TESTS	CLASSIFICATION SYMBOLS & SOIL DESCRIPTION	CONSISTENCY/ RELATIVE DENSITY
N Natural Exposure		U - Undisturbed Sample	Based on Unified Classification System	VS - Very Soft
X Existing Excavation		D - Disturbed Sample		S - Soft
BH Backhoe Bucket		B - Bulk Disturbed Sample		F - Firm
B Bulldozer Blade		MC - Moisture Content	MOISTURE D - Dry M - Moist W - Wet M > PL- Moisture Content > Plastic Limit M ~ PL- Moisture Content = Plastic Limit M < PL- Moisture Content < Plastic Limit	St - Stiff
R Ripper		PP - Pocket Penetrometer (UCS kPa)		VSt - Very Stiff
		VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)		H - Hard
				VL - Very Loose
				L - Loose
				MD - Medium Dense
				D - Dense
				VD - Very Dense

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 378750.0, N: 6952831.7 (MGA94 Zone 56)	SURFACE ELEVATION : 436.91 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 31/08/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.20 m LONG 1.30 m WIDE	CHECKED BY : J.Boyle



310-03-TP3188 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3188 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378750.0, N: 6952831.7 (MGA94 Zone 56)	SURFACE ELEVATION : 436.91 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 31/08/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.20 m LONG 1.30 m WIDE		



310-03-TP3188 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3188 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378750.0, N: 6952831.7 (MGA94 Zone 56)

SURFACE ELEVATION : 436.91 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.20 m LONG 1.30 m WIDE



310-03-TP3188 - 5 Depth Range: 0.00 - 3.00 m



310-03-TP3188 - 6 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378827.2, N: 6953132.3 (MGA94 Zone 56)

SURFACE ELEVATION : 433.20 (AHD)

EQUIPMENT TYPE : 9t Backhoe

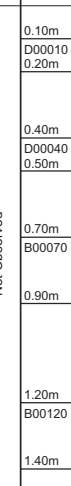
METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.00 m LONG 1.30 m WIDE

EXCAVATION INFORMATION										MATERIAL																	
VE E F H PENETRATION				GROUND WATER LEVELS		SAMPLES & FIELD TESTS		ELEVATION (RL) DEPTH (M)		GRAPHIC LOG		CLASSIFICATION SYMBOL		MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components				MOISTURE CONDITION		CONSISTENCY RELATIVE DENSITY		DCP Blows/100mm 5 10 15 20		POCKET PENETRO- METER 100 200 300 400		STRUCTURE & Other Observations	
				Not Observed		0.10m		0.0				CH		TOPSOIL Sandy SILT trace gravel: medium plasticity, brown; sand fine grained; gravel fine sub-angular; some rootlets (<1mm).				M (<PL)		H		5		100		TOPSOIL	
						D00010		0.10						20													
						0.20m		0.20						20													
						0.40m		0.40						20													
						D00040		0.40						20													
						0.50m		0.50						20													
						0.70m		0.70						20													
B00070		0.70		20																							
0.90m		0.90		20																							
1.20m		1.20		20																							
B00120		1.20		20																							
1.40m		1.40		20																							
431.7		1.50		20																							
						431.2		2.0				Hole Terminated at 1.50 m Refusal on rock Testpit reinstated to surface															
						430.7		2.5																			
						430.2		3.0																			
						429.7		3.5																			
						429.2		4.0																			

PHOTOGRAPHS
NOTES

METHOD	PENETRATION	SAMPLES & FIELD TESTS	CLASSIFICATION SYMBOLS & SOIL DESCRIPTION	CONSISTENCY/ RELATIVE DENSITY
N Natural Exposure		U - Undisturbed Sample	Based on Unified Classification System	VS - Very Soft
X Existing Excavation		D - Disturbed Sample		S - Soft
BH Backhoe Bucket		B - Bulk Disturbed Sample		F - Firm
B Bulldozer Blade		MC - Moisture Content	MOISTURE D - Dry M - Moist W - Wet	St - Stiff
R Ripper		PP - Pocket Penetrometer (UCS kPa)		VSt - Very Stiff
		VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)		H - Hard
			M > PL- Moisture Content > Plastic Limit	VL - Very Loose
			M ~ PL- Moisture Content = Plastic Limit	L - Loose
			M < PL- Moisture Content < Plastic Limit	MD - Medium Dense
				D - Dense
				VD - Very Dense

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 378827.2, N: 6953132.3 (MGA94 Zone 56)	SURFACE ELEVATION : 433.20 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 31/08/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.00 m LONG 1.30 m WIDE		



310-03-TP3189 - 1 Depth Range: 0.00 - 1.50 m



310-03-TP3189 - 2 Depth Range: 0.00 - 1.50 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378827.2, N: 6953132.3 (MGA94 Zone 56)	SURFACE ELEVATION : 433.20 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 31/08/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.00 m LONG 1.30 m WIDE		



310-03-TP3189 - 3 Depth Range: 0.00 - 1.50 m



310-03-TP3189 - 4 Depth Range: 0.00 - 1.50 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378827.2, N: 6953132.3 (MGA94 Zone 56)

SURFACE ELEVATION : 433.20 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : T. Tran

CHECKED BY : J. Boyle

EXCAVATION DIMENSIONS : 5.00 m LONG 1.30 m WIDE



310-03-TP3189 - 5 Depth Range: 0.00 - 1.50 m

POSITION : E: 378880.7, N: 6953253.8 (MGA94 Zone 56)

SURFACE ELEVATION : 430.28 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.30 m WIDE

EXCAVATION INFORMATION					MATERIAL				
VE PENETRATION F H	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	STRUCTURE & Other Observations
		0.10m D00010	0.0			TOPSOIL Gravelly SILT: low plasticity, pale red-brown; gravel fine to coarse sub-angular to angular; some rootlets (<2mm).			TOPSOIL
		0.30m	0.30m						
	Not Observed	0.60m B00060	0.5			Silty GRAVEL with cobbles trace boulders: fine to coarse grained, sub-rounded to sub-angular, pale red-brown and grey; silt low plasticity; cobbles sub-rounded to sub-angular (<200mm); boulders sub-angular (<400mm).	D	VD	EXTREMELY WEATHERED MATERIAL
		0.90m	0.90m		GP				
		1.20m B00120	1.0						
		1.30m	1.30m						
			1.30m			Hole Terminated at 1.30 m Refusal - Very Slow Progress Testpit reinstated to surface			
			1.5						
			2.0						
			2.5						
			3.0						
			3.5						
			4.0						

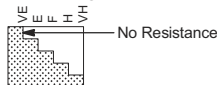
PHOTOGRAPHS
NOTES



METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

**CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION**
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

**CONSISTENCY/
RELATIVE DENSITY**

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378880.7, N: 6953253.8 (MGA94 Zone 56)	SURFACE ELEVATION : 430.28 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 01/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.50 m LONG 1.30 m WIDE		



310-03-TP3190 - 1 Depth Range: 0.00 - 1.30 m



310-03-TP3190 - 2 Depth Range: 0.00 - 1.30 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378880.7, N: 6953253.8 (MGA94 Zone 56)

SURFACE ELEVATION : 430.28 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.30 m WIDE



310-03-TP3190 - 3 Depth Range: 0.00 - 1.30 m



310-03-TP3190 - 4 Depth Range: 0.00 - 1.30 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

CLIENT : ARTC
LOCATION : N3 - Brookstead to Gowrie

PROJECT : Inland Rail B2G

FILE / JOB NO : B21003
SHEET : 4 OF 4

POSITION : E: 378880.7, N: 6953253.8 (MGA94 Zone 56)	SURFACE ELEVATION : 430.28 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 01/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.50 m LONG 1.30 m WIDE		



310-03-TP3190 - 5 Depth Range: 0.00 - 1.30 m

MG 4.02 LIB GLEB Log MG TEST PIT MG 4.02 GPJ <<DrawingFile>> 07/03/2022 22:12 10/02/2004 Dated Lib and in Situ Test - DDD | Lib DDDT P 4.01 2 dtd 3.04 2018-07-02 P1 DDDT P 4.00 6 2017-11-25

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378943.5, N: 6953341.8 (MGA94 Zone 56)

SURFACE ELEVATION : 424.36 (AHD)

EQUIPMENT TYPE : 9t Backhoe

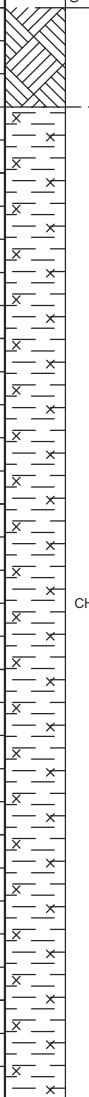
METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.40 m LONG 1.40 m WIDE

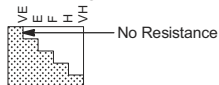
EXCAVATION INFORMATION					MATERIAL											
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations		
Not Observed			0.20m D00020 0.30m	0.0		CH	TOPSOIL Clayey SILT: low to medium plasticity, brown; trace rootlets (<1mm).						X	TOPSOIL 0.10: PP In-situ =130 kPa		
			0.40m D00040 0.50m	0.20			Silty CLAY trace sand trace gravel: high plasticity, dark brown; sand fine to coarse grained; gravel fine sub angular gravel.								RESIDUAL SOIL	
			0.60m U00050 B00060	0.40										X	0.60: PP In-situ =220 kPa	
			0.80m	0.60												
			1.00m	0.80					From 1.10 to 1.50m: trace carbonate inclusions (<5%).						X	1.00: PP In-situ >600 kPa
				1.00												
				1.20												
				1.40											X	1.30: PP In-situ =480 kPa
				1.60												
				1.80												
			2.80m B00280	2.60			At 2.10m: colour shifting to brown mottled orange and pale grey.									
			3.00m	2.80												
				3.00												
				3.20												
				3.40												
				3.60												
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				28.00												
				28.20												
				28.40												
				28.60												
				28.80												
				29.00												
				29.20												
				29.40												
				29.60												
				29.80												
				30.00												
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				35.40												
				35.60												
				35.80												
				36.00												
				36.20												
				36.40												
				36.60												
				36.80						</						

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378943.5, N: 6953341.8 (MGA94 Zone 56)	SURFACE ELEVATION : 424.36 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 01/09/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.40 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3191 - 1 Depth Range: 0.00 - 3.30 m



310-03-TP3191 - 2 Depth Range: 0.00 - 3.30 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378943.5, N: 6953341.8 (MGA94 Zone 56)	SURFACE ELEVATION : 424.36 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 01/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.40 m LONG 1.40 m WIDE		



310-03-TP3191 - 3 Depth Range: 0.00 - 3.30 m



310-03-TP3191 - 4 Depth Range: 0.00 - 3.30 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 378943.5, N: 6953341.8 (MGA94 Zone 56)	SURFACE ELEVATION : 424.36 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 01/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.40 m LONG 1.40 m WIDE		



310-03-TP3191 - 5 Depth Range: 0.00 - 3.30 m



310-03-TP3191 - 6 Depth Range: 0.00 - 3.30 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379013.1, N: 6953452.2 (MGA94 Zone 56)

SURFACE ELEVATION : 423.97 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.40 m LONG 1.40 m WIDE

EXCAVATION INFORMATION						MATERIAL						
VE PENETRATION F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
			0.10m D00010	0.0			TOPSOIL Silty CLAY: medium plasticity, brown; trace rootlets (<2mm).					TOPSOIL
			0.30m	0.30m			Silty CLAY with sand trace gravel: medium to high plasticity, dark brown; sand fine to coarse grained; gravel fine sub angular.				X	RESIDUAL SOIL 0.30: PP In-situ =150 kPa
			0.50m U00050 0.60m B00060	0.5		CH		M (~PL)	F		X	0.60: PP In-situ =200 kPa
			0.80m	0.80m					St			
			1.00m B00100	1.0			Gravelly CLAY with sand trace cobbles: low plasticity, brown mottled orange and dark grey; gravel fine to coarse sub-rounded to sub-angular; sand fine to coarse grained; cobbles sub-angular (<200mm).		VSt		X	1.00: PP In-situ =350 kPa
			1.20m	1.20m								
		Not Observed		1.5		CL		M (<PL)	H			
			2.00m B00200	2.0			Highly Weathered to Extremely Weathered BASALT: fine grained, crystalline, medium strength, highly fractured, recovered as Clayey GRAVEL with cobble trace boulder: fine to coarse grained sub-rounded to sub-angular, dark grey-brown and red-orange, sub-rounded to sub-angular (<200mm) cobble, sub-angular to angular (<400mm) boulder.					HIGHLY WEATHERED BEDROCK
			2.20m	2.20m								
				2.5								
				3.0								
				3.10m			Hole Terminated at 3.10 m Target depth Testpit reinstated to surface					
				4.0								

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379013.1, N: 6953452.2 (MGA94 Zone 56)	SURFACE ELEVATION : 423.97 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 01/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.40 m LONG 1.40 m WIDE		



310-03-TP3192 - 1 Depth Range: 0.00 - 3.10 m



310-03-TP3192 - 2 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379013.1, N: 6953452.2 (MGA94 Zone 56)	SURFACE ELEVATION : 423.97 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 01/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.40 m LONG 1.40 m WIDE		



310-03-TP3192 - 3 Depth Range: 0.00 - 3.10 m



310-03-TP3192 - 4 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379216.6, N: 6953783.5 (MGA94 Zone 56)

SURFACE ELEVATION : 426.15 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.50 m LONG 1.40 m WIDE

EXCAVATION INFORMATION					MATERIAL							
VE E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 300 400	STRUCTURE & Other Observations
		Not Observed	0.20m D00020 0.30m	0.0			TOPSOIL Clayey SILT: low to medium plasticity, brown; trace rootlets (<1mm).					TOPSOIL
			0.40m D00040 0.50m U00050	0.5			0.30m					Silty CLAY trace sand trace gravel: medium to high plasticity, brown and dark brown mottled white; sand fine grained; gravel fine sub angular. From 0.40 to 0.90m: calcrete nodules (~5%). From 0.60m: colour changing to brown.
		Not Observed	0.70m B00070	0.7		Cl-CH						
			1.00m	1.0								
		Not Observed		1.5								
				2.0								
		Not Observed		2.5								
				3.0								
		Not Observed		3.5			Hole Terminated at 3.30 m Target depth Testpit reinstated to surface					
				4.0								
		Not Observed		4.5								
				5.0								
		Not Observed		5.5								
				6.0								
		Not Observed		6.5								
				7.0								
		Not Observed		7.5								
				8.0								
		Not Observed		8.5								
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		Not Observed		9.5								
				10.0								
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				56.0								
		Not Observed		56.5								
				57.0								
		Not Observed		57.5								
				58.0								
		Not Observed		58.5								
				59.0								

PHOTOGRAPHS
NOTES

METHOD	PENETRATION	SAMPLES & FIELD TESTS	CLASSIFICATION SYMBOLS & SOIL DESCRIPTION	CONSISTENCY/ RELATIVE DENSITY
N Natural Exposure		U - Undisturbed Sample	Based on Unified Classification System	VS - Very Soft
X Existing Excavation		D - Disturbed Sample		S - Soft
BH Backhoe Bucket		B - Bulk Disturbed Sample		F - Firm
B Bulldozer Blade		MC - Moisture Content	MOISTURE D - Dry M - Moist W - Wet M > PL- Moisture Content > Plastic Limit M ~ PL- Moisture Content = Plastic Limit M < PL- Moisture Content < Plastic Limit	St - Stiff
R Ripper		PP - Pocket Penetrometer (UCS kPa)		VSt - Very Stiff
		VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)		H - Hard
				VL - Very Loose
				L - Loose
				MD - Medium Dense
				D - Dense
				VD - Very Dense

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 379216.6, N: 6953783.5 (MGA94 Zone 56)	SURFACE ELEVATION : 426.15 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 01/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.50 m LONG 1.40 m WIDE		



310-03-TP3193 - 1 Depth Range: 0.00 - 3.30 m



310-03-TP3193 - 2 Depth Range: 0.00 - 3.30 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379216.6, N: 6953783.5 (MGA94 Zone 56)	SURFACE ELEVATION : 426.15 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 01/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.50 m LONG 1.40 m WIDE		



310-03-TP3193 - 3 Depth Range: 0.00 - 3.30 m



310-03-TP3193 - 4 Depth Range: 0.00 - 3.30 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379216.6, N: 6953783.5 (MGA94 Zone 56)	SURFACE ELEVATION : 426.15 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 01/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.50 m LONG 1.40 m WIDE		



310-03-TP3193 - 5 Depth Range: 0.00 - 3.30 m



310-03-TP3193 - 6 Depth Range: 0.00 - 3.30 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379265.9, N: 6953865.0 (MGA94 Zone 56)

SURFACE ELEVATION : 425.47 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 02/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.20 m LONG 1.40 m WIDE

EXCAVATION INFORMATION						MATERIAL									
PENETRATION			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER kPa 100 200 300 400	STRUCTURE & Other Observations	
VE	E	F													
					0.0			TOPSOIL: Clayey SILT: low plasticity, dark brown, with rootlets (<2mm)						TOPSOIL	
				0.20m D00020 0.30m				0.30m					X	0.20: PP In-situ =120 kPa	
				0.50m U00050	0.5			Silty CLAY trace sand and gravel: high plasticity, dark brown, fine grained sand, fine sub angular gravel.					X	0.50: PP Samp =430 kPa	
				0.90m B00090 1.00m	0.9										
				1.10m	1.0				M (<PL)				X	1.00: PP Samp >600 kPa	
					1.5		CH			Vst					
				1.90m D00190 2.10m	1.9			Below 1.90m Colour changing to brown mottled orange brown and white							
					2.5				M (~PL)						
				2.70m B00270 2.90m	2.7										
					3.0			3.00m							
					3.5			Hole Terminated at 3.00 m Target depth Testpit reinstated to surface							

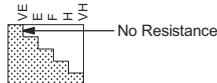
PHOTOGRAPHS
NOTES



METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/ RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 379265.9, N: 6953865.0 (MGA94 Zone 56)

SURFACE ELEVATION : 425.47 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 02/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.20 m LONG 1.40 m WIDE



310-03-TP3194 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3194 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379265.9, N: 6953865.0 (MGA94 Zone 56)	SURFACE ELEVATION : 425.47 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 02/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.20 m LONG 1.40 m WIDE		



310-03-TP3194 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3194 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

CLIENT : ARTC
LOCATION : N3 - Brookstead to Gowrie

PROJECT : Inland Rail B2G

FILE / JOB NO : B21003
SHEET : 4 OF 4

POSITION : E: 379265.9, N: 6953865.0 (MGA94 Zone 56)	SURFACE ELEVATION : 425.47 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 02/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.20 m LONG 1.40 m WIDE		



310-03-TP3194 - 5 Depth Range: 0.00 - 3.00 m

MG 4.02 LIB.GLB Log MG TEST PPT MG 4.02 GPJ <DrawingFile> 07/03/2022 22:15 10/02/00.04 Dated Lib and in Situ Test - DGD | Lib: DGDTP 4.01 2 dtd 3.04 2018-07-02 Pjt: DGDTP 4.00 6 2017-11-25

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379302.0, N: 6953926.8 (MGA94 Zone 56)

SURFACE ELEVATION : 425.24 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 02/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE

EXCAVATION INFORMATION				MATERIAL								
VE PENETRATION F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	Blows/100mm DCP 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed	0.20m D00020 0.30m	0.0			TOPSOIL: Clayey SILT: low plasticity, dark brown, with rootlets (<2mm)					TOPSOIL
			0.50m U00050	0.5			Silty CLAY: high plasticity dark brown					0.20: PP In-situ =240 kPa RESIDUAL SOIL
			0.80m B00080	0.8								0.50: PP Samp =350 kPa
			1.00m	1.0		CH						1.00: PP Samp =460 kPa
			423.7	1.5								
			423.2	2.0								
			422.7	2.5		CH						
			2.70m B00270	2.7								
			2.90m	2.9								
				3.0			Hole Terminated at 3.00 m Target depth Testpit reinstated to surface					
				421.7								
				3.5								
				4.0								

PHOTOGRAPHS
NOTES

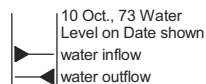
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379302.0, N: 6953926.8 (MGA94 Zone 56)	SURFACE ELEVATION : 425.24 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 02/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE		



310-03-TP3195 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3195 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 379302.0, N: 6953926.8 (MGA94 Zone 56)

SURFACE ELEVATION : 425.24 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 02/09/2021

LOGGED BY : T. Tran

CHECKED BY : J. Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE



310-03-TP3195 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3195 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379302.0, N: 6953926.8 (MGA94 Zone 56)	SURFACE ELEVATION : 425.24 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 02/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE		



310-03-TP3195 - 5 Depth Range: 0.00 - 3.00 m

MG 4.02 LIB.GLB Log MG TEST PIT MG 4.02.GPJ <DrawingFile> 07/03/2022 22:16 10/02/00.04 Dated Lib and in Situ Test - DGD | Lib DGD P 4.01.2.dwg 3.04 2018-07-02 Pj DGD P 4.00.6 2017-11-25

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379339.0, N: 6953985.4 (MGA94 Zone 56)

SURFACE ELEVATION : 425.63 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 02/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE

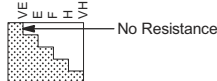
EXCAVATION INFORMATION				MATERIAL								
VE E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed	0.10m D00010 0.20m	0.0		CI	TOPSOIL: Clayey SILT: medium plasticity, dark brown, trace rootlets (<2mm)	NA	NA			TOPSOIL
			0.40m D00040 0.50m	0.4				St			0.20: PP In-situ =120 kPa RESIDUAL SOIL	
			0.60m U00050 D00060 0.70m B00070	0.5							0.50: PP Samp =340 kPa	
			0.90m	0.9								
			1.00m	1.0							1.00: PP Samp =540 kPa	
				1.5				VSt				
				2.0				M (<PL)				
				2.5								
				3.0				H				
									3.10m		Hole Terminated at 3.10 m Target depth Testpit reinstated to surface	
				4.0								

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379339.0, N: 6953985.4 (MGA94 Zone 56)	SURFACE ELEVATION : 425.63 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 02/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE		



310-03-TP3196 - 1 Depth Range: 0.00 - 3.10 m



310-03-TP3196 - 2 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379339.0, N: 6953985.4 (MGA94 Zone 56)	SURFACE ELEVATION : 425.63 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 02/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE		



310-03-TP3196 - 3 Depth Range: 0.00 - 3.10 m



310-03-TP3196 - 4 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

CLIENT : ARTC
LOCATION : N3 - Brookstead to Gowrie

PROJECT : Inland Rail B2G

FILE / JOB NO : B21003
SHEET : 4 OF 4

POSITION : E: 379339.0, N: 6953985.4 (MGA94 Zone 56)	SURFACE ELEVATION : 425.63 (AHD)
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket
DATE EXCAVATED : 02/09/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3196 - 5 Depth Range: 0.00 - 3.10 m

MG 4.02 LIB.GLB Log MG TEST P/T MG 4.02 GPJ <DrawingFile> 07/03/2022 22:17 10/02/00.04 Dated Lib and in Situ Tool - DGD | Lib: DGD P 4.01 2 dtd 3.04 2018-07-02 P/L DGD P 4.00 6 2017-11-25

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379382.6, N: 6954054.3 (MGA94 Zone 56)

SURFACE ELEVATION : 426.10 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 02/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.50 m WIDE

EXCAVATION INFORMATION						MATERIAL																			
VE E PENETRATION F H			GROUND WATER LEVELS		SAMPLES & FIELD TESTS		ELEVATION (RL) DEPTH (M)		GRAPHIC LOG		CLASSIFICATION SYMBOL		MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components			MOISTURE CONDITION		CONSISTENCY RELATIVE DENSITY		DCP Blows/100mm		POCKET PENETRO- METER		STRUCTURE & Other Observations	
			Not Observed		0.10m D00010		0.0						TOPSOIL: Clayey SILT: medium plasticity, dark brown, trace rootlets (<2mm)											TOPSOIL	
					0.30m D00040		0.30m						Silty CLAY: high plasticity, dark brown, trace rootlets (<1mm)									X		RESIDUAL SOIL 0.30: PP Samp =130 kPa	
					0.40m D00040		425.6				CH													0.50: PP Samp =240 kPa	
					0.50m U00050		0.5																		
					0.60m								0.70m												
					0.80m B00080		425.1						Silty CLAY trace sand and gravel: high plasticity, pale brown mottled white, with CACO3 inclusions (~10%), fine to medium grained sand, fine sub angular gravel.												
					1.00m		1.0				CH													1.00: PP Samp >600 kPa	
					1.10m																				
							1.5																		
							1.70m						CLAY with silt: medium to high plasticity, grey brown mottled white and orange, with CACO3 inclusions (~10%)												
					2.00m B00200		2.0																		
					2.20m																				
							2.5				CI-CH														
							3.0																		
							3.20m						Hole Terminated at 3.20 m Target depth Testpit reinstated to surface												
							422.6																		
							3.5																		
							4.0																		

PHOTOGRAPHS
NOTES

METHOD	PENETRATION	SAMPLES & FIELD TESTS	CLASSIFICATION SYMBOLS & SOIL DESCRIPTION	CONSISTENCY/ RELATIVE DENSITY
N Natural Exposure	 No Resistance	U - Undisturbed Sample	Based on Unified	VS - Very Soft
X Existing Excavation		D - Disturbed Sample	Classification System	S - Soft
BH Backhoe Bucket		B - Bulk Disturbed Sample		F - Firm
B Bulldozer Blade		MC - Moisture Content		St - Stiff
R Ripper		PP - Pocket Penetrometer (UCS kPa)		VSt - Very Stiff
		VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)		H - Hard
				VL - Very Loose
				L - Loose
				MD - Medium Dense
				D - Dense
				VD - Very Dense

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 379382.6, N: 6954054.3 (MGA94 Zone 56)	SURFACE ELEVATION : 426.10 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 02/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.50 m WIDE		



310-03-TP3197 - 1 Depth Range: 0.00 - 3.20 m



310-03-TP3197 - 2 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379382.6, N: 6954054.3 (MGA94 Zone 56)

SURFACE ELEVATION : 426.10 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 02/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.50 m WIDE



310-03-TP3197 - 3 Depth Range: 0.00 - 3.20 m



310-03-TP3197 - 4 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379382.6, N: 6954054.3 (MGA94 Zone 56)	SURFACE ELEVATION : 426.10 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 02/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.50 m WIDE		



310-03-TP3197 - 5 Depth Range: 0.00 - 3.20 m

POSITION : E: 379492.3, N: 6954206.5 (MGA94 Zone 56)

SURFACE ELEVATION : 426.79 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 02/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE

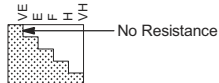
EXCAVATION INFORMATION				MATERIAL								
VE PENETRATION F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed		0.0			TOPSOIL: Clayey SILT: medium plasticity, dark brown, trace rootlets (<2mm)					TOPSOIL
			0.20m D00020 0.30m			0.30m					X	0.20: PP In-situ =140 kPa
			0.40m D00040 0.50m U00050	426.3			Silty CLAY: high plasticity, dark brown, with carbonate inclusions (<5%O)					RESIDUAL SOIL
				0.5			Below 0.50m brown and pale brown mottled white	M (~PL)	F			
			0.90m B00090 1.00m 1.10m	425.8							X	0.90: PP Samp =260 kPa
				1.0								
				1.5								
				425.3								
				2.0		CH						
				424.8						VSt		
			2.5				Below 2.50m trace fine to coarse grained sand and fine sub-angular gravel	M (<PL)				
			424.3									
			2.90m D00290	423.8			Below 2.90m trace sand and gravel, fine grained sand, fine sub rounded gravel.					
			3.10m	3.0								
				3.30m								
				423.3			Hole Terminated at 3.30 m Target depth Testpit reinstated to surface					
				3.5								
				4.0								

PHOTOGRAPHS
NOTES

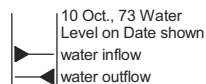
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379492.3, N: 6954206.5 (MGA94 Zone 56)	SURFACE ELEVATION : 426.79 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 02/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE		



310-03-TP3198 - 1 Depth Range: 0.00 - 3.30 m



310-03-TP3198 - 2 Depth Range: 0.00 - 3.30 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379492.3, N: 6954206.5 (MGA94 Zone 56)	SURFACE ELEVATION : 426.79 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 02/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE		



310-03-TP3198 - 3 Depth Range: 0.00 - 3.30 m



310-03-TP3198 - 4 Depth Range: 0.00 - 3.30 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 379492.3, N: 6954206.5 (MGA94 Zone 56)	SURFACE ELEVATION : 426.79 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 02/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE		



310-03-TP3198 - 5 Depth Range: 0.00 - 3.30 m

POSITION : E: 380534.9, N: 6954830.1 (MGA94 Zone 56)

SURFACE ELEVATION : 441.98 (AHD)

EQUIPMENT TYPE : Backhoe

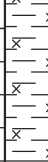
METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 03/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.50 m WIDE

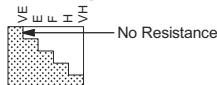
EXCAVATION INFORMATION					MATERIAL											
PENETRATION VE F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations		
Not Observed			0.20m	D00020	0.30m		MH	TOPSOIL: Silty CLAY: medium plasticity, dark brown, with rootlets (<5mm)	M (~PL)	F to St			TOPSOIL			
			0.40m	D00040	0.50m			Clayey SILT: high plasticity, dark brown mottled brown								RESIDUAL SOIL 0.30: PP Samp =300 kPa
			0.70m	B00070	0.60m			Silty CLAY: high plasticity, dark red brown								
			0.90m	CH	1.00m		Clayey Gravelly SAND: fine to coarse grained purple brown mottled brown, white and orange, low to medium plasticity clay, fine angular to sub-angular gravel, calcareous	D	VD			1.00: PP Samp =320 kPa				
			1.40m		B00140								1.40m			
			1.70m		SC											Extremely weathered BASALT low to medium strength: Recovered as sandy GRAVEL with cobbles: fine to coarse sub-rounded to sub-angular, grey brown mottled orange, fine to coarse grained sand, sub-angular to angular cobbles (<200mm)
			2.50m	B00250		2.40m										
			2.70m			Hole Terminated at 3.20 m Target depth Testpit reinstated to surface										
			439.5		3.0				3.20m							
			439.0													
438.5	3.5															

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 380534.9, N: 6954830.1 (MGA94 Zone 56)	SURFACE ELEVATION : 441.98 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 03/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.50 m WIDE		



310-03-TP3200 - 1 Depth Range: 0.00 - 3.20 m



310-03-TP3200 - 2 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 380534.9, N: 6954830.1 (MGA94 Zone 56)

SURFACE ELEVATION : 441.98 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 03/09/2021

LOGGED BY : T. Tran

CHECKED BY : J. Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.50 m WIDE



310-03-TP3200 - 3 Depth Range: 0.00 - 3.20 m



310-03-TP3200 - 4 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 380534.9, N: 6954830.1 (MGA94 Zone 56)	SURFACE ELEVATION : 441.98 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 03/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.50 m WIDE		



310-03-TP3200 - 5 Depth Range: 0.00 - 3.20 m

POSITION : E: 380921.8, N: 6955019.5 (MGA94 Zone 56)

SURFACE ELEVATION : 446.63 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 03/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE

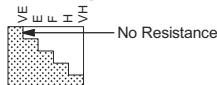
EXCAVATION INFORMATION					MATERIAL									
PENETRATION VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
			Not Observed		0.0			TOPSOIL: Silty CLAY: medium plasticity, dark brown, with rootlets (<1mm)						TOPSOIL
				0.20m D00020 0.30m			0.30m	Silty CLAY trace sand and gravel: high plasticity, brown mottled black, fine grained sand, fine sub angular gravel						RESIDUAL SOIL 0.30: PP Samp =100 kPa
				0.50m U00050 0.60m B00060									0.50: PP Samp =470 kPa	
				0.80m										
				1.00m										1.00: PP In-situ =270 kPa
				1.20m B00120				Extremely weathered BASALT low strength: Recovered as sandy GRAVEL with cobbles: fine to coarse sub-rounded to sub-angular, grey brown mottled orange, fine to coarse grained sand, sub-angular to angular cobbles (<200mm)						EXTREMELY WEATHERED BEDROCK
				1.50m										

PHOTOGRAPHS
NOTES

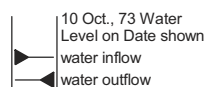
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 380921.8, N: 6955019.5 (MGA94 Zone 56)	SURFACE ELEVATION : 446.63 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 03/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE		



310-03-TP3201 - 1 Depth Range: 0.00 - 3.10 m



310-03-TP3201 - 2 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 380921.8, N: 6955019.5 (MGA94 Zone 56)

SURFACE ELEVATION : 446.63 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 03/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE



310-03-TP3201 - 3 Depth Range: 0.00 - 3.10 m



310-03-TP3201 - 4 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 380921.8, N: 6955019.5 (MGA94 Zone 56)	SURFACE ELEVATION : 446.63 (AHD)
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket
DATE EXCAVATED : 03/09/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3201 - 5 Depth Range: 0.00 - 3.10 m

MG 4.02 LIB.GLB Log MG TEST PIT MG 4.02 GPJ <DrawingFile> 07/03/2022 22:20 10/02/00.04 Dated Lib and in Site Tool - DGD | Lib DGD P 4.01 2 dtd 3.04 2018-07-02 Pj DGD P 4.00 6 2017-11-25

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 381051.6, N: 6955082.2 (MGA94 Zone 56)

SURFACE ELEVATION : 450.96 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 03/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.10 m LONG 1.40 m WIDE

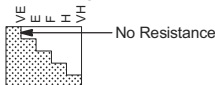
EXCAVATION INFORMATION				MATERIAL									
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER 100 200 300 400 kPa	STRUCTURE & Other Observations	
		Not Observed	0.10m D00010 0.20m	0.0		TOPSOIL: Silty CLAY: medium plasticity, dark brown, with rootlets (<2mm)						TOPSOIL	
			0.30m			Sandy SILT trace gravel: medium plasticity, purple brown mottled brown, white and orange, fine to coarse grained, fine angular to sub-angular gravel, calcareous	D	MD VD			RESIDUAL SOIL		
			0.50m U00050 0.60m B00060	0.5		ML- MH		D					
			0.90m	0.90m									
			1.00m B00100	1.0		Sandy CLAY with silt: medium plasticity, dark red brown mottled white, fine to medium grained, with calcareous inclusions (10-20%)							
			1.20m										1.20: PP Samp >600 kPa
		Not Observed	449.5	1.5		CI		M (<PL)	VSt to H				
			449.0	2.0		Extremely weathered TUFF low strength: Recovered as sandy GRAVEL with cobbles trace boulders: fine to coarse sub-rounded to sub-angular, grey brown mottled orange, fine to coarse grained sand, sub-angular to angular cobbles (<200mm), sub-angular boulders (<400mm)						EXTREMELY WEATHERED BEDROCK	
			2.40m B00240	2.5									
			2.70m										
		Not Observed	448.0	3.0									
			447.5	3.5		Hole Terminated at 3.20 m Target depth Testpit reinstated to surface							

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 381051.6, N: 6955082.2 (MGA94 Zone 56)	SURFACE ELEVATION : 450.96 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 03/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.10 m LONG 1.40 m WIDE		



310-03-TP3202 - 1 Depth Range: 0.00 - 3.20 m



310-03-TP3202 - 2 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 381051.6, N: 6955082.2 (MGA94 Zone 56)

SURFACE ELEVATION : 450.96 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 03/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.10 m LONG 1.40 m WIDE



310-03-TP3202 - 3 Depth Range: 0.00 - 3.20 m



310-03-TP3202 - 4 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 381051.6, N: 6955082.2 (MGA94 Zone 56)	SURFACE ELEVATION : 450.96 (AHD)
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket
DATE EXCAVATED : 03/09/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.10 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3202 - 5 Depth Range: 0.00 - 3.20 m

POSITION : E: 382209.5, N: 6956028.8 (MGA94 Zone 56)

SURFACE ELEVATION : 460.77 (AHD)

EQUIPMENT TYPE : Backhoe

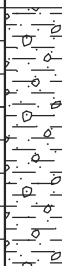
METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 04/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE

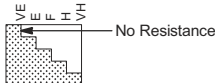
EXCAVATION INFORMATION					MATERIAL									
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER kPa 100 200 300 400	STRUCTURE & Other Observations
Not Observed				0.10m D00010 0.20m	0.0			TOPSOIL: Silty CLAY trace gravel: high plasticity clay, dark grey, coarse rounded gravel, with rootlets (<2mm)						TOPSOIL
				0.40m D00040 0.50m U00050	0.460.3 0.5			CLAY with silt: high plasticity, dark brown and black			Vst			RESIDUAL SOIL
				0.80m B00080	0.5459.8		CH			M (<PL)				
				1.00m	1.0					H		30		
				1.20m										
				1.50m B00150	1.5459.3			Sandy Gravelly CLAY: medium plasticity, red brown, orange mottled white, fine to coarse grained sand, fine to coarse sub-angular gravel, trace calcareous inclusions		D	VD			
				1.70m										
				2.00m B00200	2.0458.8									
				2.30m	2.5458.3			Moderately weathered BASALT medium to high strength: Recovered as GRAVEL and COBBLES trace boulders, fine to coarse sub-angular gravel, sub-angular to angular cobbles (<200mm), sub-angular boulders (<450mm)						MODERATELY WEATHERED BEDROCK

PHOTOGRAPHS
NOTES

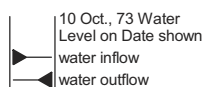
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 382209.5, N: 6956028.8 (MGA94 Zone 56)	SURFACE ELEVATION : 460.77 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 04/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE		



310-03-TP3205 - 1 Depth Range: 0.00 - 2.60 m



310-03-TP3205 - 2 Depth Range: 0.00 - 2.60 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 382209.5, N: 6956028.8 (MGA94 Zone 56)

SURFACE ELEVATION : 460.77 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 04/09/2021

LOGGED BY : T. Tran

CHECKED BY : J. Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE



310-03-TP3205 - 3 Depth Range: 0.00 - 2.60 m



310-03-TP3205 - 4 Depth Range: 0.00 - 2.60 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 382209.5, N: 6956028.8 (MGA94 Zone 56)	SURFACE ELEVATION : 460.77 (AHD)
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket
DATE EXCAVATED : 04/09/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3205 - 5 Depth Range: 0.00 - 2.60 m

POSITION : E: 382497.4, N: 6956324.0 (MGA94 Zone 56)

SURFACE ELEVATION : 476.24 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 04/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE

EXCAVATION INFORMATION						MATERIAL						
VE E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
				0.0			TOPSOIL: Silty CLAY trace gravel: high plasticity clay, dark grey, coarse rounded gravel, with rootlets (<2mm)					TOPSOIL
			0.20m D00020 0.30m				0.30m					
			0.40m D00040 0.50m U00050	475.7 0.5		CI	Silty CLAY: medium plasticity, dark brown and black	M (<PL)	Vst			RESIDUAL SOIL
			0.80m B00080				0.60m					0.50: PP In-situ ≈350 kPa
			1.00m	475.2 1.0			Extremely weathered BASALT very low strength: Recovered as gravelly CLAY: medium plasticity, red orange mottled grey and pale grey, fine to coarse sub-angular gravel					EXTREMELY WEATHERED BEDROCK
		Not Observed		474.7 1.5								
				474.2 2.0			1.90m	Moderately weathered BASALT low to medium strength: Recovered as GRAVEL and COBBLES trace boulders, fine to coarse sub-angular gravel, sub-angular to angular cobbles (<200mm), sub-angular boulders (<450mm)				MODERATELY WEATHERED BEDROCK
			2.00m B00200									
			2.30m	473.7 2.5								
				473.2 3.0								
				3.10m			Hole Terminated at 3.10 m Refusal on rock Testpit reinstated to surface					
				472.7 3.5								

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 382497.4, N: 6956324.0 (MGA94 Zone 56)

SURFACE ELEVATION : 476.24 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 04/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE



310-03-TP3206 - 3 Depth Range: 0.00 - 3.10 m



310-03-TP3206 - 4 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 382497.4, N: 6956324.0 (MGA94 Zone 56)	SURFACE ELEVATION : 476.24 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 04/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.30 m LONG 1.40 m WIDE		



310-03-TP3206 - 5 Depth Range: 0.00 - 3.10 m

POSITION : E: 385062.5, N: 6958453.1 (MGA94 Zone 56)

SURFACE ELEVATION : 448.86 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 06/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.20 m LONG 1.40 m WIDE

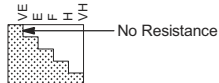
EXCAVATION INFORMATION					MATERIAL											
PENETRATION VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER kPa 100 200 300 400	STRUCTURE & Other Observations		
			Not Observed	0.20m D00020	0.0		0.30m	TOPSOIL: Clayey SILT trace gravel: medium plasticity, dark brown and black mottled white, fine to coarse grained sub-angular gravel (calcium carbonate), trace rootlets (<2mm).							TOPSOIL	
				0.30m D00030	0.30										0.20: PP In-situ =150 kPa	
				0.50m U00050	0.5			Silty CLAY trace sand: medium to high plasticity, dark brown and black mottled white, fine grained sand, with CaCO3 inclusions.							RESIDUAL SOIL	
				0.80m B00080	0.80									0.50: PP In-situ =210 kPa		
				1.00m	1.0										1.00: PP In-situ =300 kPa	
					1.5			At 1.30m: CaCO3 cobble (~130mm).								1.50: PP In-situ =240 kPa
					2.0				At 2.00m: colour changing to brown-grey mottled orange and white (calcareous).							
				2.50m B00250	2.5				Below 02.50m trace sand and gravel							
				2.70m												
				3.0			3.10m	Hole Terminated at 3.10 m Target depth Testpit reinstated to surface								
				3.5												

PHOTOGRAPHS
NOTES

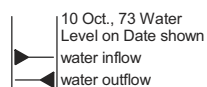
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 385062.5, N: 6958453.1 (MGA94 Zone 56)	SURFACE ELEVATION : 448.86 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 06/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.20 m LONG 1.40 m WIDE		



310-03-TP3213 - 1 Depth Range: 0.00 - 3.10 m



310-03-TP3213 - 2 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 385062.5, N: 6958453.1 (MGA94 Zone 56)	SURFACE ELEVATION : 448.86 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 06/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.20 m LONG 1.40 m WIDE		



310-03-TP3213 - 3 Depth Range: 0.00 - 3.10 m



310-03-TP3213 - 4 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 385062.5, N: 6958453.1 (MGA94 Zone 56)	SURFACE ELEVATION : 448.86 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 450mm Toothed Bucket
DATE EXCAVATED : 06/09/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.20 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3213 - 5 Depth Range: 0.00 - 3.10 m



310-03-TP3213 - 6 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 385346.9, N: 6958437.5 (MGA94 Zone 56)

SURFACE ELEVATION : 449.61 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 06/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.40 m LONG 1.50 m WIDE

EXCAVATION INFORMATION					MATERIAL																		
GROUND WATER LEVELS			SAMPLES & FIELD TESTS		ELEVATION (RL) DEPTH (M)		GRAPHIC LOG		CLASSIFICATION SYMBOL		MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components			MOISTURE CONDITION		CONSISTENCY RELATIVE DENSITY		DCP		POCKET PENETRO-METER		STRUCTURE & Other Observations	
Not Observed			0.20m D00020 0.30m		0.0						TOPSOIL: Silty CLAY: medium to high plasticity, dark brown-black, trace rootlets (<2mm).							Blows/100mm 5 10 15 20		100 200 300 400		TOPSOIL	
			0.50m U00050 0.60m B00060		0.5				CI		0.30m Silty CLAY: medium plasticity, dark brown-black and brown.			M (~PL)		F				X		0.20: PP In-situ =200 kPa RESIDUAL SOIL	
			0.80m		0.8						0.80m Silty CLAY trace sand: high plasticity, brown and dark grey mottled white, fine grained sand, trace CaCO3.					F to St				X		0.50: PP In-situ =200 kPa	
			1.00m D00100 1.10m		1.0						Below 1.50m: trace fine to medium sub-rounded gravel.					St				X		1.00: PP In-situ =240 kPa	
			1.70m B00170		1.5				CH													1.50: PP In-situ =240 kPa	
			1.90m		2.0									M (~PL)									
			2.70m D00270		2.5						2.50m Sandy CLAY trace gravel: low to medium plasticity, brown mottled grey and orange, fine grained sand, fine to medium sub-rounded to sub-angular gravel.					VSt							
			2.90m		3.0				CL-CI														
					3.2						3.20m Hole Terminated at 3.20 m Target depth Testpit reinstated to surface												
					3.5																		
					4.0																		

PHOTOGRAPHS
NOTES

METHOD	PENETRATION  No Resistance	SAMPLES & FIELD TESTS	CLASSIFICATION SYMBOLS & SOIL DESCRIPTION	CONSISTENCY/ RELATIVE DENSITY
N Natural Exposure		U - Undisturbed Sample	Based on Unified	VS - Very Soft
X Existing Excavation		D - Disturbed Sample	Classification System	S - Soft
BH Backhoe Bucket		B - Bulk Disturbed Sample		F - Firm
B Bulldozer Blade		MC - Moisture Content	MOISTURE	St - Stiff
R Ripper		PP - Pocket Penetrometer (UCS kPa)	D - Dry	Vst - Very Stiff
		VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)	M - Moist	H - Hard
			W - Wet	VL - Very Loose
			M > PL - Moisture Content > Plastic Limit	L - Loose
			M ~ PL - Moisture Content = Plastic Limit	MD - Medium Dense
			M < PL - Moisture Content < Plastic Limit	D - Dense
				VD - Very Dense

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 385346.9, N: 6958437.5 (MGA94 Zone 56)	SURFACE ELEVATION : 449.61 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 06/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.40 m LONG 1.50 m WIDE		



310-03-TP3214 - 1 Depth Range: 0.00 - 3.20 m



310-03-TP3214 - 2 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 385346.9, N: 6958437.5 (MGA94 Zone 56)	SURFACE ELEVATION : 449.61 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 06/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.40 m LONG 1.50 m WIDE		



310-03-TP3214 - 3 Depth Range: 0.00 - 3.20 m



310-03-TP3214 - 4 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 385346.9, N: 6958437.5 (MGA94 Zone 56)	SURFACE ELEVATION : 449.61 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 450mm Toothed Bucket
DATE EXCAVATED : 06/09/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 5.40 m LONG 1.50 m WIDE	CHECKED BY : J. Boyle



310-03-TP3214 - 5 Depth Range: 0.00 - 3.20 m



310-03-TP3214 - 6 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 385900.7, N: 6958407.2 (MGA94 Zone 56)

SURFACE ELEVATION : 455.28 (AHD)

EQUIPMENT TYPE : 9t Backhoe

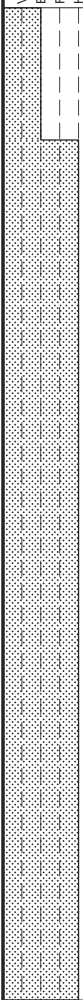
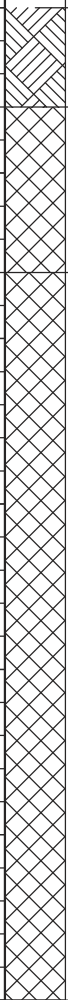
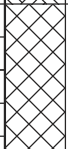
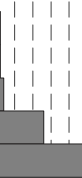
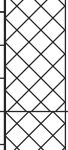
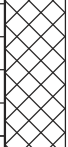
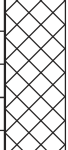
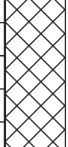
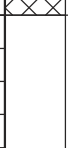
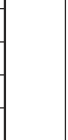
METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.40 m WIDE

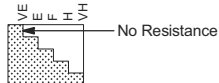
EXCAVATION INFORMATION						MATERIAL						
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER KPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed		0.0		TOPSOIL: Silty CLAY: medium to high plasticity, dark brown-black, trace rootlets (<2mm).					TOPSOIL	
				0.80m B00080	454.8		FILL: Silty CLAY: medium plasticity, dark brown-black and brown, with plastic fabrics and concrete.					FILL
			1.20m	0.5								
			1.80m B00180	1.0		FILL: Silty CLAY with sand and gravel: medium to high plasticity, brown and dark grey mottled white, fine grained sand, fine to coarse sub angular gravel, with plastic fabrics and concrete.						
				1.5								
			2.60m	2.0								
				2.5								
				3.0		Hole Terminated at 3.00 m Target depth Testpit reinstated to surface						
				3.5								
				4.0								

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 385900.7, N: 6958407.2 (MGA94 Zone 56)	SURFACE ELEVATION : 455.28 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 16/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.50 m LONG 1.40 m WIDE		



310-03-TP3215 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3215 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 385900.7, N: 6958407.2 (MGA94 Zone 56)

SURFACE ELEVATION : 455.28 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/09/2021

LOGGED BY : T. Tran

CHECKED BY : J. Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.40 m WIDE



310-03-TP3215 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3215 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 385900.7, N: 6958407.2 (MGA94 Zone 56)	SURFACE ELEVATION : 455.28 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 16/09/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 4.50 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3215 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 386211.9, N: 6958351.1 (MGA94 Zone 56)

SURFACE ELEVATION : 458.43 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.70 m LONG 1.40 m WIDE

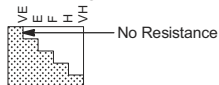
EXCAVATION INFORMATION					MATERIAL							
VE PENETRATION F H	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations		
	Not Observed	0.50m B00050 0.90m 1.80m B00180	0.0			TOPSOIL: Silty CLAY: medium plasticity, brown mottled orange, with roots (<2mm)				TOPSOIL		
			0.30m		Clayey GRAVEL with sand trace cobbles: fine to coarse sub-angular to angular gravel, purple brown mottle grey and orange, high plasticity, fine to coarse grained sand, sub angular cobbles <200mm.				0.20: PP In-situ =340 kPa RESIDUAL SOIL			
			0.50m	GC					M (<PL)	H		0.40: PP In-situ =450 kPa
			1.0									
			1.5									
			1.5			Highly Weathered BASALT medium strength: fine crystalline, dark grey and orange mottled white: Recovered as GRAVEL with cobbles trace boulders, fine to coarse, sub-angular, boulders <350mm.				HIGHLY WEATHERED BEDROCK		
			2.0									
			2.10m									
			2.10m			Hole Terminated at 2.10 m Refusal on rock Testpit reinstated to surface						
			2.5									
			3.0									
			3.5									

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSst - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 386211.9, N: 6958351.1 (MGA94 Zone 56)	SURFACE ELEVATION : 458.43 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 16/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.70 m LONG 1.40 m WIDE		



310-03-TP3216 - 1 Depth Range: 0.00 - 2.10 m



310-03-TP3216 - 2 Depth Range: 0.00 - 2.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 386211.9, N: 6958351.1 (MGA94 Zone 56)	SURFACE ELEVATION : 458.43 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 16/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.70 m LONG 1.40 m WIDE		



310-03-TP3216 - 3 Depth Range: 0.00 - 2.10 m



310-03-TP3216 - 4 Depth Range: 0.00 - 2.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 386211.9, N: 6958351.1 (MGA94 Zone 56)

SURFACE ELEVATION : 458.43 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/09/2021

LOGGED BY : T. Tran

CHECKED BY : J. Boyle

EXCAVATION DIMENSIONS : 4.70 m LONG 1.40 m WIDE



310-03-TP3216 - 5 Depth Range: 0.00 - 2.10 m

MG 4.02 LIB.GLB Log MG TEST PPT MG 4.02 GPJ <<DrawingFile>> 07/03/2022 22:25 10/02/2004 Dated Lib and in Situ Test - DDD | Lib: DDDT-P 4.01 2 dtd 3.04 2018-07-02 Pj: DDDT-P 4.00 6 2017-11-25

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 386408.6, N: 6958284.6 (MGA94 Zone 56)

SURFACE ELEVATION : 457.89 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.40 m WIDE

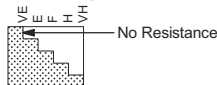
EXCAVATION INFORMATION						MATERIAL						
VE E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
Not Observed				0.0			TOPSOIL: Silty CLAY: medium plasticity, dark brown, with roots (<1mm)					TOPSOIL
				0.30m		CLAY trace sand and gravel: high-plasticity, pale brown mottled white, fine to coarse grained sand, fine sub angular gravel, with calcareous inclusions					0.20: PP In-situ =140 kPa	
		0.50m		457.4								
		0.60m										
				456.9								
		0.90m										
		1.00m		456.4								
				455.9								
		1.30m										
		D00130										
Not Observed				1.50m			At 1.20m: colour changing to grey and brown					0.70: PP In-situ =220 kPa
				455.4								
				454.9								
		2.10m										
		B00210										
				454.4								
		2.40m										
				453.9								
				453.4								
				452.9								
Not Observed				3.20m			Extremely Weathered BASALT low to medium strength: fine crystalline, brown mottled grey orange mottled white: Recovered as gravelly SAND trace cobbles trace boulders, fine to coarse, sub-angular, boulders <400mm.					EXTREMELY WEATHERED BEDROCK
				452.4								
				451.9								
				451.4								
				450.9								
				450.4								
				449.9								
				449.4								
				448.9								
				448.4								
Not Observed				3.20m			Hole Terminated at 3.20 m Target depth Testpit reinstated to surface					
				447.9								
				447.4								
				446.9								
				446.4								
				445.9								
				445.4								
				444.9								
				444.4								
				443.9								

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 386408.6, N: 6958284.6 (MGA94 Zone 56)	SURFACE ELEVATION : 457.89 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 16/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.80 m LONG 1.40 m WIDE		



310-03-TP3217 - 1 Depth Range: 0.00 - 3.20 m



310-03-TP3217 - 2 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 386408.6, N: 6958284.6 (MGA94 Zone 56)	SURFACE ELEVATION : 457.89 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 16/09/2021	LOGGED BY : T. Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.80 m LONG 1.40 m WIDE		



310-03-TP3217 - 3 Depth Range: 0.00 - 3.20 m



310-03-TP3217 - 4 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 386408.6, N: 6958284.6 (MGA94 Zone 56)	SURFACE ELEVATION : 457.89 (AHD)
EQUIPMENT TYPE : 9t Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 16/09/2021	LOGGED BY : T. Tran
EXCAVATION DIMENSIONS : 4.80 m LONG 1.40 m WIDE	CHECKED BY : J.Boyle



310-03-TP3217 - 5 Depth Range: 0.00 - 3.20 m

POSITION : E: 346133.7, N: 6927945.6 (MGA94 Zone 56)

SURFACE ELEVATION : 387.13 (AHD)

EQUIPMENT TYPE : 22t Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 24/06/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE

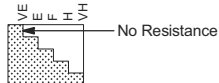
EXCAVATION INFORMATION					MATERIAL											
VE E F H PENETRATION			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP				POCKET PENETRO- METER	STRUCTURE & Other Observations
Blows/100mm 5 10 15 20																
Not Observed			J00000 0.10m	0.0		CH	0.10m	TOPSOIL CLAY: high plasticity, dark brown-grey. CLAY: high plasticity, dark grey.	M (>PL)	St					TOPSOIL 0.00: with rootlets ALLUVIAL SOIL	
			0.40m B00040 J00040 0.50m	386.6			0.5									
			0.80m													
			0.90m J00090 1.00m	386.1			1.0									
			1.60m B00160	385.6			1.5									
			1.90m	385.1			2.0									
				384.6			2.5									
				384.1			3.0									
				383.6			3.5									

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 346133.7, N: 6927945.6 (MGA94 Zone 56)	SURFACE ELEVATION : 387.13 (AHD)
EQUIPMENT TYPE : 22t Excavator	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 24/06/2021	LOGGED BY : J.Cooper
EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE	CHECKED BY : J.Boyle



310-03-TP3314 - 1 Depth Range: 0.00 - 3.60 m



310-03-TP3314 - 2 Depth Range: 0.00 - 3.60 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

CLIENT : ARTC
LOCATION : N3 - Brookstead to Gowrie

PROJECT : Inland Rail B2G

FILE / JOB NO : B21003
SHEET : 3 OF 3

POSITION : E: 346133.7, N: 6927945.6 (MGA94 Zone 56)	SURFACE ELEVATION : 387.13 (AHD)
EQUIPMENT TYPE : 22t Excavator	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 24/06/2021	LOGGED BY : J.Cooper
EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE	CHECKED BY : J.Boyle



310-03-TP3314 - 3 Depth Range: 0.00 - 3.60 m

POSITION : E: 347073.4, N: 6928412.5 (MGA94 Zone 56)

SURFACE ELEVATION : 390.47 (AHD)

EQUIPMENT TYPE : Excavator 14T

METHOD : 900mm bucket

DATE EXCAVATED : 05/03/2021

LOGGED BY : H.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.80 m LONG 1.05 m WIDE

EXCAVATION INFORMATION					MATERIAL							
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER 100 200 300 400	STRUCTURE & Other Observations
			0.10m J00010 0.20m	0.0			FILL Silty CLAY with gravel: medium to high plasticity, dark brown, fine to coarse sub-rounded to sub-angular gravel, with rootlets (<2mm)	D	F			REWORKED TOPSOIL
			0.40m B00040 J00040 0.50m	0.5			Silty CLAY: high plasticity, black.					ALLUVIAL SOIL
			0.90m J00090 1.00m	1.0		CH	0.40m: Trace sand and gravel fine to coarse sand, fine sub rounded gravel					0.36: Field water content: 21.34% Temperature: 31.4 C
			1.70m B00170 1.80m	1.5			1.60m Silty CLAY trace gravel and sand: high plasticity, black and dark brown mottled white, fine to medium sub-angular gravel, fine to coarse graiend sand.	M (<PL)	H			ALLUVIAL SOIL
			2.40m B00240 2.50m	2.5		CH						
				3.00m			Hole Terminated at 3.00 m Target depth					
				3.5								

PHOTOGRAPHS
NOTES

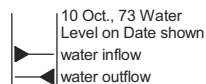
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 347073.4, N: 6928412.5 (MGA94 Zone 56)

SURFACE ELEVATION : 390.47 (AHD)

EQUIPMENT TYPE : Excavator 14T

METHOD : 900mm bucket

DATE EXCAVATED : 05/03/2021

LOGGED BY : H.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.80 m LONG 1.05 m WIDE



310-03-TP3316 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3316 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech



Macquarie Geotech

POSITION : E: 347073.4, N: 6928412.5 (MGA94 Zone 56)	SURFACE ELEVATION : 390.47 (AHD)	
EQUIPMENT TYPE : Excavator 14T	METHOD : 900mm bucket	
DATE EXCAVATED : 05/03/2021	LOGGED BY : H.Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 3.80 m LONG 1.05 m WIDE		



310-03-TP3316 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 347478.4, N: 6928644.2 (MGA94 Zone 56)

SURFACE ELEVATION : 406.88 (AHD)

EQUIPMENT TYPE : Excavator 14T

METHOD : 900mm bucket

DATE EXCAVATED : 05/03/2021

LOGGED BY : J. Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.00 m LONG 0.90 m WIDE

EXCAVATION INFORMATION						MATERIAL																			
VE E F H		GROUND WATER LEVELS		SAMPLES & FIELD TESTS		ELEVATION (RL) DEPTH (M)		GRAPHIC LOG		CLASSIFICATION SYMBOL		MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components		MOISTURE CONDITION		CONSISTENCY RELATIVE DENSITY		DCP Blows/100mm 5 10 15 20		POCKET PENETRO- METER kPa 100 200 300 400		STRUCTURE & Other Observations			
		Not Observed		0.10m J00010 0.20m		0.0						TOPSOIL Silty CLAY: high plasticity, dark grey, with rootlets and roots (<30mm)		D		St						TOPSOIL			
				0.30m B00030 0.40m J00040 0.50m		406.4 0.5						CLAY trace sand: high plasticity, dark grey, trace rootlets and roots (<15mm), fine to coarse grained sand.				H						ALLUVIAL SOIL			
				0.90m J00090 1.00m		405.9 1.0										VSt						0.35: Field water content: 20.53% Temperature: 31.4 C			
				1.40m B00140 1.50m		405.4 1.5																			
						404.9 2.0																			
				2.20m B00220		2.20m						Silty LAY trace gravel: high plasticity, dark brown grey mottled white, trace fine to medium sub-rounded to sub-angular gravel.				H									
				2.60m		2.5																			
						403.9 3.0																			
												403.4 3.5													
														4.0											

PHOTOGRAPHS
NOTES

METHOD	PENETRATION	SAMPLES & FIELD TESTS	CLASSIFICATION SYMBOLS & SOIL DESCRIPTION	CONSISTENCY/ RELATIVE DENSITY
N Natural Exposure		U - Undisturbed Sample	Based on Unified Classification System MOISTURE D - Dry M - Moist W - Wet M > PL- Moisture Content > Plastic Limit M ~ PL- Moisture Content = Plastic Limit M < PL- Moisture Content < Plastic Limit	VS - Very Soft
X Existing Excavation		D - Disturbed Sample		S - Soft
BH Backhoe Bucket		B - Bulk Disturbed Sample		F - Firm
B Bulldozer Blade		MC - Moisture Content		St - Stiff
R Ripper	WATER 	PP - Pocket Penetrometer (UCS kPa)		VSt - Very Stiff
		VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)		H - Hard
				VL - Very Loose
				L - Loose
				MD - Medium Dense
				D - Dense
				VD - Very Dense

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 347478.4, N: 6928644.2 (MGA94 Zone 56)	SURFACE ELEVATION : 406.88 (AHD)
EQUIPMENT TYPE : Excavator 14T	METHOD : 900mm bucket
DATE EXCAVATED : 05/03/2021	LOGGED BY : J. Cooper
EXCAVATION DIMENSIONS : 4.00 m LONG 0.90 m WIDE	CHECKED BY : J.Boyle



310-03-TP3317 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3317 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 347478.4, N: 6928644.2 (MGA94 Zone 56)

SURFACE ELEVATION : 406.88 (AHD)

EQUIPMENT TYPE : Excavator 14T

METHOD : 900mm bucket

DATE EXCAVATED : 05/03/2021

LOGGED BY : J. Cooper

CHECKED BY : J. Boyle

EXCAVATION DIMENSIONS : 4.00 m LONG 0.90 m WIDE



310-03-TP3317 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3317 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

EXCAVATION - GEOLOGICAL LOG

PIT NO : 310-03-TP3317

CLIENT : ARTC PROJECT : Inland Rail B2G
LOCATION : CH152588 Lot.RD02RP147195 Brookstead

FILE / JOB NO : B21003
SHEET : 4 OF 4

POSITION : E: 347478.4, N: 6928644.2 (MGA94 Zone 56)	SURFACE ELEVATION : 406.88 (AHD)
EQUIPMENT TYPE : Excavator 14T	METHOD : 900mm bucket
DATE EXCAVATED : 05/03/2021	LOGGED BY : J. Cooper
EXCAVATION DIMENSIONS : 4.00 m LONG 0.90 m WIDE	CHECKED BY : J.Boyle

310-03-TP3317 - 5 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 348022.8, N: 6928891.4 (MGA94 Zone 56)

SURFACE ELEVATION : 390.54 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 08/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.50 m WIDE

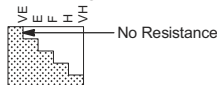
EXCAVATION INFORMATION					MATERIAL											
PENETRATION				GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm	POCKET PENETROMETER kPa	STRUCTURE & Other Observations	
VE	E	F	H													
Not Observed						0.0			TOPSOIL: CLAY with silt: medium to high plasticity, black, trace rootlets (<1mm)						TOPSOIL	
						0.20m			CLAY: high plasticity, black		S					ALLUVIAL SOIL
				0.50m	U-U00050	0.5		CH		M (>PL)				X	0.50: PP Samp =220 kPa	
				0.70m	B-B00070					F						
				0.90m		0.9										
				1.00m		1.0										
				1.10m	B-B00110											
						1.5										
						1.60m										
						2.0		CI		M (<PL)	VSt to H					
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PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 348022.8, N: 6928891.4 (MGA94 Zone 56)

SURFACE ELEVATION : 390.54 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 08/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.50 m WIDE



310-03-TP3318 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3318 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 348022.8, N: 6928891.4 (MGA94 Zone 56)

SURFACE ELEVATION : 390.54 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 08/09/2021

LOGGED BY : T. Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.50 m WIDE



310-03-TP3318 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3318 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 348475.3, N: 6929133.0 (MGA94 Zone 56)

SURFACE ELEVATION : 391.93 (AHD)

EQUIPMENT TYPE : 22t Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 24/06/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE

EXCAVATION INFORMATION					MATERIAL									
PENETRATION			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER kPa 100 200 300 400	STRUCTURE & Other Observations
VE	E	F												
					0.0			0.10m TOPSOIL CLAY: high plasticity, dark brown-grey. CLAY: high plasticity, dark grey.						TOPSOIL 0.00: with rootlets ALLUVIAL SOIL
				B00040	0.40m 391.4						St			
					0.80m 390.9		CH							
				B00120	1.20m 390.4			1.20m Silty CLAY trace gravel: high plasticity, grey mottled white; gravel fine to coarse, sub-rounded (calcareous nodules).						
					1.50m 389.9									
					2.0 389.4		CH			M (>PL)				
					2.5 388.9					VSt				
					3.0 388.4			3.00m CLAY: high plasticity, brown.						
					3.5 388.4		CH							
					3.90m									
					4.0			Hole Terminated at 3.90 m Target depth						

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



No Resistance

WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 348475.3, N: 6929133.0 (MGA94 Zone 56)	SURFACE ELEVATION : 391.93 (AHD)
EQUIPMENT TYPE : 22t Excavator	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 24/06/2021	LOGGED BY : J.Cooper
EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE	CHECKED BY : J.Boyle

310-03-TP3319 - 1 Depth Range: 0.00 - 3.60 m

310-03-TP3319 - 2 Depth Range: 0.00 - 3.60 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 348475.3, N: 6929133.0 (MGA94 Zone 56)	SURFACE ELEVATION : 391.93 (AHD)	
EQUIPMENT TYPE : 22t Excavator	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 24/06/2021	LOGGED BY : J.Cooper	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE		



310-03-TP3319 - 1 Depth Range: 0.00 - 3.90 m



310-03-TP3319 - 2 Depth Range: 0.00 - 3.90 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

Engineering Log - Borehole

Project No.: B21003

Client: ARTC		Commenced: 26/06/2021	
Project Name: Inland Rail B2G		Completed: 26/06/2021	
Hole Location: N3 - Brookstead to Gowrie		Logged By: H.Tran	
Hole Coordinates: 348926.3 m E 6929359.7 m N MGA94 Zone 56		Checked By: J.Boyle	
Drill Model and Mounting: D4TAPG Truck mounted rig		Inclination: -90°	
Hole Diameter: 125 mm		RL Surface: 393.37 m	
		Datum: AHD Operator: B.Boga	

Drilling Information				Soil Description				Observations									
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations		
PT				U00013 0.13-1.63 m		392.9	0.5			RAIL					RAIL		
				E00055 0.55-0.65 m													
				D00057 0.57-0.70 m													
				D00093 0.93-1.13 m													
				B00095 0.95-1.25 m													
				2 x buckets E00095 0.95-1.05 m													
				D00155 1.55-1.63 m													
				D00215 2.15-2.35 m													
				D00293 2.93-3.13 m													
				D00335 3.35-3.55 m													
AD/T																	
Hole Terminated at 3.55 m Target depth Pit reinstated to ballast, bulk aguer to be completed.																	

Method
AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Support
C - Casing

Penetration
No resistance ranging to refusal

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

Moisture Condition
D - Dry
M - Moist
W - Wet

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Plastic Limit
< PL
= PL
> PL

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	26/06/2021
Project Name:	Inland Rail B2G	Completed:	26/06/2021
Hole Location:	N3 - Brookstead to Gowrie	Logged By:	H.Tran
Hole Coordinates:	348926.3 m E 6929359.7 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°
Hole Diameter:	125 mm	Bearing:	
		RL Surface:	393.37 m
		Datum:	AHD
		Operator:	B.Boga



310-03-TP3320 Depth Range: 0.13 - 1.63 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 26/06/2021
Project Name: Inland Rail B2G	Completed: 26/06/2021
Hole Location: N3 - Brookstead to Gowrie	Logged By: H.Tran
Hole Coordinates: 349382.6 m E 6929575.5 m N MGA94 Zone 56	Checked By: J.Boyle
Drill Model and Mounting: D4TAPG Truck mounted rig	Inclination: -90°
Hole Diameter: 125 mm	Bearing: RL Surface: 395.26 m
	Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations		
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations	
PT				U00013 0.13-1.63 m						RAIL					RAIL	
										RAIL GRAVEL: medium to coarse sub-angular to angular, dark grey				BALLAST		
										GRAVEL with sand: fine to coarse sub-angular, dark grey, fine to coarse grained sand				FOUL BALLAST		
										Sandy Gravelly CLAY: medium to high plasticity, dark grey and dark brown, fine to coarse grained sand, medium to coarse sub-rounded to sub-angular gravel				CAPPING		
										Sandy CLAY: high plasticity, dark grey, fine to coarse grained sand				SUB-BASECOURSE		
										Silty CLAY: high plasticity, dark grey-brown				ALLUVIAL SOIL		
										At 1.26m: with calcereous nodules						
AD/T		Not Observed		D00155 1.55-1.63 m												
				D00156 1.56-1.76 m												
				D00186 1.86-2.06 m												
				D00236 2.36-2.56 m												
				D00306 3.06-3.16 m												
				D00336 3.36-3.56 m												

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB - Washbore	No resistance ranging to refusal	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss	Classification Symbols and Soil Descriptions	Plastic Limit		
C - Casing	Core recovered (hatching indicates material) Core loss	Based on Unified Soil Classification System	< PL = PL < PL		

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	26/06/2021
Project Name:	Inland Rail B2G	Completed:	26/06/2021
Hole Location:	N3 - Brookstead to Gowrie	Logged By:	H.Tran
Hole Coordinates:	349382.6 m E 6929575.5 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°
Hole Diameter:	125 mm	Bearing:	
		RL Surface:	395.26 m
		Datum:	AHD
		Operator:	B.Boga



310-03-TP3321 Depth Range: 0.13 - 1.63 m

Project No.: B21003

MG 4.02 LIBGLB Log MG BOREHOLE EXCL. DCP MG 4.02 GPJ <<DrawingFile>> 10/03/2022 20:30 10.02.00.04 Dattoel Lab and In Situ Tool - DGD I Lib: DGD-P 4.01.2 dtd 3.04 2018-07-02 Pri: DGD-P 4.00.6 2017-11-25

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	26/06/2021
Project Name:	Inland Rail B2G	Completed:	26/06/2021
Hole Location:	N3 - Brookstead to Gowrie	Logged By:	H.Tran
Hole Coordinates:	349832.1 m E 6929788.2 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°
Hole Diameter:	125 mm	Bearing:	
		RL Surface:	396.38 m
		Datum:	AHD
		Operator:	B.Boga



310-03-TP3322 Depth Range: 0.13 - 1.63 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 26/06/2021
Project Name: Inland Rail B2G	Completed: 26/06/2021
Hole Location: N3 - Brookstead to Gowrie	Logged By: H.Tran
Hole Coordinates: 350286.0 m E 6930003.0 m N MGA94 Zone 56	Checked By: J.Boyle

Drill Model and Mounting: D4TAPG Truck mounted rig	Inclination: -90°	RL Surface: 397.57 m
Hole Diameter: 125 mm	Bearing:	Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations													
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations												
PT			Not Observed	U00013 0.13-1.63 m		397.1	0.5		CH	RAIL	M (<PL)				RAIL												
				RAIL GRAVEL: medium to coarse sub-angular to angular, dark grey	BALLAST																						
				GRAVEL with sand: fine to coarse sub-angular, dark grey, fine to coarse grained sand	FOUL BALLAST																						
				Sandy Clayey GRAVEL: fine to coarse sub-angular to angular, dark brown, fine to medium grained sand, medium to high plasticity clay	CAPPING																						
				Silty CLAY with sand: high plasticity, black, fine to medium grained sand	SUB-BASECOURSE																						
				Silty CLAY: high plasticity, black	ALLUVIAL SOIL																						
				AD/T											Not Observed	E00098 0.98-1.08 m B00108 1.02-1.32 m 2 x buckets		396.6	1.0		CI-CH	Silty CLAY with gravel: medium to high plasticity clay, grey, fine to medium sub-rounded to sub-angular gravel	St - VSt				
																D00155 1.55-1.63 m D00158 1.58-1.78 m	At 1.43m: becoming grey-brown										
																D00208 2.08-2.28 m											
																D00258 2.58-2.78 m											
				D00338 3.38-3.58 m		394.1	3.5																				
				Hole Terminated at 3.58 m Target depth Pit reinstated to ballast, bulk aguer to be completed.																							

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB - Washbore	No resistance ranging to refusal	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss	Classification Symbols and Soil Descriptions	Plastic Limit		
C - Casing	Core recovered (hatching indicates material) Core loss	Based on Unified Soil Classification System	< PL = PL < PL		

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	26/06/2021
Project Name:	Inland Rail B2G	Completed:	26/06/2021
Hole Location:	N3 - Brookstead to Gowrie	Logged By:	H.Tran
Hole Coordinates:	350286.0 m E 6930003.0 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°
Hole Diameter:	125 mm	Bearing:	
		RL Surface:	397.57 m
		Datum:	AHD
		Operator:	B.Boga



310-03-TP3323 Depth Range: 0.13 - 1.63 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC				Commenced: 31/08/2021			
Project Name: Inland Rail B2G				Completed: 31/08/2021			
Hole Location:				Logged By: J.Cooper			
Hole Position: N3 - Brookstead to Gowrie 350732.1 m E 6930212.5 m N MGA94 Zone 61				Checked By: J.Boyle			
Drill Model and Mounting: D4TAPG				Inclination: -90°		RL Surface: 400.13 m	
Hole Diameter: 300 mm				Bearing:		Datum: AHD Operator: B.Boga	

Drilling Information				Soil Description						Observations					
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	DCP Blows/100mm 5 10 15 20	Pocket Penetrometer UCS (kPa) 100 200 300 400 500	Structure and Additional Observations
PT				E00000 0.00-0.10 m					CH	FILL Gravelly CLAY. CLAY: high plasticity, dark brown-grey.					FILL ALLUVIAL SOIL
				E00040 0.40-0.50 m B00050 0.50-0.80 m		399.6	0.5								
AD/T			Not Observed	D00130 1.30-1.50 m		399.1	1.0			At 1.00m: becoming brown-grey mottled orange-brown. From 1.10 to 1.30m: trace calcareous nodules.		F			
				D00150 1.50-1.70 m		398.6	1.5								
				D00180 1.80-2.00 m		398.1	2.0								
				D00200 2.00-2.20 m		397.6	2.5								
				D00280 2.80-3.00 m		397.1	3.0								
						396.6	3.5								
										Hole Terminated at 3.00 m Target depth Testpit reinstated to surface					

Method

AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration

No resistance ranging to refusal

Water

Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests

U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition

D - Dry
M - Moist
W - Wet

Consistency/Relative Density

VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support

C - Casing

Graphic Log/Core Loss

Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions

Based on Unified Soil Classification System

Plastic Limit

< PL
= PL
> PL

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	31/08/2021
Project Name:	Inland Rail B2G	Completed:	31/08/2021
Hole Location:		Logged By:	J.Cooper
Hole Position:	N3 - Brookstead to Gowrie 350732.1 m E 6930212.5 m N MGA94 Zone 66	Checked By:	J.Boyle
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	300 mm	RL Surface:	400.13 m
		Bearing:	AHD
		Operator:	B.Boga

Drilling Information				Soil Description										Observations	
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	DCP	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
						395.6	4.5								
						395.1	5.0								
						394.6	5.5								
						394.1	6.0								
						393.6	6.5								
						393.1	7.0								
						392.6	7.5								

Method AS - Auger Screwing RR - Rock Roller WB - Washbore	Penetration 	Water Level (Date) Inflow Partial Loss Complete Loss	Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	Moisture Condition D - Dry M - Moist W - Wet	Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support C - Casing	Graphic Log/Core Loss 	Classification Symbols and Soil Descriptions Based on Unified Soil Classification System	Plastic Limit < PL = PL < PL		

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	31/08/2021
Project Name:	Inland Rail B2G	Completed:	31/08/2021
Hole Location:		Logged By:	J.Cooper
Hole Position:	N3 - Brookstead to Gowrie 350732.1 m E 6930212.5 m N MGA94 Zone 66	Checked By:	J.Boyle
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	300 mm	Bearing:	
		RL Surface:	400.13 m
		Datum:	AHD
		Operator:	B.Boga



310-03-TP3324 Depth Range: 0.13 - 1.63 m



Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	31/08/2021
Project Name:	Inland Rail B2G	Completed:	31/08/2021
Hole Location:		Logged By:	J.Cooper
Hole Position:	N3 - Brookstead to Gowrie 350732.1 m E 6930212.5 m N MGA94 Zone 66	Checked By:	J.Boyle
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	300 mm	Bearing:	
		RL Surface:	400.13 m
		Datum:	AHD
		Operator:	B.Boga



310-03-TP3324 Depth Range: 0.13 - 1.63 m



Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N3 - Brookstead to Gowrie
Hole Coordinates: 351192.6 m E 6930432.0 m N MGA94 Zone 56

Commenced: 30/08/2021
Completed: 30/08/2021
Logged By: J.Cooper
Checked By: J.Boyle

Drill Model and Mounting: D4TAPG Inclinometer: RL Surface: 400.24 m
Hole Diameter: 300 mm Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations				
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)				Structure and Additional Observations	
AD/T		Not Observed		E00000 0.00-0.10 m						FILL CLAY.			100	200	300	400	500	FILL
				E00040 0.40-0.50 m B00050 0.50-0.80 m		399.7	0.5		CH	CLAY: high plasticity, dark brown.		F					ALLUVIAL SOIL	
				D00100 1.00-1.20 m		399.2	1.0					St						
				D00130 1.30-1.50 m		398.7	1.5				At 1.20m: becoming dark brown mottled orange-brown.	M (>PL)						
						398.2	2.0						VSt					
				D00250 2.50-2.60 m		397.7	2.5											
				D00280 2.80-3.00 m		397.2	3.0											
						397.2	3.0			Hole Terminated at 3.00 m Target depth Testpit reinstated to surface								
						396.7	3.5											

Method
AS - Auger Screwing
RR - Rock Roller
WB- Washbore

Support
C - Casing

Penetration
 No resistance ranging to refusal

Graphic Log/Core Loss
 Core recovered (hatching indicates material)
 Core loss

Water
 Level (Date)
 Inflow
 Partial Loss
 Complete Loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition
D - Dry
M - Moist
W - Wet

Plastic Limit
< PL
= PL
< PL

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

Method
AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration
No resistance ranging to refusal

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition
D - Dry
M - Moist
W - Wet

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support
C - Casing

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

Plastic Limit
< PL
= PL
< PL

Engineering Log - Borehole

Project No.: B21003

Client: ARTC				Commenced: 30/08/2021			
Project Name: Inland Rail B2G				Completed: 30/08/2021			
Hole Location: N3 - Brookstead to Gowrie				Logged By: J.Cooper			
Hole Coordinates: 351192.6 m E 6930432.0 m N MGA94 Zone 56				Checked By: J.Boyle			
Drill Model and Mounting: D4TAPG				Inclination:		RL Surface: 400.24 m	
Hole Diameter: 300 mm				Bearing:		Datum: AHD Operator: B.Boga	

Drilling Information				Soil Description				Observations							
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
						395.7	4.5								
						395.2	5.0								
						394.7	5.5								
						394.2	6.0								
						393.7	6.5								
						393.2	7.0								
						392.7	7.5								

Method

AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration

No resistance ranging to refusal

Water

Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests

U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition

D - Dry
M - Moist
W - Wet

Consistency/Relative Density

VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support

C - Casing

Graphic Log/Core Loss

Core recovered (hatching indicates material)
Core loss

Plastic Limit

< PL
= PL
> PL

Classification Symbols and Soil Descriptions

Based on Unified Soil Classification System

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N3 - Brookstead to Gowrie
Hole Coordinates: 351192.6 m E 6930432.0 m N MGA94 Zone 56

Commenced: 30/08/2021
Completed: 30/08/2021
Logged By: J.Cooper
Checked By: J.Boyle

Drill Model and Mounting: D4TAPG
Hole Diameter: 300 mm

Inclination:
Bearing:

RL Surface: 400.24 m
Datum: AHD Operator: B.Boga



310-03-TP3325 Depth Range: 0.13 - 1.63 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC				Commenced: 26/06/2021																			
Project Name: Inland Rail B2G				Completed: 26/06/2021																			
Hole Location: N3 - Brookstead to Gowrie				Logged By: H.Tran																			
Hole Coordinates: 351638.6 m E 6930642.9 m N MGA94 Zone 56				Checked By: J.Boyle																			
Drill Model and Mounting: D4TAPG Truck mounted rig		Inclination: -90°		RL Surface: 401.44 m		Operator: B.Boga																	
Hole Diameter: 125 mm		Bearing:		Datum: AHD																			
Drilling Information				Soil Description				Observations															
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations									
PT				U00013 0.13-1.63 m		400.9	0.5			RAIL				RAIL									
										RAIL GRAVEL: medium to coarse sub-angular to angular, dark grey.				BALLAST									
										GRAVEL with sand: fine to coarse sub-angular to angular, dark grey, fine to coarse grained sand.				FOUL BALLAST									
										Clayey SAND with gravel: fine to coarse grained, dark grey, medium to high plasticity clay, fine to medium sub-angular gravel.				ASH CAPPING									
										Clayey sandy GRAVEL: fine to coarse sub-angular, dark grey, fine to coarse grained sand, medium to high plasticity clay.				SUB-BASECOURSE									
										Sandy GRAVEL: medium to coarse sub-rounded, yellow brown, fine to medium grained sand.				FILL									
										Silty CLAY with sand: high plasticity, black, fine to medium grained sand.				ALLUVIAL SOIL									
										Silty CLAY: high plasticity, black, with calcereous nodules													
										From 1.40m to 1.60m: becoming grey with calcereous nodules													
										At 1.80m: becoming grey-brown mottled orange-brown													
AD/T			Not Observed	D00153 1.53-1.63 m		399.9	1.5		CH		M (<PL) - M (~PL)												
				D00155 1.55-1.63 m																			
				D00240 2.40-2.60 m																			
				D00300 3.00-3.10 m																			
				D00340 3.40-3.60 m																			
Hole Terminated at 3.60 m Target depth Pit reinstated to ballast, bulk aguer to be completed.																							
Method AS - Auger Screwing RR - Rock Roller WB- Washbore				Penetration  No resistance ranging to refusal				Water  Level (Date)  Inflow  Partial Loss  Complete Loss				Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test				Moisture Condition D - Dry M - Moist W - Wet				Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense			
Support C - Casing				Graphic Log/Core Loss  Core recovered (hatching indicates material)  Core loss				Classification Symbols and Soil Descriptions Based on Unified Soil Classification System				Plastic Limit < PL = PL < PL											

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB - Washbore	No resistance ranging to refusal	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss	Plastic Limit	Classification Symbols and Soil Descriptions		
C - Casing	Core recovered (hatching indicates material) Core loss	< PL = PL > PL	Based on Unified Soil Classification System		

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	26/06/2021
Project Name:	Inland Rail B2G	Completed:	26/06/2021
Hole Location:	N3 - Brookstead to Gowrie	Logged By:	H.Tran
Hole Coordinates:	351638.6 m E 6930642.9 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°
Hole Diameter:	125 mm	Bearing:	
		RL Surface:	401.44 m
		Datum:	AHD
		Operator:	B.Boga



310-03-TP3326 Depth Range: 0.13 - 1.63 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC		Commenced: 30/08/2021	
Project Name: Inland Rail B2G		Completed: 30/08/2021	
Hole Location: N3 - Brookstead to Gowrie		Logged By: J. Cooper	
Hole Coordinates: 352090.8 m E 6930856.9 m N MGA94 Zone 56		Checked By: J.Boyle	
Drill Model and Mounting: MG 05		Inclination: -90°	
Hole Diameter: 125 mm		RL Surface: 402.67 m	
		Datum: AHD Operator: B.Boga	

Drilling Information				Soil Description				Observations							
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
PT				U00090 U 0.09-1.59 m		402.2	0.5			RAIL BALLAST, dark grey, fine to coarse, angular FOUL BALLAST, dark grey, fine to coarse, sub angular to angular	D	D			RAIL BALLAST FOUL BALLAST
				B00050 B 0.70-1.00 m 2 bk		401.7	1.0		CH	SANDY GRAVEL trace clay, fine to coarse, sub-angular to angular, dark grey mottled brown, fine to coarse grained sand, low to medium plasticity clay SAND trace silt, fine to coarse grained, orange-brown CLAY, high plasticity, dark brown	M	MD	L	x	CAPPING SUB-BASECOURSE 0.60: PP Samp =190 kPa
AD/T			Not Observed	D00130 D 1.30-1.40 m		401.2	1.5			At 1.10m: becoming brown-grey				x	1.00: PP Samp =190 kPa
				D00180 D 1.80-2.00 m		400.7	2.0			At 1.60m: becoming grey mottled orange-brown	M	St -	VSt		1.40: PP Samp =200 kPa
				D00200 D 2.00-2.30 m		400.2	2.5			From 2.10m to 2.40m: with calcereous nodules (fine sub-angular gravel)					
				D00280 D 2.80-3.00 m		399.7	3.0								
						399.2	3.5			Hole Terminated at 3.09 m Target depth Pit reinstated to ballast, bulk aguer to be completed.					

Method
AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration
No resistance ranging to refusal

Support
C - Casing

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

Moisture Condition
D - Dry
M - Moist
W - Wet

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Plastic Limit
< PL
= PL
> PL

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	30/08/2021
Project Name:	Inland Rail B2G	Completed:	30/08/2021
Hole Location:	N3 - Brookstead to Gowrie	Logged By:	J. Cooper
Hole Coordinates:	352090.8 m E 6930856.9 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	MG 05	Inclination:	-90°
Hole Diameter:	125 mm	Bearing:	
		RL Surface:	402.67 m
		Datum:	AHD
		Operator:	B.Boga

MACQUARIE GEO TECH	PROJECT: Inland Rail B2G	
PROJECT NO: B20331	CLIENT: ARTC	
HOLE ID: 310-03-TP3327	LOCATION: Brookstead	
DEPTH: 0.09 - 1.59 m	DATE: 24/06/2021	



310-03-TP3327 Depth Range: 0.09 - 1.59 m

Project No.: B21003

Client: ARTC		Commenced: 26/06/2021	
Project Name: Inland Rail B2G		Completed: 26/06/2021	
Hole Location: N3 - Brookstead to Gowrie		Logged By: H.Tran	
Hole Coordinates: 352533.4 m E 6931066.2 m N MGA94 Zone 56		Checked By: J.Boyle	

Drill Model and Mounting: D4TAPG Truck mounted rig		Inclination: -90°		RL Surface: 403.94 m	
Hole Diameter: 125 mm		Bearing:		Datum: AHD Operator: B.Boga	

Drilling Information						Soil Description						Observations						
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Pocket Penetrometer UCS (kPa)					Structure and Additional Observations
													100	200	300	400	500	
PT				U00013 0.13-1.63 m		403.4	0.5		CH	Rail	M (<PL) - M (~PL)					RAIL		
				RAIL GRAVEL: medium to coarse sub-angular to angular, dark grey						BALLAST								
				GRAVEL with sand: fine to coarse sub-angular to angular, dark grey, fine to coarse grained sand						FOUL BALLAST CAPPING								
				Clayey Gravelly SAND: fine to coarse grained, yellow brown, dark grey and dark brown, medium to high plasticity clay, fine to coarse sub-angular gravel						SUB-BASECOURSE								
				Sandy CLAY: high plasticity, dark grey, fine to coarse grained sand.						ALLUVIAL SOIL								
				Silty CLAY: high plasticity, black.														
				At 1.55m: becoming grey mottled orange-brown														
				At 3.00m: pockets of calcereous material														
				Hole Terminated at 3.52 m Target depth Pit reinstated to ballast, bulk aguer to be completed.														

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	26/06/2021
Project Name:	Inland Rail B2G	Completed:	26/06/2021
Hole Location:	N3 - Brookstead to Gowrie	Logged By:	H.Tran
Hole Coordinates:	352533.4 m E 6931066.2 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°
Hole Diameter:	125 mm	Bearing:	
		RL Surface:	403.94 m
		Datum:	AHD
		Operator:	B.Boga



310-03-TP3328 Depth Range: 0.13 - 1.63 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC				Commenced: 26/06/2021			
Project Name: Inland Rail B2G				Completed: 26/06/2021			
Hole Location:				Logged By: H.Tran			
Hole Position:				Checked By: J.Boyle			

Drill Model and Mounting: D4TAPG Truck mounted rig	Inclination: -90°	RL Surface: No survey
Hole Diameter: 125 mm	Bearing:	Datum: AHD Operator: B.Boga

Drilling Information				Soil Description						Observations					
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	DCP Blows/100mm 5 10 15 20	Pocket Penetrometer UCS (kPa) 100 200 300 400 500	Structure and Additional Observations
PT		Not Observed		U00013 0.13-1.63 m			0.5		RAIL	RAIL GRAVEL: medium to coarse sub-angular to angular, dark grey					RAIL
							1.0		CH	Sandy GRAVEL: fine to coarse sub-angular, dark grey, fine to coarse grained sand					FOUL BALLAST
							1.5			Silty SAND: fine to medium grained, yellow brown					ASH
										Sandy GRAVEL with clay: medium to coarse sub-angular, dark grey and yellow brown, fine to medium grained sand, high plasticity clay	M (<PL)				CAPPING
										Silty CLAY: high plasticity, dark grey to black					ALLUVIAL SOIL
				D00155 1.55-1.63 m			2.0			Hole Terminated at 1.63 m Target depth Pit reinstated to ballast, bulk aguer to be completed.					
							2.5								
							3.0								
							3.5								

Method AS - Auger Screwing RR - Rock Roller WB - Washbore	Penetration No resistance ranging to refusal	Water Level (Date) Inflow Partial Loss Complete Loss	Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	Moisture Condition D - Dry M - Moist W - Wet	Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support C - Casing	Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss				

Classification Symbols and Soil Descriptions Based on Unified Soil Classification System	Plastic Limit < PL = PL > PL
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Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	26/06/2021
Project Name:	Inland Rail B2G	Completed:	26/06/2021
Hole Location:		Logged By:	H.Tran
Hole Position:		Checked By:	J.Boyle
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°
Hole Diameter:	125 mm	Bearing:	
		RL Surface:	No survey
		Datum:	AHD
		Operator:	B.Boga



310-03-TP3329 Depth Range: 0.13 - 1.63 m

POSITION : E: 353899.0, N: 6931701.8 (MGA94 Zone 56)

SURFACE ELEVATION : 414.21 (AHD)

EQUIPMENT TYPE : Excavator 14T

METHOD : 900mm bucket

DATE EXCAVATED : 05/03/2021

LOGGED BY : H.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.90 m LONG 1.00 m WIDE

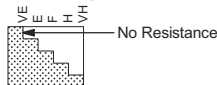
EXCAVATION INFORMATION						MATERIAL									
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations	
Not Observed			0.10m J00010 0.20m	0.0		TOPSOIL Silty CLAY: high plasticity, black, with rootlets (<2mm)	D	F to St				TOPSOIL			
			0.30m B00030 0.40m J00040 0.50m	0.5		Silty CLAY: high plasticity, black.		VSt				ALLUVIAL SOIL			
			0.90m J00090 1.00m	1.0				St				0.30: Field water content: 19.05% Temperature: 32.5 C			
			1.20m B00120 1.40m	1.5		Silty CLAY trace gravel: high plasticity, black to dark grey mottled white, fine to medium sub-rounded gravel.		VSt				0.60: Field water content: 32.95% Temperature: 31.4 C			
			2.00m B00200 2.10m	2.0		Silty CLAY with gravel trace sand: medium plasticity, orange brown and pale white, medium to coarse sub-rounded to sub-angular gravel, fine grained sand.						RESIDUAL SOIL			
				2.5											
				3.0											
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PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 353899.0, N: 6931701.8 (MGA94 Zone 56)	SURFACE ELEVATION : 414.21 (AHD)	
EQUIPMENT TYPE : Excavator 14T	METHOD : 900mm bucket	
DATE EXCAVATED : 05/03/2021	LOGGED BY : H.Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 3.90 m LONG 1.00 m WIDE		



310-03-TP3330 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3330 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 353899.0, N: 6931701.8 (MGA94 Zone 56)

SURFACE ELEVATION : 414.21 (AHD)

EQUIPMENT TYPE : Excavator 14T

METHOD : 900mm bucket

DATE EXCAVATED : 05/03/2021

LOGGED BY : H.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.90 m LONG 1.00 m WIDE



310-03-TP3330 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3330 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech



310-03-TP3330 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 354350.1, N: 6931910.4 (MGA94 Zone 56)

SURFACE ELEVATION : 423.11 (AHD)

EQUIPMENT TYPE : Excavator 14T

METHOD : 900mm bucket

DATE EXCAVATED : 05/03/2021

LOGGED BY : H.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.80 m LONG 1.10 m WIDE

EXCAVATION INFORMATION				MATERIAL														
VE	E	F	H	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER kPa 100 200 300 400	STRUCTURE & Other Observations				
				Not Observed	0.10m J00010 0.20m	0.0			TOPSOIL Silty CLAY: medium to high plasticity, dark brown, with rootlets (<2mm)		St			TOPSOIL				
							0.20m					Silty CLAY: high plasticity, black.					ALLUVIAL SOIL	
					0.40m B00040 J00040 0.50m	0.5					with fine to coarse sand		VSt			0.35: Field water content: 18.37% Temperature: 34.7 C		
											CH							
					0.90m J00090 1.00m	1.0							M (<PL)	St			ALLUVIAL SOIL	
					1.10m B00110 1.30m	1.5					CI-CH				VSt			
					1.80m B00180 1.90m	2.0						Clayey GRAVEL with sand: fine to coarse sub-angular to angular, pale grey, dark red and brown yellow, medium plasticity clay, fine to coarse grained sand.		D			RESIDUAL SOIL	
										2.70m B00270 2.80m	2.5			Gravelly CLAY with sand: high plasticity, off-white, fine to coarse sub-angular to angular gravel, fine to coarse grained sand.		H		
						3.0			Hole Terminated at 3.00 m Target depth									
						419.6												

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 354350.1, N: 6931910.4 (MGA94 Zone 56)

SURFACE ELEVATION : 423.11 (AHD)

EQUIPMENT TYPE : Excavator 14T

METHOD : 900mm bucket

DATE EXCAVATED : 05/03/2021

LOGGED BY : H.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.80 m LONG 1.10 m WIDE



310-03-TP3331 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3331 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 354350.1, N: 6931910.4 (MGA94 Zone 56)

SURFACE ELEVATION : 423.11 (AHD)

EQUIPMENT TYPE : Excavator 14T

METHOD : 900mm bucket

DATE EXCAVATED : 05/03/2021

LOGGED BY : H.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.80 m LONG 1.10 m WIDE



310-03-TP3331 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3331 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

EXCAVATION - GEOLOGICAL LOG

PIT NO : 310-03-TP3331

CLIENT : ARTC PROJECT : Inland Rail B2G
LOCATION : CH160201 Lot.8RP14244 Yarranlea

FILE / JOB NO : B21003
SHEET : 4 OF 4

POSITION : E: 354350.1, N: 6931910.4 (MGA94 Zone 56)	SURFACE ELEVATION : 423.11 (AHD)
EQUIPMENT TYPE : Excavator 14T	METHOD : 900mm bucket
DATE EXCAVATED : 05/03/2021	LOGGED BY : H.Tran
EXCAVATION DIMENSIONS : 3.80 m LONG 1.10 m WIDE	CHECKED BY : J.Boyle



310-03-TP3331 - 5 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 354801.7, N: 6932125.3 (MGA94 Zone 56)

SURFACE ELEVATION : 430.17 (AHD)

EQUIPMENT TYPE : Excavator 14T

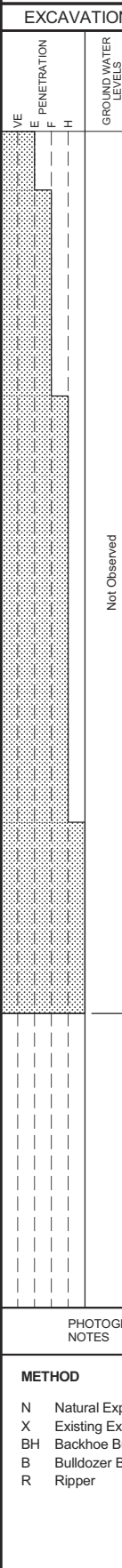
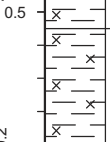
METHOD : 900mm bucket

DATE EXCAVATED : 05/03/2021

LOGGED BY : H.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.60 m LONG 1.10 m WIDE

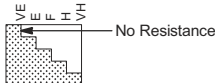
EXCAVATION INFORMATION					MATERIAL										
PENETRATION VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations		
			0.10m J00010 0.20m		TOPSOIL Silty CLAY: high plasticity, black, with rootlets (<2mm)	D					TOPSOIL				
			0.30m B00030 0.40m J00040 0.50m		CH	0.20m	Silty CLAY: high plasticity, black.	Vst					ALLUVIAL SOIL		
			0.60m B00060	CI	0.55m	Silty CLAY with gravel: medium plasticity, dark brown, fine to medium sub-angular to angular gravel.						0.35: Field water content: 18.99% Temperature: 35.4 C			
			0.90m J00090 1.00m B00100		0.90m	Extremely weathered SILTSTONE: recovered as Gravelly CLAY: high plasticity, dark red, fine to coarse sub-angular to angular gravel.	M (<PL)				RESIDUAL SOIL				
			1.50m	CH										EXTREMELY WEATHERED BEDROCK	
			428.2												
			427.7												
			2.50m B00250 2.60m		2.35m	Highly to extremely weathered Sandy SILTSTONE: recovered as Clayey Sandy GRAVEL: fine to coarse sub-angular to angular, dark grey to pale brown, low plasticity clay, fine grained sand.	M	MD						HIGHLY WEATHERED BEDROCK	
			427.2		3.00m	Hole Terminated at 3.00 m Target depth									
			426.7												
PHOTOGRAPHS NOTES															
METHOD		PENETRATION		SAMPLES & FIELD TESTS		CLASSIFICATION SYMBOLS & SOIL DESCRIPTION		CONSISTENCY/ RELATIVE DENSITY							
N Natural Exposure X Existing Excavation BH Backhoe Bucket B Bulldozer Blade R Ripper				U Undisturbed Sample D Disturbed Sample B Bulk Disturbed Sample MC Moisture Content PP Pocket Penetrometer (UCS kPa) VS Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)		Based on Unified Classification System		VS Very Soft S Soft F Firm St Stiff VSt Very Stiff H Hard VL Very Loose L Loose MD Medium Dense D Dense VD Very Dense							
		WATER				MOISTURE									
		10 Oct., 73 Water Level on Date shown water inflow water outflow				D Dry M Moist W Wet M > PL - Moisture Content > Plastic Limit M ~ PL - Moisture Content = Plastic Limit M < PL - Moisture Content < Plastic Limit									

PHOTOGRAPHS
NOTES

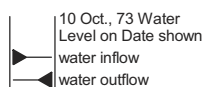
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 354801.7, N: 6932125.3 (MGA94 Zone 56)

SURFACE ELEVATION : 430.17 (AHD)

EQUIPMENT TYPE : Excavator 14T

METHOD : 900mm bucket

DATE EXCAVATED : 05/03/2021

LOGGED BY : H.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.60 m LONG 1.10 m WIDE



310-03-TP3332 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3332 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 354801.7, N: 6932125.3 (MGA94 Zone 56)

SURFACE ELEVATION : 430.17 (AHD)

EQUIPMENT TYPE : Excavator 14T

METHOD : 900mm bucket

DATE EXCAVATED : 05/03/2021

LOGGED BY : H.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.60 m LONG 1.10 m WIDE



310-03-TP3332 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3332 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 354801.7, N: 6932125.3 (MGA94 Zone 56)	SURFACE ELEVATION : 430.17 (AHD)	
EQUIPMENT TYPE : Excavator 14T	METHOD : 900mm bucket	
DATE EXCAVATED : 05/03/2021	LOGGED BY : H.Tran	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 3.60 m LONG 1.10 m WIDE		



310-03-TP3332 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 355536.9, N: 6932799.8 (MGA94 Zone 56)

SURFACE ELEVATION : 436.55 (AHD)

EQUIPMENT TYPE : Excavator 14T

METHOD : 900mm bucket

DATE EXCAVATED : 06/03/2021

LOGGED BY : H.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.40 m LONG 1.05 m WIDE

EXCAVATION INFORMATION					MATERIAL								
PENETRATION		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER kPa 100 200 300 400	STRUCTURE & Other Observations
VE	F												
H													
			0.10m J00010 0.20m	0.0			TOPSOIL Silty CLAY: high plasticity, black, with rootlets (<2mm)	D					TOPSOIL
			0.40m B00040 J00040 0.50m	0.5			Silty CLAY: high plasticity, black.						ALLUVIAL SOIL
			0.75m 0.80m B00080 J00080 1.00m	1.0		CH	0.50m: Silty CLAY with sand trace gravel high plasticity black, fine to coarse sand fine to sub rounded gravel Below 0.77m: with calcareous material.	Vst					0.30: Field water content: 10.57% Temperature: 20.7 C
		Not Observed	1.60m B00160	1.5			Silty CLAY trace gravel: medium to high plasticity, dark grey, fine to coarse sub-rounded gravel.	M (<PL)					ALLUVIAL SOIL
			1.80m			CI-CH							
			2.10m B00210 2.20m	2.0			2.05m Silty CLAY with gravel: medium plasticity, orange brown and off-white, fine to coarse sub-angular to angular gravel.	H					RESIDUAL SOIL
			2.90m B00290 3.00m	2.5		CI							
			2.90m B00290 3.00m	3.0		CH	2.80m Extremely weathered SILTSTONE: recovered as Gravelly CLAY: high plasticity, pale grey, fine to coarse sub-angular to angular gravel.	M					EXTREMELY WEATHERED BEDROCK
							Hole Terminated at 3.00 m Target depth						
			</										

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 355536.9, N: 6932799.8 (MGA94 Zone 56)

SURFACE ELEVATION : 436.55 (AHD)

EQUIPMENT TYPE : Excavator 14T

METHOD : 900mm bucket

DATE EXCAVATED : 06/03/2021

LOGGED BY : H.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.40 m LONG 1.05 m WIDE



310-03-TP3333 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3333 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 355536.9, N: 6932799.8 (MGA94 Zone 56)

SURFACE ELEVATION : 436.55 (AHD)

EQUIPMENT TYPE : Excavator 14T

METHOD : 900mm bucket

DATE EXCAVATED : 06/03/2021

LOGGED BY : H.Tran

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.40 m LONG 1.05 m WIDE



310-03-TP3333 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3333 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

CLIENT : ARTC PROJECT : Inland Rail B2G
LOCATION : CH161699 Lot.2RP7478 Yarranlea

FILE / JOB NO : B21003
SHEET : 4 OF 4

POSITION : E: 355536.9, N: 6932799.8 (MGA94 Zone 56)	SURFACE ELEVATION : 436.55 (AHD)
EQUIPMENT TYPE : Excavator 14T	METHOD : 900mm bucket
DATE EXCAVATED : 06/03/2021	LOGGED BY : H.Tran
EXCAVATION DIMENSIONS : 3.40 m LONG 1.05 m WIDE	CHECKED BY : J.Boyle



310-03-TP3333 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 318970.0, N: 6876150.8 (MGA94 Zone 56)

SURFACE ELEVATION : 327.71 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE

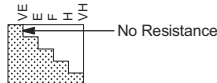
EXCAVATION INFORMATION				MATERIAL								
VE PENETRATION F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER 100 200 300 400	STRUCTURE & Other Observations
Not Observed		D-D00000	0.0		TOPSOIL: Silty SAND trace gravel: fine to medium grained, pale grey brown, fine to coarse sub-rounded gravel							TOPSOIL
		0.20m										
			327.2		SAND trace gravel: fine to medium grained, pale orange brown, fine to medium sub-rounded to sub-angular gravel	M	MD to D			ALLUVIAL SOIL		
		0.80m										
		B-B000080	326.7	SP	W							
		1.00m	326.2		Silty SAND trace clay: fine to medium grained, grey and orange brown							
			1.20m							SM		
		1.60m	325.2		SAND: fine to medium grained, grey and orange brown, weakly cemented	M	VD					
		B-B00160	325.7							SP		
		1.80m	325.2		Below 2.50m pale grey							
	2.50m											
B-B00250	2.70m				D to M							
			324.7		Hole Terminated at 2.70 m Refusal - Very Slow Progress Testpit reinstated to surface							
			324.2									

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 318970.0, N: 6876150.8 (MGA94 Zone 56)

SURFACE ELEVATION : 327.71 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

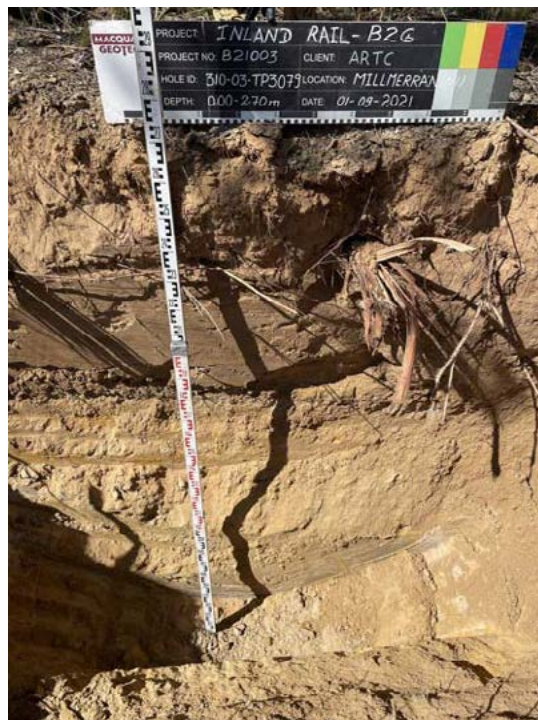
LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3079 - 1 Depth Range: 0.00 - 2.70 m



310-03-TP3079 - 2 Depth Range: 0.00 - 2.70 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 318970.0, N: 6876150.8 (MGA94 Zone 56)

SURFACE ELEVATION : 327.71 (AHD)

EQUIPMENT TYPE : Backhoe

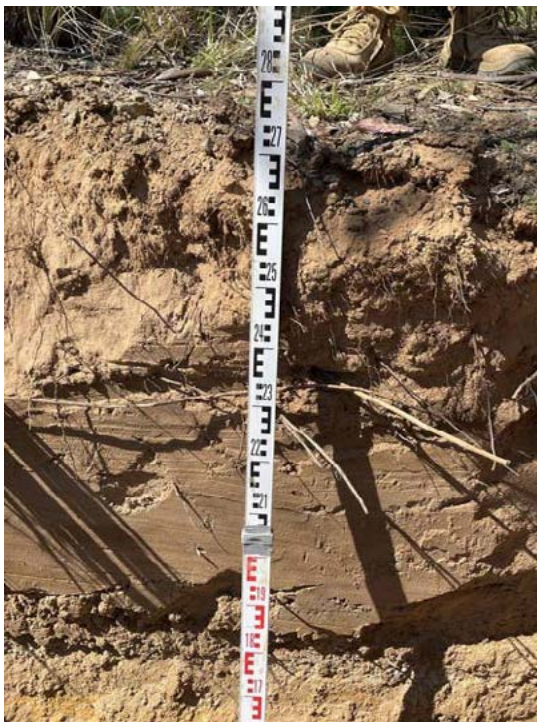
METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3079 - 3 Depth Range: 0.00 - 2.70 m



310-03-TP3079 - 4 Depth Range: 0.00 - 2.70 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 318970.0, N: 6876150.8 (MGA94 Zone 56)

SURFACE ELEVATION : 327.71 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3079 - 5 Depth Range: 0.00 - 2.70 m



310-03-TP3079 - 6 Depth Range: 0.00 - 2.70 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319150.9, N: 6877062.7 (MGA94 Zone 56)

SURFACE ELEVATION : 336.25 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.30 m LONG 1.20 m WIDE

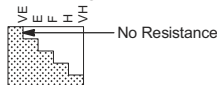
EXCAVATION INFORMATION					MATERIAL									
GROUND WATER LEVELS			SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER kPa 100 200 300 400	STRUCTURE & Other Observations	
VE	E	F												H
Not Observed			D-D00000	0.0			MADE GROUND : Gravelly SAND: fine to coarse grained, grey, fine to coarse sub-angular gravel, with roots (<10mm)						FILL	
				0.20m		0.20m	Clayey silty SAND: fine to medium grained, brown mottled grey, low to medium plasticity clay						ALLUVIAL SOIL	
				335.7										
			0.60m	0.5	SP			M	D					
			B-B00060											
			0.80m			0.80m	Sandy silty CLAY: low to medium plasticity, grey brown mottled red, fine to coarse grained sand							
				335.2										
			1.40m	1.0										
			B-B00140	334.7			Below 1.40m grey brown mottled red and orange							
			1.60m	1.5	CL-Cl			M (<PL)	H				1.40: PP Samp >600 kPa	
			2.20m	334.2										
			B-B00220	2.0										
			2.40m	333.7		2.40m	Hole Terminated at 2.40 m Refusal - Very Slow Progress Testpit reinstated to surface							
				2.5										
				333.2										
				3.0										
				332.7										
				3.5										
				4.0										

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319150.9, N: 6877062.7 (MGA94 Zone 56)

SURFACE ELEVATION : 336.25 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.30 m LONG 1.20 m WIDE



310-03-TP3080 - 1 Depth Range: 0.00 - 2.40 m



310-03-TP3080 - 2 Depth Range: 0.00 - 2.40 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319150.9, N: 6877062.7 (MGA94 Zone 56)

SURFACE ELEVATION : 336.25 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.30 m LONG 1.20 m WIDE



310-03-TP3080 - 3 Depth Range: 0.00 - 2.40 m



310-03-TP3080 - 4 Depth Range: 0.00 - 2.40 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319150.9, N: 6877062.7 (MGA94 Zone 56)

SURFACE ELEVATION : 336.25 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.30 m LONG 1.20 m WIDE



310-03-TP3080 - 5 Depth Range: 0.00 - 2.40 m



310-03-TP3080 - 6 Depth Range: 0.00 - 2.40 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319264.4, N: 6877641.0 (MGA94 Zone 56)

SURFACE ELEVATION : 336.26 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE

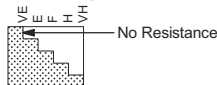
EXCAVATION INFORMATION					MATERIAL									
PENETRATION			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm	POCKET PENETROMETER kPa	STRUCTURE & Other Observations
VE	E	F												
			Not Observed	D-D00000	0.0			TOPSOIL: Gravelly SAND trace silt and clay: fine to coarse grained, brown, fine to coarse sub-angular gravel, with organic matter and roots (<10mm)						TOPSOIL
					0.20m			SAND: fine to medium grained, orange brown and grey brown						ALLUVIAL SOIL
						335.8	SP							
					0.70m									
					B-B00070	0.90m			Sandy CLAY trace silt: low to medium plasticity, orange brown, fine to coarse sand.	M (<PL)	H			
					335.3	CL-CI								
					334.8									
					1.5	SP		SAND with clay: fine to medium grained, grey mottled orange, low to medium plasticity clay, weakly cemented	M	VD				
					1.70m									
								Hole Terminated at 1.70 m Refusal - Very Slow Progress Testpit reinstated to surface						
					334.3									
					2.0									
					333.8									
					2.5									
					333.3									
					3.0									
					332.8									
					3.5									
					4.0									

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319264.4, N: 6877641.0 (MGA94 Zone 56)

SURFACE ELEVATION : 336.26 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3081 - 1 Depth Range: 0.00 - 1.70 m



310-03-TP3081 - 2 Depth Range: 0.00 - 1.70 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319264.4, N: 6877641.0 (MGA94 Zone 56)

SURFACE ELEVATION : 336.26 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3081 - 3 Depth Range: 0.00 - 1.70 m



310-03-TP3081 - 4 Depth Range: 0.00 - 1.70 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319264.4, N: 6877641.0 (MGA94 Zone 56)

SURFACE ELEVATION : 336.26 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3081 - 5 Depth Range: 0.00 - 1.70 m



310-03-TP3081 - 6 Depth Range: 0.00 - 1.70 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

CLIENT : ARTC PROJECT : Inland Rail B2G
LOCATION : N4 - Whetstone Greenfield Corridor

FILE / JOB NO : B21003
SHEET : 1 OF 4

POSITION : E: 319451.2, N: 6878589.1 (MGA94 Zone 56)	SURFACE ELEVATION : 329.51 (AHD)
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 02/09/2021	LOGGED BY : V.Chandrasena
EXCAVATION DIMENSIONS :	CHECKED BY : J.Boyle

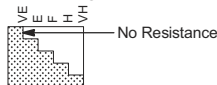
EXCAVATION INFORMATION					MATERIAL									
GROUND WATER LEVELS			SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER KPa 100 200 300 400	STRUCTURE & Other Observations	
VE	E	F												H
Not Observed			D00000	0.0		TOPSOIL: Gravelly SAND trace silt and clay: fine to coarse grained, brown, fine to coarse sub-angular gravel, with organic matter and roots (<10mm)							TOPSOIL	
			0.20m											
			329.0	0.5	SP	SAND trace silt and clay: fine to medium grained, pale grey brown	D to M	VD					ALLUVIAL SOIL	
			0.80m											
			B00080	1.0	SM	Silty SAND trace clay: fine to medium grained, grey mottled orange brown, low plasticity		D						
			1.00m					M						
			328.5											
			328.0	1.5	SP	SAND with silt and clay: fine to medium grained, grey brown								
			1.80m											
			B00180	2.0		SAND with clay: fine to medium grained, grey mottled red brown, low to medium plasticity clay, weakly cemented		VD						
			2.00m											
			327.5											
			327.0	2.5	SP		D to M				28			
			2.80m											
			B00280	3.0										
			3.00m											
			326.5											
			326.0	3.5		Hole Terminated at 3.00 m Target depth Testpit reinstated to surface								

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/ RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 319451.2, N: 6878589.1 (MGA94 Zone 56)

SURFACE ELEVATION : 329.51 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 02/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS :



310-03-TP3082 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3082 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319451.2, N: 6878589.1 (MGA94 Zone 56)

SURFACE ELEVATION : 329.51 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 02/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS :



310-03-TP3082 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3082 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319451.2, N: 6878589.1 (MGA94 Zone 56)

SURFACE ELEVATION : 329.51 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 02/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS :



310-03-TP3082 - 5 Depth Range: 0.00 - 3.00 m



310-03-TP3082 - 6 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319666.5, N: 6879386.9 (MGA94 Zone 56)

SURFACE ELEVATION : 333.49 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/07/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.60 m WIDE

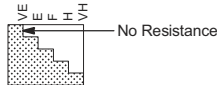
EXCAVATION INFORMATION				MATERIAL									
VE E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER KPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed		0.0			TOPSOIL: SAND trace silt and clay: fine to medium grained, pale brown, low to medium plasticity clay, trace rootlets (<2mm)						TOPSOIL
			0.30m D00030	0.30		SC	Clayey SAND: fine to medium grained, pale brown, medium plasticity clay.		L				ALLUVIAL SOIL
			0.50m B00050 U00050	0.50		CL-CI	Sandy CLAY trace gravel: low to medium plasticity, pale brown, fine to coarse sand, fine sub rounded gravel.		MD				
			0.70m	0.70			Clayey SAND: fine to medium grained, pale brown, medium plasticity clay.		D				
			0.90m	0.90		SC							
			1.30m B00130	1.30			SAND with silt and clay: fine to medium grained, pale brown mottled grey, low to medium plasticity clay.						
			1.60m	1.60									
			2.00m D00200	2.00		SP	Below 2.00m: colour tending to brown.	M	VD				
			2.50m D00250	2.50									
				3.00	3.00								
				3.00			Hole Terminated at 3.00 m Target depth Testpit reinstated to surface						
				3.50									
				4.00									

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319666.5, N: 6879386.9 (MGA94 Zone 56)

SURFACE ELEVATION : 333.49 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/07/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.60 m WIDE



310-03-TP3083 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3083 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319666.5, N: 6879386.9 (MGA94 Zone 56)

SURFACE ELEVATION : 333.49 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/07/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.60 m WIDE



310-03-TP3083 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3083 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

EXCAVATION - GEOLOGICAL LOG

PIT NO : 310-03-TP3083

CLIENT : ARTC

PROJECT : Inland Rail B2G

FILE / JOB NO : B21003

LOCATION : N4 - Whetstone Greenfield Corridor

SHEET : 4 OF 4

POSITION : E: 319666.5, N: 6879386.9 (MGA94 Zone 56)

SURFACE ELEVATION : 333.49 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/07/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.60 m WIDE



310-03-TP3083 - 5 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320076.0, N: 6880035.0 (MGA94 Zone 56)

SURFACE ELEVATION : 330.43 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/07/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.70 m LONG 1.50 m WIDE

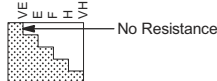
EXCAVATION INFORMATION					MATERIAL									
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations	
Not Observed					0.0			TOPSOIL: Silty CLAY with sand: medium plasticity, black brown, fine to medium grained sand, with rootlets (<2mm)					TOPSOIL	
					0.20m		0.20m	Sandy silty CLAY: low to medium plasticity, pale brown, fine to medium grained sand.		St			ALLUVIAL SOIL	
					0.30m									
					0.50m		0.50m	Sandy CLAY trace gravel: low to medium plasticity, grey orange brown, fine to coarse grained sand, fine sub rounded gravel.	M (<PL)	VSt to H			0.30: PP Samp >600 kPa	
					B00050 U00050									
					0.70m		0.70m	Clayey SAND: fine to medium grained, grey and orange brown, medium plasticity clay.		VD				
					0.90m					D				
					1.20m									
					B00120									
					1.50m			Low plasticity clay						
					D00150									
					2.00m				M	VD				
					D00200			From 2.00m to 2.50m: trace fine to medium sub-rounded gravel and colour tending to orange brown mottled off-white.						
					2.50m									
					D00250			Below 2.50m: colour tending to red brown mottled grey and off-white.						
					3.00m		3.00m	Hole Terminated at 3.00 m Target depth Testpit reinstated to surface						
					3.27.4									
					3.26.9									
					3.5									
					3.6									

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320076.0, N: 6880035.0 (MGA94 Zone 56)

SURFACE ELEVATION : 330.43 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/07/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.70 m LONG 1.50 m WIDE



310-03-TP3084 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3084 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320076.0, N: 6880035.0 (MGA94 Zone 56)

SURFACE ELEVATION : 330.43 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/07/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.70 m LONG 1.50 m WIDE



310-03-TP3084 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3084 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320076.0, N: 6880035.0 (MGA94 Zone 56)

SURFACE ELEVATION : 330.43 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/07/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.70 m LONG 1.50 m WIDE



310-03-TP3084 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 320415.6, N: 6880295.2 (MGA94 Zone 56)

SURFACE ELEVATION : 328.72 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/07/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.70 m LONG 1.60 m WIDE

[illegible]PHOTOGRAPHS
NOTES

METHOD	PENETRATION	SAMPLES & FIELD TESTS	CLASSIFICATION SYMBOLS & SOIL DESCRIPTION	CONSISTENCY/ RELATIVE DENSITY
N Natural Exposure		U - Undisturbed Sample	Based on Unified	VS - Very Soft
X Existing Excavation		D - Disturbed Sample	Classification System	S - Soft
BH Backhoe Bucket		B - Bulk Disturbed Sample		F - Firm
B Bulldozer Blade		MC - Moisture Content		St - Stiff
R Ripper		PP - Pocket Penetrometer (UCS kPa)		VSt - Very Stiff
		VS - Vane Shear; P-Peak,		H - Hard
		R-Remoulded (uncorrected kPa)		VL - Very Loose
				L - Loose
				MD - Medium Dense
				D - Dense
				VD - Very Dense

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

MG 4 02 | IR G R | on MG TEST PIT MG 4 02 GP | <<DrawingFile>> 26/02/2022 21:45 10/02/2004 Datacol | ab and In Situ Tool - DGD | lib' DGD T-P 4 01 2 dot 3 04 2018-07-02 P+ DGD T-P 4 00 6 2017-11-25

POSITION : E: 320415.6, N: 6880295.2 (MGA94 Zone 56)

SURFACE ELEVATION : 328.72 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/07/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.70 m LONG 1.60 m WIDE



310-03-TP3085 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3085 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320415.6, N: 6880295.2 (MGA94 Zone 56)

SURFACE ELEVATION : 328.72 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/07/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.70 m LONG 1.60 m WIDE



310-03-TP3085 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3085 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320415.6, N: 6880295.2 (MGA94 Zone 56)

SURFACE ELEVATION : 328.72 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/07/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.70 m LONG 1.60 m WIDE



310-03-TP3085 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 320947.2, N: 6880614.5 (MGA94 Zone 56)

SURFACE ELEVATION : 324.78 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 28/07/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.00 m LONG 1.60 m WIDE

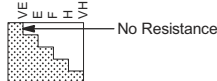
EXCAVATION INFORMATION					MATERIAL									
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations	
Not Observed				0.0			TOPSOIL Sandy silty CLAY: low to medium plasticity, pale brown, fine to medium grained sand, trace rootlets (<2mm)						TOPSOIL	
				0.20m		Sandy silty CLAY: medium plasticity, brown, fine to medium grained sand.		St			ALLUVIAL SOIL			
			0.50m U00050 0.60m B00060	0.5	CI		M (<PL)	VSt						
			0.60m			Silty Sandy CLAY trace gravel: medium plasticity, dark brown mottled white, fine to coarse sand, fine to medium sub rounded to sub angular gravel.		H			0.60: PP In-situ >600 kPa			
			0.80m	0.80m	CI									
			1.00m	1.0		Clayey silty SAND trace gravel: fine to coarse grained, dark brown mottled white, low to medium plasticity clay, fine to medium sub-angular gravel.								
				1.5		Below 1.30m: medium plasticity clay and colour tending to orange brown mottled grey								
			1.60m B00160	1.60m	SC-SM		M	VD						
			1.80m											
			2.00m D00200	2.0										
	2.5													
2.50m D00250	2.50m	SP	SAND with silt and clay, trace gravel: fine to coarse grained, orange brown mottled grey, low to medium plasticity clay, fine sub-rounded gravel.											
	3.00m													
	3.00m													
	3.21.3													
	3.5													
	4.0													

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320947.2, N: 6880614.5 (MGA94 Zone 56)

SURFACE ELEVATION : 324.78 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 28/07/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.00 m LONG 1.60 m WIDE



310-03-TP3086 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3086 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320947.2, N: 6880614.5 (MGA94 Zone 56)

SURFACE ELEVATION : 324.78 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 28/07/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.00 m LONG 1.60 m WIDE



310-03-TP3086 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3086 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320947.2, N: 6880614.5 (MGA94 Zone 56)

SURFACE ELEVATION : 324.78 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 28/07/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.00 m LONG 1.60 m WIDE



310-03-TP3086 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 321369.4, N: 6880907.1 (MGA94 Zone 56)

SURFACE ELEVATION : 322.42 (AHD)

EQUIPMENT TYPE : Backhoe

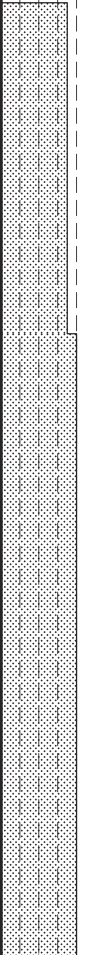
METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 23/08/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE

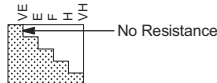
EXCAVATION INFORMATION				MATERIAL										
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER KPa 100 200 300 400	STRUCTURE & Other Observations		
		Not Observed	0.17m B-B00017		0.10m	TOPSOIL: Silty SAND: fine to coarse grain, brown, with rootlets (<2mm) Silty CLAY: high plasticity, brown, with rootlets (<2mm)								
			1.50m B-B00150		CH									

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 321369.4, N: 6880907.1 (MGA94 Zone 56)

SURFACE ELEVATION : 322.42 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 23/08/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3087 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3087 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 321369.4, N: 6880907.1 (MGA94 Zone 56)

SURFACE ELEVATION : 322.42 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 23/08/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3087 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3087 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 321369.4, N: 6880907.1 (MGA94 Zone 56)

SURFACE ELEVATION : 322.42 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 23/08/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3087 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 319985.9, N: 6868878.4 (MGA94 Zone 56)

SURFACE ELEVATION : 313.46 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.30 m LONG 1.20 m WIDE

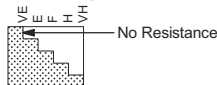
EXCAVATION INFORMATION				MATERIAL																	
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations									
Not Observed		D-D00000	0.0		TOPSOIL: Sandy SILT trace gravel: low plasticity, pale brown, fine to medium grained, fine to medium sub-rounded to sub-angular gravel, trace roots (<10mm) and rootlets (<2mm).	M						TOPSOIL									
		0.20m	0.30m		Clayey silty SAND: fine to medium grained, brown, low to medium plasticity, trace calcareous nodules (<5%)								MD								
		0.50m	0.5	SC	SAND trace clay and silt: fine to medium grained, brown																
		B-B00050	0.70m	0.70m										SP							
		1.20m	312.5	1.0											1.20m						
		B-B00120	1.40m	312.0												1.5	SC				
		1.40m	311.5	2.0												2.20m					
		B-B00220	2.20m	2.20m														CL-CI			
		2.40m	311.0	2.40m															SC		
		2.40m	310.5	3.00m																SP	
		B-B00300	3.00m	3.00m																	SAND with gravel: fine to medium grained, orange brown, fine to medium rounded to sub-rounded gravel
		3.20m	3.20m	3.20m																	
3.20m	3.20m	3.20m																			
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PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
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CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319985.9, N: 6868878.4 (MGA94 Zone 56)

SURFACE ELEVATION : 313.46 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.30 m LONG 1.20 m WIDE



310-03-TP3218 - 1 Depth Range: 0.00 - 3.20 m



310-03-TP3218 - 2 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319985.9, N: 6868878.4 (MGA94 Zone 56)

SURFACE ELEVATION : 313.46 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.30 m LONG 1.20 m WIDE



310-03-TP3218 - 3 Depth Range: 0.00 - 3.20 m



310-03-TP3218 - 4 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319985.9, N: 6868878.4 (MGA94 Zone 56)

SURFACE ELEVATION : 313.46 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.30 m LONG 1.20 m WIDE



310-03-TP3218 - 5 Depth Range: 0.00 - 3.20 m

POSITION : E: 307212.9, N: 6857737.3 (MGA94 Zone 56)

SURFACE ELEVATION : 289.42 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE

EXCAVATION INFORMATION				MATERIAL									
VE PENETRATION F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER 100 200 300 400 kPa	STRUCTURE & Other Observations
Not Observed		D-D00000	0.0		TOPSOIL: Silty SAND: fine to medium grained, red, trace roots (<10mm)							TOPSOIL	
		0.20m	0.20m		Clayey silty SAND: fine to medium grained, red low plasticity clay							RESIDUAL SOIL	
			288.9		Below 0.40m trace fine to coarse sub-rounded gravel								
		0.60m	0.5										
		B-B00060		SC		M							
		0.80m											
			288.4										
			1.0										
		1.30m											
		B-B00130											
1.50m													
	287.9												
	1.5												
	287.4												
	2.0												
	286.9												
2.50m													
B-B00250		SP		D to M									
2.70m													
2.80m													
B-B00280													
3.00m													
	286.4												
	3.0												
	285.9												
	3.5												
	4.0												

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
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W - Wet
M > PL- Moisture Content > Plastic Limit
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M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
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F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 307212.9, N: 6857737.3 (MGA94 Zone 56)

SURFACE ELEVATION : 289.42 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3500 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3500 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 307212.9, N: 6857737.3 (MGA94 Zone 56)

SURFACE ELEVATION : 289.42 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3500 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3500 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 307212.9, N: 6857737.3 (MGA94 Zone 56)	SURFACE ELEVATION : 289.42 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 26/08/2021	LOGGED BY : V.Chandrasena	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE		



310-03-TP3500 - 5 Depth Range: 0.00 - 3.00 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC Inland Rail	Commenced:	08/09/2021
Project Name:	Inland Rail - B2G - Border to Gowrie	Completed:	08/09/2021
Hole Location:		Logged By:	V.Chandrasena
Hole Position:	C4 - Kurrumbul Corridor	Checked By:	C. Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	300 mm	Bearing:	
		RL Surface:	No survey
		Datum:	AHD
		Operator:	B.Boga

Drilling Information						Soil Description								Observations	
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	DCP Blows/100mm 5 10 15 20	Pocket Penetrometer UCS (kPa) 100 200 300 400 500	Structure and Additional Observations
AD/T		Not Observed		D00000 D 0.00-0.50 m			0.5		CL-CI	TOPSOIL: Silty CLAY trace sand: low to medium plasticity, brown, fine to coarse grained sand, trace rootlets <2mm	M (~PL)	St to VSt			TOPSOIL
				B00050 B 0.50-1.00 m X2						Silty CLAY trace sand: low to medium plasticity, brown, fine to medium grained sand					ALLUVIAL SOIL
				D00050 D 0.50-1.00 m						Below 0.50m sandy trace fine to medium gravel					
				D00100 D 1.00-1.50 m											
				D00150 D 1.50-2.00 m											
				D00200 D 2.00-2.50 m											
				D00250 D 2.50-3.00 m			2.5		SP-SC	Clayey silty SAND: fine to coarse grained sand, pale grey and brown, low plasticity clay	M	MD to D			ALLUVIAL SOIL
										Hole Terminated at 3.00 m Target depth Testpit reinstated to surface					

POSITION : E: 321247.0, N: 6881027.4 (MGA94 Zone 56)

SURFACE ELEVATION : 326.72 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 23/08/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.20 m LONG 1.20 m WIDE

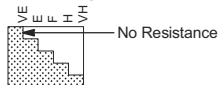
EXCAVATION INFORMATION				MATERIAL								
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER 100 200 300 400 kPa	STRUCTURE & Other Observations
Not Observed				0.0			TOPSOIL: Silty SAND: fine to coarse grained, orange brown, with rootlets (<2mm)					TOPSOIL
			0.20m B00020 0.30m U00030	0.20m			Silty sandy CLAY: medium plasticity, brown mottled orange brown and dark grey, fine to coarse grained sand.		VSt			ALLUVIAL SOIL
			0.50m 1	0.5	CI			M (<PL)	H			
			0.68m 0.70m 2	0.70m			Sandy Silty CLAY trace gravel: low plasticity, brown mottled orange brown, fine grained sand, fine gravel.					
			0.75m 0.80m B00080	0.75m	CL				VSt			
			1.00m	1.0								
			1.10m B00110	1.10m			Silty SAND: fine to medium grained, orange brown.					
			1.40m	1.40m			Clayey silty SAND: fine to medium grained, pale brown, low plasticity clay.	D	VD			
				1.5	SC							
				2.0								
				2.10m			Silty sandy CLAY: low plasticity, pale brown, mottled orange brown.					
			2.40m B00240	2.40m	CL			M (<PL)	H			
			2.60m	2.60m								
				3.0			Hole Terminated at 3.00 m Target depth Testpit reinstated to surface					
				3.23.7								
				3.5								
				4.0								

PHOTOGRAPHS
NOTES

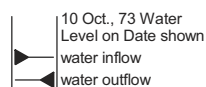
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 321247.0, N: 6881027.4 (MGA94 Zone 56)

SURFACE ELEVATION : 326.72 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 23/08/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.20 m LONG 1.20 m WIDE



310-03-TP3710 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3710 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 321247.0, N: 6881027.4 (MGA94 Zone 56)

SURFACE ELEVATION : 326.72 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 23/08/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.20 m LONG 1.20 m WIDE



310-03-TP3710 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3710 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 321247.0, N: 6881027.4 (MGA94 Zone 56)

SURFACE ELEVATION : 326.72 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 23/08/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.20 m LONG 1.20 m WIDE



310-03-TP3710 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 321316.2, N: 6881170.4 (MGA94 Zone 56)

SURFACE ELEVATION : 328.34 (AHD)

EQUIPMENT TYPE : 22t Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/06/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE

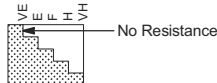
EXCAVATION INFORMATION				MATERIAL										
PENETRATION			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER kPa 100 200 300 400	STRUCTURE & Other Observations
VE	E	F												
					0.0			TOPSOIL SAND: fine to coarse grained, pale yellow-brown; trace rootlets.						TOPSOIL
					327.8									
					0.5									
					0.60m									
					B00060									
					0.90m									
					327.3									
					1.0									
					326.8									
					1.5									
					326.3									
					2.0									
					325.8									
					2.5									
					2.50m									
					D00250									
					2.80m									
					325.3									
					3.0									
					324.8									
					3.5									

PHOTOGRAPHS
NOTES

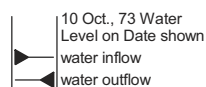
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 321316.2, N: 6881170.4 (MGA94 Zone 56)

SURFACE ELEVATION : 328.34 (AHD)

EQUIPMENT TYPE : 22t Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/06/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE



310-03-TP3711 - 1 Depth Range: 0.00 - 3.50 m



310-03-TP3711 - 2 Depth Range: 0.00 - 3.50 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 321316.2, N: 6881170.4 (MGA94 Zone 56)

SURFACE ELEVATION : 328.34 (AHD)

EQUIPMENT TYPE : 22t Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/06/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE



310-03-TP3711 - 3 Depth Range: 0.00 - 3.50 m

POSITION : E: 321494.8, N: 6881082.1 (MGA94 Zone 56)

SURFACE ELEVATION : 328.41 (AHD)

EQUIPMENT TYPE : 22t Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/06/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE

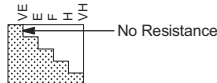
EXCAVATION INFORMATION					MATERIAL														
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP				POCKET PENETRO- METER				STRUCTURE & Other Observations
											Blows/100mm				kPa				
					0.0			TOPSOIL SAND: fine to coarse grained, pale yellow-brown; trace rootlets.										TOPSOIL	
					0.20m			SAND: fine to coarse grained, yellow-brown.										ALLUVIAL SOIL	
					0.50m		SP	Silty SANDY CLAY: low plasticity, orange-brown; sand fine to medium.	D	L									
				0.60m B00060	0.5														
				0.90m	0.9														
					1.0		CL		M (PL)	VSt									
					1.5														
					1.80m														
				1.90m D00190	1.9		SP	Silty SAND trace gravel: fine to medium grained, orange-brown mottled red; gravel fine, sub-rounded.	M	D									
				2.00m	2.0			Silty CLAY trace sand: low plasticity, pale brown-grey; sand fine. 2.0 to 2.4m: With fine to coarse, sub-angular gravels (calcareous nodules)											
					2.5		CL		M (PL)	VSt									
					3.0														
					3.10m														
					3.24.9			Hole Terminated at 3.10 m Target depth Testpit reinstated to surface											
					3.5														
					4.0														

PHOTOGRAPHS
NOTES

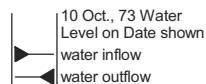
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 321494.8, N: 6881082.1 (MGA94 Zone 56)

SURFACE ELEVATION : 328.41 (AHD)

EQUIPMENT TYPE : 22t Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/06/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE



310-03-TP3713 - 1 Depth Range: 0.00 - 3.10 m



310-03-TP3713 - 2 Depth Range: 0.00 - 3.10 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 321494.8, N: 6881082.1 (MGA94 Zone 56)

SURFACE ELEVATION : 328.41 (AHD)

EQUIPMENT TYPE : 22t Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/06/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE



310-03-TP3713 - 3 Depth Range: 0.00 - 3.10 m

POSITION : E: 321381.6, N: 6881107.4 (MGA94 Zone 56)

SURFACE ELEVATION : 326.36 (AHD)

EQUIPMENT TYPE : 22t Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/06/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE

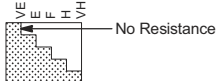
EXCAVATION INFORMATION					MATERIAL											
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER 300 400	STRUCTURE & Other Observations			
Not Observed			0.40m B00040	0.5	SP	0.10m	TOPSOIL SAND: fine to coarse grained, pale yellow-brown; trace rootlets. SAND: fine to coarse grained, yellow-brown.	D	L				TOPSOIL			
			0.80m	0.5		1.00m	Silty Sandy CLAY: low plasticity, orange-brown; sand fine to medium.							M ($<PL$)	Vst	
			1.50m B00150	1.5	CL											
			1.80m	2.0												
			2.30m D00230	2.5	CI	2.10m	Silty CLAY with sand: medium plasticity, pale brown; sand fine to medium.									
			2.50m	3.0												
				3.5												
				4.0												
				4.5												
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PHOTOGRAPHS
NOTES

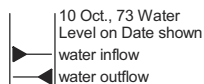
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

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RELATIVE DENSITY

VS - Very Soft
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VL - Very Loose
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See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 321381.6, N: 6881107.4 (MGA94 Zone 56)

SURFACE ELEVATION : 326.36 (AHD)

EQUIPMENT TYPE : 22t Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/06/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE



310-03-TP3714 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3714 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 321381.6, N: 6881107.4 (MGA94 Zone 56)

SURFACE ELEVATION : 326.36 (AHD)

EQUIPMENT TYPE : 22t Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/06/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE



310-03-TP3714 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3714 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 321381.6, N: 6881107.4 (MGA94 Zone 56)

SURFACE ELEVATION : 326.36 (AHD)

EQUIPMENT TYPE : 22t Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 16/06/2021

LOGGED BY : J.Cooper

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE



310-03-TP3714 - 5 Depth Range: 0.00 - 3.00 m



310-03-TP3714 - 6 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319285.4, N: 6863602.9 (MGA94 Zone 56)

SURFACE ELEVATION : 314.97 (AHD)

EQUIPMENT TYPE : Backhoe

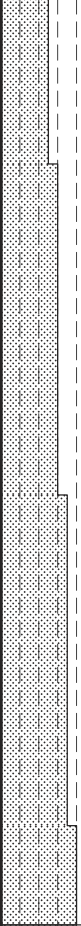
METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 03/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE

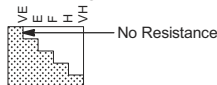
EXCAVATION INFORMATION				MATERIAL									
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER 100 200 300 400	STRUCTURE & Other Observations	
		Not Observed	0.40m B-B00040	314.5	GW	FILL: Sandy GRAVEL; fine to coarse angular, red and orange brown, fine to coarse grained sand, trace cobble <100mm. Sandy GRAVEL trace silt and clay; fine to coarse angular, black brown, fine to coarse grained sand, low to medium plasticity clay, trace cobble <90mm.	M	D	5	10	15	20	FILL
			0.60m B-B00060	0.5		0.60m							
			0.90m	314.0	GP	GRAVEL with sand and cobble; fine to coarse angular, yellow orange brown, fine to coarse grained sand, trace angular cobble <150mm.	D to M	VD					
			1.20m B-B00120	1.0									
			1.50m	313.5									
			2.00m D-D00200	2.0									
2.50m	312.5	2.50m	COBBLE with gravel and sand trace silt and clay; angular cobble <250mm, orange brown, fine to coarse angular gravel, fine to coarse grained sand, low to medium plasticity clay.	D									
	2.80m	Hole Terminated at 2.80 m Refusal on rock Testpit reinstated to surface											
	3.0												
	3.5												

PHOTOGRAPHS
NOTES

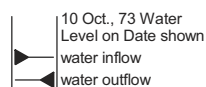
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
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VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319285.4, N: 6863602.9 (MGA94 Zone 56)

SURFACE ELEVATION : 314.97 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 03/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE



310-03-TP3800 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3800 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319285.4, N: 6863602.9 (MGA94 Zone 56)

SURFACE ELEVATION : 314.97 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 03/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE



310-03-TP3800 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3800 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

EXCAVATION - GEOLOGICAL LOG

PIT NO : 310-03-TP3800

CLIENT : ARTC

PROJECT : Inland Rail B2G

FILE / JOB NO : B21003

LOCATION : N4 - Whetstone Greenfield Corridor

SHEET : 4 OF 4

POSITION : E: 319285.4, N: 6863602.9 (MGA94 Zone 56)

SURFACE ELEVATION : 314.97 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 03/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.00 m WIDE



310-03-TP3800 - 5 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319615.3, N: 6873334.1 (MGA94 Zone 56)

SURFACE ELEVATION : 325.61 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.30 m WIDE

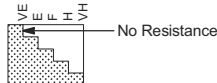
EXCAVATION INFORMATION					MATERIAL									
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER KPa 100 200 300 400	STRUCTURE & Other Observations
Not Observed			D-D00000	0.0			TOPSOIL: Gravelly SAND with cobbles: fine to medium grained, pale grey, fine to coarse sub-angular gravel, sub-angular cobbles (<150mm), trace rootlets (<10mm)							TOPSOIL
			0.20m		0.20m		Gravelly SAND: fine to medium grained, grey, fine to coarse angular to sub-angular gravel	D	D			ALLUVIAL SOIL		
			325.1		0.40m		SAND with gravel trace clay and silt: fine to medium grained, brown, fine to medium sub-rounded to sub-angular gravel							
			0.5											
			0.70m											
			B-B00070											
			0.90m											
			324.6											
			1.0											
			1.40m											
B-B00140														
1.60m														
324.1														
1.5														
323.6														
2.0														
323.1														
2.5														
2.80m														
B-B00280														
3.00m														
322.6														
3.0														
322.1														
3.5														
3.0														

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319615.3, N: 6873334.1 (MGA94 Zone 56)

SURFACE ELEVATION : 325.61 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.30 m WIDE



310-03-TP3801 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3801 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319615.3, N: 6873334.1 (MGA94 Zone 56)

SURFACE ELEVATION : 325.61 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.30 m WIDE



310-03-TP3801 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3801 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319615.3, N: 6873334.1 (MGA94 Zone 56)

SURFACE ELEVATION : 325.61 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.30 m WIDE



310-03-TP3801 - 5 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319448.7, N: 6873876.2 (MGA94 Zone 56)

SURFACE ELEVATION : 329.84 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.40 m WIDE

EXCAVATION INFORMATION					MATERIAL									
VE PENETRATION F H	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP				POCKET PENETRO- METER	STRUCTURE & Other Observations
									Blows/100mm 5 10 15 20					
	Not Observed	D-D00000	0.0			TOPSOIL: SAND with silt and clay trace gravel: fine to medium grained, pale grey, fine to medium sub-angular gravel, trace roots (<5mm)						TOPSOIL		
		0.20m		SM	0.20m	SAND with silt and clay trace gravel: fine to medium grained, pale grey, fine to medium sub-rounded gravel	D				ALLUVIAL SOIL			
		0.50m			0.50m	SAND with silt and clay: fine to medium grained, pale grey and red	VD							
		0.60m	B-B00060											
		0.80m												
		1.00m												
		1.50m												
		1.70m	B-B00170											
		1.90m												
		2.00m												
2.50m														
			328.3		SC	1.50m	Clayey SAND: fine to medium grained grey and brown mottled red, low to medium plasticity clay							
		1.70m				1.70m	Sandy CLAY: medium to high plasticity, grey and brown mottled red, fine to coarse grained sand.	M (<PL)	VSt					
		1.90m				1.90m	Clayey SAND: fine to medium grained grey and brown mottled red, low to medium plasticity clay							
		2.00m												
		2.50m												
		2.80m	B-B00280											
		3.00m												
		3.26.3												
		3.50m												
		4.00m												
			326.3		CL-CI	2.50m	Silty CLAY with sand: low to medium plasticity, grey brown mottled red, fine to medium grained sand							
		3.00m				3.00m	Hole Terminated at 3.00 m Target depth Testpit reinstated to surface							
		3.50m												
		4.00m												
		4.50m												
		5.00m												
		5.50m												
		6.00m												
		6.50m												
		7.00m												

PHOTOGRAPHS
NOTES

METHOD	PENETRATION 	SAMPLES & FIELD TESTS	CLASSIFICATION SYMBOLS & SOIL DESCRIPTION	CONSISTENCY/ RELATIVE DENSITY
N Natural Exposure		U - Undisturbed Sample	Based on Unified	VS - Very Soft
X Existing Excavation		D - Disturbed Sample	Classification System	S - Soft
BH Backhoe Bucket		B - Bulk Disturbed Sample		F - Firm
B Bulldozer Blade		MC - Moisture Content	MOISTURE	St - Stiff
R Ripper		PP - Pocket Penetrometer (UCS kPa)	D - Dry	VSt - Very Stiff
		VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)	M - Moist	H - Hard
			W - Wet	VL - Very Loose
			M > PL- Moisture Content > Plastic Limit	L - Loose
			M ~ PL- Moisture Content = Plastic Limit	MD - Medium Dense
			M < PL- Moisture Content < Plastic Limit	D - Dense
				VD - Very Dense

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

MG 4 02 | IR G R | on MG TEST PIT MG 4 02 GP | <<DrawingFile>> 26/02/2022 22:35 10/02/00 04 Datacol | ab and In Situ Tool - DGD | lib' DGDIT-P 4 01 2 dot 3 04 2018-07-02 P+ DGDIT-P 4 00 6 2017-11-25

POSITION : E: 319448.7, N: 6873876.2 (MGA94 Zone 56)

SURFACE ELEVATION : 329.84 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.40 m WIDE



310-03-TP3802 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3802 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319448.7, N: 6873876.2 (MGA94 Zone 56)

SURFACE ELEVATION : 329.84 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.40 m WIDE



310-03-TP3802 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3802 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319448.7, N: 6873876.2 (MGA94 Zone 56)

SURFACE ELEVATION : 329.84 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.40 m WIDE



310-03-TP3802 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 319255.4, N: 6874487.4 (MGA94 Zone 56)

SURFACE ELEVATION : 331.58 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE

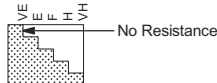
EXCAVATION INFORMATION					MATERIAL																
					MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components					MOISTURE CONDITION		CONSISTENCY RELATIVE DENSITY		DCP Blows/100mm 5 10 15 20		POCKET PENETRO- METER kPa 100 200 300 400		STRUCTURE & Other Observations			
GROUND WATER LEVELS					SAMPLES & FIELD TESTS		ELEVATION (RL) DEPTH (M)		GRAPHIC LOG		CLASSIFICATION SYMBOL										
Not Observed					D-D00000		0.0													TOPSOIL	
					0.20m				SM		TOPSOIL: Silty SAND trace gravel: fine to medium grained, pale brown, fine to medium sub-rounded to sub-angular gravel, trace roots (<10mm)					L				ALLUVIAL SOIL	
					331.1																
					0.5				SP		SAND with silt and clay: fine to medium grained, brown					D to VD					
					0.60m																
					B-B00060																
					0.80m																
					330.6																
					1.0																
					330.1				SC												
					1.50m		1.5														
					B-B00150		1.70m														

PHOTOGRAPHS
NOTES

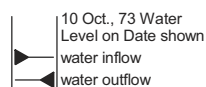
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319255.4, N: 6874487.4 (MGA94 Zone 56)

SURFACE ELEVATION : 331.58 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3803 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3803 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319255.4, N: 6874487.4 (MGA94 Zone 56)

SURFACE ELEVATION : 331.58 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3803 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3803 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319255.4, N: 6874487.4 (MGA94 Zone 56)

SURFACE ELEVATION : 331.58 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3803 - 5 Depth Range: 0.00 - 3.00 m



310-03-TP3803 - 6 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 319255.4, N: 6874487.4 (MGA94 Zone 56)

SURFACE ELEVATION : 331.58 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE

EXCAVATION INFORMATION					MATERIAL										
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations		
Not Observed			D-D00000	0.0			0.10m TOPSOIL: Silty SAND trace gravel: fine to medium grained, pale brown, fine to medium sub-rounded to sub-angular gravel, trace roots (<10mm)	D	L				TOPSOIL		
			0.20m		SM	Silty SAND: fine to medium grained, pale brown fine to medium sub rounded to sub angular gravel.									
			331.1	0.5		SP	SAND with silt and clay: fine to medium grained, brown	D to VD							
			0.60m		SC	Clayey Silty SAND trace gravel: fine to coarse grained sand, brown, low palsticity, fine to sub rounded gravel.									
			B-B00060	0.80m				M	VD						
			330.6	1.0											
			330.1	1.5											
			1.50m												
			B-B00150	1.70m											
			329.6	2.0											
329.1	2.5			2.20m SAND trace gravel: fine to coarse grained, orange brown, fine sub-rounded to sub-angular gravel											
2.60m															
B-B00260	2.80m														
328.6	3.0														
328.1	3.5						Hole Terminated at 3.00 m Target depth Testpit reinstated to surface								

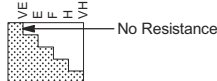
PHOTOGRAPHS
NOTES



METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

**CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION**
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

**CONSISTENCY/
RELATIVE DENSITY**

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319255.4, N: 6874487.4 (MGA94 Zone 56)

SURFACE ELEVATION : 331.58 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3803 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3803 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319255.4, N: 6874487.4 (MGA94 Zone 56)

SURFACE ELEVATION : 331.58 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3803 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3803 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319255.4, N: 6874487.4 (MGA94 Zone 56)

SURFACE ELEVATION : 331.58 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3803 - 5 Depth Range: 0.00 - 3.00 m



310-03-TP3803 - 6 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga

Drilling Information							Soil Description						Observations				
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)				Structure and Additional Observations
ADV				D00000 D 0.00-0.50 m E00000 0.00-0.20 m E00040 0.40-0.50 m S00050 SPT 0.50-0.95 m 2,1,2 N=3 E00090 0.90-1.00 m D00150 D 1.50-2.00 m		271.4	1		SM	TOPSOIL: Silty SAND: fine grained, brown, trace rootlets <2mm)		VL					TOPSOIL
				S00250 U00200 U 2.00-2.00 m SPT 2.00-2.45 m 27,24,21 N=45		270.4	2			Silty SAND: fine grained, brown							ALLUVIAL SOIL
				D00300 D 3.00-3.50 m		269.4	3			below 2.0m color changes to white and brown							
				S00350 SPT 3.50-3.95 m 10,10,14 N=24		268.4	4			03.50m: trace fine, sub rounded gravels, fine to coarse grained sand		D					
				D00450 D 4.50-5.00 m		267.4	5										
				S00500 SPT 5.00-5.45 m 12,13,13 N=26		266.4	6		SC	Clayey SAND: fine to medium grained, brown and white, low plasticity clay		MD					RESIDUAL SOIL
				D00600 D 6.00-6.50 m		265.4	7			below 6.50m colour changes to pale grey mottled brown							
				S00650 SPT 6.50-6.95 m 13,18,23 N=41		265.4						D					
				D00750 D 7.50-8.00 m													

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB- Washbore	No resistance ranging to refusal	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss		Classification Symbols and Soil Descriptions	Plastic Limit	
C - Casing	Core recovered (hatching indicates material) Core loss		Based on Unified Soil Classification System	< PL = PL > PL	

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 22/07/2021
Project Name: Inland Rail B2G	Completed: 27/07/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: M.Faustino
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56	Checked By: J.Boyle
Drill Model and Mounting: CRS XL 170	Inclination: -90°
Hole Diameter: 115 mm	RL Surface: 272.40 m
	Bearing: Datum: AHD Operator: M. Boga

Drilling Information							Soil Description						Observations				
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations		
ADV				S00800 SPT 8.00-8.45 m 18,20,27 N=47		263.4	9		SC	Clayey SAND: fine to medium grained, brown and white, low plasticity clay (<i>continued</i>)		D			RESIDUAL SOIL		
				D00900 D 9.00-9.50 m		263.4				09.00m: trace fine, sub rounded gravel		D					
				S00950 SPT 9.50-9.77 m 28,30/120mm N=30/120mm		262.4	10			below 9.50m colour changes to pale grey and brown mottled white and red	D						
				D01050 D 10.50-11.00 m		261.4	11					VD					
				S01100 11.00 m S01100 SPT 11.00-11.45 m 9,12,14 N=26		260.4	12		CI	Sandy CLAY: medium plasticity, pale grey, fine to medium grained sand		VSt				* RESIDUAL SOIL =590 kPa	
				D01200 D 12.00-12.50 m		260.4											
				S01250 12.50 m S01250 SPT 12.50-12.95 m 15,19,20 N=39		259.4	13		CI	below 12.50m colour changes to pale grey mottled brown				*		12.50: PP Samp =300 kPa	
				D01350 D 13.50-14.00 m		258.4	14		CI	Sandy CLAY: medium plasticity, pale grey mottled brown, fine to medium sand	M (<PL)						RESIDUAL SOIL
				S01400 14.00 m S01400 SPT 14.00-14.45 m 9,14,20 N=34		257.4	15			Sandy CLAY: medium plasticity, pale grey, fine to medium grained sand		H		*		14.00: PP Samp =320 kPa	
				D01500 D 15.00-15.50 m													
			S01550 SPT 15.50-15.95 m 8,14,17						SC	Clayey SAND: fine to medium grained, pale white mottled brown and red, low plasticity clay	M to W	D					
Method			Penetration			Water			Samples and Tests			Moisture Condition			Consistency/Relative Density		
AS - Auger Screwing RR - Rock Roller WB- Washbore			 No resistance ranging to refusal			 Level (Date)  Inflow  Partial Loss  Complete Loss			U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test			D - Dry M - Moist W - Wet			VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense		
Support			Graphic Log/Core Loss			Classification Symbols and Soil Descriptions			Plastic Limit								
C - Casing			 Core recovered (hatching indicates material)  Core loss			Based on Unified Soil Classification System			< PL = PL < PL								

Method
AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration
No resistance ranging to refusal

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition
D - Dry
M - Moist
W - Wet

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support
C - Casing

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

Plastic Limit
< PL
= PL
< PL

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	22/07/2021
Project Name:	Inland Rail B2G	Completed:	27/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	M.Faustino
Hole Coordinates:	300320.7 m E 6851828.2 m N MGA94 Zone 56	Checked By:	J.Boyle

Drill Model and Mounting:	CRS XL 170	Inclination:	-90°	RL Surface:	272.40 m	
Hole Diameter:	115 mm	Bearing:		Datum:	AHD	Operator: M. Boga

Drilling Information							Soil Description							Observations		
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations	
WB	AD/V			N=31					SC	Clayey SAND: fine to medium grained, pale white mottled brown and red, low plasticity clay (continued)			D		RESIDUAL SOIL	
				D01650 D 16.50-17.00 m		255.4	17									
				S01700 SPT 17.00-17.45 m 12,19,29 N=48		254.4	18									
				D01800 D 18.00-18.50 m		253.4	19									
				S01850 SPT 18.50-18.95 m 17,19,21 N=40		252.4	20									
				S02000 SPT 20.00-20.45 m 14,16,17 N=33		251.4	21									
				S02150 SPT 21.50-21.95 m 17,30,23 N=53		250.4	22									
				S02300 SPT 23.00-23.30 m 30,30/145mm N=30/145mm		249.4	23									

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB - Washbore	No resistance ranging to refusal	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss	Classification Symbols and Soil Descriptions	Plastic Limit		
C - Casing	Core recovered (hatching indicates material) Core loss	Based on Unified Soil Classification System	< PL = PL < PL		

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170 Inclin: -90° RL Surface: 272.40 m
Hole Diameter: 115 mm Bearing: Datum: AHD Operator: M. Boga

Drilling Information							Soil Description						Observations	
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
WB									SC	Clayey SAND: fine to medium grained, pale white mottled brown and red, low plasticity clay (continued)	M to W	VD		RESIDUAL SOIL
				S02450 24.50 m S02450 SPT 24.50-24.91 m 15,23,30/110mm N=53/260mm		247.4	25		CH	Silty CLAY: high plasticity, pale white mottled red				* EXTREME WEATHERED BEDROCK
				S02600 26.00 m S02600 SPT 26.00-26.45 m 10,17,20 N=37		246.4	26			below 26.0m colour changes to red mottled white		H		* 26.00: PP Samp >600 kPa
				S02750 27.50 m S02750 SPT 27.50-27.95 m 13,13,17 N=30		244.4	28			below 27.50m colour changes to grey mottled brown	M (<PL) to M (=PL)			* 27.50: PP Samp =520 kPa
				S02900 29.00 m S02900 SPT 29.00-29.45 m 5,9,10 N=19		243.4	29		CI-CH	Sandy CLAY: medium to high plasticity, brown mottled grey and purple, fine grained sand				* 29.00: PP Samp =410 kPa
				S03050 30.50 m S03050 SPT 30.50-30.95 m 6,17,18 N=35		241.4	31			below 30.50m with gravel, fine to coarse, angular		H		* 30.50: PP Samp =320 kPa
Method AS - Auger Screwing RR - Rock Roller WB- Washbore Penetration No resistance ranging to refusal Water Level (Date) Inflow Partial Loss Complete Loss Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test Moisture Condition D - Dry M - Moist W - Wet Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense Support C - Casing Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss Classification Symbols and Soil Descriptions Based on Unified Soil Classification System Plastic Limit < PL = PL < PL														

Engineering Log - Borehole

Project No.: B21003

Client: ARTC				Commenced: 22/07/2021			
Project Name: Inland Rail B2G				Completed: 27/07/2021			
Hole Location: N4 - Whetstone Greenfield Corridor				Logged By: M.Faustino			
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56				Checked By: J.Boyle			
Drill Model and Mounting: CRS XL 170				Inclination: -90°		RL Surface: 272.40 m	
Hole Diameter: 115 mm				Bearing:		Datum: AHD Operator: M. Boga	

Drilling Information				Soil Description				Observations							
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
				S03200 32.00 m S03200					CI-CH	Sandy CLAY: medium to high plasticity, brown mottled grey and purple, fine grained sand (<i>continued</i>)		H		100 200 300 400 500	EXTREMELY WEATHERED B600000
				SPT 32.00-32.40 m 11,26,30/100mm N=56/250mm			33			Hole Terminated at 32.40 m Target depth					
							34								
							35								
							36								
							37								
							38								
							39								

Method

AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration

No resistance ranging to refusal

Water

Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests

U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition

D - Dry
M - Moist
W - Wet

Consistency/Relative Density

VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support

C - Casing

Graphic Log/Core Loss

Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions

Based on Unified Soil Classification System

Plastic Limit

< PL
= PL
< PL

Engineering Log - Borehole

Project No.: B21003

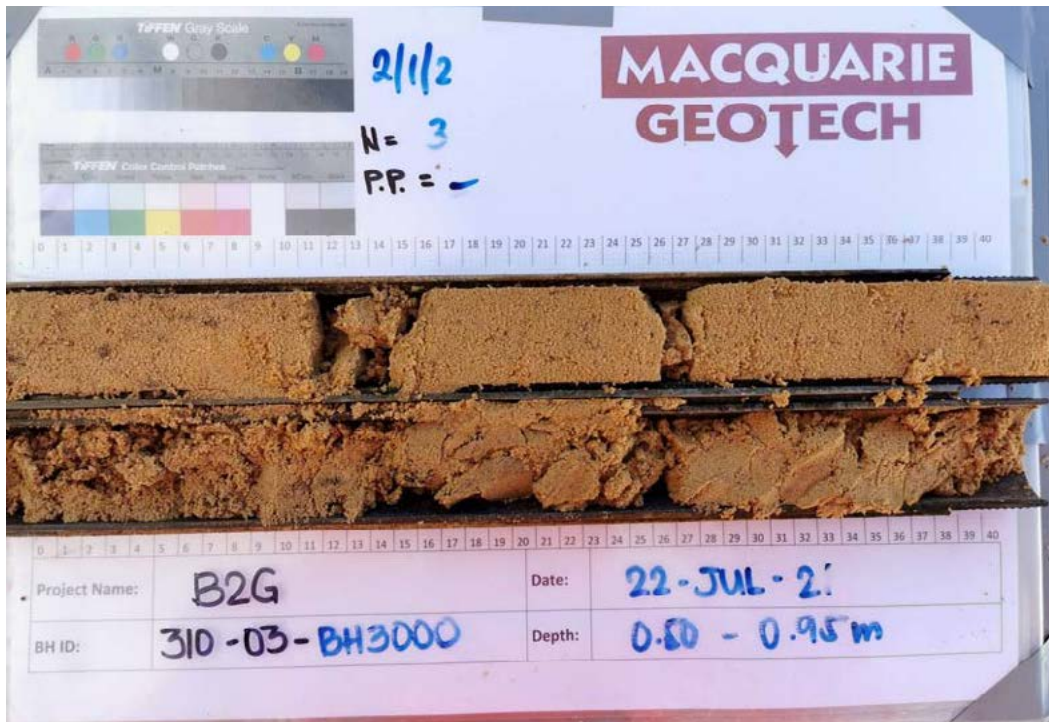
Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

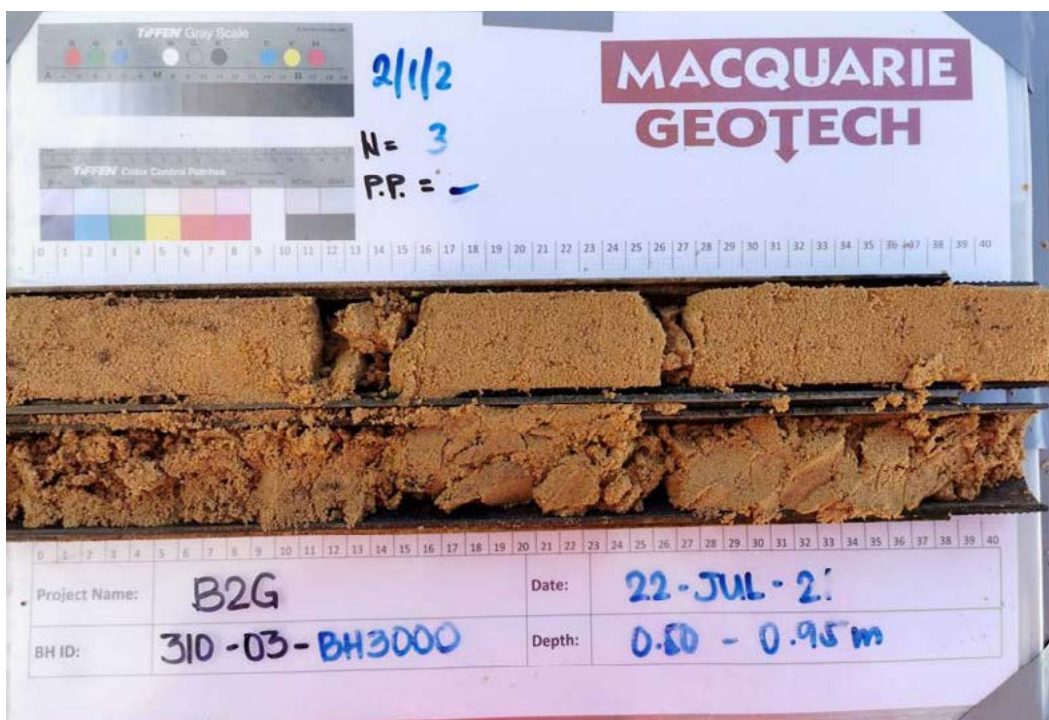
Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 0.50 - 0.95 m



310-03-BH3000 Depth Range: 0.50 - 0.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 2.00 - 2.45 m



310-03-BH3000 Depth Range: 2.00 - 2.45 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 3.50 - 3.95 m



310-03-BH3000 Depth Range: 3.50 - 3.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 5.00 - 5.45 m



310-03-BH3000 Depth Range: 5.00 - 5.45 m

Engineering Log - Borehole

Project No.: B21003

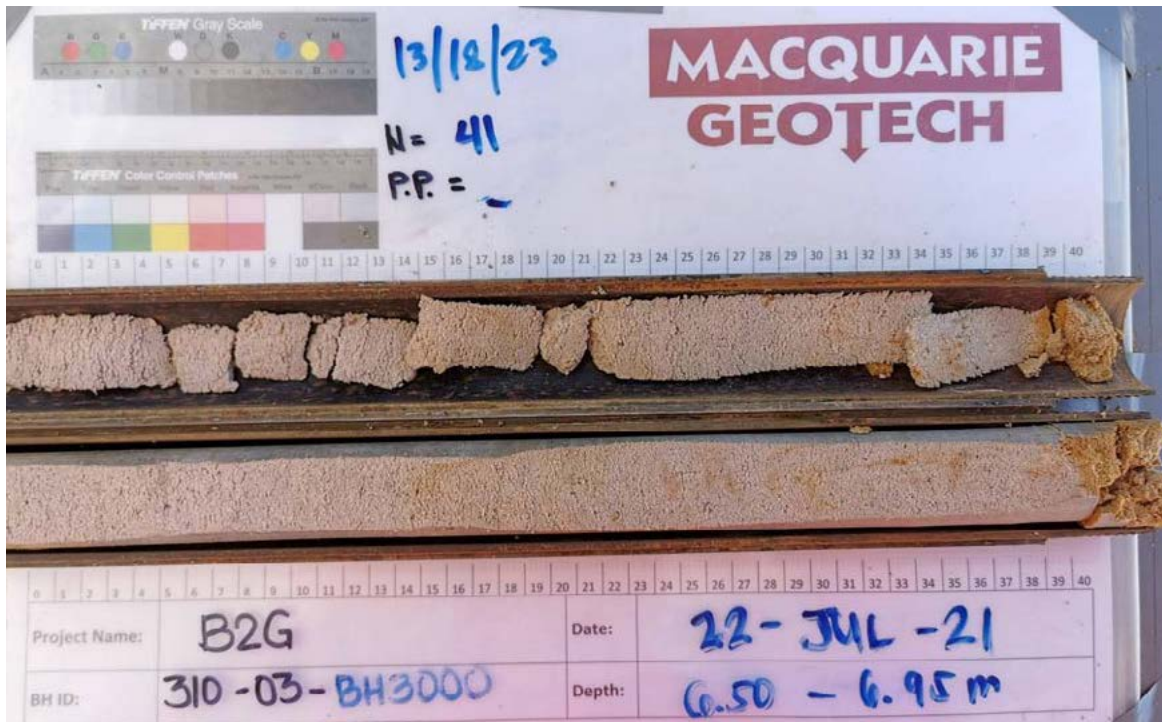
Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

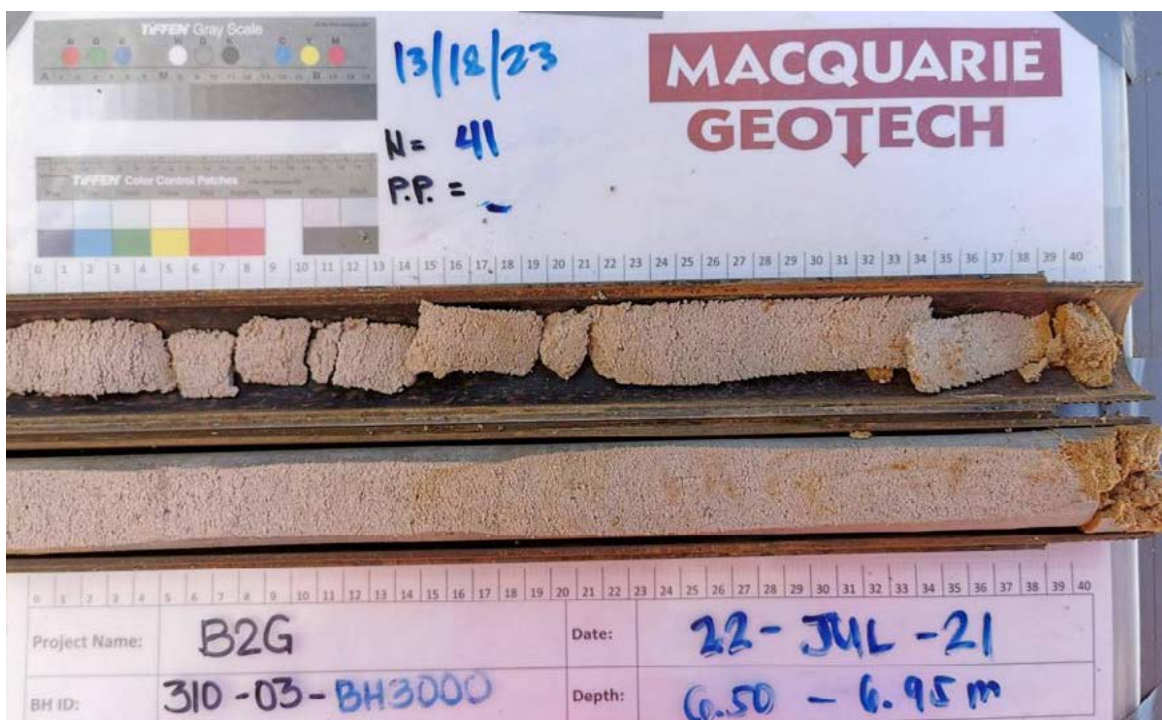
Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 6.50 - 6.95 m



310-03-BH3000 Depth Range: 6.50 - 6.95 m

Engineering Log - Borehole

Project No.: B21003

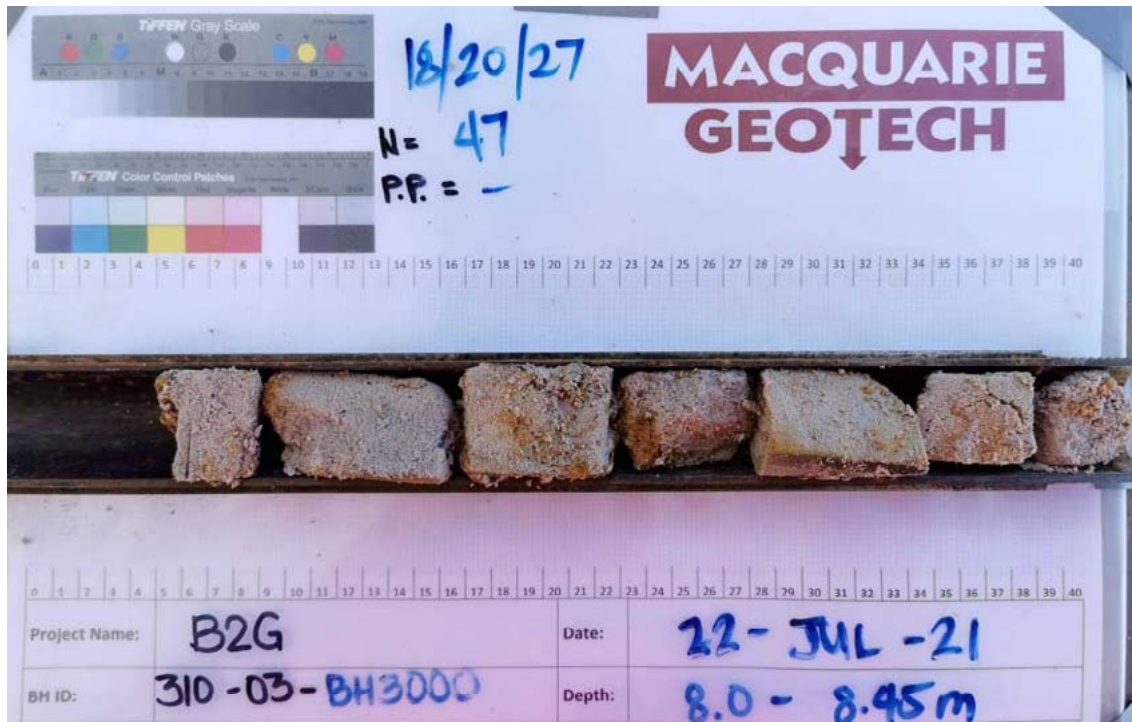
Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

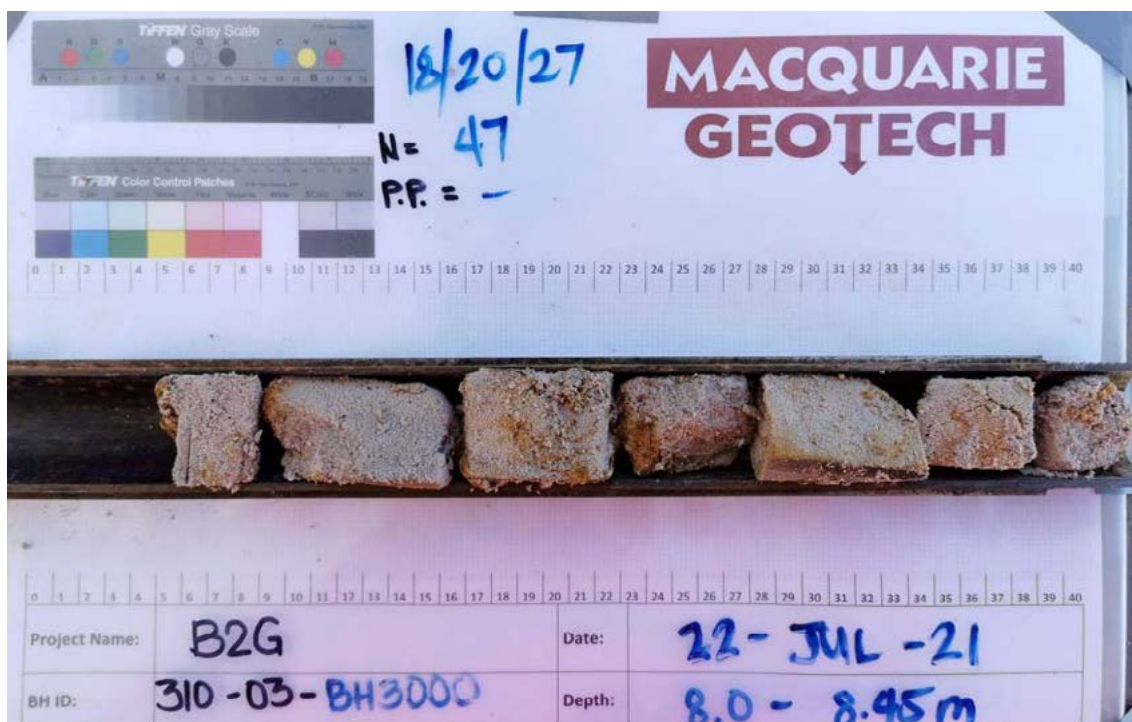
Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 8.00 - 8.45 m



310-03-BH3000 Depth Range: 8.00 - 8.45 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 9.50 - 9.77 m



310-03-BH3000 Depth Range: 9.50 - 9.77 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 11.00 - 11.45 m



310-03-BH3000 Depth Range: 11.00 - 11.45 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 12.50 - 12.95 m



310-03-BH3000 Depth Range: 12.50 - 12.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 14.00 - 14.45 m



310-03-BH3000 Depth Range: 14.00 - 14.45 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 15.50 - 15.95 m



310-03-BH3000 Depth Range: 15.50 - 15.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170 Inclin: -90° RL Surface: 272.40 m
Hole Diameter: 115 mm Bearing: Datum: AHD Operator: M. Boga

Drilling Information							Soil Description						Observations		
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations	
ADV				D00000 D 0.00-0.50 m E00000 0.00-0.20 m E00040 0.40-0.50 m S00050 SPT 0.50-0.95 m 2,1,2 N=3 E00090 0.90-1.00 m D00150 D 1.50-2.00 m		271.4	1		SM	TOPSOIL: Silty SAND: fine grained, brown, trace rootlets <2mm)		VL	100 200 300 400 500	TOPSOIL	
				S00250 U00200 U 2.00-2.00 m SPT 2.00-2.45 m 27,24,21 N=45		270.4	2			Silty SAND: fine grained, brown				ALLUVIAL SOIL	
				D00300 D 3.00-3.50 m		269.4	3			below 2.0m color changes to white and brown		D			
				S00350 SPT 3.50-3.95 m 10,10,14 N=24		268.4	4			03.50m: trace fine, sub rounded gravels, fine to coarse grained sand		D			
				D00450 D 4.50-5.00 m		267.4	5					MD		RESIDUAL SOIL	
				S00500 SPT 5.00-5.45 m 12,13,13 N=26		266.4	6		SC	Clayey SAND: fine to medium grained, brown and white, low plasticity clay					
				D00600 D 6.00-6.50 m		265.4	7			below 6.50m colour changes to pale grey mottled brown		D			
				S00650 SPT 6.50-6.95 m 13,18,23 N=41											
				D00750 D 7.50-8.00 m											
Method AS - Auger Screwing RR - Rock Roller WB - Washbore Penetration  No resistance ranging to refusal Water  Level (Date)  Inflow  Partial Loss  Complete Loss Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test Moisture Condition D - Dry M - Moist W - Wet Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense Support C - Casing Graphic Log/Core Loss  Core recovered (hatching indicates material)  Core loss Classification Symbols and Soil Descriptions Based on Unified Soil Classification System Plastic Limit < PL = PL < PL															

Engineering Log - Borehole

Project No.: B21003

Client: ARTC						Commenced: 22/07/2021								
Project Name: Inland Rail B2G						Completed: 27/07/2021								
Hole Location: N4 - Whetstone Greenfield Corridor						Logged By: M.Faustino								
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56						Checked By: J.Boyle								
Drill Model and Mounting: CRS XL 170						Inclination: -90°		RL Surface: 272.40 m						
Hole Diameter: 115 mm						Bearing:		Datum: AHD		Operator: M. Boga				
Drilling Information						Soil Description						Observations		
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa) 100 200 300 400 500	Structure and Additional Observations
AD/V				S00800 SPT 8.00-8.45 m 18,20,27 N=47		263.4	9		SC	Clayey SAND: fine to medium grained, brown and white, low plasticity clay (<i>continued</i>)	D	D		RESIDUAL SOIL
				D00900 D 9.00-9.50 m		262.4	10		09.00m: trace fine, sub rounded gravel					
				S00950 SPT 9.50-9.77 m 28,30/120mm N=30/120mm		261.4	11		below 9.50m colour changes to pale grey and brown mottled white and red					
				D01050 D 10.50-11.00 m		260.4	12							
				S01100 11.00 m S01100 SPT 11.00-11.45 m 9,12,14 N=26		259.4	13							
				D01200 D 12.00-12.50 m		258.4	14							
				S01250 12.50 m S01250 SPT 12.50-12.95 m 15,19,20 N=39		257.4	15							
				D01350 D 13.50-14.00 m										
				S01400 14.00 m S01400 SPT 14.00-14.45 m 9,14,20 N=34										
				D01500 D 15.00-15.50 m										
S01550 SPT 15.50-15.95 m 8,14,17					SC	Clayey SAND: fine to medium grained, pale white mottled brown and red, low plasticity clay	M to W	D						
Method AS - Auger Screwing RR - Rock Roller WB- Washbore Penetration No resistance ranging to refusal Water Level (Date) Inflow Partial Loss Complete Loss Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test Moisture Condition D - Dry M - Moist W - Wet Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense Support C - Casing Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss Classification Symbols and Soil Descriptions Based on Unified Soil Classification System Plastic Limit < PL = PL > PL														

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170 Inclin: -90° RL Surface: 272.40 m
Hole Diameter: 115 mm Bearing: Datum: AHD Operator: M. Boga

Drilling Information							Soil Description						Observations				
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)				Structure and Additional Observations
AD/V				N=31					SC	Clayey SAND: fine to medium grained, pale white mottled brown and red, low plasticity clay (continued)						RESIDUAL SOIL	
				D01650 D 16.50-17.00 m		255.4	17										
				S01700 SPT 17.00-17.45 m 12,19,29 N=48		254.4	18										
				D01800 D 18.00-18.50 m		253.4	19										
				S01850 SPT 18.50-18.95 m 17,19,21 N=40		252.4	20										
				S02000 SPT 20.00-20.45 m 14,16,17 N=33		251.4	21										
				S02150 SPT 21.50-21.95 m 17,30,23 N=53		250.4	22										
WB				S02300 SPT 23.00-23.30 m 30,30/145mm N=30/145mm		249.4	23		below 23.0m becoming fine to coarse grained								
Method AS - Auger Screwing RR - Rock Roller WB - Washbore Penetration No resistance ranging to refusal Water Level (Date) Inflow Partial Loss Complete Loss Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test Moisture Condition D - Dry M - Moist W - Wet Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense Support C - Casing Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss Classification Symbols and Soil Descriptions Based on Unified Soil Classification System Plastic Limit < PL = PL < PL																	

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170 Inclin: -90° RL Surface: 272.40 m
Hole Diameter: 115 mm Bearing: Datum: AHD Operator: M. Boga

Drilling Information								Soil Description						Observations			
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)				Structure and Additional Observations
WB									SC	Clayey SAND: fine to medium grained, pale white mottled brown and red, low plasticity clay (continued)	M to W	VD					RESIDUAL SOIL
				S02450 24.50 m S02450 SPT 24.50-24.91 m 15,23,30/110mm N=53/260mm		247.4	25		CH	Silty CLAY: high plasticity, pale white mottled red							* EXTREME WEATHERED BEDROCK
				S02600 26.00 m S02600 SPT 26.00-26.45 m 10,17,20 N=37		246.4	26			below 26.0m colour changes to red mottled white		H					* 26.00: PP Samp >600 kPa
				S02750 27.50 m S02750 SPT 27.50-27.95 m 13,13,17 N=30		244.4	28			below 27.50m colour changes to grey mottled brown	M (<PL) to M (=PL)						* 27.50: PP Samp =520 kPa
				S02900 29.00 m S02900 SPT 29.00-29.45 m 5,9,10 N=19		243.4	29		CI-CH	Sandy CLAY: medium to high plasticity, brown mottled grey and purple, fine grained sand							* 29.00: PP Samp =410 kPa
				S03050 30.50 m S03050 SPT 30.50-30.95 m 6,17,18 N=35		241.4	31			below 30.50m with gravel, fine to coarse, angular		H					* 30.50: PP Samp =320 kPa
*																	
Method AS - Auger Screwing RR - Rock Roller WB- Washbore Penetration  No resistance ranging to refusal Support C - Casing Water  Level (Date)  Inflow  Partial Loss  Complete Loss Graphic Log/Core Loss  Core recovered (hatching indicates material)  Core loss Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test Classification Symbols and Soil Descriptions Based on Unified Soil Classification System Moisture Condition D - Dry M - Moist W - Wet Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense Plastic Limit < PL = PL < PL																	

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 22/07/2021
Project Name: Inland Rail B2G	Completed: 27/07/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: M.Faustino
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56	Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170	Inclination: -90°	RL Surface: 272.40 m
Hole Diameter: 115 mm	Bearing:	Datum: AHD Operator: M. Boga

Drilling Information							Soil Description							Observations		
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations	
				S03200 32.00 m S03200					CI-CH	Sandy CLAY: medium to high plasticity, brown mottled grey and purple, fine grained sand (continued)		H			EXTREMELY WEATHERED BEDROCK	
				SPT 32.00-32.40 m 11,26,30/100mm N=56/250mm						Hole Terminated at 32.40 m Target depth						
						239.4	33									
						238.4	34									
						237.4	35									
						236.4	36									
						235.4	37									
						234.4	38									
						233.4	39									

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB - Washbore	No resistance ranging to refusal	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss	Classification Symbols and Soil Descriptions	Plastic Limit		
C - Casing	Core recovered (hatching indicates material) Core loss	Based on Unified Soil Classification System	< PL = PL < PL		

Engineering Log - Borehole

Project No.: B21003

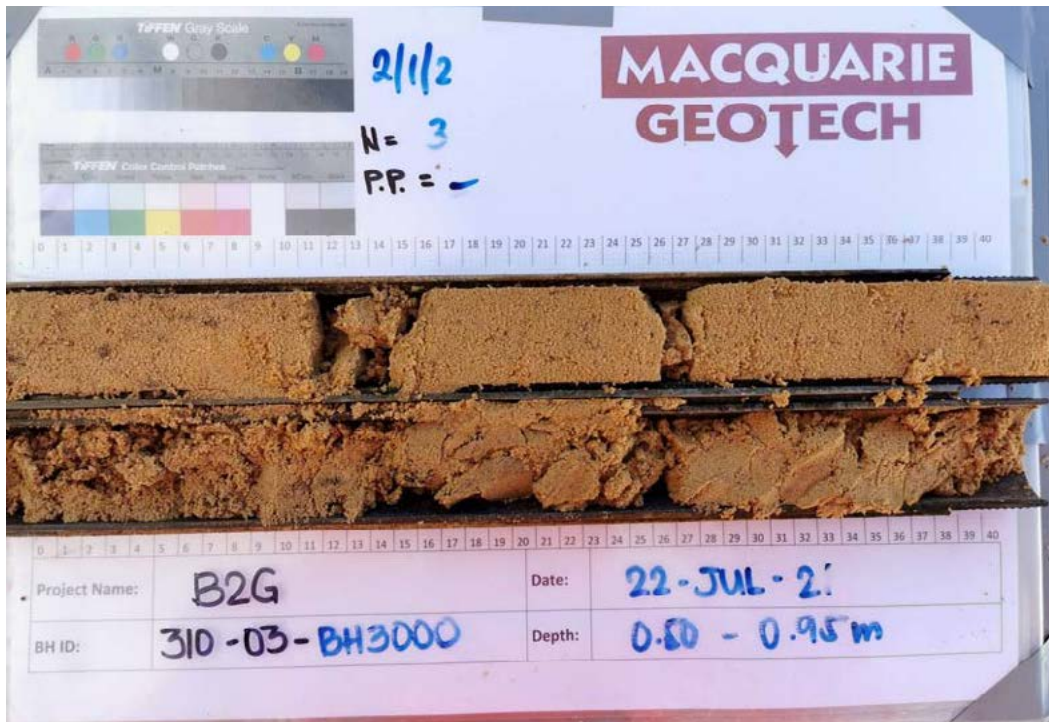
Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

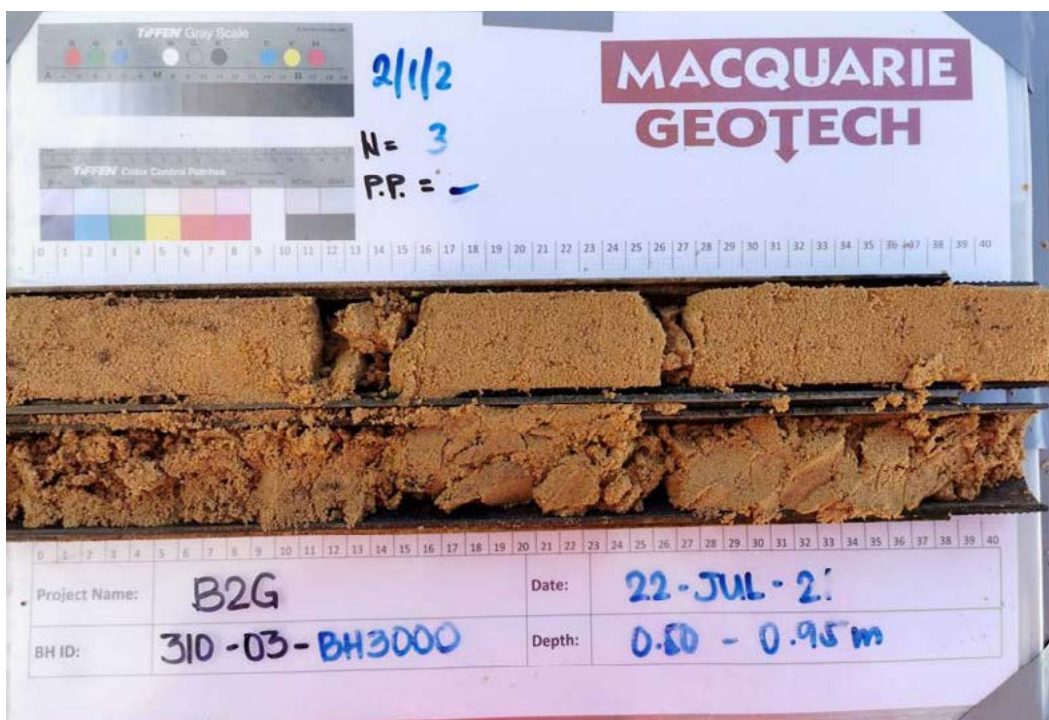
Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 0.50 - 0.95 m



310-03-BH3000 Depth Range: 0.50 - 0.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 2.00 - 2.45 m



310-03-BH3000 Depth Range: 2.00 - 2.45 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 3.50 - 3.95 m



310-03-BH3000 Depth Range: 3.50 - 3.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 5.00 - 5.45 m



310-03-BH3000 Depth Range: 5.00 - 5.45 m

Engineering Log - Borehole

Project No.: B21003

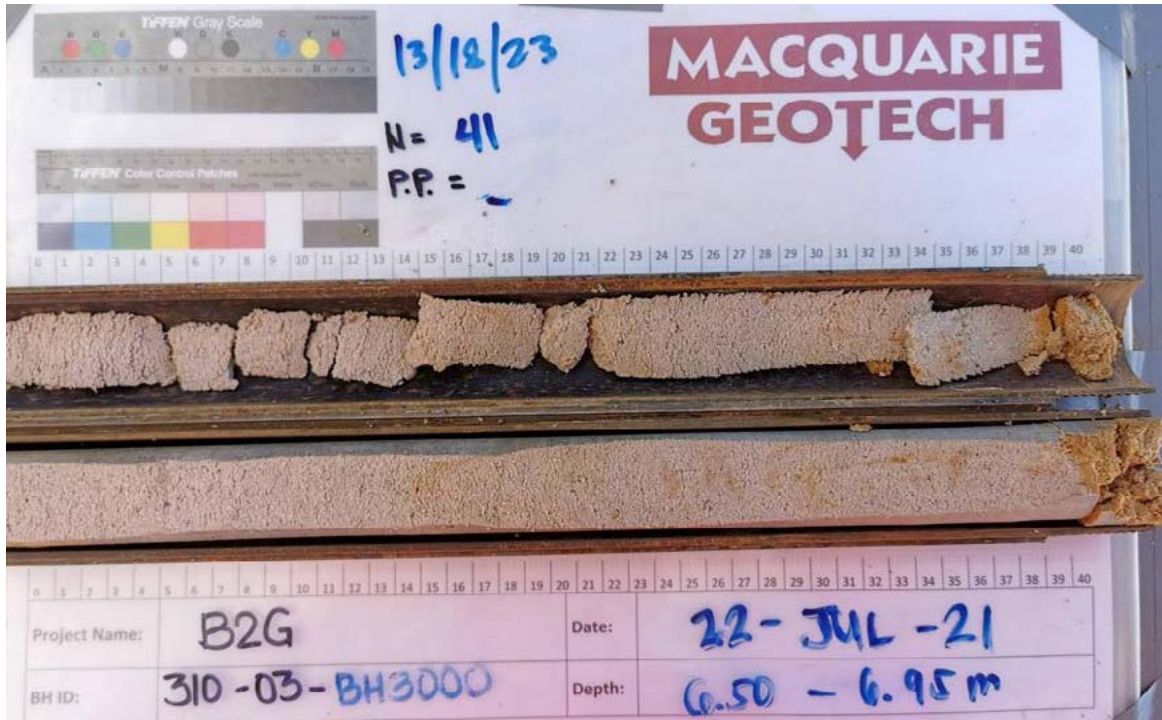
Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

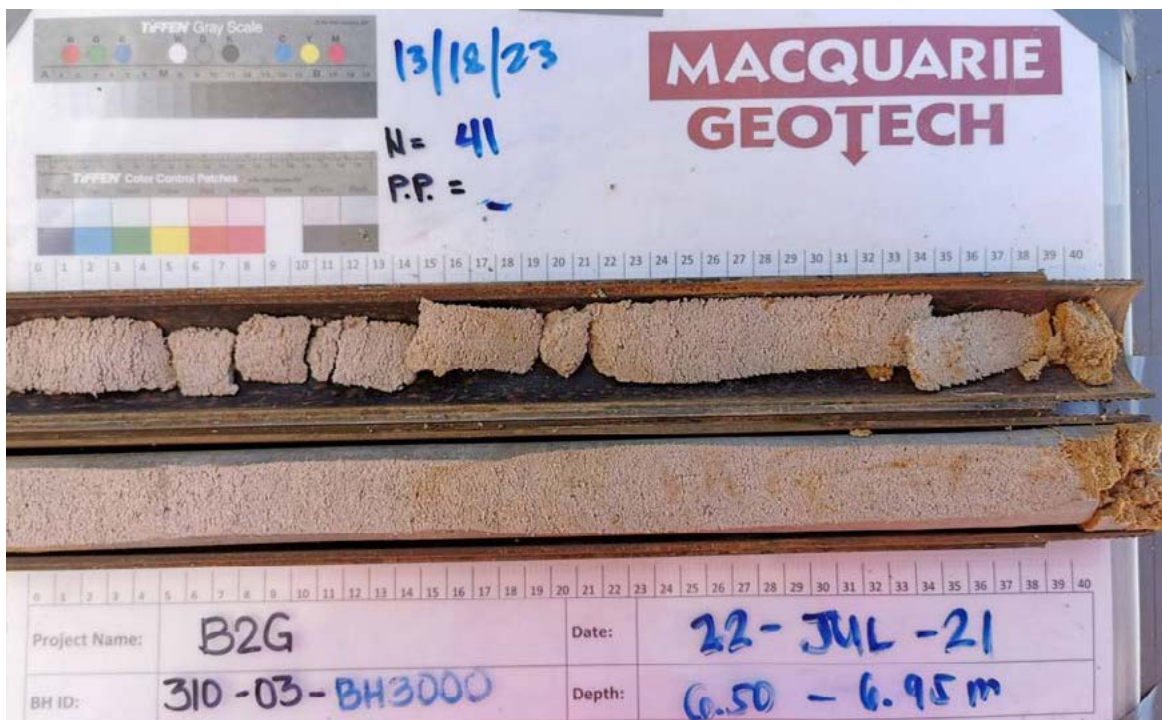
Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 6.50 - 6.95 m



310-03-BH3000 Depth Range: 6.50 - 6.95 m

Engineering Log - Borehole

Project No.: B21003

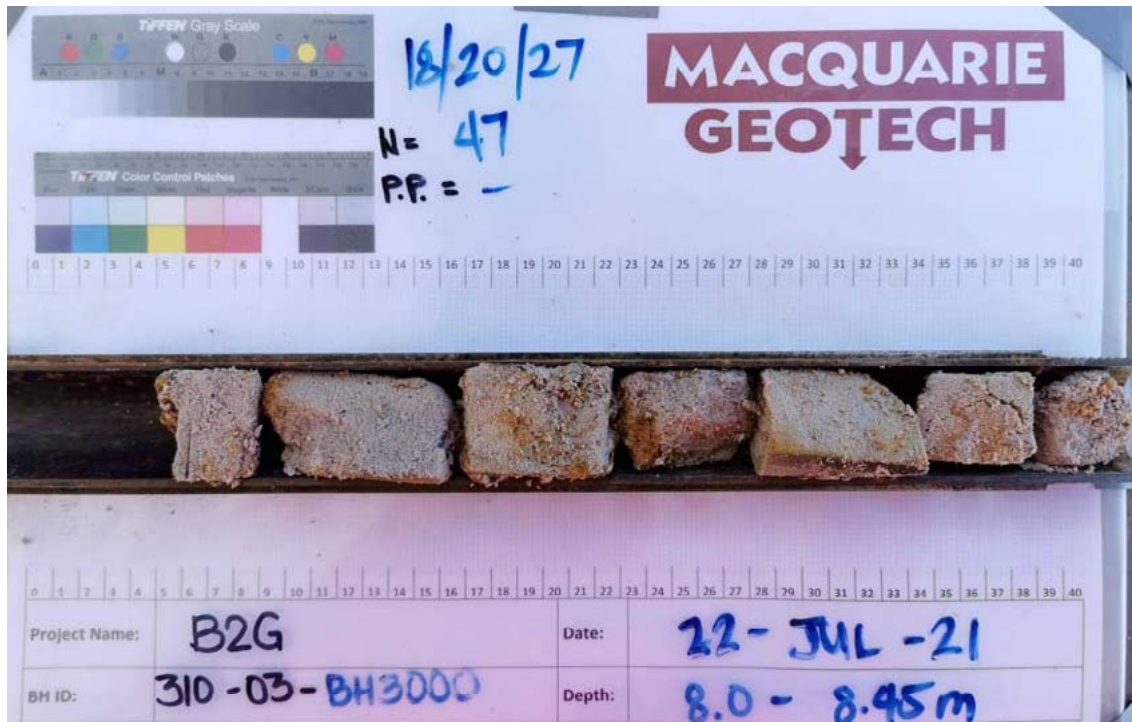
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Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

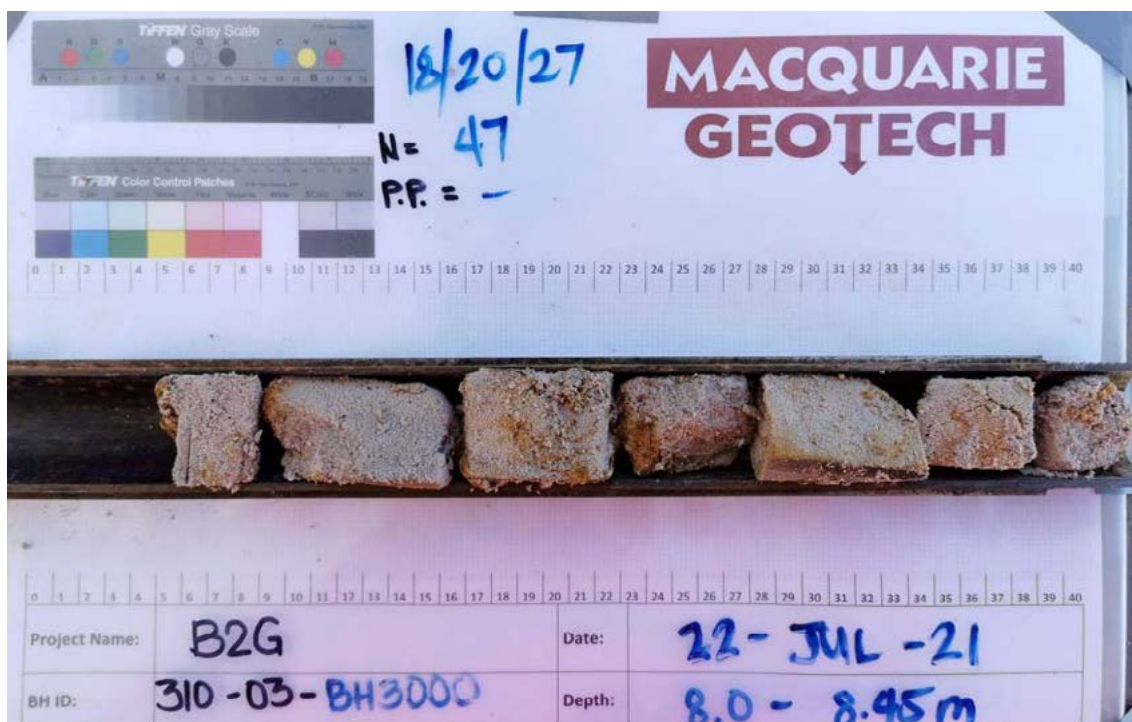
Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 8.00 - 8.45 m



310-03-BH3000 Depth Range: 8.00 - 8.45 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 9.50 - 9.77 m



310-03-BH3000 Depth Range: 9.50 - 9.77 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 11.00 - 11.45 m



310-03-BH3000 Depth Range: 11.00 - 11.45 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 12.50 - 12.95 m



310-03-BH3000 Depth Range: 12.50 - 12.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 14.00 - 14.45 m



310-03-BH3000 Depth Range: 14.00 - 14.45 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300320.7 m E 6851828.2 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 27/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 272.40 m
Datum: AHD Operator: M. Boga



310-03-BH3000 Depth Range: 15.50 - 15.95 m



310-03-BH3000 Depth Range: 15.50 - 15.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 19/07/2021
Project Name: Inland Rail B2G	Completed: 21/07/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: M.Faustino
Hole Coordinates: 300504.6 m E 6851960.1 m N MGA94 Zone 56	Checked By: J.Boyle
Drill Model and Mounting: CRS XL 170	Inclination: -90°
Hole Diameter: 115 mm	RL Surface: 271.52 m
	Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Soil Description						Observations		
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
ADV				D00000 D 0.00-0.50 m E00000 J 0.00-0.20 m E00050 J 0.50-0.60 m S00050 SPT 0.50-0.95 m 5,5,6 N=11 E00090 J 0.90-1.00 m D00150 D 1.50-2.00 m		270.5	1		SM	TOPSOIL: Sandy SILT: low plasticity, brown, fine to medium grained sand, trace rootlets (<2mm)	D	MD			TOPSOIL
				U00200 U 2.00-2.50 m						Silty SAND: fine to coarse grained, brown, trace rootlets (<2mm)					ALLUVIAL SOIL
				S00250 SPT 2.50-2.95 m 7,12,13 N=25 D00300 D 3.00-3.50 m						Silty CLAY: low plasticity, grey mottled yellow					RESIDUAL SOIL
				S00350 SPT 3.50-3.95 m 10,12,14 N=26						Sandy CLAY: low plasticity, grey mottled yellow, fine to medium grained sand					3.50: PP Samp =380 kPa
				D00450 D 4.50-5.00 m											
				S00500 SPT 5.00-5.13 m 30/130mm						Silty SAND: yellow and brown, fine grained					
				S00650 SPT 6.50-6.93 m 24,28,30/130mm N=58/280mm						below 6.50m grey mottled yellow and brown, fine to medium grained					
WB															
Method AS - Auger Screwing RR - Rock Roller WB- Washbore Penetration No resistance ranging to refusal Water Level (Date) Inflow Partial Loss Complete Loss Support C - Casing Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test Classification Symbols and Soil Descriptions Based on Unified Soil Classification System Moisture Condition D - Dry M - Moist W - Wet Plastic Limit < PL = PL < PL Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense															

MG 4.02 LUB L8 Log MG BOREHOLE EXCL DCP MG 4.02 GPJ <<DrawingFile>> 26/02/2022 22:47 10.02.00.04 Daugel Lab and In Situ Tool - DGD [Lib: DGD-T-P 4.01.2 dpt 3.04.2016-07-02 Pjt: DGD-T-P 4.00.6 2017-11-25]

Method

AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Support

C - Casing

Penetration

No resistance
ranging to
refusal

Graphic Log/Core Loss

Core recovered (hatching
indicates material)
Core loss

Water

Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests

U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Classification Symbols and Soil Descriptions

Based on Unified Soil
Classification System

Moisture Condition

D - Dry
M - Moist
W - Wet

Plastic Limit

< PL
= PL
< PL

Consistency/Relative Density

VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 19/07/2021
Project Name: Inland Rail B2G	Completed: 21/07/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: M.Faustino
Hole Coordinates: 300504.6 m E 6851960.1 m N MGA94 Zone 56	Checked By: J.Boyle
Drill Model and Mounting: CRS XL 170	Inclination: -90°
Hole Diameter: 115 mm	RL Surface: 271.52 m
	Bearing: AHD
	Operator: B.Boga

Drilling Information								Soil Description					Observations																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
WB		Not Observed		S00800 SPT 8.00-8.45 m 18,14,12 N=26		262.5	9		CI-CH	Sandy CLAY: medium plasticity, pale grey and brown, fine grained sand from 8.20m to 8.30m becoming with gravel, brown with red, sub angular, fine grained gravel, iron stains Silty CLAY: medium plasticity, white-grey	W	VD	100	8.00: PP Samp =210 kPa RESIDUAL SOIL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
				S00950 SPT 9.50-9.95 m 2,10,15 N=25						below 9.75m colour changes to white-grey mottled red		VSt	300	9.50: PP Samp =540 kPa																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
				S01100 SPT 11.00-11.45 m 12,16,28 N=44						11.00m: becoming medium to high plasticity below 11.40m to 12.50m becoming red-brown trace fine grained sand			400	11.00: PP Samp >600 kPa																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
				S01250 SPT 12.50-12.95 m 10,14,21 N=35						below 12.50m colour changes to pale grey and brown, becoming medium to high plasticity clay	M (<PL) to M (=PL)		500	12.50: PP Samp >600 kPa																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
				S01400 SPT 14.00-14.45 m 10,13,18 N=31						Below 14.00m indistinctly thinly laminated	H			14.00: PP Samp >600 kPa																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
				S01550 SPT 15.50-15.95 m 7,9,13						Sandy CLAY: medium to high plasticity, light brown mottled white, fine grained sand		VSt		15.50: PP Samp >600 kPa																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 19/07/2021
Project Name: Inland Rail B2G	Completed: 21/07/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: M.Faustino
Hole Coordinates: 300504.6 m E 6851960.1 m N MGA94 Zone 56	Checked By: J.Boyle
Drill Model and Mounting: CRS XL 170	Inclination: -90°
Hole Diameter: 115 mm	RL Surface: 271.52 m
	Bearing: Datum: AHD Operator: B.Boga

Drilling Information								Soil Description						Observations				
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations			
WB		Not Observed		N=22					CI-CH	Sandy CLAY: medium to high plasticity, light brown mottled white, fine grained sand (continued)	M (<PL) to M (=PL)	VSt			EXTREMELY WEATHERED BEDROCK			
				S01700 SPT 17.00-17.45 m 10,12,15 N=27		254.5	17											x 17.00: PP Samp >600 kPa
						253.5	18											
				S01850 SPT 18.50-18.95 m 12,14,17 N=31		252.5	19											x 18.50: PP Samp =560 kPa
						251.5	20											
				S02000 SPT 20.00-20.45 m 10,15,19 N=34		250.5	21											
						249.5	22											
				S02150 SPT 21.50-21.95 m 14,24,29 N=53		248.5	23											x 21.50: PP Samp >600 kPa
				S02300 SPT 23.00-23.29 m 24.30/140mm N=30/140mm														x 23.00: PP Samp >600 kPa

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB - Washbore	No resistance ranging to refusal	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss	Classification Symbols and Soil Descriptions	Plastic Limit		
C - Casing	Core recovered (hatching indicates material) Core loss	Based on Unified Soil Classification System	< PL = PL < PL		

Engineering Log - Borehole

Project No.: B21003

Client: ARTC		Commenced: 19/07/2021	
Project Name: Inland Rail B2G		Completed: 21/07/2021	
Hole Location: N4 - Whetstone Greenfield Corridor		Logged By: M.Faustino	
Hole Coordinates: 300504.6 m E 6851960.1 m N MGA94 Zone 56		Checked By: J.Boyle	
Drill Model and Mounting: CRS XL 170		Inclination: -90°	RL Surface: 271.52 m
Hole Diameter: 115 mm		Bearing:	Datum: AHD Operator: B.Boga

Engineering Log - Borehole

Project No.: B21003

Client: ARTC				Commenced: 19/07/2021			
Project Name: Inland Rail B2G				Completed: 21/07/2021			
Hole Location: N4 - Whetstone Greenfield Corridor				Logged By: M.Faustino			
Hole Coordinates: 300504.6 m E 6851960.1 m N MGA94 Zone 56				Checked By: J.Boyle			
Drill Model and Mounting: CRS XL 170				Inclination: -90°		RL Surface: 271.52 m	
Hole Diameter: 115 mm				Bearing:		Datum: AHD Operator: B.Boga	

Drilling Information				Soil Description				Observations							
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
WB			Not Observed	S03200 SPT 32.00-32.45 m 17.21,30 N=51		238.5	33		CH	Silty CLAY: high plasticity, grey mottled brown (continued) Below 32.25m distinctly very thinly laminated	M (<PL) to M (=PL)	H		100 200 300 400 500	* EXTREMELY WEATHERED B500 kPa
				S03350 SPT 33.50-33.93 m 23.23,30/130mm N=53/280mm		237.5	34			Hole Terminated at 33.93 m Target depth					
						236.5	35								
						235.5	36								
						234.5	37								
						233.5	38								
						232.5	39								

Method

AS - Auger Screwing
RR - Rock Roller
WB- Washbore

Penetration

No resistance ranging to refusal

Water

Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests

U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition

D - Dry
M - Moist
W - Wet

Consistency/Relative Density

VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support

C - Casing

Graphic Log/Core Loss

Core recovered (hatching indicates material)
Core loss

Plastic Limit

< PL
= PL
> PL

Classification Symbols and Soil Descriptions

Based on Unified Soil Classification System

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300504.6 m E 6851960.1 m N MGA94 Zone 56

Commenced: 19/07/2021
Completed: 21/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 271.52 m
Datum: AHD Operator: B.Boga



310-03-BH3001 Depth Range: 0.50 - 0.95 m



310-03-BH3001 Depth Range: 0.50 - 0.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300504.6 m E 6851960.1 m N MGA94 Zone 56

Commenced: 19/07/2021
Completed: 21/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 271.52 m
Datum: AHD Operator: B.Boga



310-03-BH3001 Depth Range: 2.50 - 2.95 m



310-03-BH3001 Depth Range: 2.50 - 2.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300504.6 m E 6851960.1 m N MGA94 Zone 56

Commenced: 19/07/2021
Completed: 21/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 271.52 m
Datum: AHD Operator: B.Boga



310-03-BH3001 Depth Range: 3.50 - 3.95 m



310-03-BH3001 Depth Range: 3.50 - 3.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	19/07/2021
Project Name:	Inland Rail B2G	Completed:	21/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	M.Faustino
Hole Coordinates:	300504.6 m E 6851960.1 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	CRS XL 170	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	271.52 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3001 Depth Range: 5.00 - 5.13 m



310-03-BH3001 Depth Range: 5.00 - 5.13 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300504.6 m E 6851960.1 m N MGA94 Zone 56

Commenced: 19/07/2021
Completed: 21/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 271.52 m
Datum: AHD Operator: B.Boga



310-03-BH3001 Depth Range: 6.50 - 6.93 m



310-03-BH3001 Depth Range: 6.50 - 6.93 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300504.6 m E 6851960.1 m N MGA94 Zone 56

Commenced: 19/07/2021
Completed: 21/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 271.52 m
Datum: AHD Operator: B.Boga



310-03-BH3001 Depth Range: 8.00 - 8.45 m



310-03-BH3001 Depth Range: 8.00 - 8.45 m

Engineering Log - Borehole

Project No.: B21003

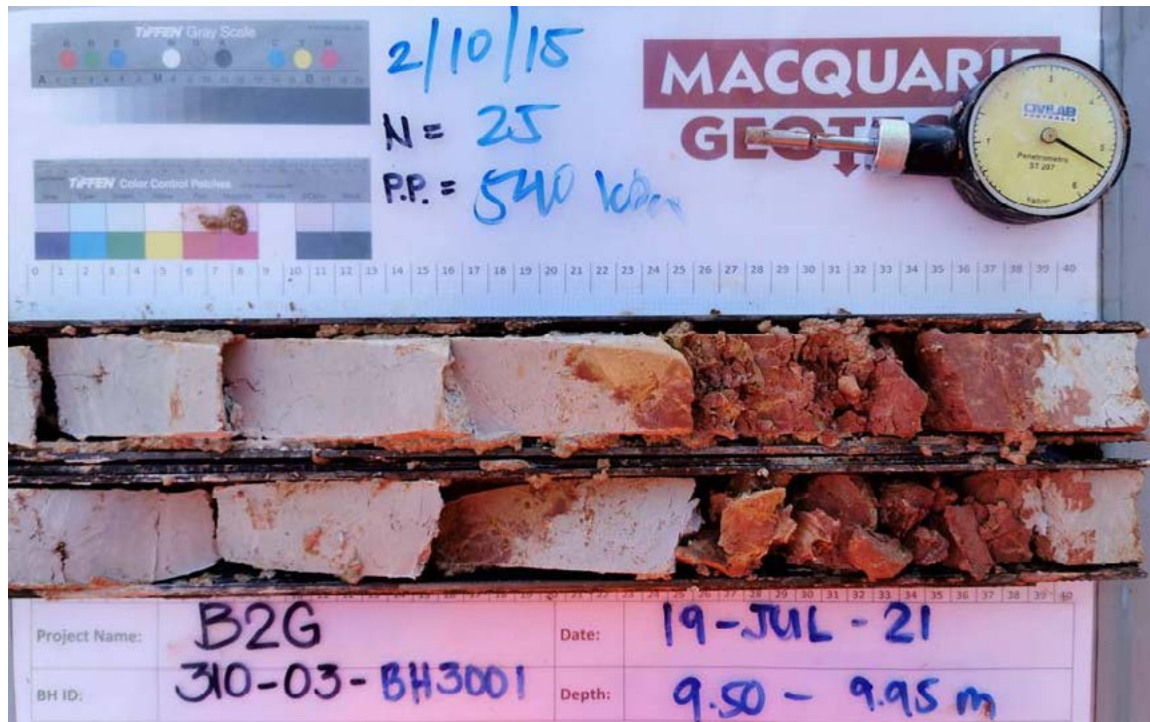
Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300504.6 m E 6851960.1 m N MGA94 Zone 56

Commenced: 19/07/2021
Completed: 21/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 271.52 m
Datum: AHD Operator: B.Boga



310-03-BH3001 Depth Range: 9.50 - 9.95 m



310-03-BH3001 Depth Range: 9.50 - 9.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300504.6 m E 6851960.1 m N MGA94 Zone 56

Commenced: 19/07/2021
Completed: 21/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 271.52 m
Datum: AHD Operator: B.Boga



310-03-BH3001 Depth Range: 11.00 - 11.45 m



310-03-BH3001 Depth Range: 11.00 - 11.45 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300504.6 m E 6851960.1 m N MGA94 Zone 56

Commenced: 19/07/2021
Completed: 21/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 271.52 m
Datum: AHD Operator: B.Boga



310-03-BH3001 Depth Range: 12.50 - 12.95 m



310-03-BH3001 Depth Range: 12.50 - 12.95 m

Engineering Log - Borehole

Project No.: B21003

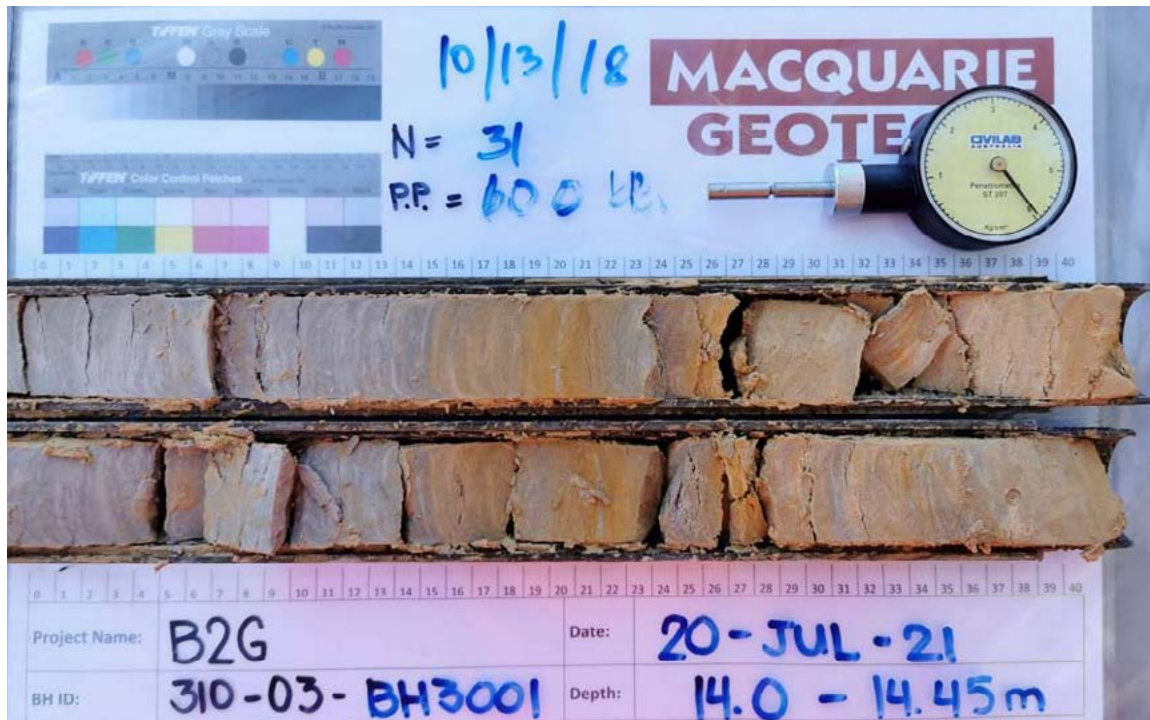
Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300504.6 m E 6851960.1 m N MGA94 Zone 56

Commenced: 19/07/2021
Completed: 21/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 271.52 m
Datum: AHD Operator: B.Boga



310-03-BH3001 Depth Range: 14.00 - 14.45 m



310-03-BH3001 Depth Range: 14.00 - 14.45 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300504.6 m E 6851960.1 m N MGA94 Zone 56

Commenced: 19/07/2021
Completed: 21/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 271.52 m
Datum: AHD Operator: B.Boga



310-03-BH3001 Depth Range: 15.50 - 15.95 m



310-03-BH3001 Depth Range: 15.50 - 15.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 300504.6 m E 6851960.1 m N MGA94 Zone 56

Commenced: 19/07/2021
Completed: 21/07/2021
Logged By: M.Faustino
Checked By: J.Boyle

Drill Model and Mounting: CRS XL 170
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 271.52 m
Datum: AHD Operator: B.Boga



310-03-BH3001 Depth Range: 17.00 - 17.45 m



310-03-BH3001 Depth Range: 17.00 - 17.45 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 302541.7 m E 6853770.9 m N MGA94 Zone 56

Commenced: 18/07/2021
Completed: 20/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclin: -90° RL Surface: 276.43 m
Hole Diameter: 115 mm Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations	
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
AD/T				D00000 0.00-0.50 m J00000 0.00-0.20 m J00020 0.20-0.50 m S00050 SPT 0.50-0.95 m 7,7,18 N=25 J00095 0.95-1.00 m D00100 1.00-1.50 m S00150 SPT 1.50-1.95 m 11,10,9 N=19 D00250 2.50-3.00 m		275.4	1		SC	SAND trace gravel: fine grained sand, dark-brown to pale-brown, trace roots (<5mm). Clayey SAND: fine grained, dark brown mottled pale brown, low plasticity clay.		L			TOPSOIL ALLUVIAL SOIL
				S00050 SPT 0.50-0.95 m 7,7,18 N=25 J00095 0.95-1.00 m D00100 1.00-1.50 m S00150 SPT 1.50-1.95 m 11,10,9 N=19 D00250 2.50-3.00 m		274.4	2		SM	Silty SAND: fine grained, pale grey and brown.		MD			RESIDUAL SOIL
				S00300 SPT 3.00-3.45 m 13,15,22 N=37		273.4	3		SM	Silty SAND trace clay: fine to coarse grained, pale grey and brown.		M			EXTREMELY WEATHERED MATERIAL
				D00400 4.00-4.50 m		272.4	4		SC	Clayey SAND with gravel: fine grained, grey and orange brown, low to medium plasticity, fine to medium sub-rounded to rounded gravel.		VD			
				S00450 SPT 4.50-4.74 m 25,13/90mm N=13/90mm		271.4	5								
				D00550 5.50-6.00 m		270.4	6								
				S00600 SPT 6.00-6.09 m 8/90mm		269.4	7			Continued on cored borehole sheet					

Method
AS - Auger Screwing
RR - Rock Roller
WB- Washbore

Support
C - Casing

Penetration
 No resistance ranging to refusal

Graphic Log/Core Loss
 Core recovered (hatching indicates material)
 Core loss

Water
 Level (Date)
 Inflow
 Partial Loss
 Complete Loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition
D - Dry
M - Moist
W - Wet

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

Plastic Limit
< PL
= PL
< PL

Method
AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration
No resistance ranging to refusal

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition
D - Dry
M - Moist
W - Wet

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support
C - Casing

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

Plastic Limit
< PL
= PL
< PL

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 302541.7 m E 6853770.9 m N MGA94 Zone 56

Commenced: 18/07/2021
Completed: 20/07/2021
Logged By: A.Sharma
Checked By: C.Green

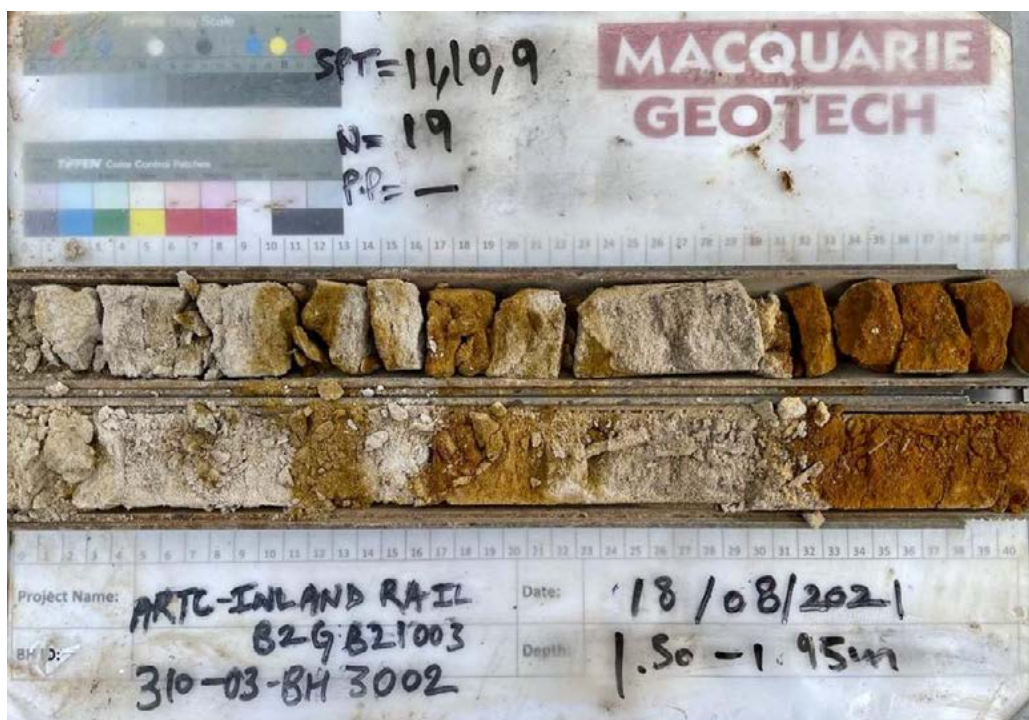
Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 276.43 m
Datum: AHD Operator: B.Boga



310-03-BH3002 Depth Range: 0.50 - 0.95 m



310-03-BH3002 Depth Range: 1.50 - 1.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/07/2021
Project Name:	Inland Rail B2G	Completed:	20/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	302541.7 m E 6853770.9 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	276.43 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3002 Depth Range: 3.00 - 3.45 m



310-03-BH3002 Depth Range: 4.50 - 4.74 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 302541.7 m E 6853770.9 m N MGA94 Zone 56

Commenced: 18/07/2021
Completed: 20/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 276.43 m
Datum: AHD Operator: B.Boga



310-03-BH3002 Depth Range: 6.00 - 6.15 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC		Commenced: 18/07/2021	
Project Name: Inland Rail B2G		Completed: 20/07/2021	
Hole Location: N4 - Whetstone Greenfield Corridor		Logged By: A.Sharma	
Hole Coordinates: 302541.7 m E 6853770.9 m N MGA94 Zone 56		Checked By: C.Green	
Drill Model and Mounting: D4TAPG		Inclination: -90°	
Barrel Type and Length: HQ3 3 m		RL Surface: 276.43 m	
		Datum: AHD Operator: B.Boga	

Drilling Information				Rock Substance				Rock Mass Defects					
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling
										EL VL L M H VH EH	30 100 300 1000 3000	Particular	General
						275.4	1						
						274.4	2						
						273.4	3						
						272.4	4						
						271.4	5						
						270.4	6						
						269.4	7		Continued from non-cored borehole sheet SANDSTONE: coarse grained, red brow, orange brown and pale grey.	XW		BP, 5°, Fe SN, UN, RF BP, 0°, Fe SN, PR, RF JT, 45°, Fe SN, PR, RF	

Method AS - Auger Screwing WB- Washbore HQ3 HQ3 Core Barrel NQ3 NQ3 Core Barrel	Water Level (Date) Inflow Partial Loss Complete Loss	Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss	Weathering FR - Fresh SW - Slightly Weathered DW - Distinctly Weathered XW - Extremely Weathered RS - Residual Soil	Strength (indirect tensile strength) EL - Extremely Low VL - Very Low L - Low M - Medium H - High VH - Very High EH - Extremely High
Support T - Timbering				

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC		Commenced: 18/07/2021												
Project Name: Inland Rail B2G		Completed: 20/07/2021												
Hole Location: N4 - Whetstone Greenfield Corridor		Logged By: A.Sharma												
Hole Coordinates: 302541.7 m E 6853770.9 m N MGA94 Zone 56		Checked By: C.Green												
Drill Model and Mounting: D4TAPG		Inclination: -90°												
Barrel Type and Length: HQ3 3 m		RL Surface: 276.43 m												
		Datum: AHD												
		Operator: B.Boga												
Drilling Information		Rock Substance		Rock Mass Defects										
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling	
													Particular	General

Method
AS - Auger Screwing
WB - Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Support
T - Timbering

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Weathering
FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC						Commenced: 18/07/2021																							
Project Name: Inland Rail B2G						Completed: 20/07/2021																							
Hole Location: N4 - Whetstone Greenfield Corridor						Logged By: A.Sharma																							
Hole Coordinates: 302541.7 m E 6853770.9 m N MGA94 Zone 56						Checked By: C.Green																							
Drill Model and Mounting: D4TAPG						Inclination: -90°		RL Surface: 276.43 m																					
Barrel Type and Length: HQ3 3 m						Bearing:		Datum: AHD		Operator: B.Boga																			
Drilling Information						Rock Substance						Rock Mass Defects																	
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling																
										EL VL L M H VH EH			Particular	General															
HQ3			100		100	259.4	17		SANDSTONE: coarse grained, grey mottled brown.(continued)	XW			BP, 5°, Clay CN, PR, S																
			100		0	258.4	18						BP, 0°, Clay CN, DIS, S																
						257.4	19		NO CORE 3.00m				BP, 0°, Fe SN, PR, RF																
						256.4	20						BP, 5°, Fe SN, UN, RF																
						255.4	21						JT, 35°, Fe SN, PR, RF																
						254.4	22		Silty CLAY: medium to high plasticity, grey, indistinctly laminated. 21.50m SPT 12,25,28 N=53				BP, 0°, Fe SN, PR, RF																
WB						253.4	23		Clayey SAND: fine to coarse grained sand, grey and pink brown, low to medium plasticity clay. 22.50m SPT 14,21,18 N=39	RS			BP, 0°, Clay SN, PR, RF																
													BP, 0°, Fe SN, PR, RF																
Method AS - Auger Screwing WB- Washbore HQ3 HQ3 Core Barrel NQ3 NQ3 Core Barrel						Water Level (Date) Inflow Partial Loss Complete Loss Support T - Timbering						Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss						Weathering FR - Fresh SW - Slightly Weathered DW - Distinctly Weathered XW - Extremely Weathered RS - Residual Soil						Strength (indirect tensile strength) EL - Extremely Low VL - Very Low L - Low M - Medium H - High VH - Very High EH - Extremely High					

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC		Commenced: 18/07/2021	
Project Name: Inland Rail B2G		Completed: 20/07/2021	
Hole Location: N4 - Whetstone Greenfield Corridor		Logged By: A.Sharma	
Hole Coordinates: 302541.7 m E 6853770.9 m N MGA94 Zone 56		Checked By: C.Green	
Drill Model and Mounting: D4TAPG		Inclination: -90°	
Barrel Type and Length: HQ3 3 m		RL Surface: 276.43 m	
		Datum: AHD Operator: B.Boga	

Drilling Information				Rock Substance				Rock Mass Defects						
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling	
										EL VL L M H VH EH	30 100 300 1000 3000	Particular	General	
WB	Not Observed					251.4	25		Clayey SAND: fine to coarse grained sand, grey and pink brown, low to medium plasticity clay.(continued) 24.00m SPT 15,15,16 N=31	RS				
						250.4	26		25.50m SPT 14,16,17 N=33					
						249.4	27		27.00m SPT 17,24,28 N=52					
						248.4	28		28.50m SPT 8,13,22 N=35					
						247.4	29		Hole Terminated at 28.95 m Target depth					
						246.4	30							
						245.4	31							

Method AS - Auger Screwing WB- Washbore HQ3 HQ3 Core Barrel NQ3 NQ3 Core Barrel	Water Level (Date) Inflow Partial Loss Complete Loss	Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss	Weathering FR - Fresh SW - Slightly Weathered DW - Distinctly Weathered XW - Extremely Weathered RS - Residual Soil	Strength (indirect tensile strength) EL - Extremely Low VL - Very Low L - Low M - Medium H - High VH - Very High EH - Extremely High
Support T - Timbering				

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/07/2021
Project Name:	Inland Rail B2G	Completed:	20/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	302541.7 m E 6853770.9 m N MGA94 Zone 56	Checked By:	C.Green

Drill Model and Mounting:	D4TAPG	Inclination:	-90°	RL Surface:	276.43 m
Barrel Type and Length:	HQ3 3 m	Bearing:		Datum:	AHD Operator: B.Boga

PointID : 310-03-BH3002 Depth Range: 0.50 - 0.95 m

PointID : 310-03-BH3002 Depth Range: 1.50 - 1.95 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/07/2021
Project Name:	Inland Rail B2G	Completed:	20/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	302541.7 m E 6853770.9 m N MGA94 Zone 56	Checked By:	C.Green

Drill Model and Mounting:	D4TAPG	Inclination:	-90°	RL Surface:	276.43 m
Barrel Type and Length:	HQ3 3 m	Bearing:		Datum:	AHD Operator: B.Boga

PointID : 310-03-BH3002 Depth Range: 3.00 - 3.45 m

PointID : 310-03-BH3002 Depth Range: 4.50 - 4.74 m

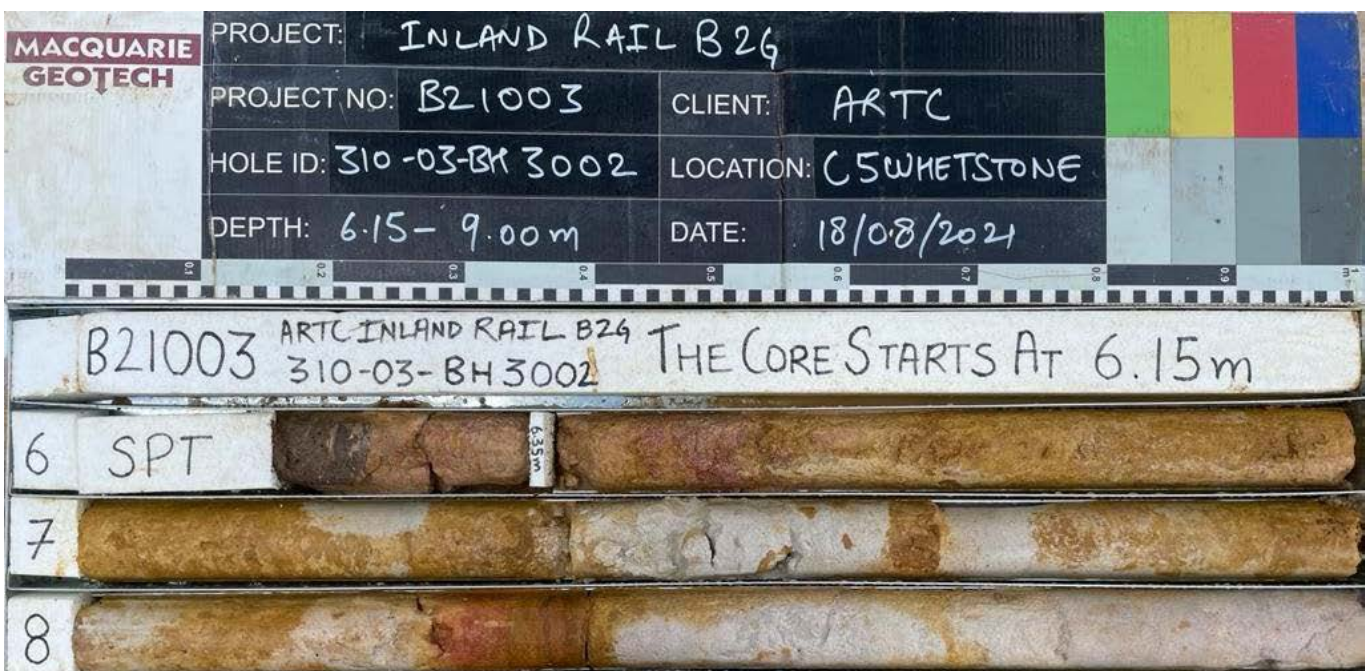
Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/07/2021
Project Name:	Inland Rail B2G	Completed:	20/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	302541.7 m E 6853770.9 m N MGA94 Zone 56	Checked By:	C.Green

Drill Model and Mounting:	D4TAPG	Inclination:	-90°	RL Surface:	276.43 m
Barrel Type and Length:	HQ3 3 m	Bearing:		Datum:	AHD Operator: B.Boga

PointID : 310-03-BH3002 Depth Range: 6.00 - 6.15 m



PointID : 310-03-BH3002 Depth Range: 6.15 - 9.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 302541.7 m E 6853770.9 m N MGA94 Zone 56

Commenced: 18/07/2021
Completed: 20/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclusion: -90° RL Surface: 276.43 m
Barrel Type and Length: HQ3 3 m Bearing: Datum: AHD Operator: B.Boga



PointID : 310-03-BH3002 Depth Range: 9.00 - 13.00 m



PointID : 310-03-BH3002 Depth Range: 12.35 - 12.80 m

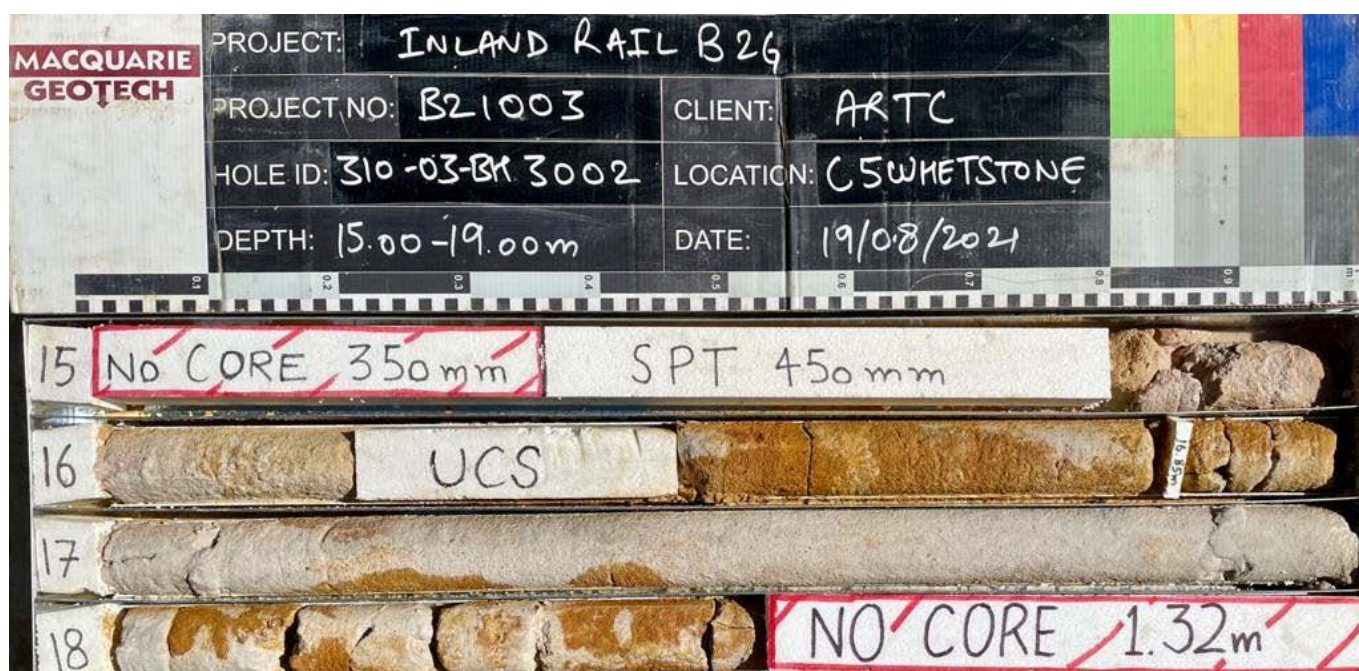
Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/07/2021
Project Name:	Inland Rail B2G	Completed:	20/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	302541.7 m E 6853770.9 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Barrel Type and Length:	HQ3 3 m	RL Surface:	276.43 m
		Bearing:	
		Datum:	AHD
		Operator:	B.Boga



PointID : 310-03-BH3002 Depth Range: 13.85 - 14.30 m



PointID : 310-03-BH3002 Depth Range: 15.00 - 19.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 302541.7 m E 6853770.9 m N MGA94 Zone 56

Commenced: 18/07/2021
Completed: 20/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclinaton: -90° RL Surface: 276.43 m
Barrel Type and Length: HQ3 3 m Bearing: Datum: AHD Operator: B.Boga



PointID : 310-03-BH3002 Depth Range: 15.35 - 15.80 m



PointID : 310-03-BH3002 Depth Range: 19.00 - 22.00 m

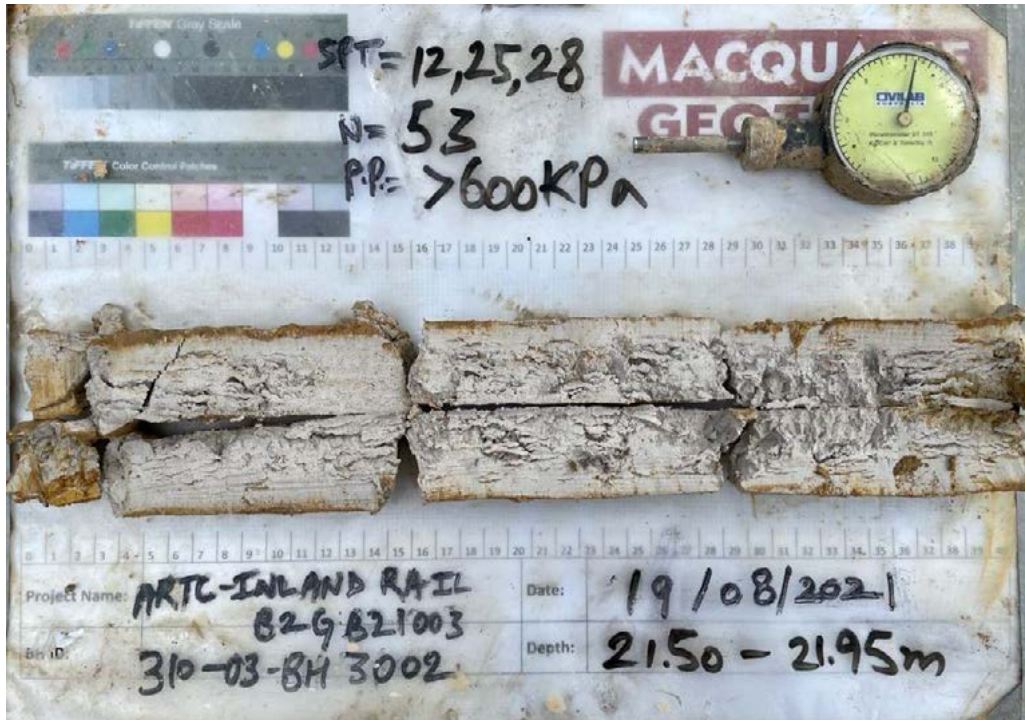
Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 302541.7 m E 6853770.9 m N MGA94 Zone 56

Commenced: 18/07/2021
Completed: 20/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclusion: -90° RL Surface: 276.43 m
Barrel Type and Length: HQ3 3 m Bearing: Datum: AHD Operator: B.Boga



PointID : 310-03-BH3002 Depth Range: 21.50 - 21.95 m



PointID : 310-03-BH3002 Depth Range: 22.50 - 22.95 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/07/2021
Project Name:	Inland Rail B2G	Completed:	20/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	302541.7 m E 6853770.9 m N MGA94 Zone 56	Checked By:	C.Green

Drill Model and Mounting:	D4TAPG	Inclination:	-90°	RL Surface:	276.43 m
Barrel Type and Length:	HQ3 3 m	Bearing:		Datum:	AHD Operator: B.Boga



PointID : 310-03-BH3002 Depth Range: 24.00 - 24.45 m



PointID : 310-03-BH3002 Depth Range: 27.00 - 27.45 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/07/2021
Project Name:	Inland Rail B2G	Completed:	20/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	302541.7 m E 6853770.9 m N MGA94 Zone 56	Checked By:	C.Green

Drill Model and Mounting:	D4TAPG	Inclination:	-90°	RL Surface:	276.43 m
Barrel Type and Length:	HQ3 3 m	Bearing:		Datum:	AHD Operator: B.Boga



PointID : 310-03-BH3002 Depth Range: 28.50 - 28.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 20/08/2021
Project Name: Inland Rail B2G	Completed: 21/08/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: A.Sharma
Hole Coordinates: 302670.5 m E 6853963.2 m N MGA94 Zone 56	Checked By: C.Green
Drill Model and Mounting: D4TAPG	Inclination: -90°
Hole Diameter: 96 - 115 mm	RL Surface: 271.75 m
	Bearing: AHD
	Operator: B.Boga

Drilling Information							Soil Description						Observations												
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations										
ADV				J00000 0.00-0.20 m		270.8	1		SC	TOPSOIL: Clayey SAND: fine grained sand, grey-black, low plasticity, trace rootlets.	D	MD			TOPSOIL										
				J00020 0.20-0.30 m						Clayey SAND trace gravel: fine grained, grey, low to medium plasticity clay, fine to medium sub-rounded to rounded gravel.					RESIDUAL SOIL										
				D00030 0.30-0.50 m											* 0.60: PP Samp >600 kPa										
				J00030 0.30-0.90 m																					
				S00050 SPT 0.50-0.95 m																					
				11,9,11 N=20																					
				D00100 1.00-1.47 m						Sandy CLAY trace gravel: low to medium plasticity, grey mottled brown, fine sub-rounded to rounded gravel.					VSt	* 1.70: PP Samp >600 kPa									
				S00150 SPT 1.50-1.95 m																					
				9,12,15 N=27						Below 2.50m: colour changes to grey mottled brown and orange brown.															
				D00250 2.50-3.00 m												M (<PL)									
S00300 SPT 3.00-3.18 m		268.8	3	CI	Silty CLAY: medium plasticity, grey.	H			* 3.40: PP Samp >600 kPa																
13,30/30mm N=30/30mm																									
D00400 4.00-4.50 m					Silty SAND: fine to coarse grained, pale grey and orange brown.																				
S00450 SPT 4.50-4.95 m																									
15,25,26 N=51						M	VD																		
D00550 5.50-6.00 m																									
S00600 SPT 6.00-6.45 m						265.8	6		CI-CH	Sandy CLAY trace gravel: medium to high plasticity, grey mottled brown, fine grained sand, fine to medium rounded to sub-rounded gravel.	M (=PL) to M (<PL)	H		* 6.40: PP Samp >600 kPa											
8,14,16 N=30																									
D00700 7.00-7.50 m										Sandy CLAY trace gravel: low plasticity, grey mottled brown, fine grained sand, fine to medium rounded to sub-rounded gravel.															
S00750 SPT 7.50-7.74 m											264.8	7	CL	Clayey SAND: fine to coarse grained, grey mottled brown, low to medium plasticity clay.	M	VD									
31,9/90mm																									
Method AS - Auger Screwing RR - Rock Roller WB - Washbore Penetration  No resistance ranging to refusal Water  Level (Date)  Inflow  Partial Loss  Complete Loss Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test Moisture Condition D - Dry M - Moist W - Wet Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense Support C - Casing Graphic Log/Core Loss  Core recovered (hatching indicates material)  Core loss Classification Symbols and Soil Descriptions Based on Unified Soil Classification System Plastic Limit < PL = PL < PL																									

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 20/08/2021
Project Name: Inland Rail B2G	Completed: 21/08/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: A.Sharma
Hole Coordinates: 302670.5 m E 6853963.2 m N MGA94 Zone 56	Checked By: C.Green

Drill Model and Mounting: D4TAPG	Inclination: -90°	RL Surface: 271.75 m
Hole Diameter: 96 - 115 mm	Bearing:	Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations				
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)					Structure and Additional Observations
ADV				N=9/90mm					SC	Clayey SAND: fine to coarse grained, grey mottled brown, low to medium plasticity clay. (continued)							RESIDUAL SOIL	
				D00850 8.50-9.00 m		CL-CI	Sandy CLAY: low to medium plasticity clay , grey mottled brown, fine to coarse grained.											
WB			Not Observed	S00880 SPT 9.00-9.35 m 19,14,21/45mm N=35/195mm		262.8	9		CL	Sandy CLAY trace gravel: low plasticity, grey mottled brown, fine grained sand, fine to medium rounded to sub-rounded gravel.	M	VD						
						261.8	10											
				S01050 SPT 10.50-10.51 m 23/10mm		260.8	11											
				S01200 SPT 12.00-12.17 m 31,30/20mm N=30/20mm		259.8	12											
						258.8	13											
				S01350 SPT 13.50-13.83 m 18,29,30/30mm N=59/180mm		257.8	14											
		256.8	15															
				S01500 SPT 15.00-15.45 m 20,21,21 N=42														

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB - Washbore	No resistance ranging to refusal 	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss		Classification Symbols and Soil Descriptions	Plastic Limit	
C - Casing	Core recovered (hatching indicates material) Core loss		Based on Unified Soil Classification System	< PL = PL < PL	

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 302670.5 m E 6853963.2 m N MGA94 Zone 56

Commenced: 20/08/2021
Completed: 21/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclinometer: -90° RL Surface: 271.75 m
Hole Diameter: 96 - 115 mm Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Soil Description						Observations					
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)				Structure and Additional Observations	
WB		Not Observed		S01650 SPT 16.50-16.95 14,13,20 N=33		254.8	17		CL	Sandy CLAY trace gravel: low plasticity, grey mottled brown, fine grained sand, fine to medium rounded to sub-rounded gravel. (continued)	M	VD					RESIDUAL SOIL * 16.70: PP Samp >600 kPa	
				S01800 SPT 18.00-18.45 6,15,21 N=36		253.8	18		SC	SAND trace clay: fine to medium grained grey mottled brown and pink, low plasticity clay.								
				S01950 SPT 19.50-19.95 7,13,13 N=26		251.8	20		SC	Clayey SAND: fine to coarse grained sand, brown to pale brown mottled grey, medium plasticity clay.	D	MD						
				S02100 SPT 21.00-21.45 16,18,21 N=39		250.8	21											
				S02250 SPT 22.50-22.66 17,30/10mm N=30/10mm		248.8	23		CI	Silty CLAY: medium plasticity, grey.	M (<PL)	H					* 22.70: PP Samp >600 kPa	
				</														

Engineering Log - Borehole

Project No.: B21003

Client: ARTC				Commenced: 20/08/2021			
Project Name: Inland Rail B2G				Completed: 21/08/2021			
Hole Location: N4 - Whetstone Greenfield Corridor				Logged By: A.Sharma			
Hole Coordinates: 302670.5 m E 6853963.2 m N MGA94 Zone 56				Checked By: C.Green			
Drill Model and Mounting: D4TAPG		Inclination: -90°		RL Surface: 271.75 m			
Hole Diameter: 96 - 115 mm		Bearing:		Datum: AHD		Operator: B.Boga	

Drilling Information				Soil Description				Observations							
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
WB			Not Observed	S02400 SPT 24.00-24.45 15,24,21 N=45		246.8	25		CI	Silty CLAY: medium plasticity, grey. (continued) Below 24.18m: colour changes to grey.	M (<PL)	H			RESIDUAL SOIL * 24.20: PP Samp >600 kPa
				S02550 SPT 25.50-25.95 19,25,23 N=48		245.8	26		Hole Terminated at 25.95 m Target depth	* 25.70: PP Samp >600 kPa					
						244.8	27								
						243.8	28								
						242.8	29								
						241.8	30								
						240.8	31								

Method

AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration

No resistance ranging to refusal

Water

Level (Date)
 Inflow
 Partial Loss
 Complete Loss

Samples and Tests

U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition

D - Dry
M - Moist
W - Wet

Consistency/Relative Density

VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support

C - Casing

Graphic Log/Core Loss

Core recovered (hatching indicates material)
 Core loss

Classification Symbols and Soil Descriptions

Based on Unified Soil Classification System

Plastic Limit

< PL
= PL
> PL

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 302670.5 m E 6853963.2 m N MGA94 Zone 56

Commenced: 20/08/2021
Completed: 21/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 96 - 115 mm

Inclination: -90°
Bearing:

RL Surface: 271.75 m
Datum: AHD Operator: B.Boga



310-03-BH3003 Depth Range: 0.50 - 0.65 m



310-03-BH3003 Depth Range: 0.50 - 0.65 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 302670.5 m E 6853963.2 m N MGA94 Zone 56

Commenced: 20/08/2021
Completed: 21/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 96 - 115 mm

Inclination: -90°
Bearing:

RL Surface: 271.75 m
Datum: AHD Operator: B.Boga



310-03-BH3003 Depth Range: 1.50 - 1.80 m



310-03-BH3003 Depth Range: 1.50 - 1.80 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 302670.5 m E 6853963.2 m N MGA94 Zone 56

Commenced: 20/08/2021
Completed: 21/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 96 - 115 mm

Inclination: -90°
Bearing:

RL Surface: 271.75 m
Datum: AHD Operator: B.Boga



310-03-BH3003 Depth Range: 3.00 - 3.45 m



310-03-BH3003 Depth Range: 3.00 - 3.45 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 302670.5 m E 6853963.2 m N MGA94 Zone 56

Commenced: 20/08/2021
Completed: 21/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 96 - 115 mm

Inclination: -90°
Bearing:

RL Surface: 271.75 m
Datum: AHD Operator: B.Boga



310-03-BH3003 Depth Range: 4.50 - 4.95 m



310-03-BH3003 Depth Range: 4.50 - 4.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	20/08/2021
Project Name:	Inland Rail B2G	Completed:	21/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	302670.5 m E 6853963.2 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	96 - 115 mm	Bearing:	
		RL Surface:	271.75 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3003 Depth Range: 6.00 - 6.45 m



310-03-BH3003 Depth Range: 6.00 - 6.45 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	20/08/2021
Project Name:	Inland Rail B2G	Completed:	21/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	302670.5 m E 6853963.2 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	96 - 115 mm	Bearing:	
		RL Surface:	271.75 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3003 Depth Range: 7.50 - 7.74 m



310-03-BH3003 Depth Range: 7.50 - 7.74 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	20/08/2021
Project Name:	Inland Rail B2G	Completed:	21/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	302670.5 m E 6853963.2 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	96 - 115 mm	Bearing:	
		RL Surface:	271.75 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3003 Depth Range: 9.00 - 9.45 m



310-03-BH3003 Depth Range: 10.50 - 10.65 m

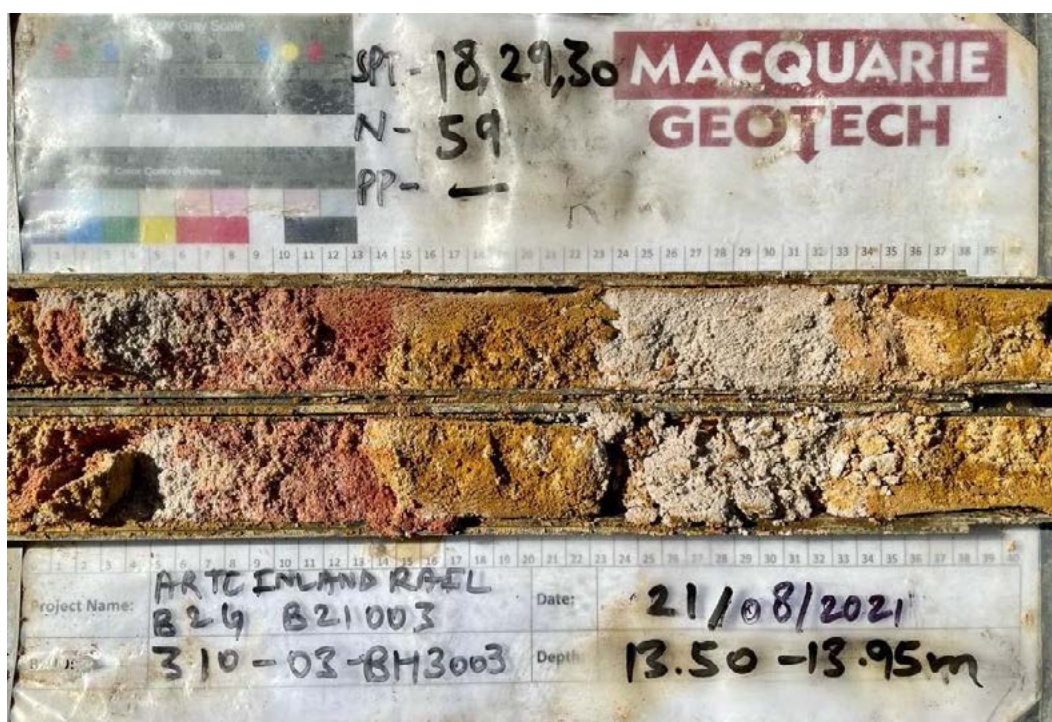
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	20/08/2021
Project Name:	Inland Rail B2G	Completed:	21/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	302670.5 m E 6853963.2 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	96 - 115 mm	Bearing:	
		RL Surface:	271.75 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3003 Depth Range: 12.00 - 12.28 m



310-03-BH3003 Depth Range: 13.50 - 13.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 302670.5 m E 6853963.2 m N MGA94 Zone 56

Commenced: 20/08/2021
Completed: 21/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 96 - 115 mm

Inclination: -90°
Bearing:

RL Surface: 271.75 m
Datum: AHD Operator: B.Boga



310-03-BH3003 Depth Range: 15.00 - 15.45 m



310-03-BH3003 Depth Range: 16.50 - 16.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 25/08/2021
Project Name: Inland Rail B2G	Completed: 27/08/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: A. Drösemeyer
Hole Coordinates: 312573.8 m E 6859130.4 m N MGA94 Zone 56	Checked By: J.Boyle
Drill Model and Mounting: D4TAPG	Inclination: -90°
Hole Diameter: 115 mm	RL Surface: 285.32 m
	Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations	
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
ADV		Not Observed		D00000 0.00-0.50 m					SP	SAND: fine to medium grained, pale yellow-brown.		VL			ALLUVIAL SOIL
				S00050 SPT 0.50-0.95 m 4,6,10 N=16 D00100 1.00-1.50 m		284.3	1		SM	Silty SAND: fine to medium grained, pale grey and orange, low plasticity silt.					
				S00150 SPT 1.50-1.95 m 6,8,9 N=17		283.3	2		SM	Silty SAND trace clay: fine to medium grained, pale grey and orange, medium plasticity fines. From 2.00m: clay content increases with depth.					
				D00200 2.50-3.00 m		282.3	3								
				S00300 SPT 3.00-3.45 m 10,16,17 N=33		281.3	4		SP SM	SAND with silt: fine to coarse grained (quartz), medium plasticity silt. Silty SAND with clay: fine to medium grained, pale grey and orange, medium plasticity fines.					
				D00400 4.00-4.50 m		280.3	5		SM	Silty SAND trace clay: fine to medium grained, pale grey and orange, medium plasticity fines.					
				S00450 SPT 4.50-4.95 m 14,24,24 N=48		279.3	6		SM	Silty SAND: fine to coarse grained, pale orange, low plasticity silt.					
				D00550 5.50-6.00 m		278.3	7								
				S00600 SPT 6.00-6.45 m 13,19,23 N=42											
				D00700 7.00-7.50 m											
				S00750 SPT 7.50-7.95 m 14,17,18					SM	Silty SAND trace clay: fine to coarse grained, pale orange and pale grey, medium plasticity fines.					

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB - Washbore	No resistance ranging to refusal	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss	Classification Symbols and Soil Descriptions	Plastic Limit		
C - Casing	Core recovered (hatching indicates material) Core loss	Based on Unified Soil Classification System	< PL = PL < PL		

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 25/08/2021
Project Name: Inland Rail B2G	Completed: 27/08/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: A. Drösemeyer
Hole Coordinates: 312573.8 m E 6859130.4 m N MGA94 Zone 56	Checked By: J.Boyle
Drill Model and Mounting: D4TAPG	Inclination: -90°
Hole Diameter: 115 mm	RL Surface: 285.32 m
	Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations	
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
AD/V				N=35					SM	Silty SAND trace clay: fine to coarse grained, pale orange and pale grey, medium plasticity fines. <i>(continued)</i>					ALLUVIAL SOIL
				D00850 8.50-9.00 m		276.3	9				D				
WB				S00900 SPT 9.00-9.43 m 15,27,20/130mm N=47/280mm					SP SC	Gravelly SAND with silt: fine to coarse grained, yellow and white, fine to medium grained rounded to sub-angular gravel, medium plasticity silt. Clayey SAND with gravel: fine to coarse grained, pale yellow and pale grey, medium plasticity clay, fine to medium grained sub-angular to angular gravel.					
				S01050 SPT 10.50-10.95 m 20,27,26 N=53		275.3	10				D to VD				
				S01200 SPT 12.00-12.45 m 14,21,20 N=41		274.3	11				M				
				S01350 SPT 13.50-13.95 m 12,14,16 N=30		273.3	12		SC	Clayey SAND trace gravel: fine to medium grained, pale yellow mottled red and white, medium to high plasticity clay, fine grained sub-angular to angular gravel.		MD to D			
				S01500 SPT 15.00-15.45 m 8,13,20 N=33		272.3	13					MD			
						271.3	14		SM	Silty SAND trace clay: fine to medium grained, pale yellow and grey, medium plasticity fines.					
						270.3	15								

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB - Washbore	No resistance ranging to refusal	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss		Classification Symbols and Soil Descriptions	Plastic Limit	
C - Casing	Core recovered (hatching indicates material) Core loss		Based on Unified Soil Classification System	< PL = PL < PL	

Engineering Log - Borehole

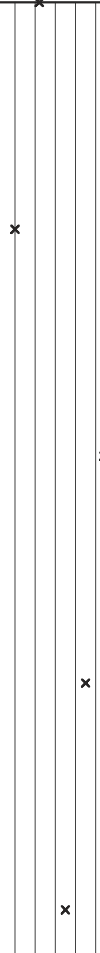
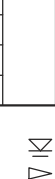
Project No.: B21003

Client: ARTC	Commenced: 25/08/2021
Project Name: Inland Rail B2G	Completed: 27/08/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: A. Drösemeyer
Hole Coordinates: 312573.8 m E 6859130.4 m N MGA94 Zone 56	Checked By: J.Boyle
Drill Model and Mounting: D4TAPG	Inclination: -90°
Hole Diameter: 115 mm	Bearing:
	RL Surface: 285.32 m
	Datum: AHD
	Operator: B.Boga

Drilling Information							Soil Description					Observations								
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations						
WB		Not Observed		S01650 SPT 16.50-16.95 m 5,10,14 N=24		268.3	17		SM	Silty SAND trace clay: fine to medium grained, pale yellow and grey, medium plasticity fines. (continued)	M	MD		ALLUVIAL SOIL						
									SM	Silty SAND: fine grained, grey, low to medium plasticity silt.										
									SM	Silty SAND: fine grained, yellow and grey, medium plasticity silt.										
									SP	SAND with silt: fine grained, grey and yellow, medium plasticity silt.										
				S01800 SPT 18.00-18.45 m 9,13,15 N=28		267.3	18													
				S01950 SPT 19.50-19.95 m 6,7,10 N=17		266.3	19		SM	Silty SAND: fine grained, grey, low plasticity silt.										
				S02100 21.00 m S02100 SPT 21.00-21.45 m 8,11,15 N=26		264.3	21		CI-CH	CLAY with silt trace sand: medium to high plasticity, dark yellow and pale grey.					* RESIDUAL SOIL 21.00: PP Samp >600 kPa					
				S02250 22.50 m S02250 SPT 22.50-22.95 m 7,9,10 N=19		263.3	22				M (<PL)	VSt	x	22.50: PP Samp =400 kPa						
x																				

Engineering Log - Borehole

Project No.: B21003

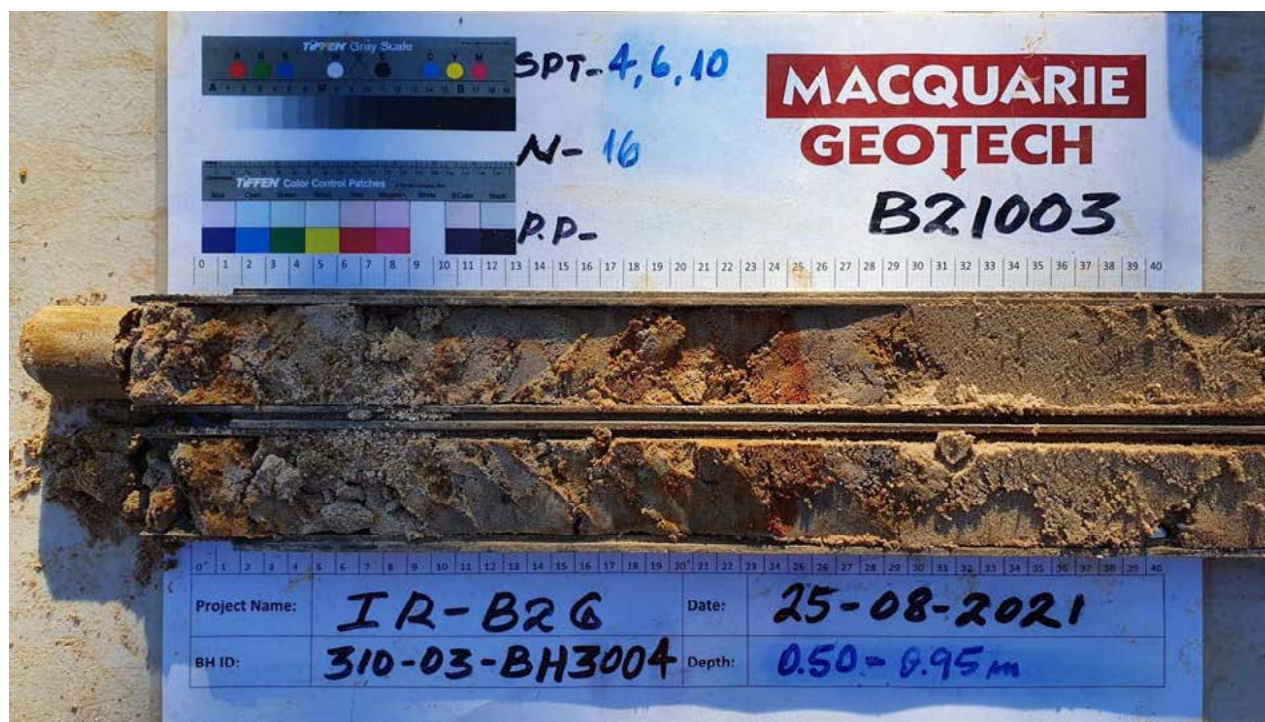
Client: ARTC				Commenced: 25/08/2021																
Project Name: Inland Rail B2G				Completed: 27/08/2021																
Hole Location: N4 - Whetstone Greenfield Corridor				Logged By: A. Drösemeyer																
Hole Coordinates: 312573.8 m E 6859130.4 m N MGA94 Zone 56				Checked By: J.Boyle																
Drill Model and Mounting: D4TAPG				Inclination: -90°		RL Surface: 285.32 m														
Hole Diameter: 115 mm				Bearing:		Datum: AHD Operator: B.Boga														
Drilling Information				Soil Description				Observations												
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations						
WB			Not Observed	S02400 24.00 m S02400 SPT 24.00-24.45 m 4,6,7 N=13		260.3	25		CI-CH	CLAY with silt trace sand: medium to high plasticity, dark yellow and pale grey. (continued)	M (<PL)			RESIDUAL SOIL 24.00: PP Samp =220 kPa						
				S02550 25.50 m S02550 SPT 25.50-25.95 m 3,4,5 N=9		259.3	26		CH	Sandy CLAY: high plasticity, pale grey and dark yellow.			St	25.50: PP Samp =100 kPa						
				S02700 27.00 m S02700 SPT 27.00-27.45 m 5,10,15 N=25		258.3	27		CH	Clay trace silt: high plasticity, dark yellow and pale grey.										
				S02850 28.50 m S02850 SPT 28.50-28.95 m 11,16,22 N=38		256.3	29		CH	CLAY trace sand: high plasticity, pale grey mottled dark yellow, fine grained sand.										
				S03000 30.00 m S03000 SPT 30.00-30.45 m 9,15,16 N=31		255.3	30		CH	CLAY: high plasticity, dark grey mottled dark red.										
						254.3	31		CH	From 27.00 to 28.80m: dark and pale grey mottled dark yellow.			VSt	27.00: PP Samp =540 kPa						

MG 4.02 LUB.GLB Log MG BOREHOLE EXCL DCP MG 4.02 G.P. <<DrawingFile>> 26/02/2022 22:50 10.02.00.04 Dargel Lab and In Situ Tool - DGD [Lib: DGD-T-P 4.01.2 dpt 3.04.2016-07-02 Pjt: DGD-T-P 4.00.6 2017-11-25]

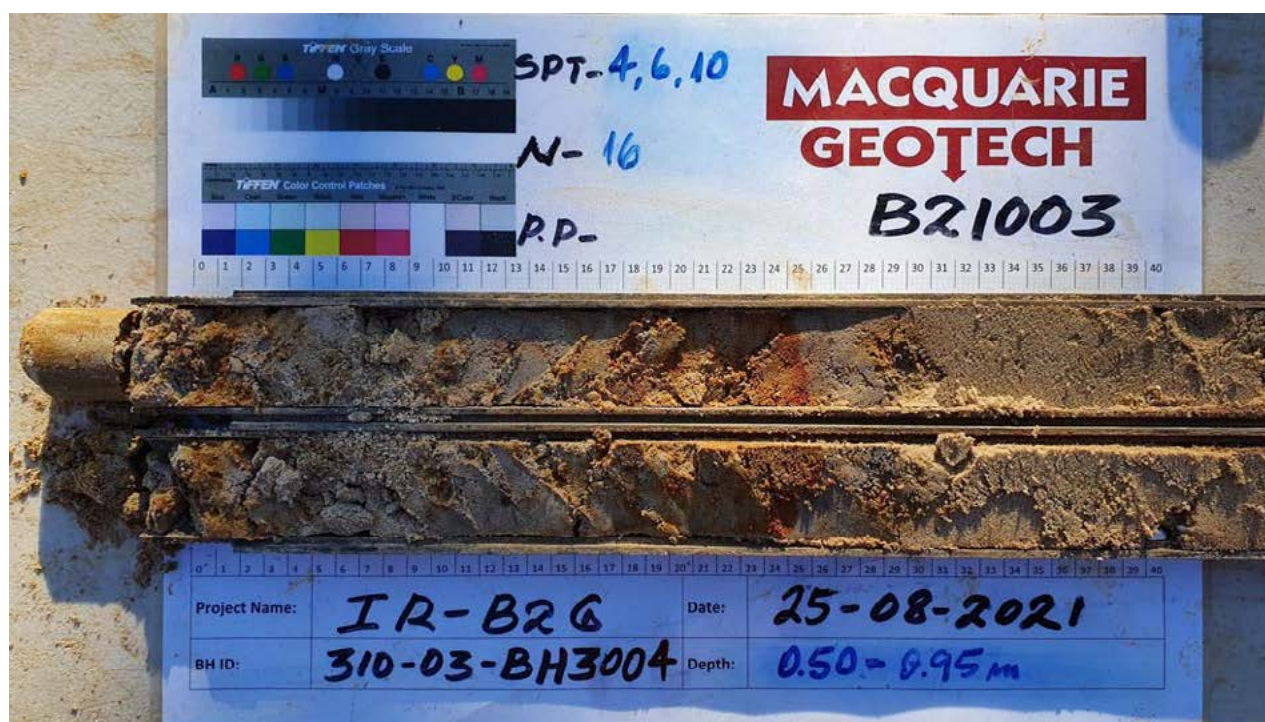
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	25/08/2021
Project Name:	Inland Rail B2G	Completed:	27/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A. Drösemeyer
Hole Coordinates:	312573.8 m E 6859130.4 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	285.32 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3004 Depth Range: 0.50 - 0.95 m



310-03-BH3004 Depth Range: 0.50 - 0.95 m

Engineering Log - Borehole

Project No.: B21003

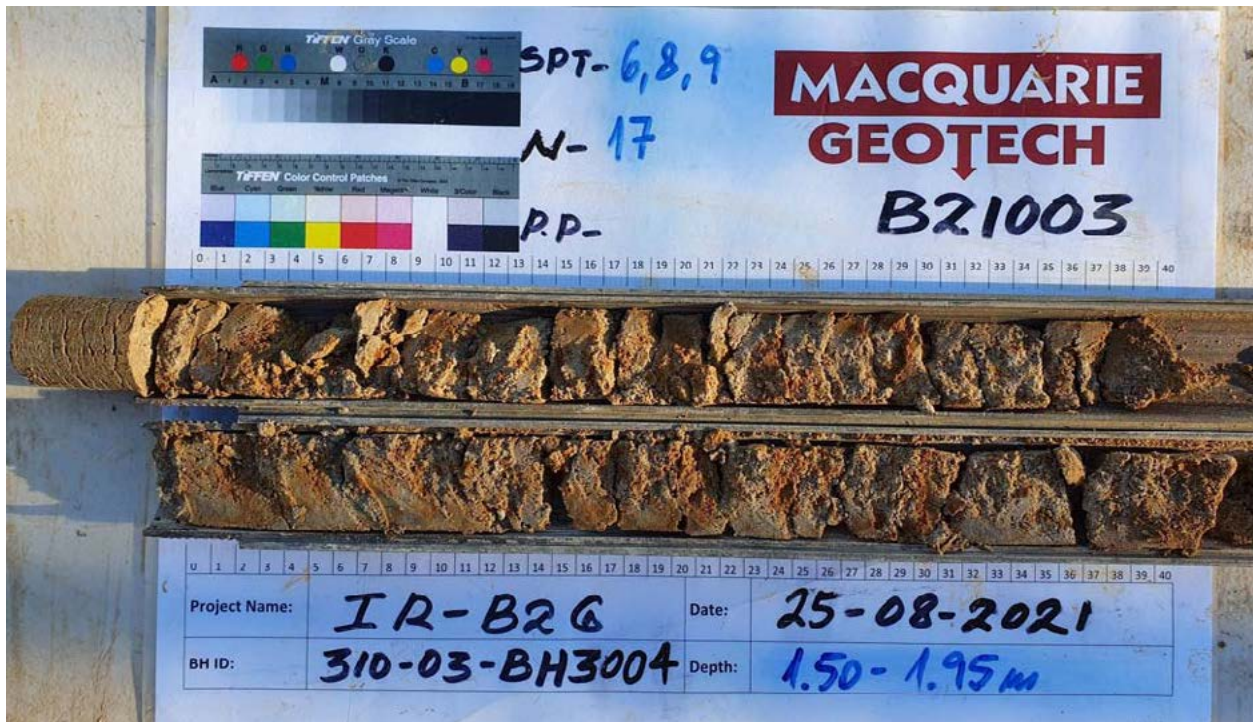
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Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 312573.8 m E 6859130.4 m N MGA94 Zone 56

Commenced: 25/08/2021
Completed: 27/08/2021
Logged By: A. Drösemeyer
Checked By: J.Boyle

Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 285.32 m
Datum: AHD Operator: B.Boga



310-03-BH3004 Depth Range: 1.50 - 1.95 m



310-03-BH3004 Depth Range: 1.50 - 1.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 312573.8 m E 6859130.4 m N MGA94 Zone 56

Commenced: 25/08/2021
Completed: 27/08/2021
Logged By: A. Drösemeyer
Checked By: J.Boyle

Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 285.32 m
Datum: AHD Operator: B.Boga



310-03-BH3004 Depth Range: 3.00 - 3.45 m

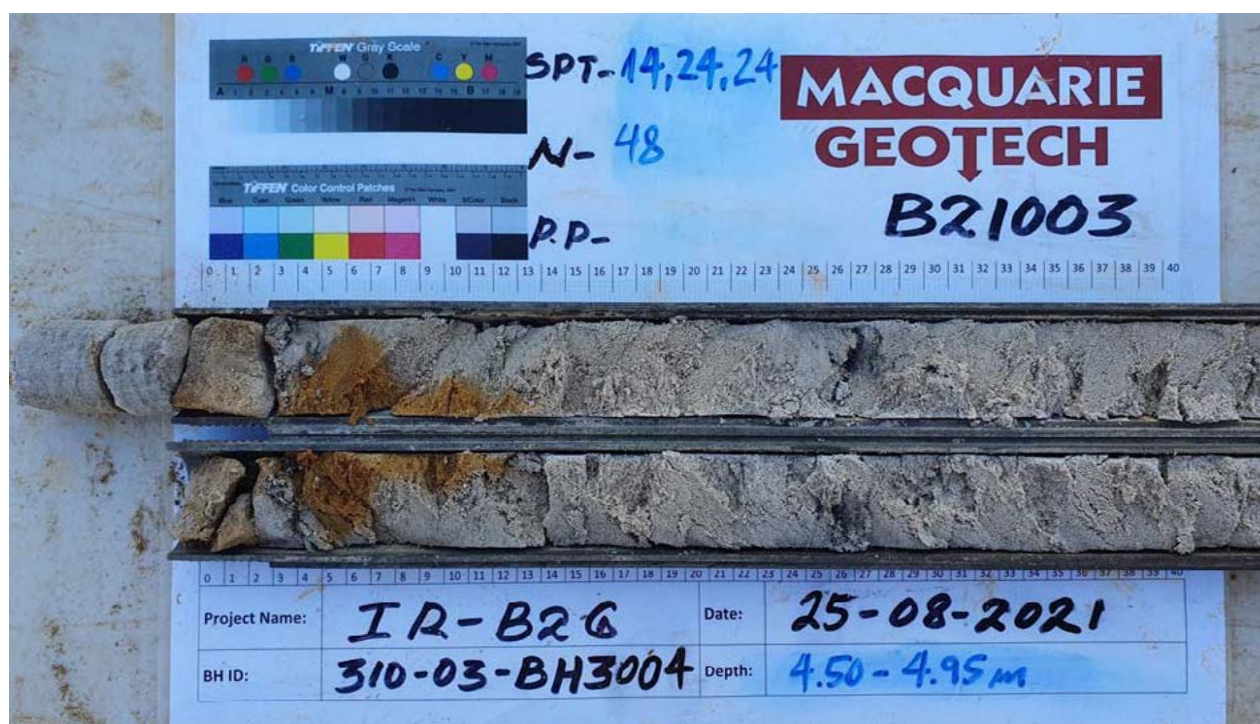


310-03-BH3004 Depth Range: 3.00 - 3.45 m

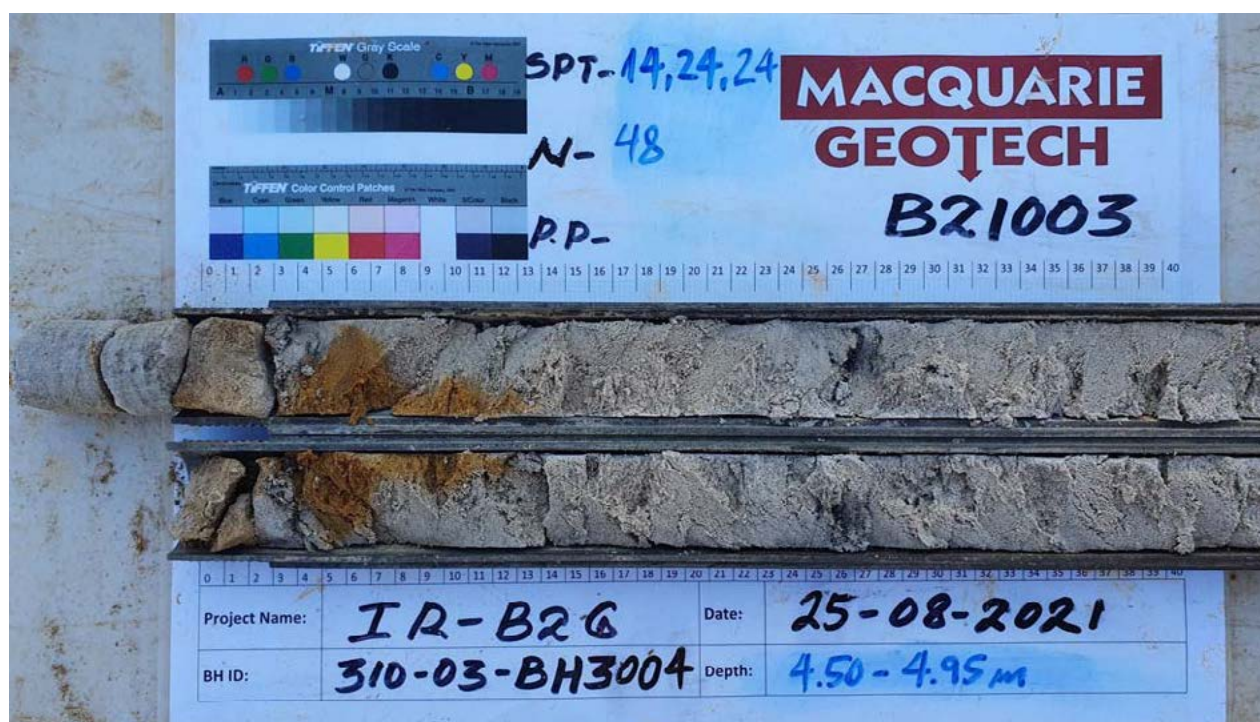
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	25/08/2021
Project Name:	Inland Rail B2G	Completed:	27/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A. Drösemeyer
Hole Coordinates:	312573.8 m E 6859130.4 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	285.32 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3004 Depth Range: 4.50 - 4.95 m



310-03-BH3004 Depth Range: 4.50 - 4.95 m

Engineering Log - Borehole

Project No.: B21003

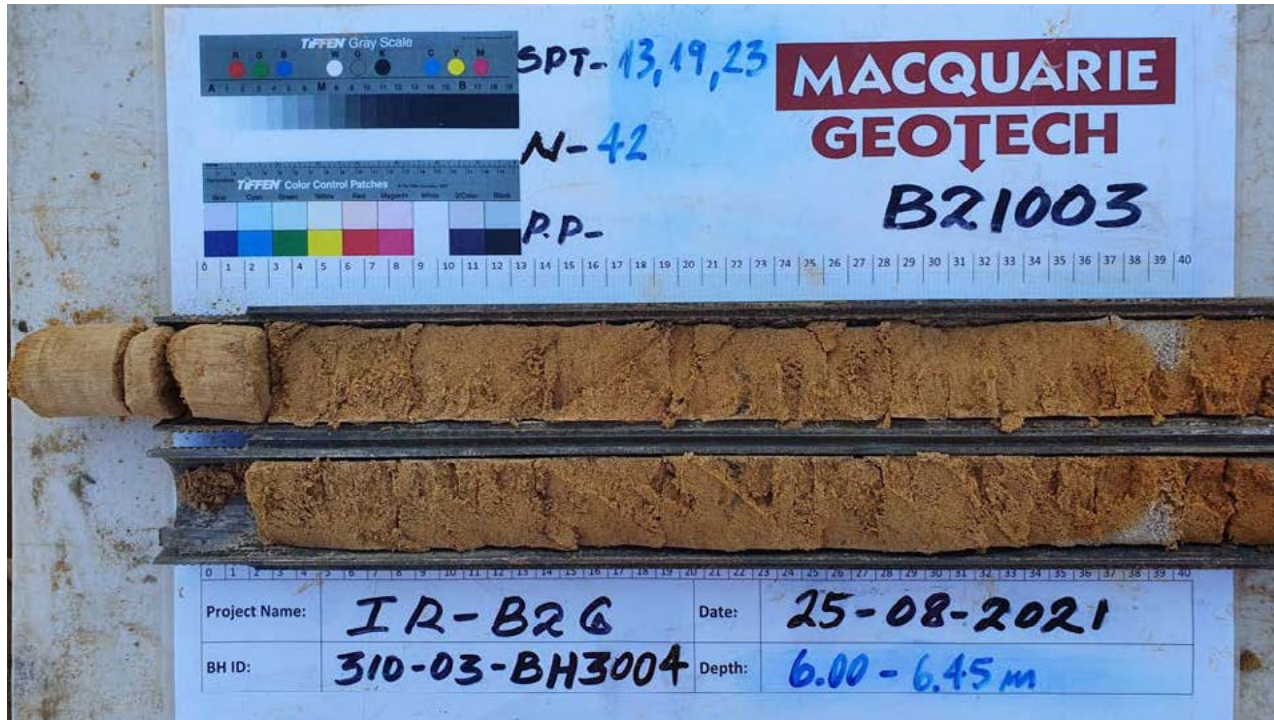
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Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 312573.8 m E 6859130.4 m N MGA94 Zone 56

Commenced: 25/08/2021
Completed: 27/08/2021
Logged By: A. Drösemeyer
Checked By: J.Boyle

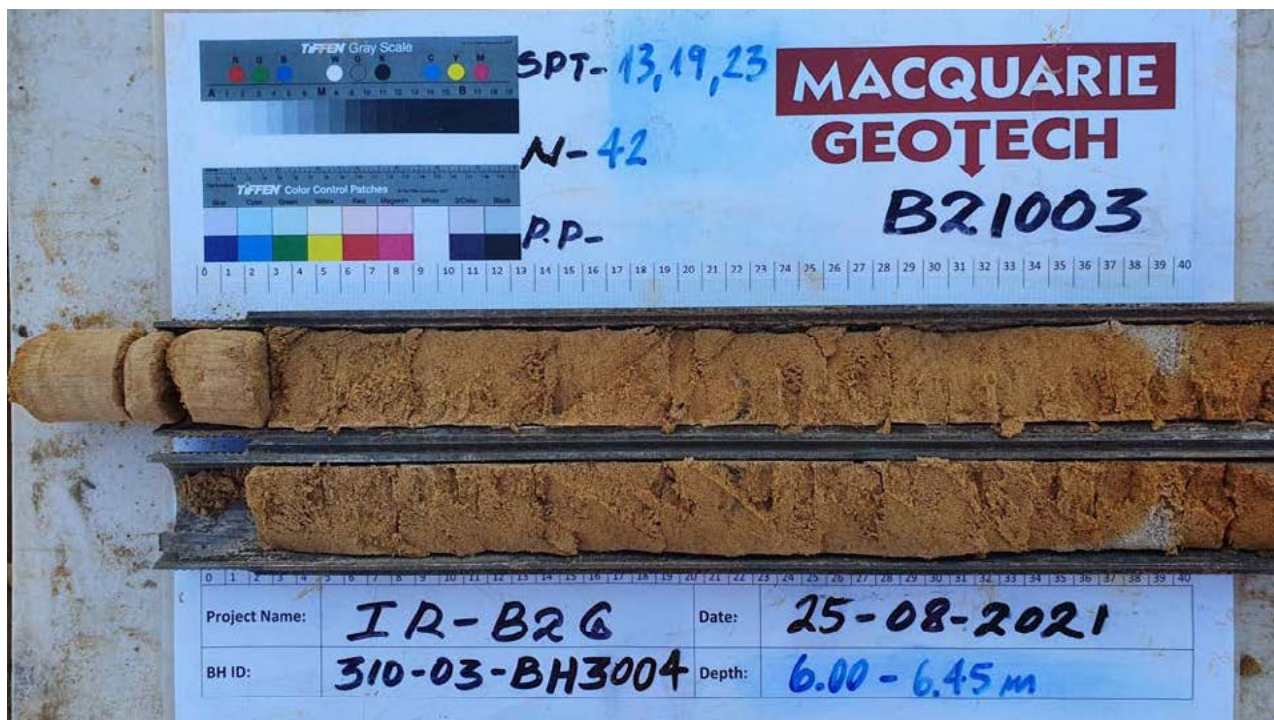
Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 285.32 m
Datum: AHD Operator: B.Boga



310-03-BH3004 Depth Range: 6.00 - 6.45 m

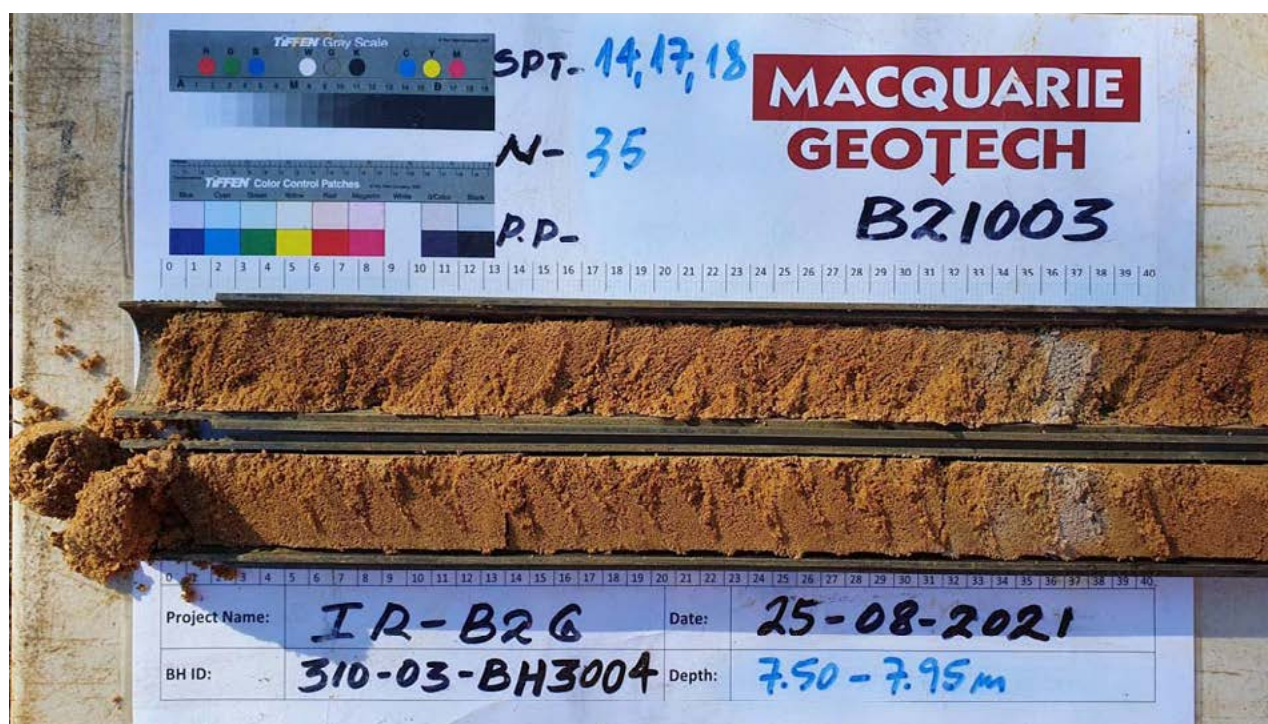


310-03-BH3004 Depth Range: 6.00 - 6.45 m

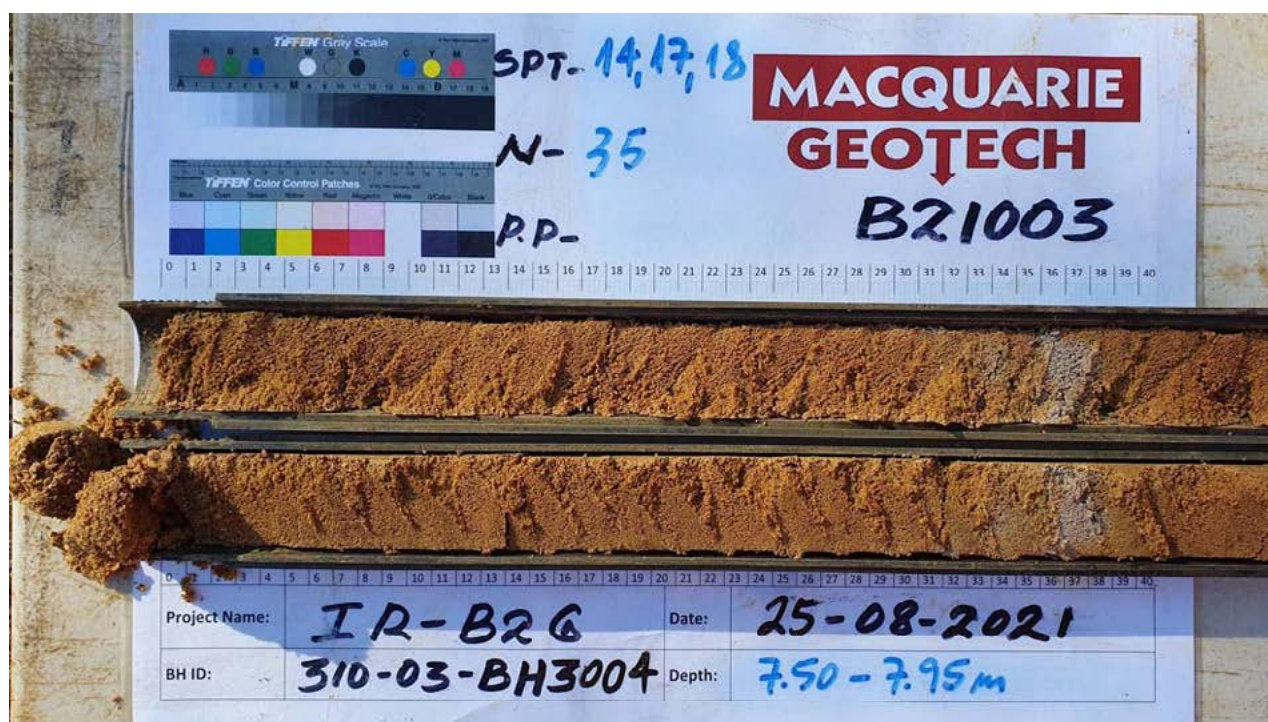
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	25/08/2021
Project Name:	Inland Rail B2G	Completed:	27/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A. Drösemeyer
Hole Coordinates:	312573.8 m E 6859130.4 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	285.32 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3004 Depth Range: 7.50 - 7.95 m



310-03-BH3004 Depth Range: 7.50 - 7.95 m

Engineering Log - Borehole

Project No.: B21003

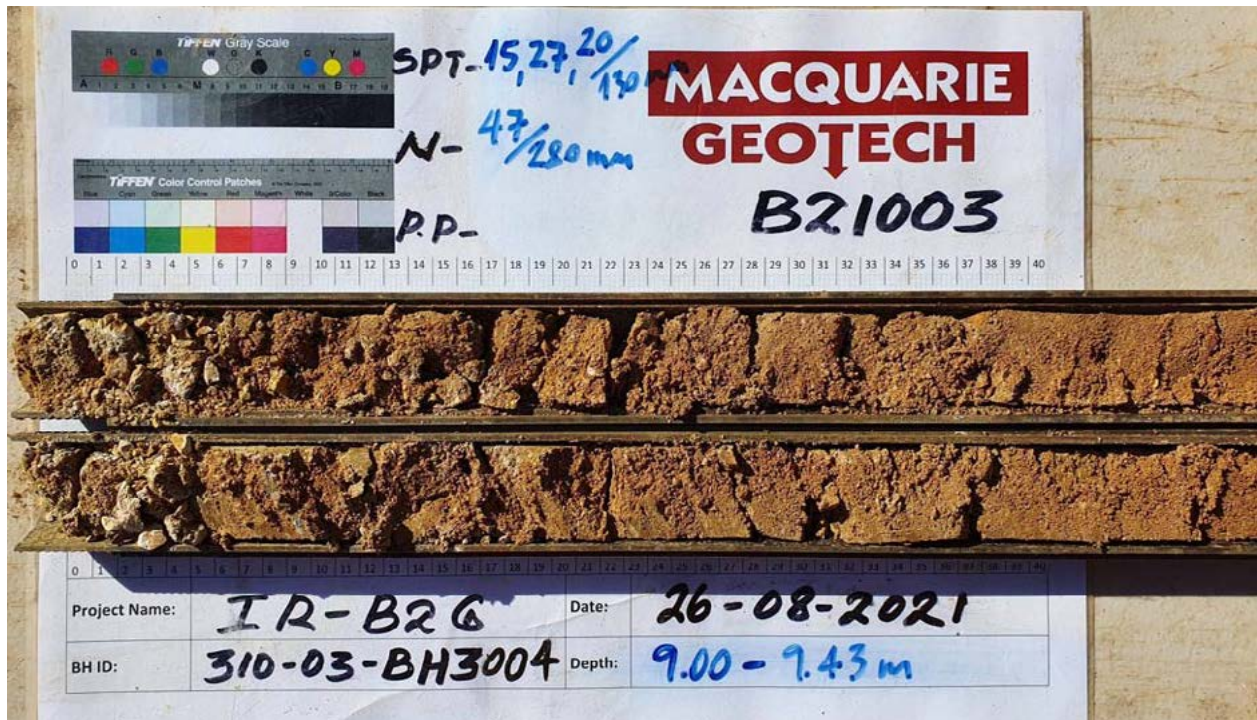
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Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 312573.8 m E 6859130.4 m N MGA94 Zone 56

Commenced: 25/08/2021
Completed: 27/08/2021
Logged By: A. Drösemeyer
Checked By: J.Boyle

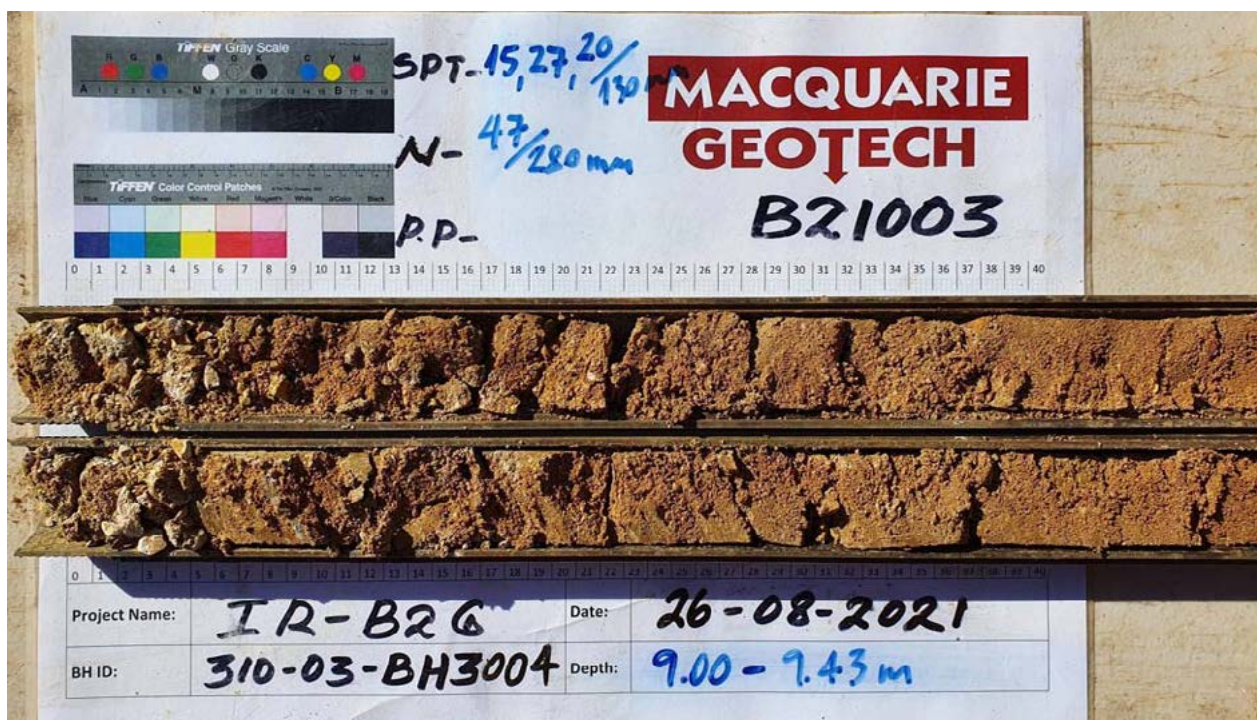
Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 285.32 m
Datum: AHD Operator: B.Boga



310-03-BH3004 Depth Range: 9.00 - 9.45 m



310-03-BH3004 Depth Range: 9.00 - 9.45 m

Engineering Log - Borehole

Project No.: B21003

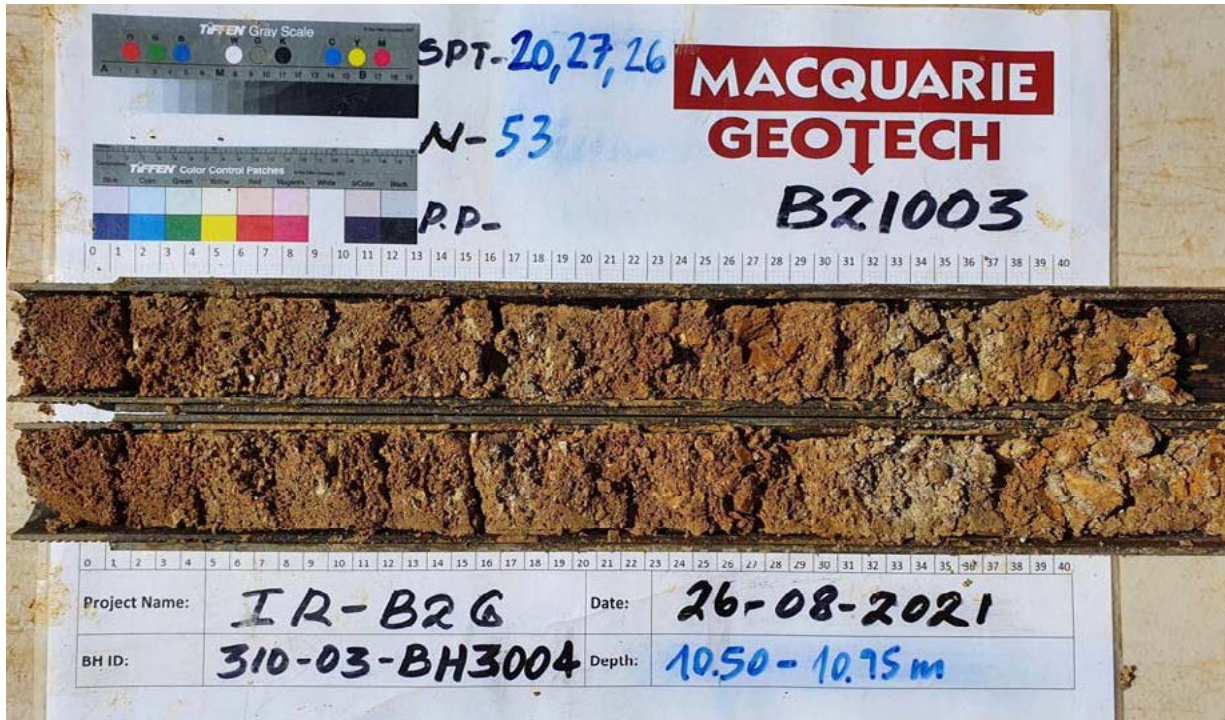
Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 312573.8 m E 6859130.4 m N MGA94 Zone 56

Commenced: 25/08/2021
Completed: 27/08/2021
Logged By: A. Drösemeyer
Checked By: J.Boyle

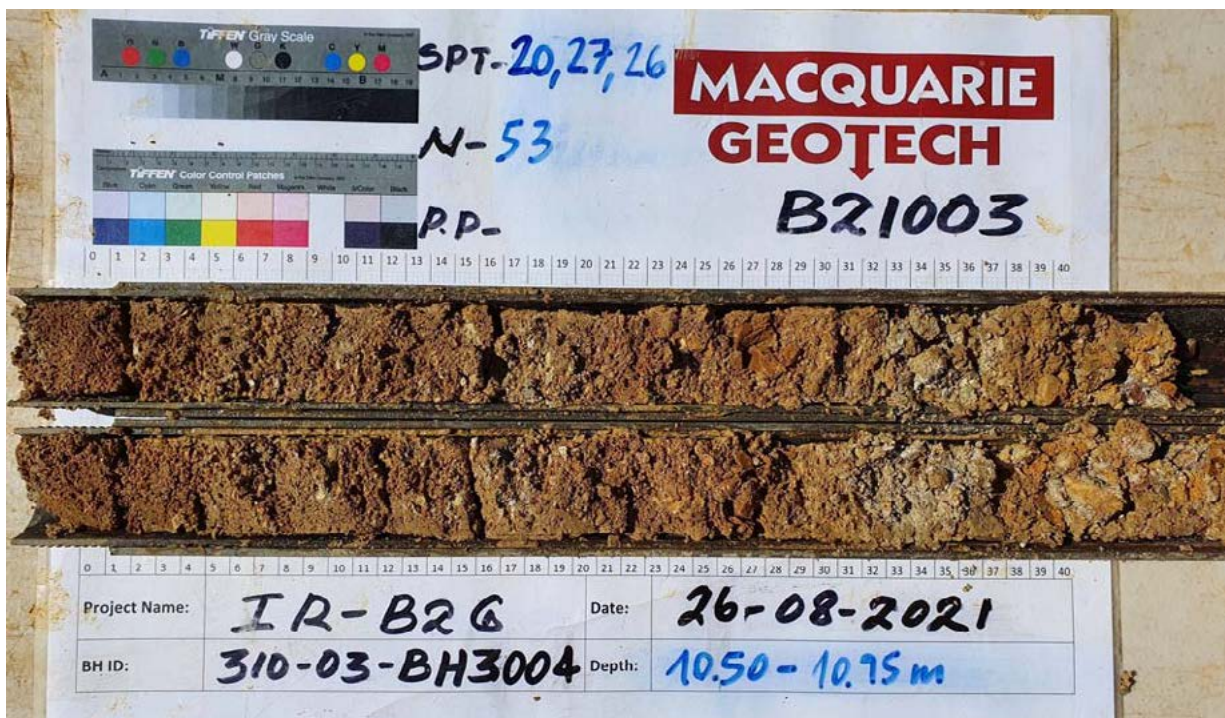
Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 285.32 m
Datum: AHD Operator: B.Boga



310-03-BH3004 Depth Range: 10.50 - 10.95 m



310-03-BH3004 Depth Range: 10.50 - 10.95 m

Engineering Log - Borehole

Project No.: B21003

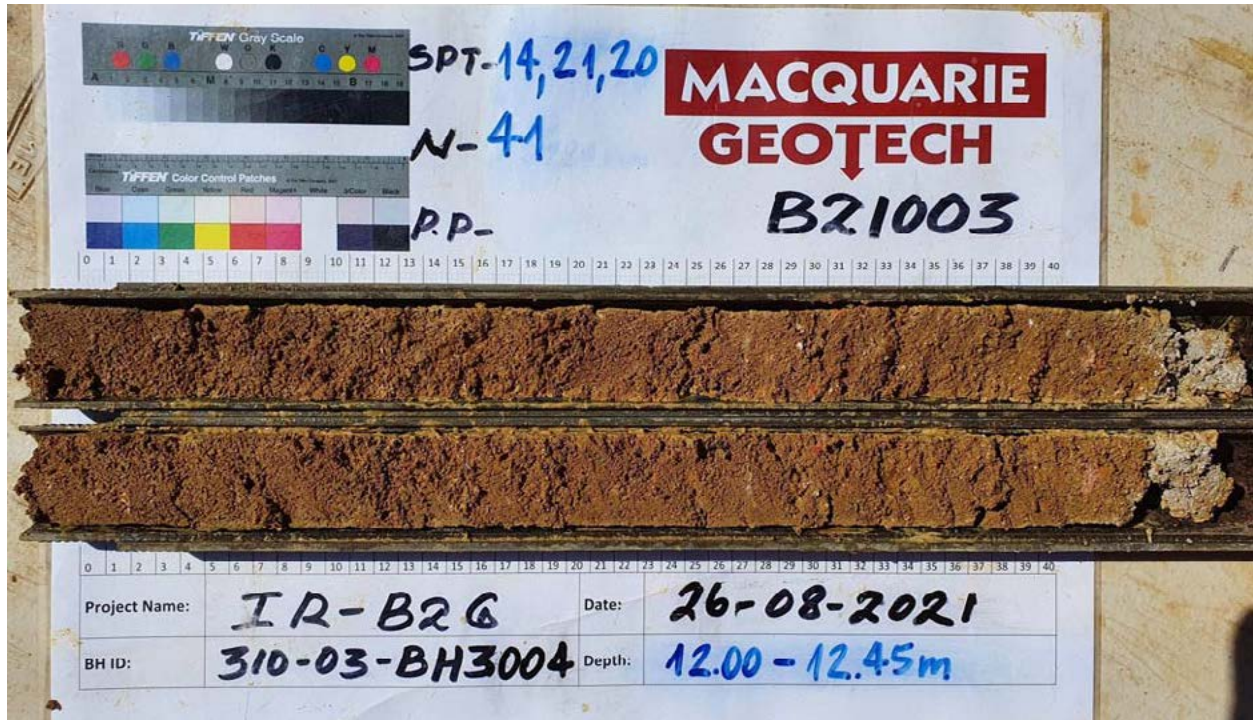
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Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 312573.8 m E 6859130.4 m N MGA94 Zone 56

Commenced: 25/08/2021
Completed: 27/08/2021
Logged By: A. Drösemeyer
Checked By: J.Boyle

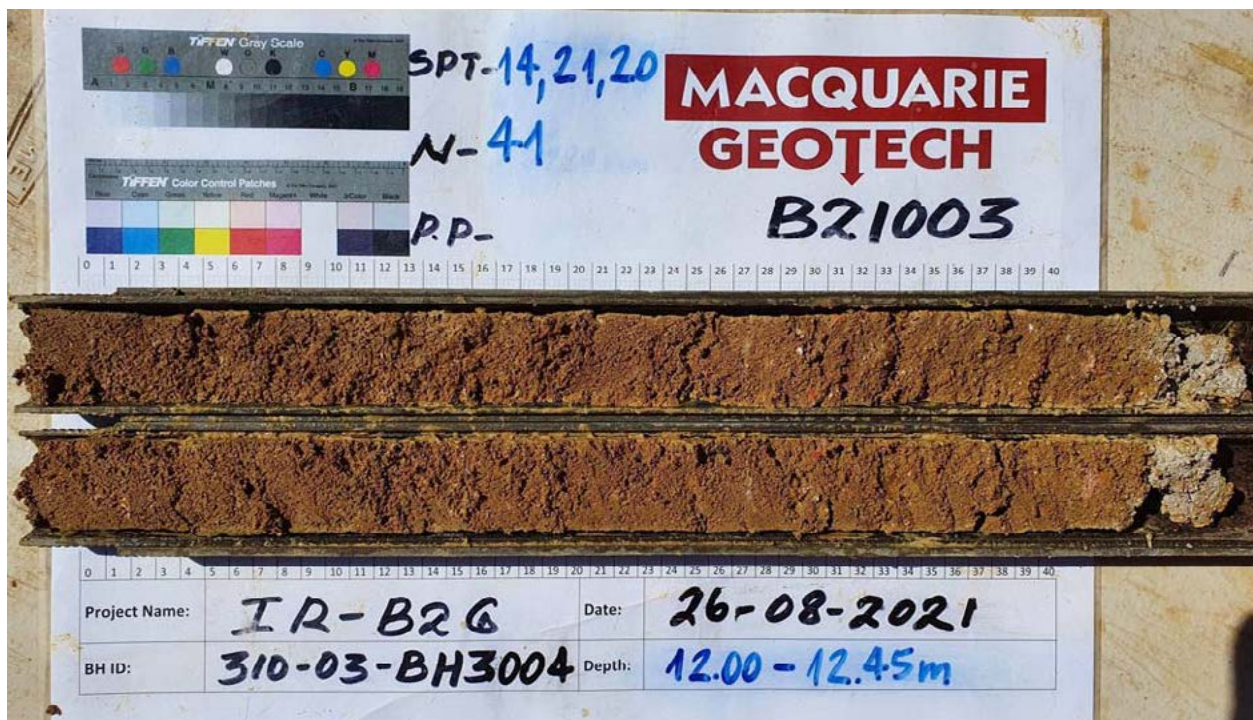
Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 285.32 m
Datum: AHD Operator: B.Boga



310-03-BH3004 Depth Range: 12.00 - 12.45 m



310-03-BH3004 Depth Range: 12.00 - 12.45 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 312573.8 m E 6859130.4 m N MGA94 Zone 56

Commenced: 25/08/2021
Completed: 27/08/2021
Logged By: A. Drösemeyer
Checked By: J. Boyle

Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 285.32 m
Datum: AHD Operator: B. Boga



310-03-BH3004 Depth Range: 13.50 - 13.95 m



310-03-BH3004 Depth Range: 13.50 - 13.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 312573.8 m E 6859130.4 m N MGA94 Zone 56

Commenced: 25/08/2021
Completed: 27/08/2021
Logged By: A. Drösemeyer
Checked By: J.Boyle

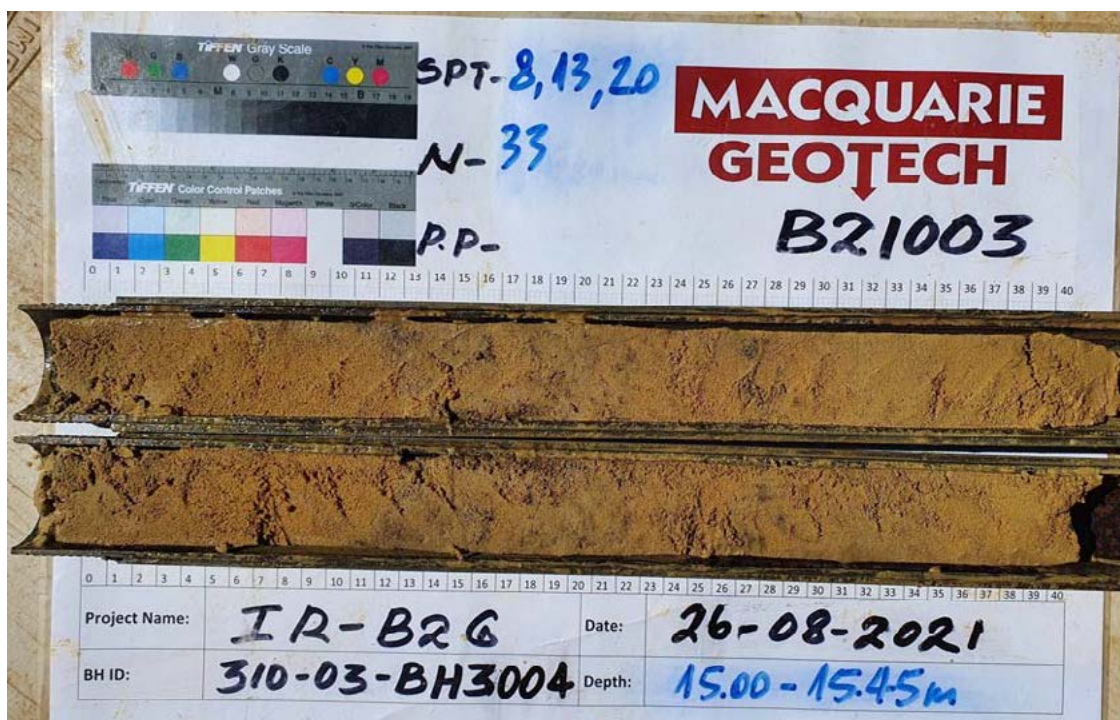
Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 285.32 m
Datum: AHD Operator: B.Boga



310-03-BH3004 Depth Range: 15.00 - 15.45 m



310-03-BH3004 Depth Range: 15.00 - 15.45 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 18/08/2021
Project Name: Inland Rail B2G	Completed: 18/08/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: V.Chandrasena
Hole Coordinates: 312744.8 m E 6859204.7 m N MGA94 Zone 56	Checked By: J.Boyle
Drill Model and Mounting: Hanjin DB8	Inclination: -90°
Hole Diameter: 115 mm	Bearing:
	RL Surface: 283.93 m
	Datum: AHD
	Operator: J. Komung

Drilling Information							Soil Description							Observations		
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations	
ADV			18/08/21	D00020 0.20-0.50 m		282.9	1		SM	TOP SOIL: silty SAND trace clay; fine to medium grained, pale yellow grey brown, low plasticity clay, trace rootlets.	VL to L				TOPSOIL	
				U00050 0.50-1.00 m						Silty SAND; fine grained, pale brown.						
				S00100 SPT 1.00-1.45 m 1.2.2 N=4												
				D00150 1.50-2.00 m					SP	SAND trace gravel; fine to coarse grained, pale orange brown, fine sub-rounded gravel.						M
				S00200 SPT 2.00-2.45 m 3,10,18 N=28												
				D00250 2.50-3.00 m					SM	Silty SAND with clay; fine to coarse grained, grey brown, low to medium plasticity clay. Below 2.50m : trace low to medium plasticity clay.						
				S00300 SPT 3.00-3.45 m 4.6.9 N=15					SP	SAND trace silt and clay; fine to coarse grained, pale grey brown, low plasticity clay.						
				D00400 D 4.00-4.50 m						Below 4.00m : trace fine to medium sub-rounded gravel.						MD
				S00450 SPT 4.50-4.95 m 4.6.8 N=14												
				D00550 5.50-6.00 m												W
WB				SPT 6.00-6.45 m 4.3.4 N=7		277.9	6			Below 6.00m : pale grey, with fine to coarse sub-rounded to sub-angular gravel.	L				6.00: Could not recover the SPT sample.	
				S00750 SPT 7.50-7.95 m 5.5.4												

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB- Washbore	No resistance ranging to refusal	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss		Classification Symbols and Soil Descriptions	Plastic Limit	
C - Casing	Core recovered (hatching indicates material) Core loss		Based on Unified Soil Classification System	< PL = PL < PL	

MG 4.02 LUB L8 Log MG BOREHOLE EXCL DCP MG 4.02 GPJ <<DrawingFile>> 2602/2022 22:52 10.02.00.04 Dugel Lab and In Situ Tool - DGD [Lib: DGD-P 4.01.2 dpt 3.04 2016-07-02 Pjt: DGD-P 4.00.6 2017-11-25

Method

AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Support

C - Casing

Penetration

No resistance
ranging to
refusal

Graphic Log/Core Loss

Core recovered (hatching
indicates material)
Core loss

Water

Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests

U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Classification Symbols and Soil Descriptions

Based on Unified Soil
Classification System

Moisture Condition

D - Dry
M - Moist
W - Wet

Plastic Limit

< PL
= PL
< PL

Consistency/Relative Density

VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 18/08/2021
Project Name: Inland Rail B2G	Completed: 18/08/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: V.Chandrasena
Hole Coordinates: 312744.8 m E 6859204.7 m N MGA94 Zone 56	Checked By: J.Boyle
Drill Model and Mounting: Hanjin DB8	Inclination: -90°
Hole Diameter: 115 mm	RL Surface: 283.93 m
	Bearing: Datum: AHD Operator: J. Komung

Drilling Information							Soil Description						Observations																												
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)					Structure and Additional Observations																							
WB				N=9					SP	SAND trace silt and clay; fine to coarse grained, pale grey brown, low plasticity clay. (continued)		L					ALLUVIAL SOIL 9.00: Could not recover the SPT sample.																								
				SPT 9.00-9.45 m 15,16,16 N=32		274.9	9				W																														
						273.9	10					D																													
				S01050 SPT 10.50-10.95 m 3,4,5 N=9 PP 10.85 m =170 kPa		272.9	11	CI-CH	Silty CLAY trace gravel; medium to high plasticity, green yellow brown, fine to medium sub-rounded to sub-angular gravel.	M (<PL) to M (~PL)	St		x																												
				S01200 SPT 12.00-12.45 m 8,14,15 N=29		271.9	12		SP	Gravelly SAND with clay; fine to coarse grained, grey yellow brown, fine to coarse sub-rounded to sub-angular gravel, medium plasticity clay.		MD																													
				S01350 SPT 13.50-13.95 m 5,14,17 N=31		270.9	13			Below 13.50m : grey brown, no clay.	W																														
						269.9	14					D																													
				S01500 SPT 15.00-15.45 m 10,13,15 N=28 PP 15.30 m =200 kPa		268.9	15		CI	Sandy silty CLAY; medium plasticity, grey brown mottled grey and orange brown, fine grained sand.	M (<PL)	VSt		x																											
<table><tr><td colspan="2">Method AS - Auger Screwing RR - Rock Roller WB- Washbore</td><td colspan="2">Penetration No resistance ranging to refusal</td><td colspan="2">Water Level (Date) Inflow Partial Loss Complete Loss</td><td colspan="2">Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test</td><td colspan="2">Moisture Condition D - Dry M - Moist W - Wet</td><td colspan="2">Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense</td></tr><tr><td colspan="2">Support C - Casing</td><td colspan="2">Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss</td><td colspan="2">Classification Symbols and Soil Descriptions Based on Unified Soil Classification System</td><td colspan="2">Plastic Limit < PL = PL < PL</td><td colspan="2"></td><td colspan="2"></td></tr></table>																		Method AS - Auger Screwing RR - Rock Roller WB- Washbore		Penetration No resistance ranging to refusal		Water Level (Date) Inflow Partial Loss Complete Loss		Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test		Moisture Condition D - Dry M - Moist W - Wet		Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense		Support C - Casing		Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss		Classification Symbols and Soil Descriptions Based on Unified Soil Classification System		Plastic Limit < PL = PL < PL					
Method AS - Auger Screwing RR - Rock Roller WB- Washbore		Penetration No resistance ranging to refusal		Water Level (Date) Inflow Partial Loss Complete Loss		Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test		Moisture Condition D - Dry M - Moist W - Wet		Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense																															
Support C - Casing		Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss		Classification Symbols and Soil Descriptions Based on Unified Soil Classification System		Plastic Limit < PL = PL < PL																																			

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/08/2021
Project Name:	Inland Rail B2G	Completed:	18/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	V.Chandrasena
Hole Coordinates:	312744.8 m E 6859204.7 m N MGA94 Zone 56	Checked By:	J.Boyle

Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°	RL Surface:	283.93 m		
Hole Diameter:	115 mm	Bearing:		Datum:	AHD	Operator:	J. Komung

Drilling Information							Soil Description							Observations				
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations			
WB				S01650 SPT 16.50-16.95 m 11,14,14 N=28		266.9	17		CI	Sandy silty CLAY; medium plasticity, grey brown mottled grey and orange brown, fine grained sand. (continued)	M (<PL)	VSt				ALLUVIAL SOIL		
							18		SC-SM	Clayey silty SAND; fine to medium grained, grey, low to medium plasticity clay.								
							19											
							20											
							21											
							22											
				S01800 SPT 18.00-18.45 m 17,17,18 N=35		265.9	18			Below 18.00m : fine to coarse grained sand, trace fine rounded gravel.								
				S01950 SPT 19.50-19.95 m 13,13,13 N=26		263.9	20				M to W	MD						
				S02100 SPT 21.00-21.45 m 18,16,18 N=34		262.9	21											
				S02250 SPT 22.50-22.95 m 15,18,16 N=34		260.9	23			Below 22.50m : grey mottled orange brown.		D						

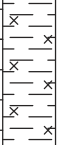
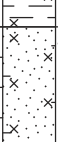
Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB - Washbore	No resistance ranging to refusal	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss	Classification Symbols and Soil Descriptions	Plastic Limit		
C - Casing	Core recovered (hatching indicates material) Core loss	Based on Unified Soil Classification System	< PL = PL < PL		

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 18/08/2021
Project Name: Inland Rail B2G	Completed: 18/08/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: V.Chandrasena
Hole Coordinates: 312744.8 m E 6859204.7 m N MGA94 Zone 56	Checked By: J.Boyle

Drill Model and Mounting: Hanjin DB8	Inclination: -90°	RL Surface: 283.93 m
Hole Diameter: 115 mm	Bearing:	Datum: AHD Operator: J. Komung

Drilling Information								Soil Description						Observations									
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations								
WB				S02400 SPT 24.00-24.45 15,18,20 N=38 PP 24.40 m =410 kPa		258.9	25		SC-SM CI-CH	Silty CLAY trace sand; medium to high plasticity, green brown, fine grained sand.		D			ALLUVIAL SOIL								
																H							
	Below 26.00m : grey mottled red.	M ($<PL$)	VSt		x	RESIDUAL SOIL																	
	Below 28.00m : pale grey.																						
	S02800 SPT 28.00-28.45 10,15,16 N=31		255.9	28		SC-SM										Clayey silty SAND; fine to medium grained, pale grey, low to medium plasticity clay.							
	S03000 SPT 30.00-30.40 m 24,28,30/100mm N=58/250mm		253.9	30																			

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB - Washbore	No resistance ranging to refusal	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss	Classification Symbols and Soil Descriptions	Plastic Limit		
C - Casing	Core recovered (hatching indicates material) Core loss	Based on Unified Soil Classification System	< PL = PL < PL		

Engineering Log - Borehole

Project No.: B21003

Client: ARTC				Commenced: 18/08/2021			
Project Name: Inland Rail B2G				Completed: 18/08/2021			
Hole Location: N4 - Whetstone Greenfield Corridor				Logged By: V.Chandrasena			
Hole Coordinates: 312744.8 m E 6859204.7 m N MGA94 Zone 56				Checked By: J.Boyle			

Drill Model and Mounting: Hanjin DB8	Inclination: -90°	RL Surface: 283.93 m
Hole Diameter: 115 mm	Bearing:	Datum: AHD Operator: J. Komung

Drilling Information				Soil Description				Observations							
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
WB				S03200 SPT 32.00-32.30 m 20.30,30/0mm N=60/150mm					SC-SM	Below 32.00m : yellow brown mottled grey.	M	VD		100 200 300 400 500	RESIDUAL SOIL
						250.9	33			Hole Terminated at 32.30 m Drilled to extra depth due to poor ground conditions. Hole reinstated with arisings and additional fill.					
						249.9	34								
						248.9	35								
						247.9	36								
						246.9	37								
						245.9	38								
						244.9	39								

Method

AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration

No resistance ranging to refusal

Water

Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests

U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition

D - Dry
M - Moist
W - Wet

Consistency/Relative Density

VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support

C - Casing

Graphic Log/Core Loss

Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions

Based on Unified Soil Classification System

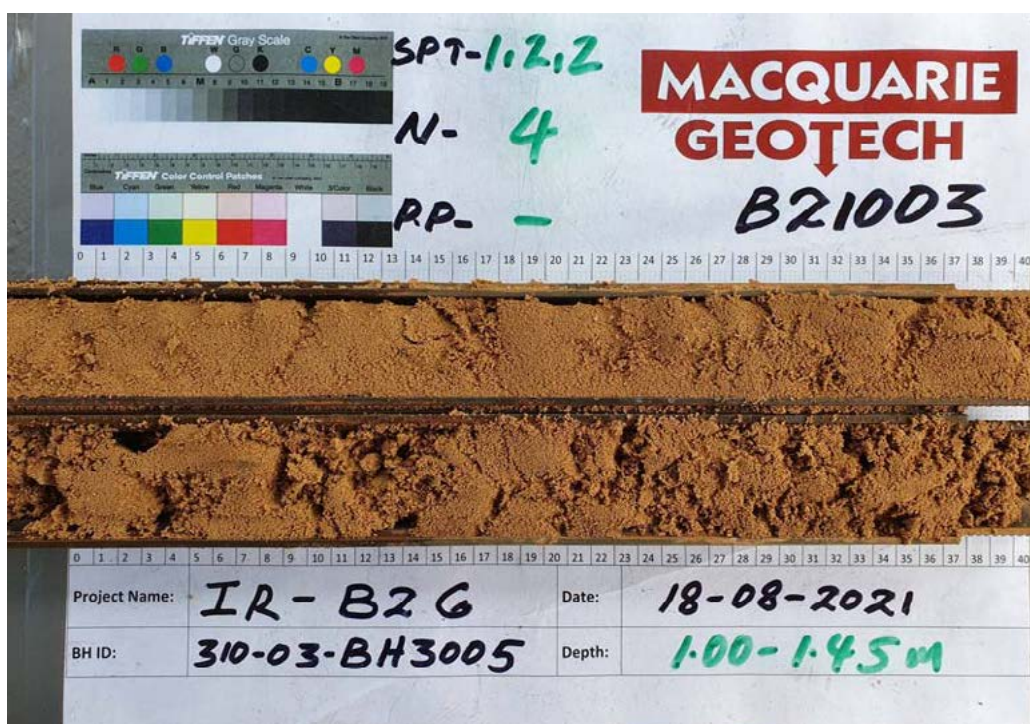
Plastic Limit

< PL
= PL
< PL

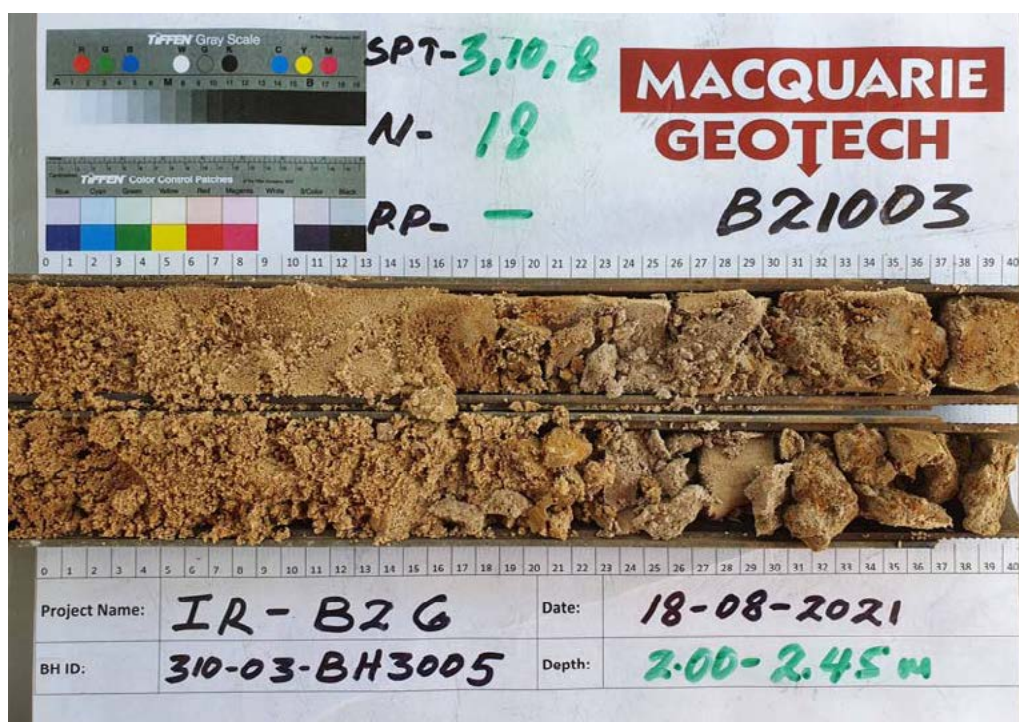
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/08/2021
Project Name:	Inland Rail B2G	Completed:	18/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	V.Chandrasena
Hole Coordinates:	312744.8 m E 6859204.7 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	283.93 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3005 Depth Range: 1.00 - 1.45 m

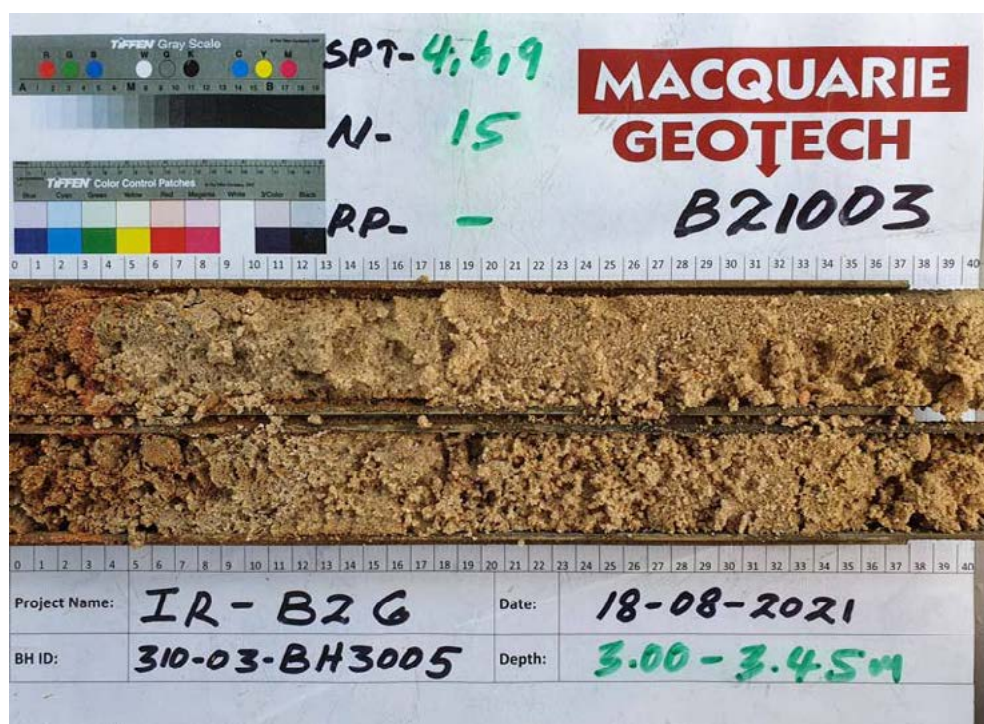


310-03-BH3005 Depth Range: 2.00 - 2.45 m

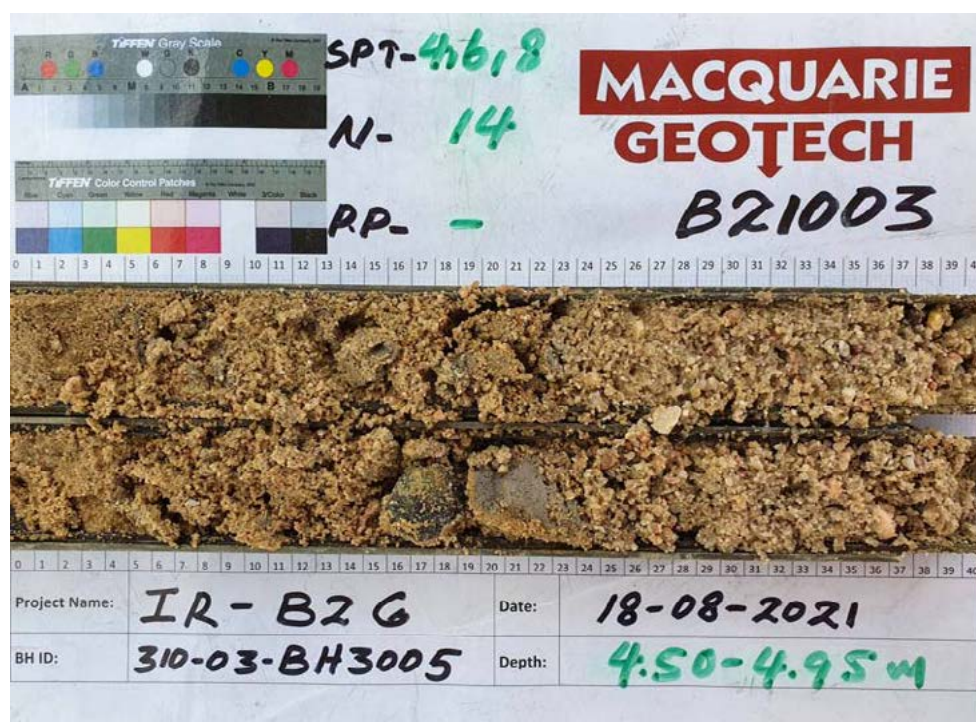
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/08/2021
Project Name:	Inland Rail B2G	Completed:	18/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	V.Chandrasena
Hole Coordinates:	312744.8 m E 6859204.7 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	283.93 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3005 Depth Range: 3.00 - 3.45 m



310-03-BH3005 Depth Range: 4.50 - 4.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/08/2021
Project Name:	Inland Rail B2G	Completed:	18/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	V.Chandrasena
Hole Coordinates:	312744.8 m E 6859204.7 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	283.93 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3005 Depth Range: 7.50 - 7.95 m



310-03-BH3005 Depth Range: 10.50 - 10.95 m

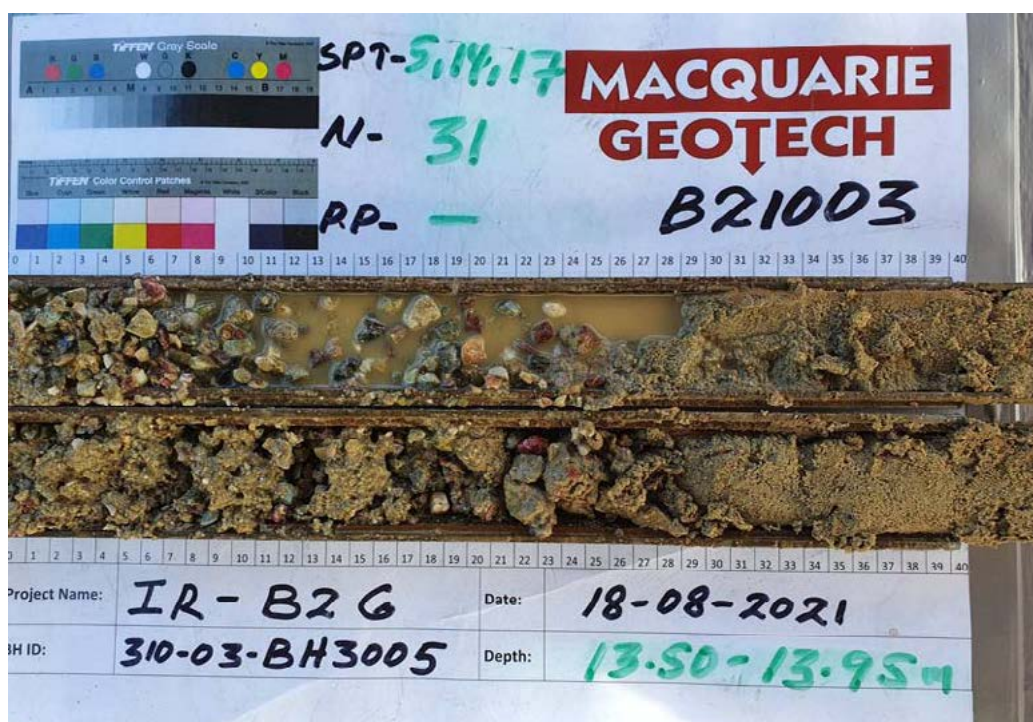
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/08/2021
Project Name:	Inland Rail B2G	Completed:	18/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	V.Chandrasena
Hole Coordinates:	312744.8 m E 6859204.7 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	283.93 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3005 Depth Range: 12.00 - 12.45 m



310-03-BH3005 Depth Range: 13.50 - 13.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/08/2021
Project Name:	Inland Rail B2G	Completed:	18/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	V.Chandrasena
Hole Coordinates:	312744.8 m E 6859204.7 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	283.93 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3005 Depth Range: 15.00 - 15.45 m



310-03-BH3005 Depth Range: 16.50 - 16.95 m

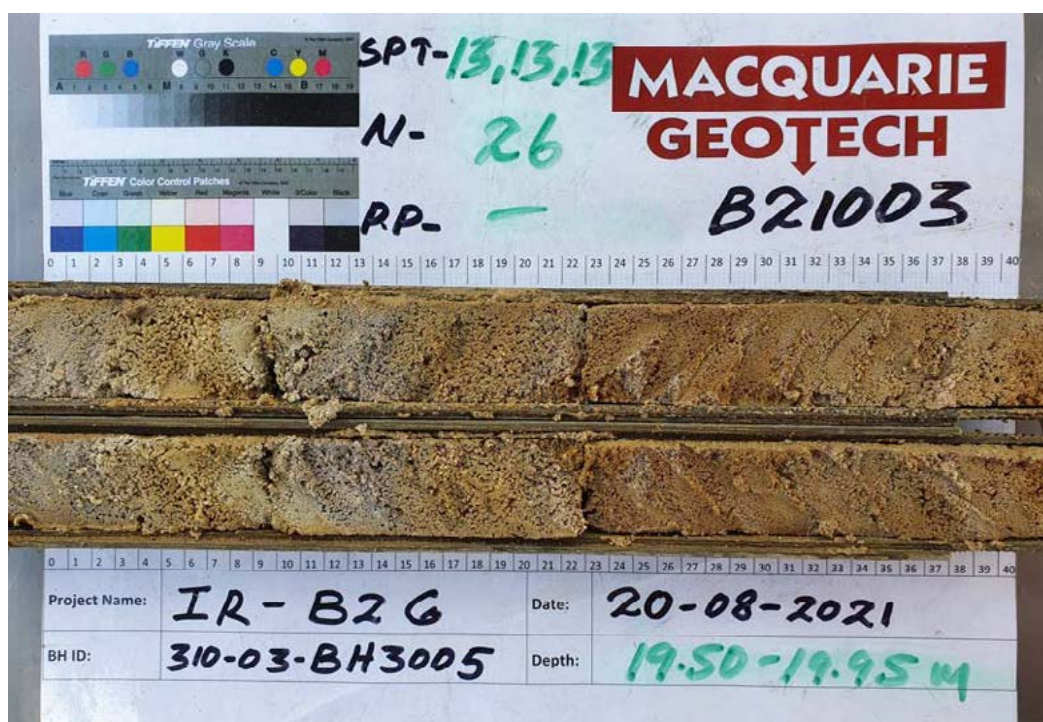
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/08/2021
Project Name:	Inland Rail B2G	Completed:	18/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	V.Chandrasena
Hole Coordinates:	312744.8 m E 6859204.7 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	283.93 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3005 Depth Range: 18.00 - 18.45 m



310-03-BH3005 Depth Range: 19.50 - 19.95 m

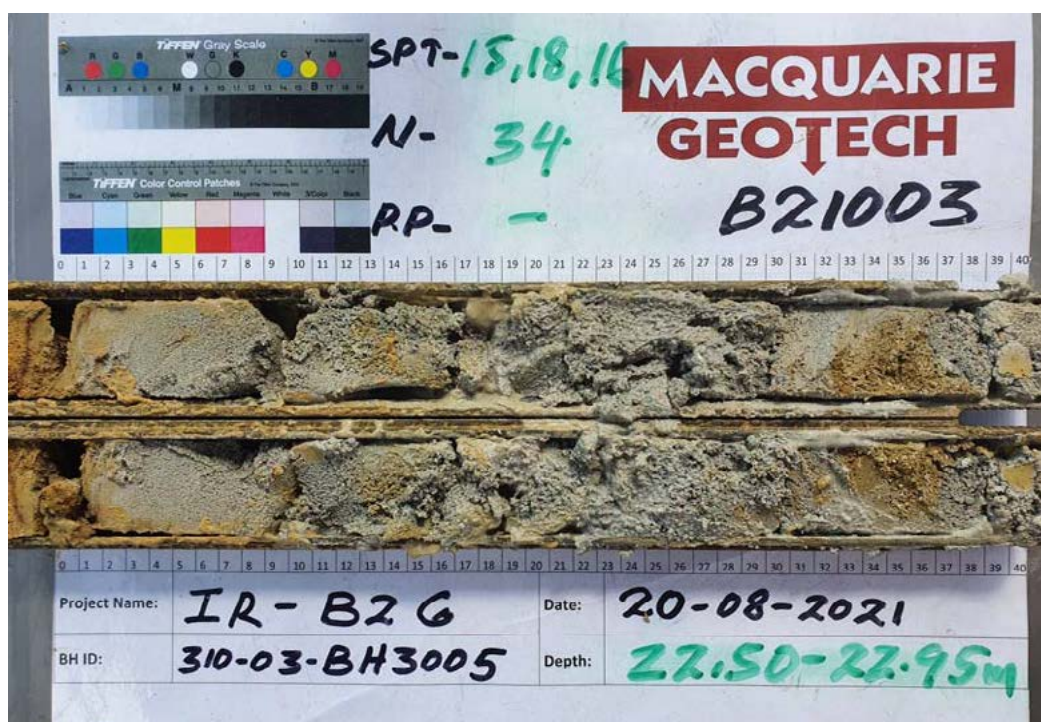
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/08/2021
Project Name:	Inland Rail B2G	Completed:	18/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	V.Chandrasena
Hole Coordinates:	312744.8 m E 6859204.7 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	283.93 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3005 Depth Range: 21.00 - 21.45 m

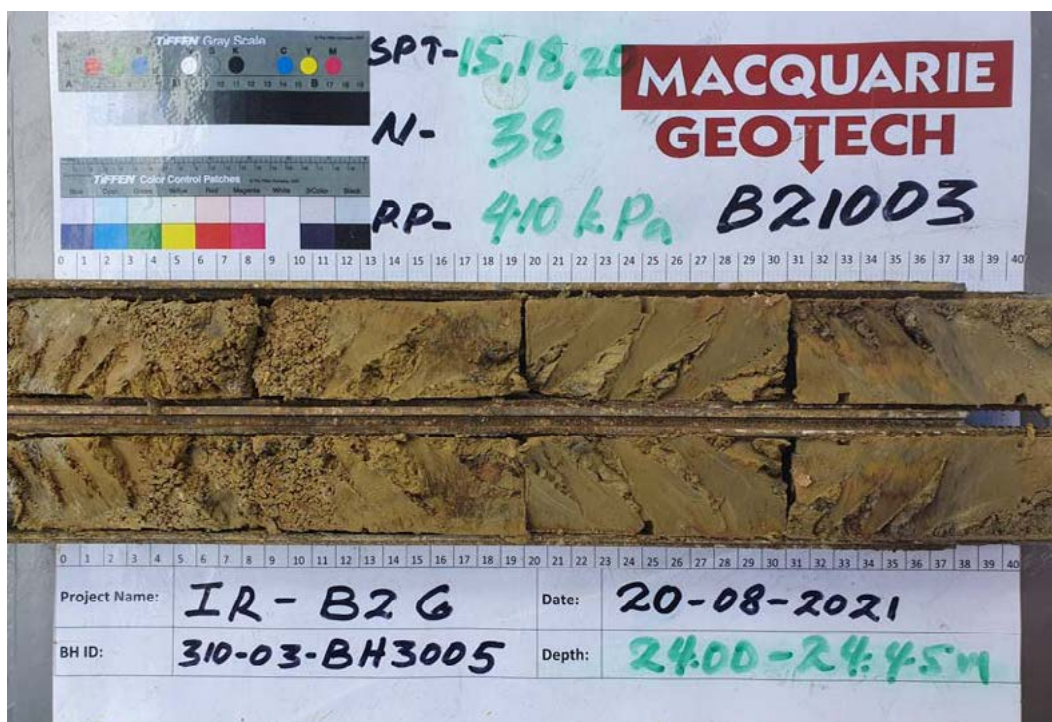


310-03-BH3005 Depth Range: 22.50 - 22.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/08/2021
Project Name:	Inland Rail B2G	Completed:	18/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	V.Chandrasena
Hole Coordinates:	312744.8 m E 6859204.7 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	283.93 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3005 Depth Range: 24.00 - 24.45 m



310-03-BH3005 Depth Range: 26.00 - 26.45 m

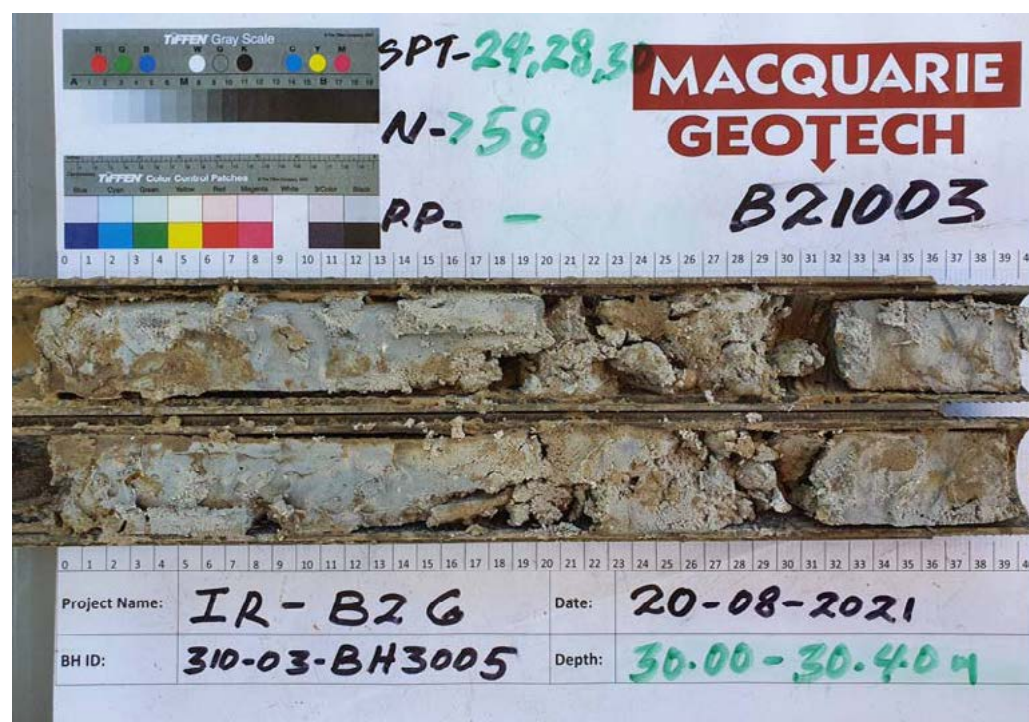
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/08/2021
Project Name:	Inland Rail B2G	Completed:	18/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	V.Chandrasena
Hole Coordinates:	312744.8 m E 6859204.7 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	283.93 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3005 Depth Range: 28.00 - 28.45 m



310-03-BH3005 Depth Range: 30.00 - 30.40 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	18/08/2021
Project Name:	Inland Rail B2G	Completed:	18/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	V.Chandrasena
Hole Coordinates:	312744.8 m E 6859204.7 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	283.93 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3005 Depth Range: 32.00 - 32.30 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 312893.8 m E 6859274.8 m N MGA94 Zone 56

Commenced: 21/08/2021
Completed: 24/08/2021
Logged By: T. Nimalsiri
Checked By: J.Boyle

Drill Model and Mounting: Hanjin DB8 Inclinometer: -90° RL Surface: 284.66 m
Hole Diameter: 115 mm Bearing: Datum: AHD Operator: J. Komung

Drilling Information							Soil Description							Observations				
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)					Structure and Additional Observations
AD/T		Not Observed		S00050 SPT 0.50-0.95 m 10,19,24 N=43		283.7	1		CI	TOPSOIL: Silty sandy CLAY trace gravel: pale brown, fine to coarse grained sand, low to medium plasticity clay, fine to medium sub-angular to angular gravel, trace rootlets. Sandy silty CLAY: medium plasticity, brown, fine to coarse grained sand.	M (<PL)	H					TOPSOIL	
				S00150 SPT 1.50-1.95 m 8,20,21 N=41		282.7	2		ML	Sandy SILT: low plasticity, grey brown fine to medium grained.						ALLUVIAL SOIL		
				S00300 SPT 3.00-3.45 m 12,20,30 N=50		281.7	3		SP	Below 2.50m: colour tending orange brown mottled grey, trace low to medium plasticity clay.	D to M	D						
				S00450 SPT 4.50-4.95 m 16,16,18 N=34		280.7	4			M								
				S00600 SPT 6.00-6.45 m 11,5,12 N=17		279.7	5			W to M								
						278.7	6			MD								
				S00750 SPT 7.50-7.95 m 10,11,14		277.7	7		SP	Clayey silty SAND: fine to coarse grained, yellow brown and grey, low to medium plasticity clay.	W							
Method AS - Auger Screwing RR - Rock Roller WB - Washbore Penetration No resistance ranging to refusal Water Level (Date) Inflow Partial Loss Complete Loss Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test Moisture Condition D - Dry M - Moist W - Wet Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense Support C - Casing Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss Classification Symbols and Soil Descriptions Based on Unified Soil Classification System Plastic Limit < PL = PL < PL																		

Engineering Log - Borehole

Project No.: B21003

Client:		ARTC			Commenced:		21/08/2021								
Project Name:		Inland Rail B2G			Completed:		24/08/2021								
Hole Location:		N4 - Whetstone Greenfield Corridor			Logged By:		T. Nimalsiri								
Hole Coordinates:		312893.8 m E 6859274.8 m N MGA94 Zone 56			Checked By:		J.Boyle								
Drill Model and Mounting:				Hanjin DB8		Inclination:		-90°							
Hole Diameter:				115 mm		RL Surface:		284.66 m							
				Bearing:		Datum:		AHD							
						Operator:		J. Komung							
Drilling Information				Soil Description				Observations							
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa) 100 200 300 400 500	Structure and Additional Observations
AD/T				N=25					SP	Clayey silty SAND: fine to coarse grained, yellow brown and grey, low to medium plasticity clay. (continued)	W				ALLUVIAL SOIL
				S00900 SPT 9.00-9.45 m 5,9,10 N=19		275.7	9								
						274.7	10								
				S01050 SPT 10.50-10.95 m 8,10,10 N=20		273.7	11								
						272.7	12								
WB				Not Observed						Below 12.00m: colour tending to be yellow brown, with fine to coarse sub rounded to sub angular gravel.	M				
				S01200 SPT 12.00-12.45 m 13,13,18 N=31		271.7	13								
						270.7	14								
				S01350 SPT 13.50-13.95 m 5,3,9 N=12		269.7	15								
				S01500 SPT 15.00-15.45 m 5,5,10 N=15							M (<PL)	St			
									ML	Clayey SILT: low plasticity, grey mottled brown.					
Method AS - Auger Screwing RR - Rock Roller WB- Washbore Penetration No resistance ranging to refusal Water Level (Date) Inflow Partial Loss Complete Loss Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test Moisture Condition D - Dry M - Moist W - Wet Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense Support C - Casing Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss Classification Symbols and Soil Descriptions Based on Unified Soil Classification System Plastic Limit < PL = PL > PL															

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 312893.8 m E 6859274.8 m N MGA94 Zone 56

Commenced: 21/08/2021
Completed: 24/08/2021
Logged By: T. Nimalisiri
Checked By: J.Boyle

Drill Model and Mounting: Hanjin DB8 Inclinometer: -90° RL Surface: 284.66 m
Hole Diameter: 115 mm Bearing: Datum: AHD Operator: J. Komung

Drilling Information							Soil Description						Observations					
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)					Structure and Additional Observations
WB		Not Observed		S01650 SPT 16.50-16.95 m 8,8,5 N=13		267.7	17		ML	Clayey SILT: low plasticity, grey mottled brown. (continued)		St					16.50: PP Samp =200 kPa	ALLUVIAL SOIL
				S01800 SPT 18.00-18.45 m 8,11,13 N=24		266.7	18		M (=PL)			x	18.00: PP Samp =250 kPa					
				S01950 SPT 19.50-19.95 m 9,7,9 N=16		265.7	19											
				S02100 SPT 21.00-21.45 m 12,12,12 N=24		264.7	20		CL	Silty CLAY trace sand: low plasticity, grey mottled brown.	VSt	x	19.50: PP Samp =200 kPa					
				S02250 SPT 22.50-22.95 m 11,10,11 N=21		263.7	21		SP	Gravelly SAND with clay: medium to coarse grained, grey brown, fine sub-angular gravel.	M MD							
						262.7	22		ML	Clayey SILT trace sand: low plasticity, grey, fine grained sand.	M (>PL)	VSt						
						261.7	23											

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB- Washbore	 No resistance ranging to refusal	 Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss	Classification Symbols and Soil Descriptions	Plastic Limit		
C - Casing	 Core recovered (hatching indicates material) Core loss	Based on Unified Soil Classification System	< PL = PL < PL		

Method
AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration
No resistance ranging to refusal

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition
D - Dry
M - Moist
W - Wet

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support
C - Casing

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

Plastic Limit
< PL
= PL
< PL

Engineering Log - Borehole

Project No.: B21003

Client: ARTC		Commenced: 21/08/2021	
Project Name: Inland Rail B2G		Completed: 24/08/2021	
Hole Location: N4 - Whetstone Greenfield Corridor		Logged By: T. Nimalisiri	
Hole Coordinates: 312893.8 m E 6859274.8 m N MGA94 Zone 56		Checked By: J.Boyle	
Drill Model and Mounting: Hanjin DB8		Inclination: -90°	
Hole Diameter: 115 mm		RL Surface: 284.66 m	
		Bearing: AHD Operator: J. Komung	

Drilling Information				Soil Description				Observations							
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations	
WB		Not Observed		S02400 SPT 24.00-24.45 10,10,14 N=24		259.7	25		CI-CH	Silty CLAY trace gravel: medium to high plasticity, dark grey, fine sub-rounded to sub-angular gravel.	VSt		100	ALLUVIAL SOIL 24.30: PP Samp =250 kPa	
				S02550 SPT 25.50-25.95 6,5,7 N=12		258.7	26		CI-CH	Sandy silty CLAY: medium to high plasticity, dark grey, medium to coarse grained sand, trace organic material.			200		25.50: PP Samp =250 kPa
				S02700 SPT 27.00-27.45 9,13,17 N=30		257.7	27		CI-CH	Silty CLAY: medium to high plasticity, grey mottled brown.			300		27.00: PP Samp =550 kPa
				S02850 SPT 28.50-28.95 10,12,14 N=26		256.7	28						400		28.50: PP Samp =500 kPa
				S03000 SPT 30.00-30.45 10,12,16 N=28		254.7	30						500		30.00: PP Samp =450 kPa
						253.7	31			Hole Terminated at 30.45 m Target depth					

Method
AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration

No resistance ranging to refusal

Water

Level (Date)
Inflow
Partial Loss
Complete Loss

Support
C - Casing

Graphic Log/Core Loss

Core recovered (hatching indicates material)
Core loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

Moisture Condition
D - Dry
M - Moist
W - Wet

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Plastic Limit
< PL
= PL
> PL

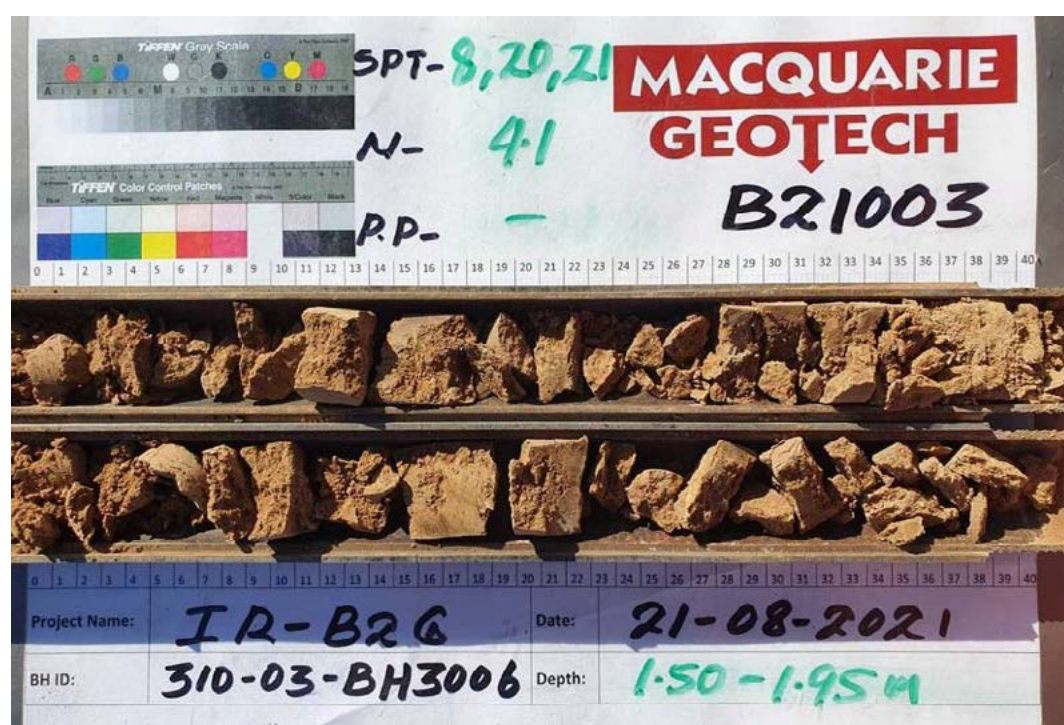
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	21/08/2021
Project Name:	Inland Rail B2G	Completed:	24/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	T. Nimalsiri
Hole Coordinates:	312893.8 m E 6859274.8 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	284.66 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3006 Depth Range: 0.50 - 0.95 m



310-03-BH3006 Depth Range: 1.50 - 1.95 m

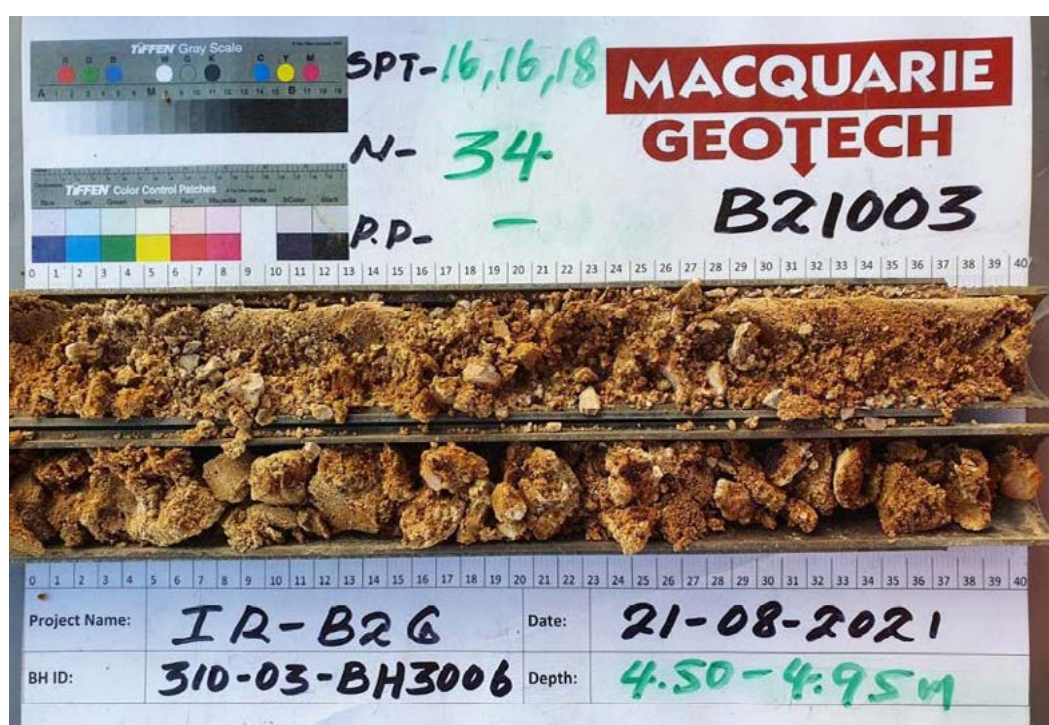
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	21/08/2021
Project Name:	Inland Rail B2G	Completed:	24/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	T. Nimalsiri
Hole Coordinates:	312893.8 m E 6859274.8 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	284.66 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3006 Depth Range: 3.00 - 3.45 m



310-03-BH3006 Depth Range: 4.50 - 4.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	21/08/2021
Project Name:	Inland Rail B2G	Completed:	24/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	T. Nimalsiri
Hole Coordinates:	312893.8 m E 6859274.8 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	284.66 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3006 Depth Range: 6.00 - 6.45 m



310-03-BH3006 Depth Range: 7.50 - 7.95 m

Engineering Log - Borehole

Project No.: B21003

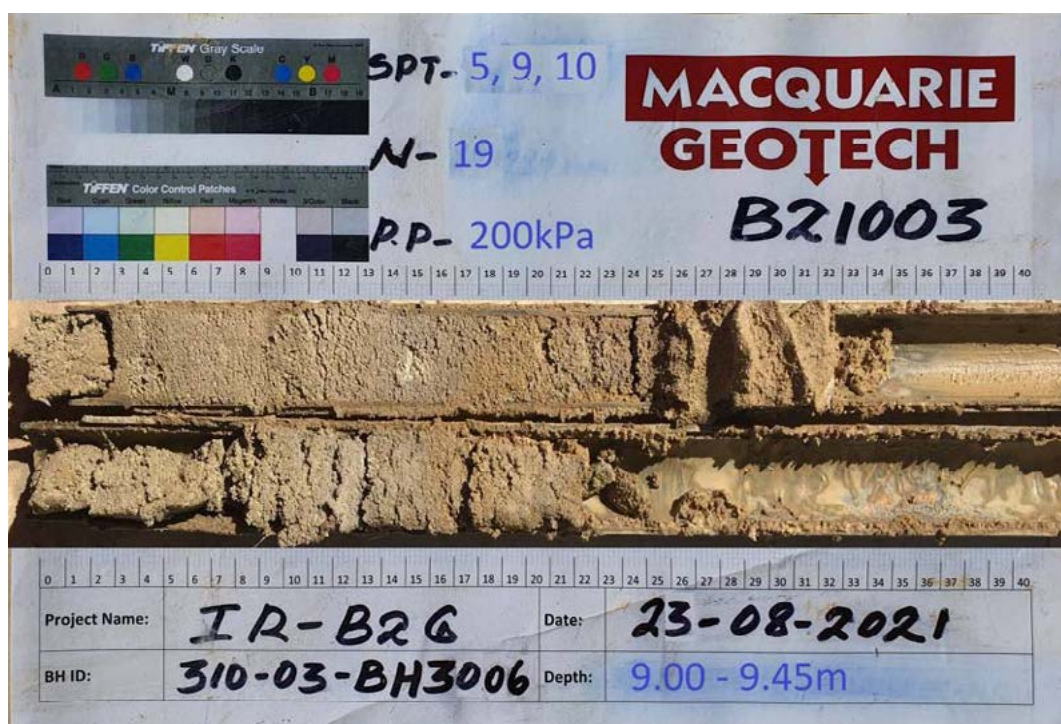
Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 312893.8 m E 6859274.8 m N MGA94 Zone 56

Commenced: 21/08/2021
Completed: 24/08/2021
Logged By: T. Nimalsiri
Checked By: J.Boyle

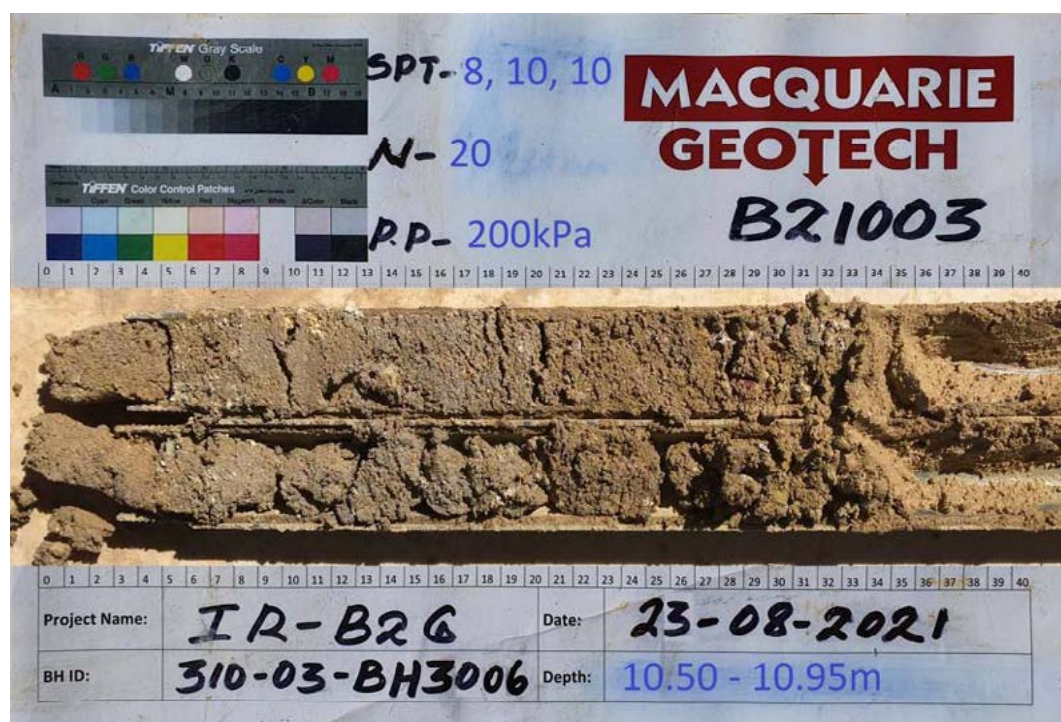
Drill Model and Mounting: Hanjin DB8
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 284.66 m
Datum: AHD Operator: J. Komung



310-03-BH3006 Depth Range: 9.00 - 9.45 m

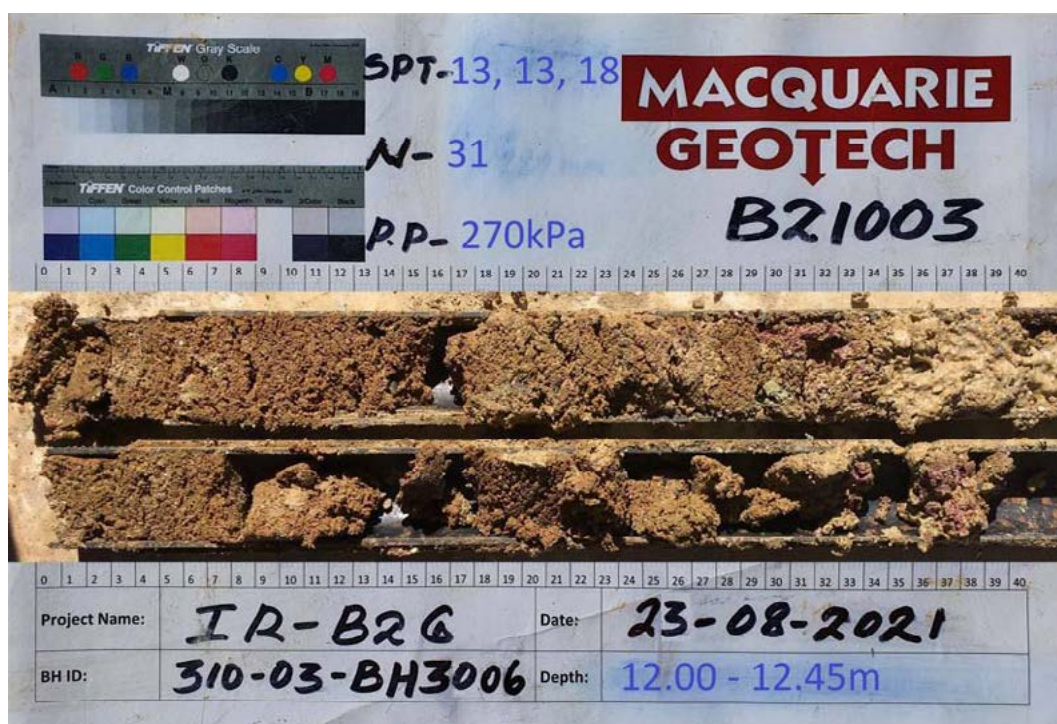


310-03-BH3006 Depth Range: 10.50 - 10.95 m

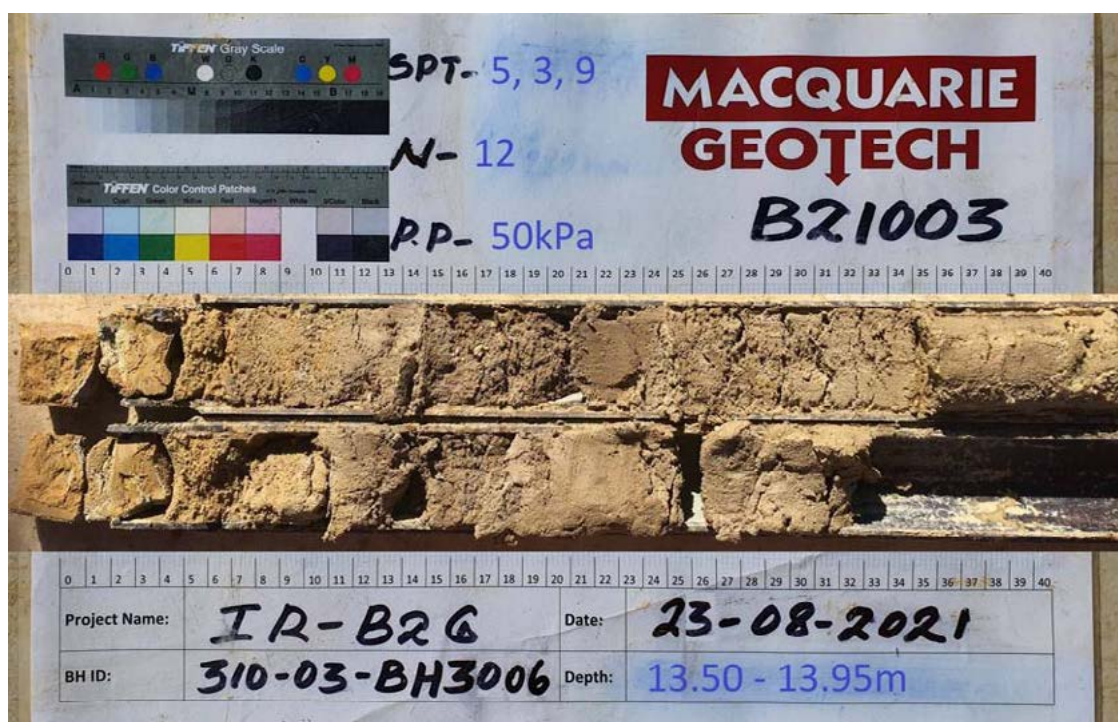
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	21/08/2021
Project Name:	Inland Rail B2G	Completed:	24/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	T. Nimalsiri
Hole Coordinates:	312893.8 m E 6859274.8 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	284.66 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3006 Depth Range: 12.00 - 12.45 m

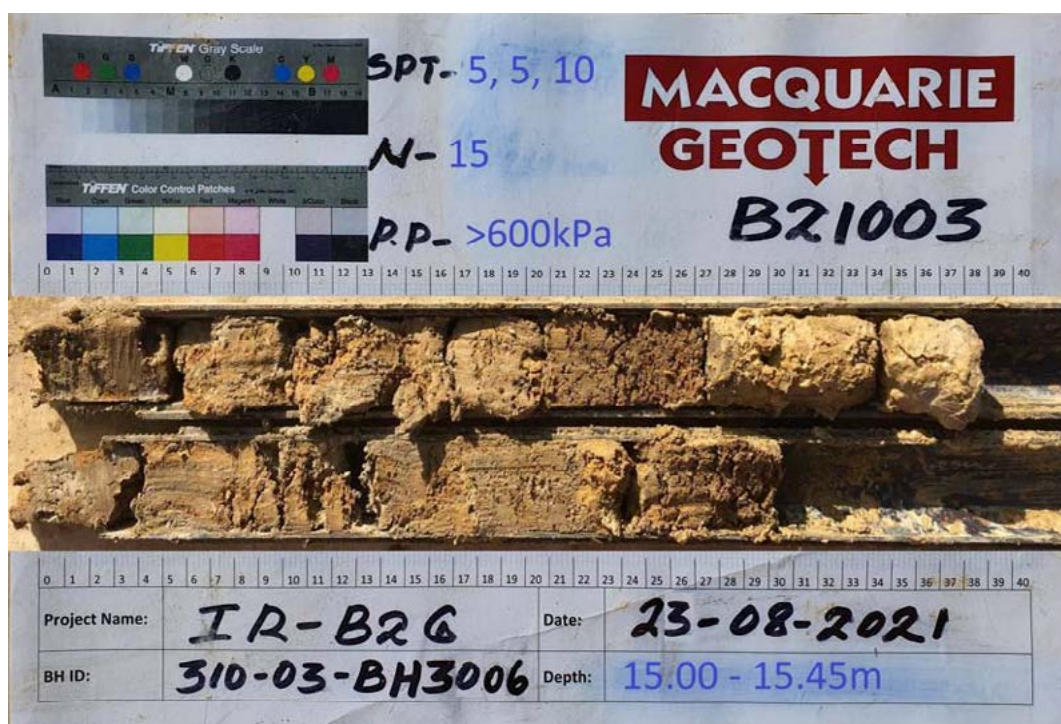


310-03-BH3006 Depth Range: 13.50 - 13.95 m

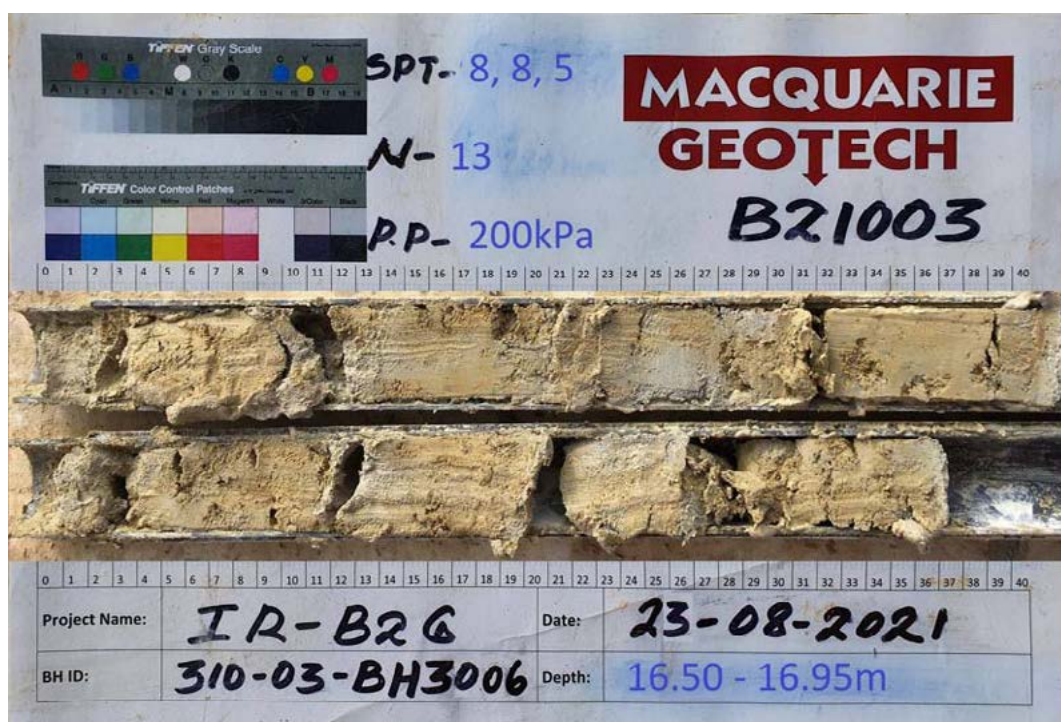
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	21/08/2021
Project Name:	Inland Rail B2G	Completed:	24/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	T. Nimalsiri
Hole Coordinates:	312893.8 m E 6859274.8 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	284.66 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3006 Depth Range: 15.00 - 15.45 m

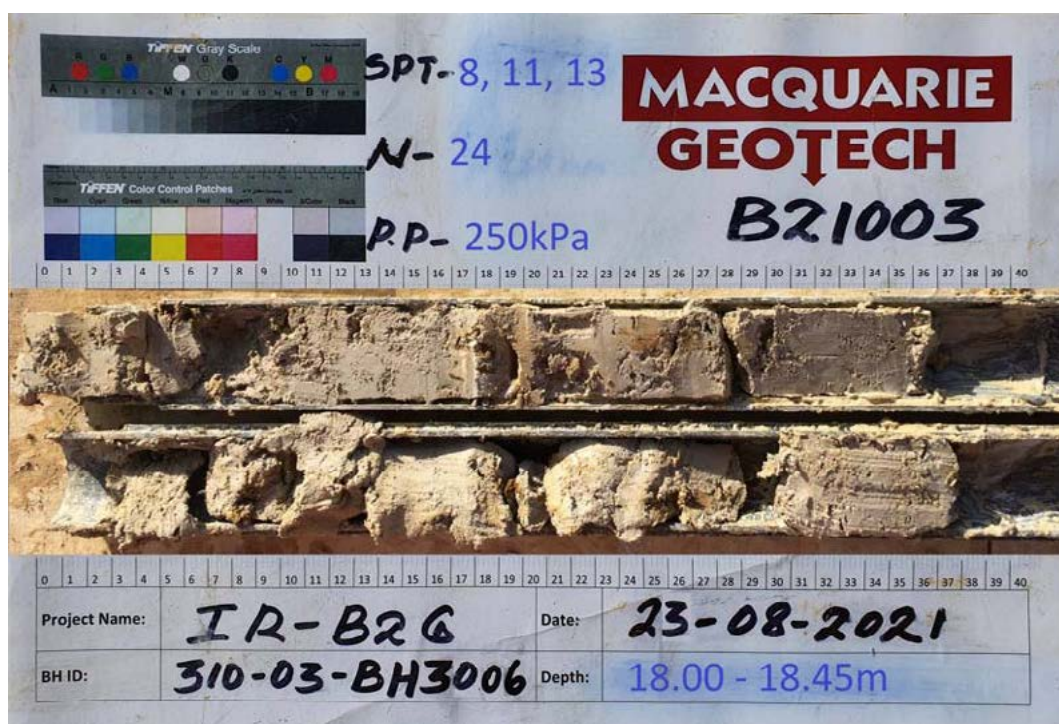


310-03-BH3006 Depth Range: 16.50 - 16.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	21/08/2021
Project Name:	Inland Rail B2G	Completed:	24/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	T. Nimalsiri
Hole Coordinates:	312893.8 m E 6859274.8 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	284.66 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3006 Depth Range: 18.00 - 18.45 m

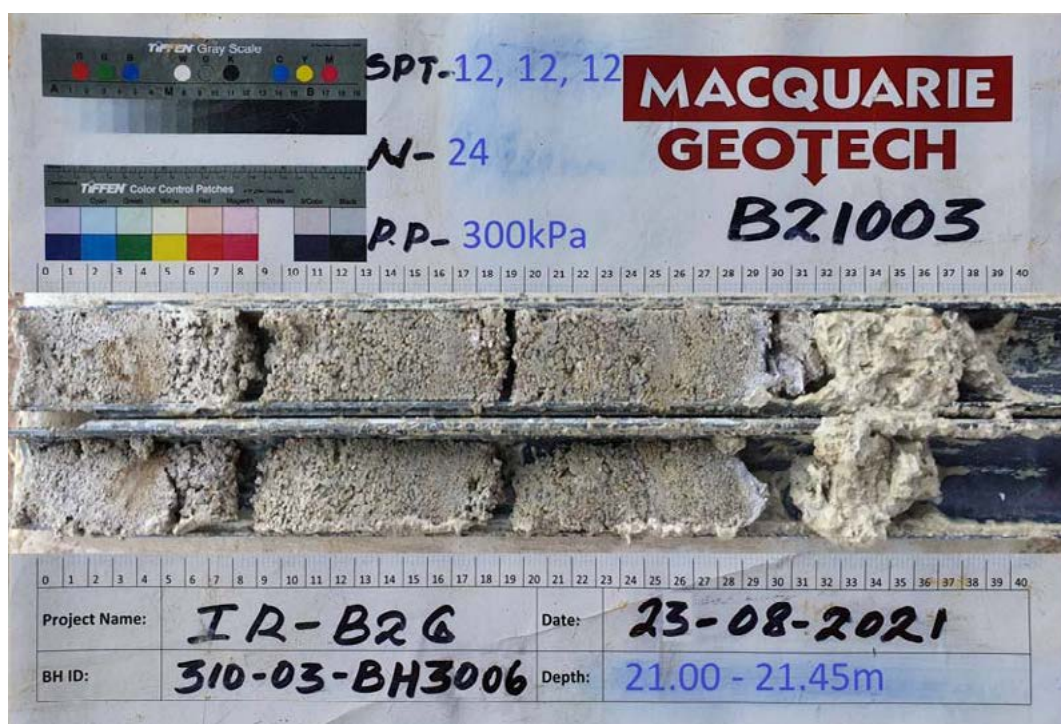


310-03-BH3006 Depth Range: 19.50 - 19.95 m

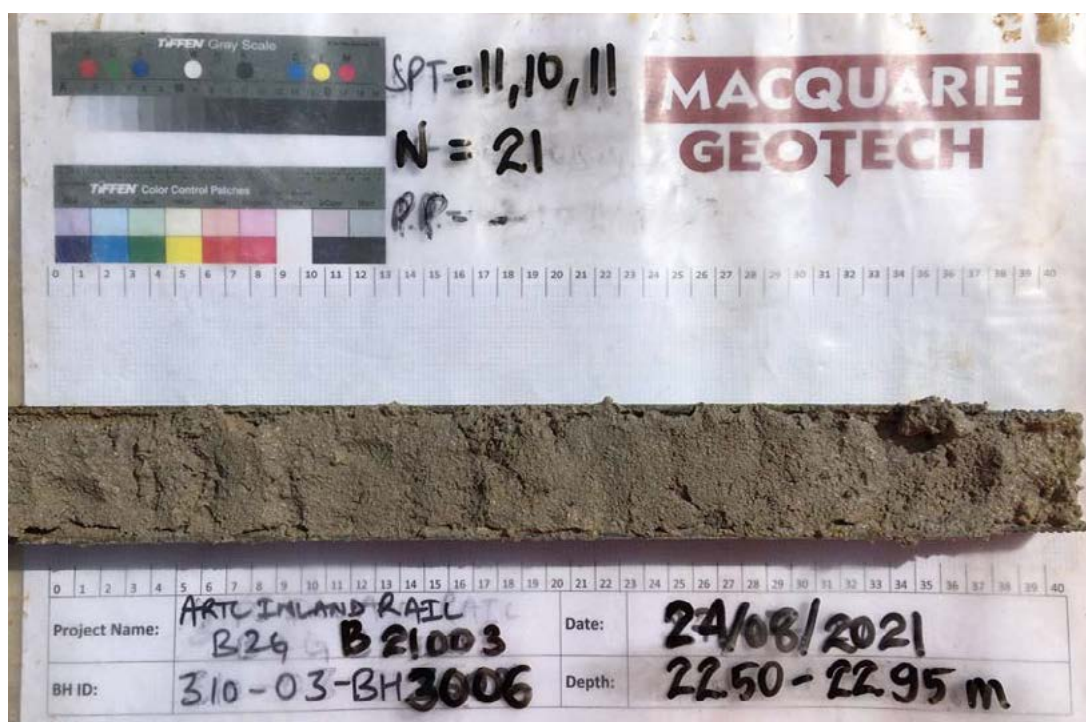
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	21/08/2021
Project Name:	Inland Rail B2G	Completed:	24/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	T. Nimalsiri
Hole Coordinates:	312893.8 m E 6859274.8 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	284.66 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3006 Depth Range: 21.00 - 21.45 m



310-03-BH3006 Depth Range: 22.50 - 22.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	21/08/2021
Project Name:	Inland Rail B2G	Completed:	24/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	T. Nimalsiri
Hole Coordinates:	312893.8 m E 6859274.8 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	284.66 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3006 Depth Range: 24.00 - 24.45 m



310-03-BH3006 Depth Range: 27.00 - 27.45 m

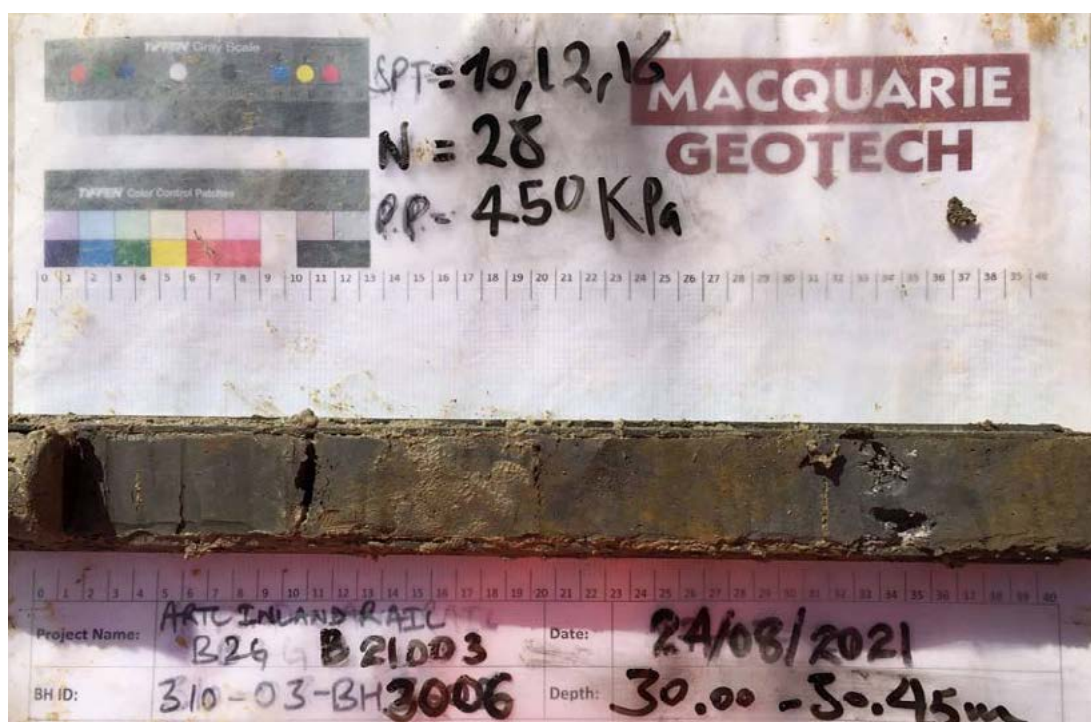
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	21/08/2021
Project Name:	Inland Rail B2G	Completed:	24/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	T. Nimalsiri
Hole Coordinates:	312893.8 m E 6859274.8 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	Hanjin DB8	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	284.66 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3006 Depth Range: 28.50 - 28.95 m



310-03-BH3006 Depth Range: 30.00 - 30.45 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 07/08/2021
Project Name: Inland Rail B2G	Completed: 09/08/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: A.Sharma
Hole Coordinates: 321140.7 m E 6880731.5 m N MGA94 Zone 56	Checked By: C.Green
Drill Model and Mounting: D4TAPG	Inclination: -90°
Hole Diameter: 96 - 115 mm	RL Surface: 322.60 m
	Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
ADV			Not Observed	D00000 0.00-0.50 m E00000 0.00-0.20 m E00020 0.20-0.50 m E00050 0.50-0.70 m S00050 SPT 0.50-0.95 m 5,6,11 N=17 D00100 1.00-1.40 m S00150 SPT 1.50-1.95 m 13,16,12 N=28 D00250 2.50-3.00 m		321.6	1		CI	TOPSOIL: Gravelly SAND trace clay: fine grained, brown, fine sub-angular to sub-rounded gravel. Sandy CLAY: medium plasticity, grey brown to brown, fine grained sand.	M (<PL)	VSt			TOPSOIL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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Engineering Log - Borehole

Project No.: B21003

Client: ARTC						Commenced: 07/08/2021									
Project Name: Inland Rail B2G						Completed: 09/08/2021									
Hole Location: N4 - Whetstone Greenfield Corridor						Logged By: A.Sharma									
Hole Coordinates: 321140.7 m E 6880731.5 m N MGA94 Zone 56						Checked By: C.Green									
Drill Model and Mounting: D4TAPG						Inclination: -90°		RL Surface: 322.60 m							
Hole Diameter: 96 - 115 mm						Bearing:		Datum: AHD		Operator: B.Boga					
Drilling Information						Soil Description						Observations			
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa) 100 200 300 400 500	Structure and Additional Observations	
ADN				N=56					CL	Sandy CLAY: low plasticity, dark-brown, fine to coarse grained sand. (continued)	M (<PL)	H		RESIDUAL SOIL	
				D00850 8.50-9.00 m					SC	Clayey SAND: coarse grained sand, dark-brown, low plasticity clay.	W	VD			
				S00900 SPT 9.00-9.45 m 8,16,23 N=39			9		CI-CH	Sandy CLAY: medium to high plasticity, off-white, fine to coarse grained sand. Below 9.20m: colour changes to brown mottled white.					* 9.10: PP Samp >600 kPa
				D01000 10.00-10.50 m			10				M (<PL)	H			
				S01050 SPT 10.50-10.83 m 10,18,30/30mm N=48/180mm			11		CI-CH	CLAY trace sand: medium to high plasticity, brown, fine grained sand.					
									SC	Clayey SAND: coarse grained sand, dark-brown mottled white and black, medium plasticity clay.	M	D			
WB		Not Observed		S01200 SPT 12.00-12.45 m 26,25,22 N=47			12		CI-CH	CLAY with gravel: medium to high plasticity, dark-brown, fine to medium sub-angular to angular gravel. Below 12.12m: colour changes brown mottled grey.		VSt		* 12.40: PP Samp >600 kPa	
							13				M (=PL) to M (<PL)				
				S01350 SPT 13.50-13.95 m 7,12,14 N=26			14				H		* 13.70: PP Samp >600 kPa		
				S01500 SPT 15.00-15.45 m 10,16,23 N=39			15		CI	Silty CLAY: medium plasticity, grey mottled brown, indistinctly very thinly laminated.	M (<PL)		* 15.40: PP Samp >600 kPa		
Method AS - Auger Screwing RR - Rock Roller WB- Washbore		Penetration No resistance ranging to refusal		Water Level (Date) Inflow Partial Loss Complete Loss		Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test		Moisture Condition D - Dry M - Moist W - Wet		Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense					
Support C - Casing		Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss		Classification Symbols and Soil Descriptions Based on Unified Soil Classification System		Plastic Limit < PL = PL > PL									

Engineering Log - Borehole

Project No.: B21003

Client: ARTC					Commenced: 07/08/2021				
Project Name: Inland Rail B2G					Completed: 09/08/2021				
Hole Location: N4 - Whetstone Greenfield Corridor					Logged By: A.Sharma				
Hole Coordinates: 321140.7 m E 6880731.5 m N MGA94 Zone 56					Checked By: C.Green				
Drill Model and Mounting: D4TAPG			Inclination: -90°		RL Surface: 322.60 m				
Hole Diameter: 96 - 115 mm			Bearing:		Datum: AHD		Operator: B.Boga		

Drilling Information				Soil Description						Observations					
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
WB		Not Observed		S01650 SPT 16.50-16.83 m 13,23,30/25mm N=53/175mm		305.6	17		CI	Silty CLAY: medium plasticity, grey mottled brown, indistinctly very thinly laminated. (continued)	M (<PL)	H			EXTREMELY WEATHERED MATERIAL
				S01800 SPT 18.00-18.45 m 13,26,31 N=57		304.6	18		Below 16.50m: colour changes to brown-grey mottled orange.	✱ 16.60: PP Samp >600 kPa					
				S01950 SPT 19.50-19.83 m 15,30,30/30mm N=60/180mm		303.6	19		Below 18.00m: colour changes to grey.	✱ 18.40: PP Samp >600 kPa					
						302.6	20		Hole Terminated at 19.95 m Target depth	✱ 19.70: PP Samp >600 kPa					
						301.6	21								
						300.6	22								
						299.6	23								

Method AS - Auger Screwing RR - Rock Roller WB - Washbore	Penetration No resistance ranging to refusal	Water Level (Date) Inflow Partial Loss Complete Loss	Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	Moisture Condition D - Dry M - Moist W - Wet	Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support C - Casing	Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss	Classification Symbols and Soil Descriptions Based on Unified Soil Classification System	Plastic Limit < PL = PL < PL		

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 321140.7 m E 6880731.5 m N MGA94 Zone 56

Commenced: 07/08/2021
Completed: 09/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 96 - 115 mm

Inclination: -90°
Bearing:

RL Surface: 322.60 m
Datum: AHD Operator: B.Boga



310-03-BH3009 Depth Range: 0.50 - 0.95 m



310-03-BH3009 Depth Range: 1.50 - 1.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 321140.7 m E 6880731.5 m N MGA94 Zone 56

Commenced: 07/08/2021
Completed: 09/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 96 - 115 mm

Inclination: -90°
Bearing:

RL Surface: 322.60 m
Datum: AHD Operator: B.Boga



310-03-BH3009 Depth Range: 3.00 - 3.45 m



310-03-BH3009 Depth Range: 4.50 - 4.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 321140.7 m E 6880731.5 m N MGA94 Zone 56

Commenced: 07/08/2021
Completed: 09/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 96 - 115 mm

Inclination: -90°
Bearing:

RL Surface: 322.60 m
Datum: AHD Operator: B.Boga



310-03-BH3009 Depth Range: 6.00 - 6.45 m



310-03-BH3009 Depth Range: 7.50 - 7.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	07/08/2021
Project Name:	Inland Rail B2G	Completed:	09/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	321140.7 m E 6880731.5 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	96 - 115 mm	Bearing:	
		RL Surface:	322.60 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3009 Depth Range: 9.00 - 9.45 m



310-03-BH3009 Depth Range: 10.50 - 10.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 321140.7 m E 6880731.5 m N MGA94 Zone 56

Commenced: 07/08/2021
Completed: 09/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 96 - 115 mm

Inclination: -90°
Bearing:

RL Surface: 322.60 m
Datum: AHD Operator: B.Boga



310-03-BH3009 Depth Range: 12.00 - 12.45 m



310-03-BH3009 Depth Range: 13.50 - 13.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	07/08/2021
Project Name:	Inland Rail B2G	Completed:	09/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	321140.7 m E 6880731.5 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	96 - 115 mm	Bearing:	
		RL Surface:	322.60 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3009 Depth Range: 15.00 - 15.95 m



310-03-BH3009 Depth Range: 16.50 - 16.95 m

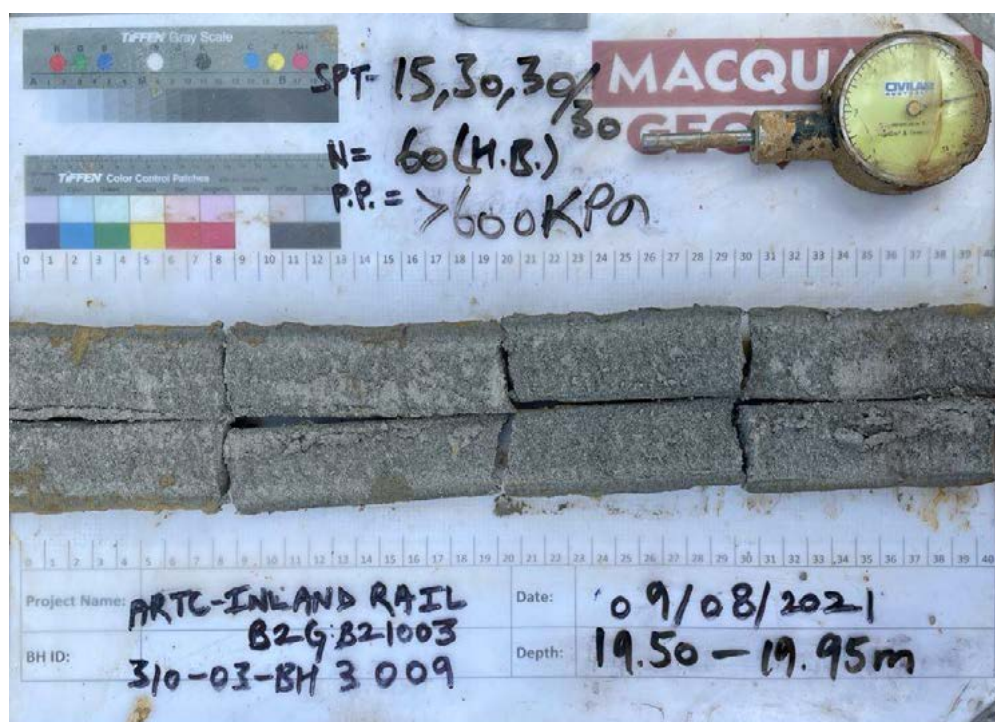
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	07/08/2021
Project Name:	Inland Rail B2G	Completed:	09/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	321140.7 m E 6880731.5 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	96 - 115 mm	Bearing:	
		RL Surface:	322.60 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3009 Depth Range: 18.00 - 18.45 m



310-03-BH3009 Depth Range: 19.50 - 19.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 321294.8 m E 6880843.5 m N MGA94 Zone 56

Commenced: 09/08/2021
Completed: 10/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclinometer: -90° RL Surface: 321.60 m
Hole Diameter: 96 - 115 mm Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations	
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
ADV		Not Observed		J00000 0.00-0.20 m		320.6	1		SC	TOPSOIL: Clayey SAND: fine grained, pale-brown, low plasticity clay, with roots (<2mm).	D	L			TOPSOIL
				J00020 0.20-0.30 m					CI	Clayey SAND: fine grained, brown, low plasticity clay, trace rootlets (<2mm).	M (<PL)	VSt		ALLUVIAL SOIL	
				D00030 0.30-0.50 m					SP	Gravelly Sandy CLAY: medium plasticity, brown to pale brown mottled black, fine grained sand, fine round to sub-angular gravel.	SAND trace gravel: fine grained, brown, fine sub-rounded to rounded gravel.				
				S00050 SPT 0.50-0.95 m 11,15,14 N=29											
				J00030 0.95-1.00 m											
				D00100 1.00-1.40 m					SC	Clayey SAND: coarse grained, brown to pale-brown, medium plasticity clay.	D	MD to D			RESIDUAL SOIL
				S00150 SPT 1.50-1.95 m 9,12,17 N=29											
				D00250 2.50-3.00 m					SP	SAND trace silty: fine to coarse grained, brown.					
				S00300 SPT 3.00-3.45 m 15,20,19 N=39					CI-CH	Gravelly Sandy CLAY: medium to high plasticity, red-brown, fine grained sand, fine to medium angular to su-angular gravel.	M (<PL)	H			3.40: PP Samp >600 kPa
				D00400 4.00-4.50 m											
S00450 SPT 4.50-4.88 m 25,21,17/80mm N=38/230mm	SC	Clayey SAND: fine grained, brown to pale brown, low plasticity clay.	D	VD											
D00550 5.50-6.00 m	CI-CH	Silty CLAY: medium to high plasticity, white mottled brown.					6.40: PP Samp >600 kPa								
S00600 SPT 6.00-6.45 m 8,11,15 N=26															
D00700 7.00-7.50 m		Clayey SAND: fine grained, grey mottled brown, medium plasticity clay. Below 7.67m: colour changes to brown mottled grey.	M	D											
S00750 SPT 7.50-7.95 m 8,15,21															
Method AS - Auger Screwing RR - Rock Roller WB - Washbore Support C - Casing Penetration  No resistance ranging to refusal Graphic Log/Core Loss  Core recovered (hatching indicates material)  Core loss Water  Level (Date)  Inflow  Partial Loss  Complete Loss Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test Moisture Condition D - Dry M - Moist W - Wet Plastic Limit < PL = PL > PL Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense Classification Symbols and Soil Descriptions Based on Unified Soil Classification System															

Method
AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration
No resistance ranging to refusal

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition
D - Dry
M - Moist
W - Wet

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support
C - Casing

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

Plastic Limit
< PL
= PL
< PL

Engineering Log - Borehole

Project No.: B21003

Client: ARTC		Commenced: 09/08/2021														
Project Name: Inland Rail B2G		Completed: 10/08/2021														
Hole Location: N4 - Whetstone Greenfield Corridor		Logged By: A.Sharma														
Hole Coordinates: 321294.8 m E 6880843.5 m N MGA94 Zone 56		Checked By: C.Green														
Drill Model and Mounting: D4TAPG		Inclination: -90°	RL Surface: 321.60 m													
Hole Diameter: 96 - 115 mm		Bearing:	Datum: AHD Operator: B.Boga													
Drilling Information		Soil Description		Observations												
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa) 100 200 300 400 500	Structure and Additional Observations	
AD/N				N=36						Clayey SAND: fine grained, grey mottled brown, medium plasticity clay. (continued)	M	D			RESIDUAL SOIL	
				D00850 8.50-9.00 m					CI-CH	Silty CLAY with sand: medium to high plasticity, grey mottled brown, fine grained sand, indistinctly very thinly laminated.		VSt				
				S00900 SPT 9.00-9.45 m 12,16,23 N=39		312.6	9			Below 9.00m: colour changes to brown mottled grey.		H				* 9.20: PP Samp >600 kPa
				S01050 SPT 10.50-10.83 m 12,11,14/30mm N=25/180mm		311.6	10									* 10.80: PP Samp >600 kPa
				S01200 SPT 12.00-12.45 m 6,10,14 N=24		310.6	11			12.00m: becoming high palstic Below 12.20m: colour changes to grey mottled violet and brown. Below 12.34m: colour changes to grey mottled brown.	M (=PL) to M (<PL)	VSt				* 12.40: PP Samp >600 kPa
WB		Not Observed							CI	Sandy CLAY: medium plasticity, grey mottled brown.						
			S01350 SPT 13.50-13.95 m 12,18,23 N=41		309.6	12			Below 13.50m: colour changes to grey. Below 13.75m: colour changes to brown.		H			* 13.70: PP Samp >600 kPa		
			S01500 SPT 15.00-15.45 m 12,14,19 N=33		308.6	13			Below 15.00m: colour changes to grey.	M (<PL)				* 15.40: PP Samp >600 kPa		
Method		Penetration		Water		Samples and Tests		Moisture Condition		Consistency/Relative Density						
AS - Auger Screwing RR - Rock Roller WB- Washbore		 No resistance ranging to refusal		 Level (Date) Inflow Partial Loss Complete Loss		U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test		D - Dry M - Moist W - Wet		VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense						
Support		Graphic Log/Core Loss		Classification Symbols and Soil Descriptions		Plastic Limit										
C - Casing		 Core recovered (hatching indicates material) Core loss		Based on Unified Soil Classification System		< PL = PL > PL										

Engineering Log - Borehole

Project No.: B21003

Client: ARTC						Commenced: 09/08/2021									
Project Name: Inland Rail B2G						Completed: 10/08/2021									
Hole Location: N4 - Whetstone Greenfield Corridor						Logged By: A.Sharma									
Hole Coordinates: 321294.8 m E 6880843.5 m N MGA94 Zone 56						Checked By: C.Green									
Drill Model and Mounting: D4TAPG						Inclination: -90°		RL Surface: 321.60 m							
Hole Diameter: 96 - 115 mm						Bearing:		Datum: AHD		Operator: B.Boga					
Drilling Information							Soil Description					Observations			
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa) 100 200 300 400 500	Structure and Additional Observations	
WB			Not Observed	S01650 SPT 16.50-16.95 m 12,19,25 N=44		304.6	17		CI	Sandy CLAY: medium plasticity, grey mottled brown. <i>(continued)</i>	M ($<PL$)	H		RESIDUAL SOIL	
													* 16.80: PP Samp >600 kPa		
				S01800 SPT 18.00-18.32 m 17,28,31/20mm N=59/170mm		303.6	18						* 18.30: PP Samp >600 kPa		
				S01950 SPT 19.50-19.84 m 19,30,30/40mm N=60/190mm		301.6	19			Below 19.50m: colour changes to grey.				* 19.80: PP Samp >600 kPa	
				Hole Terminated at 19.95 m Target depth			20								
							21								
							22								
							23								
Legend															
Method AS - Auger Screwing RR - Rock Roller WB- Washbore			Penetration No resistance ranging to refusal			Water Level (Date) Inflow Partial Loss Complete Loss			Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT- Standard Penetration Test			Moisture Condition D - Dry M - Moist W - Wet		Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense	
Support C - Casing			Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss			Classification Symbols and Soil Descriptions Based on Unified Soil Classification System			Plastic Limit $< PL$ $= PL$ $> PL$						

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	09/08/2021
Project Name:	Inland Rail B2G	Completed:	10/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	321294.8 m E 6880843.5 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	96 - 115 mm	Bearing:	
		RL Surface:	321.60 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3010 Depth Range: 0.50 - 0.95 m

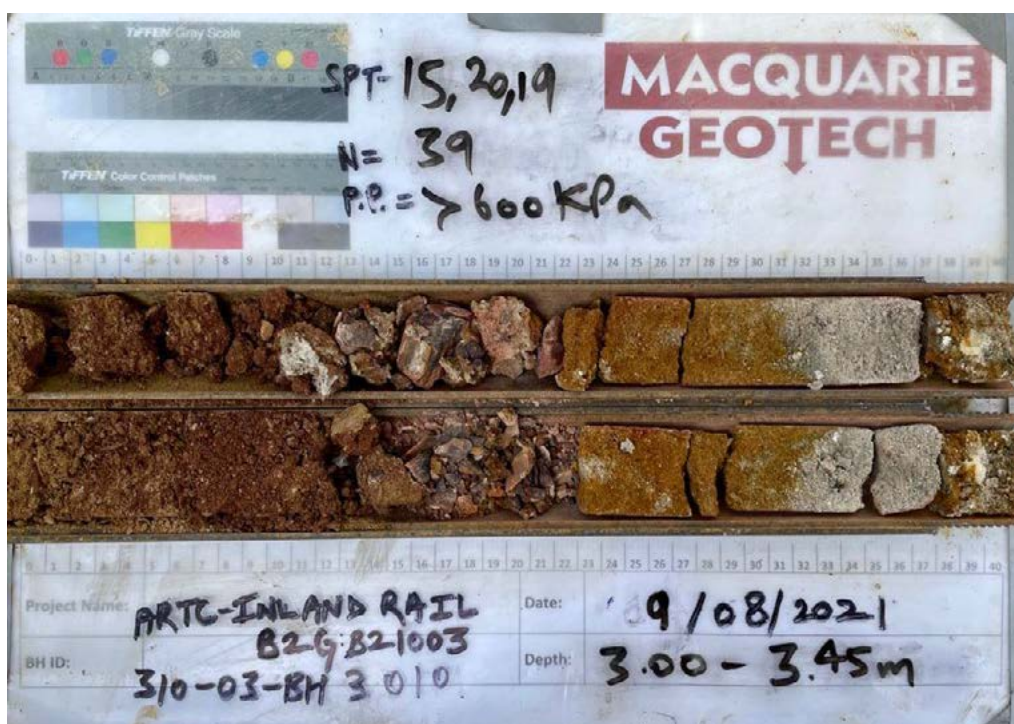


310-03-BH3010 Depth Range: 1.50 - 1.95 m

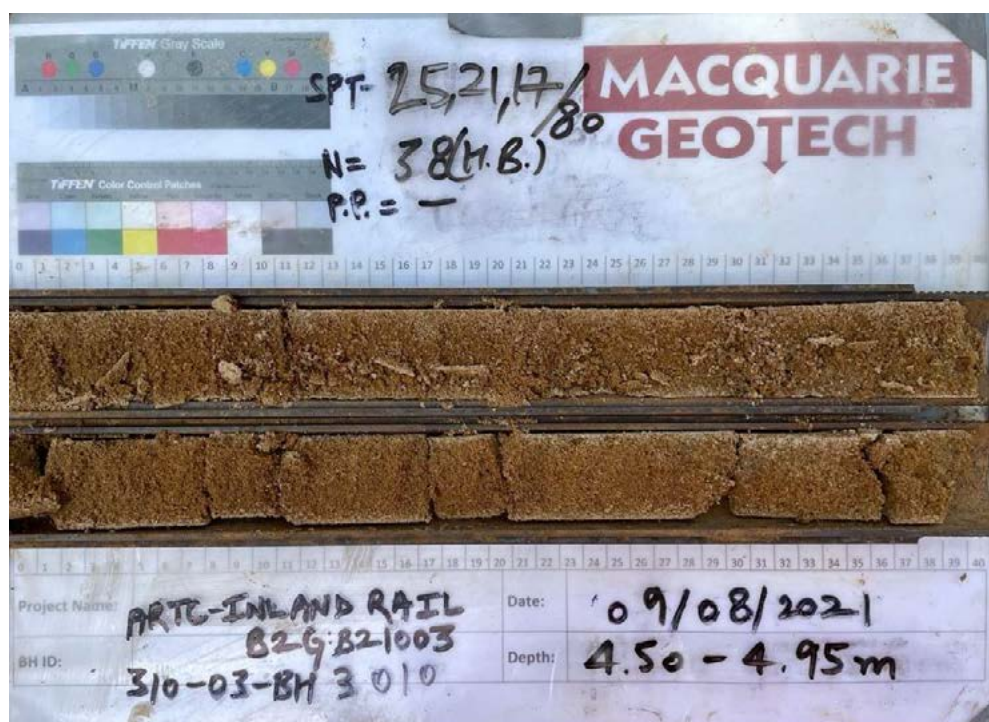
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	09/08/2021
Project Name:	Inland Rail B2G	Completed:	10/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	321294.8 m E 6880843.5 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	96 - 115 mm	Bearing:	
		RL Surface:	321.60 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3010 Depth Range: 3.00 - 3.45 m



310-03-BH3010 Depth Range: 4.50 - 4.95 m

Engineering Log - Borehole

Project No.: B21003

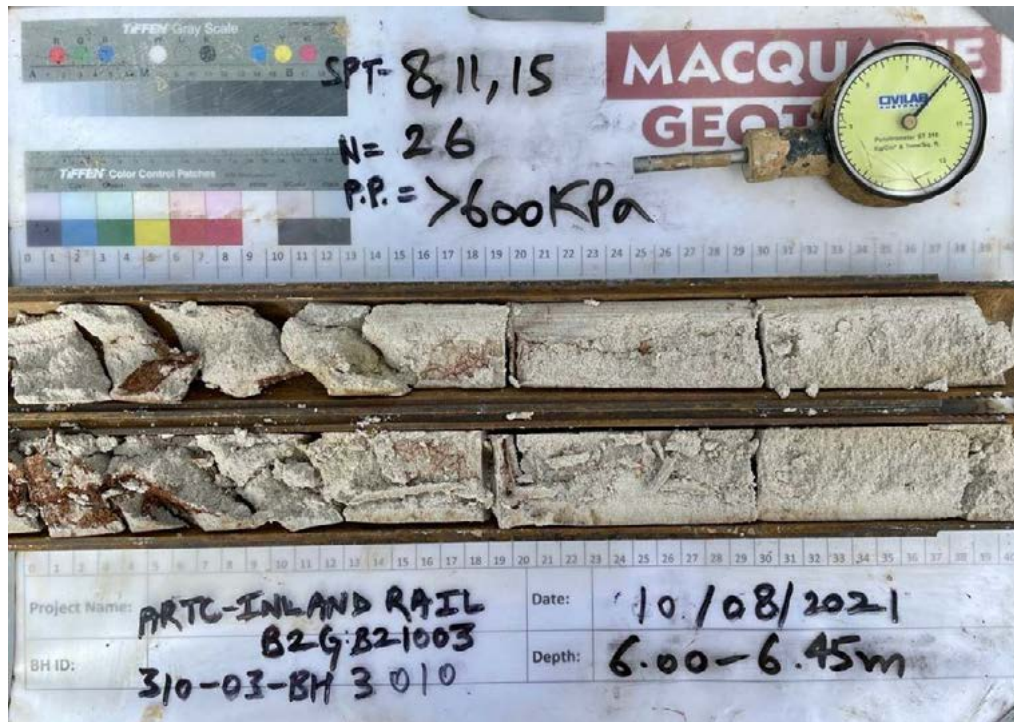
Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 321294.8 m E 6880843.5 m N MGA94 Zone 56

Commenced: 09/08/2021
Completed: 10/08/2021
Logged By: A.Sharma
Checked By: C.Green

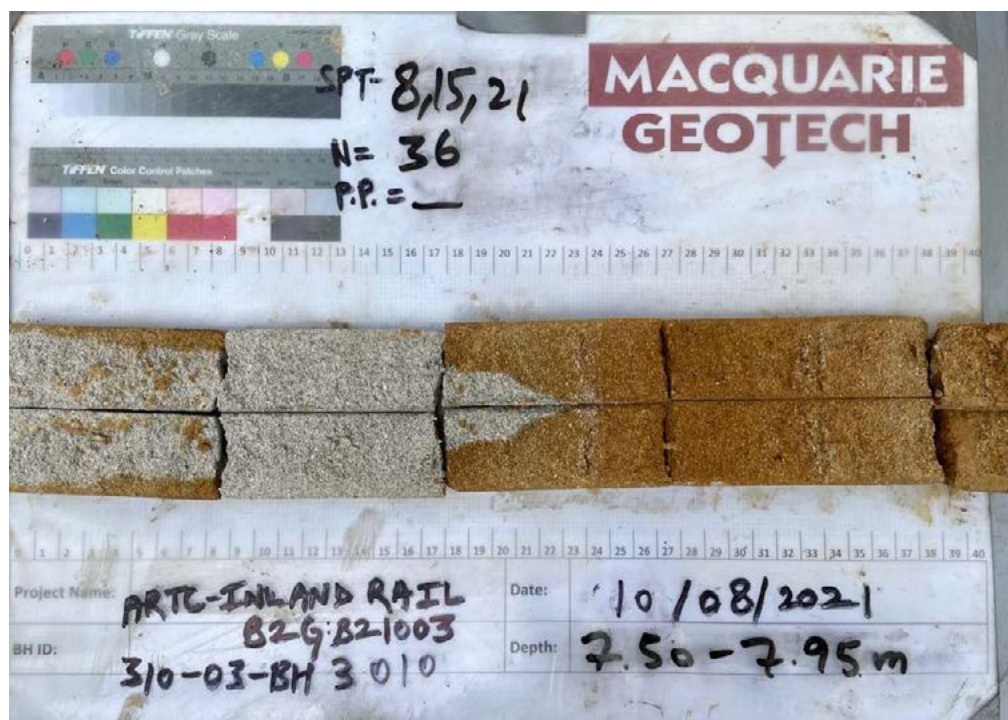
Drill Model and Mounting: D4TAPG
Hole Diameter: 96 - 115 mm

Inclination: -90°
Bearing:

RL Surface: 321.60 m
Datum: AHD Operator: B.Boga



310-03-BH3010 Depth Range: 6.00 - 6.45 m



310-03-BH3010 Depth Range: 7.50 - 7.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 321294.8 m E 6880843.5 m N MGA94 Zone 56

Commenced: 09/08/2021
Completed: 10/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 96 - 115 mm

Inclination: -90°
Bearing:

RL Surface: 321.60 m
Datum: AHD Operator: B.Boga



310-03-BH3010 Depth Range: 9.00 - 9.45 m



310-03-BH3010 Depth Range: 10.50 - 10.95 m

Engineering Log - Borehole

Project No.: B21003

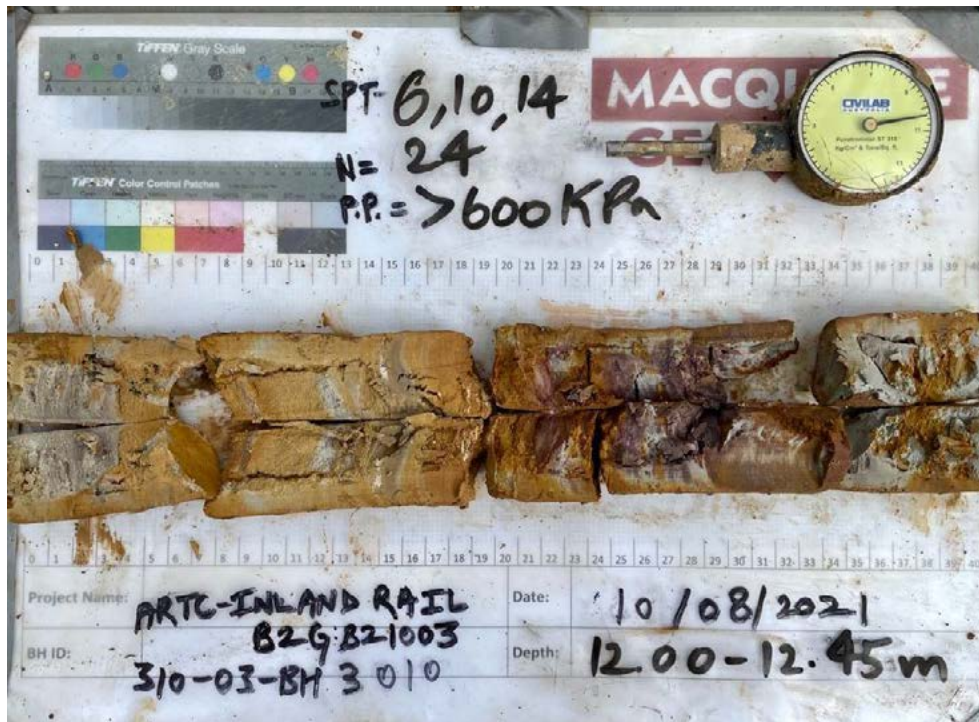
Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 321294.8 m E 6880843.5 m N MGA94 Zone 56

Commenced: 09/08/2021
Completed: 10/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 96 - 115 mm

Inclination: -90°
Bearing:

RL Surface: 321.60 m
Datum: AHD Operator: B.Boga



310-03-BH3010 Depth Range: 12.00 - 12.45 m



310-03-BH3010 Depth Range: 13.50 - 13.95 m

Engineering Log - Borehole

Project No.: B21003

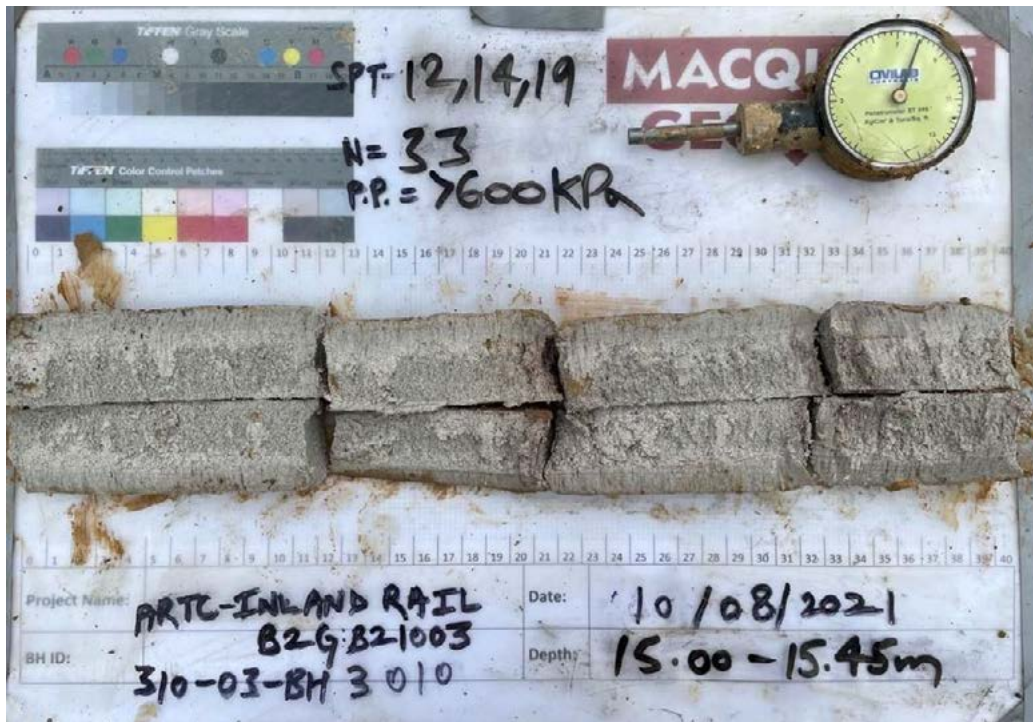
Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 321294.8 m E 6880843.5 m N MGA94 Zone 56

Commenced: 09/08/2021
Completed: 10/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 96 - 115 mm

Inclination: -90°
Bearing:

RL Surface: 321.60 m
Datum: AHD Operator: B.Boga



310-03-BH3010 Depth Range: 15.00 - 15.95 m



310-03-BH3010 Depth Range: 16.50 - 16.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	09/08/2021
Project Name:	Inland Rail B2G	Completed:	10/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	321294.8 m E 6880843.5 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	96 - 115 mm	Bearing:	
		RL Surface:	321.60 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3010 Depth Range: 18.00 - 18.45 m



310-03-BH3010 Depth Range: 19.50 - 19.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297276.1 m E 6847680.4 m N MGA94 Zone 56

Commenced: 21/07/2021
Completed: 21/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclinometer: -90° RL Surface: 283.51 m
Hole Diameter: 115 mm Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
AD/V			Not Observed	J00000 E 0.00-0.20 m J00020 E 0.20-0.30 m D00030 D 0.30-0.50 m J00030 E 0.30-0.90 m S00050 SPT 0.50-0.95 m 2,2,2 N=4 U00100 U 1.00-1.40 m S00150 SPT 1.50-1.85 m 3,8,31/50mm N=39/200mm D00250 D 2.50-3.00 m		282.5	1		SC	TOPSOIL: SAND: fine grained, brown trace rootlets (<2mm)	M	VL			TOPSOIL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297276.1 m E 6847680.4 m N MGA94 Zone 56

Commenced: 21/07/2021
Completed: 21/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 283.51 m
Datum: AHD Operator: B.Boga



310-03-BH3300 Depth Range: 0.50 - 0.95 m



310-03-BH3300 Depth Range: 1.50 - 1.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297276.1 m E 6847680.4 m N MGA94 Zone 56

Commenced: 21/07/2021
Completed: 21/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 283.51 m
Datum: AHD Operator: B.Boga



310-03-BH3300 Depth Range: 3.00 - 3.20 m



310-03-BH3300 Depth Range: 4.50 - 4.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	21/07/2021
Project Name:	Inland Rail B2G	Completed:	21/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	297276.1 m E 6847680.4 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	283.51 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3300 Depth Range: 6.00 - 6.10 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC Project Name: Inland Rail B2G Hole Location: N4 - Whetstone Greenfield Corridor Hole Coordinates: 297276.1 m E 6847680.4 m N MGA94 Zone 56										Commenced: 21/07/2021 Completed: 21/07/2021 Logged By: A.Sharma Checked By: C.Green										
Drill Model and Mounting: D4TAPG Barrel Type and Length: HQ3 4.2 m										Inclination: -90° Bearing: RL Surface: 283.51 m Datum: AHD Operator: B.Boga										
Drilling Information							Rock Substance							Rock Mass Defects						
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling							
										EL VL L M H VH EH	30 100 300 1000 3000	Particular	General							
						282.5	1													
						281.5	2													
						280.5	3													
						279.5	4													
						278.5	5													
						277.5	6		Continued from non-cored borehole sheet											
HQ3	Not Observed		100	0		276.5	7		SANDSTONE: Recovered as fine grained sand, red brown	XW										

Method

AS - Auger Screwing
WB- Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water

Level (Date)
Inflow
Partial Loss
Complete Loss

Graphic Log/Core Loss

Core recovered (hatching indicates material)
Core loss

Weathering

FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Support

T - Timbering

Strength
(indirect tensile strength)

EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC Project Name: Inland Rail B2G Hole Location: N4 - Whetstone Greenfield Corridor Hole Coordinates: 297276.1 m E 6847680.4 m N MGA94 Zone 56										Commenced: 21/07/2021 Completed: 21/07/2021 Logged By: A.Sharma Checked By: C.Green									
Drill Model and Mounting: D4TAPG Barrel Type and Length: HQ3 4.2 m					Inclination: -90° Bearing:					RL Surface: 283.51 m Datum: AHD Operator: B.Boga									
Drilling Information					Rock Substance					Rock Mass Defects									
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling						
													Particular	General					
HQ3	Not Observed		50		0	274.5	9		NO CORE 1.50m										
						273.5	10		Sandy CLAY: low plasticity, red brown, fine grained sand										
						272.5	11												
						271.5	12		Below 12.50m: colour changes to brown mottled red										
WB					270.5	13		Hole Terminated at 12.95 m Target depth											
					269.5	14													
					268.5	15													

Method

AS - Auger Screwing
WB- Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water

≡ Level (Date)
▽ Inflow
△ Partial Loss
▲ Complete Loss

Support

T - Timbering

Graphic Log/Core Loss

Core recovered (hatching indicates material)
 Core loss

Weathering

FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)

EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

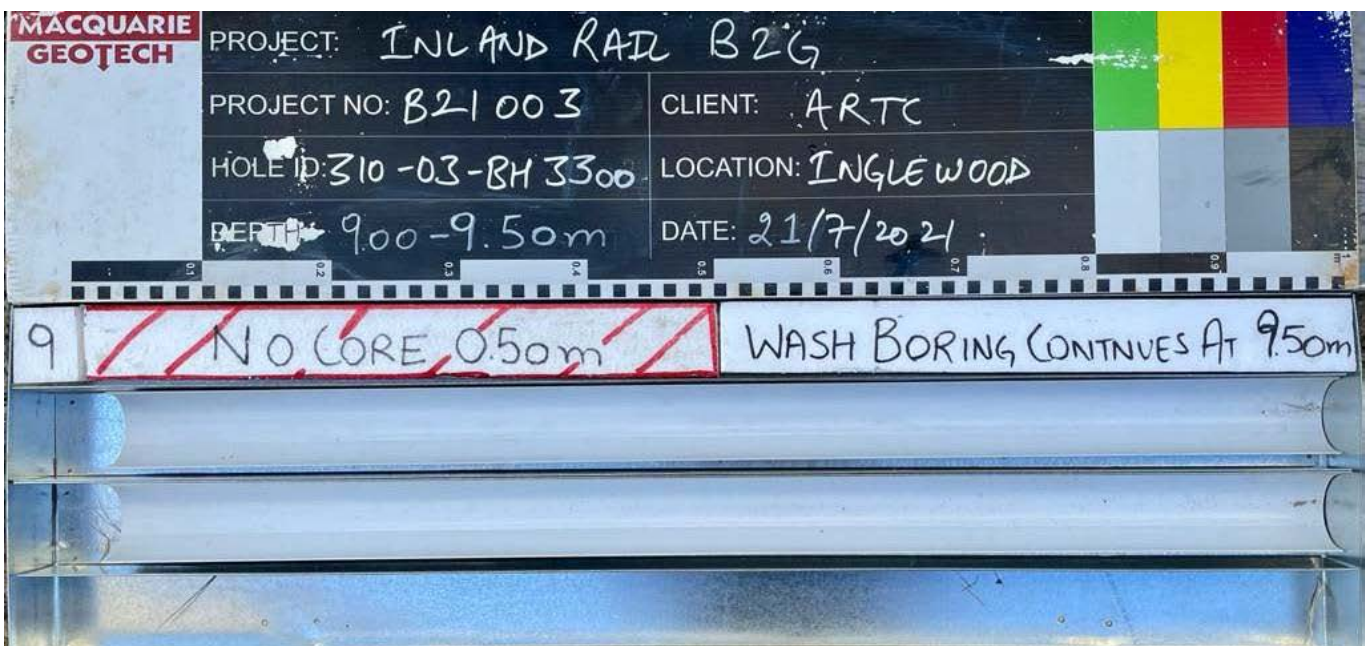
Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297276.1 m E 6847680.4 m N MGA94 Zone 56

Commenced: 21/07/2021
Completed: 21/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclinometer: -90° RL Surface: 283.51 m
Barrel Type and Length: HQ3 4.2 m Bearing: Datum: AHD Operator: B.Boga



PointID : 310-03-BH3300 Depth Range: 6.10 - 9.00 m



PointID : 310-03-BH3300 Depth Range: 9.00 - 9.50 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297276.1 m E 6847680.4 m N MGA94 Zone 56

Commenced: 21/07/2021
Completed: 21/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclusion: -90° RL Surface: 283.51 m
Barrel Type and Length: HQ3 4.2 m Bearing: Datum: AHD Operator: B.Boga



PointID : 310-03-BH3300 Depth Range: 9.50 - 9.95 m



PointID : 310-03-BH3300 Depth Range: 11.00 - 11.45 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297276.1 m E 6847680.4 m N MGA94 Zone 56

Commenced: 21/07/2021
Completed: 21/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Barrel Type and Length: HQ3 4.2 m

Inclination: -90°
Bearing:

RL Surface: 283.51 m
Datum: AHD

Operator: B.Boga



PointID : 310-03-BH3300 Depth Range: 12.50 - 12.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 02/08/2021
Project Name: Inland Rail B2G	Completed: 02/08/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: A.Sharma
Hole Coordinates: 297334.0 m E 6848330.3 m N MGA94 Zone 56	Checked By: C.Green

Drill Model and Mounting: D4TAPG	Inclination: -90°	RL Surface: 295.23 m
Hole Diameter: 115 mm	Bearing:	Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations	
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
ADN			Not Observed	E00000 E 0.00-0.20 m		294.2	1		ML	Clayey SAND: fine grained, brown to pale brown, low plasticity clay, trace rootlets (<2mm) Sandy SILT: low plasticity, off-white mottled pale brown, fine grained sand	D	H			TOPSOIL
				E00020 E 0.20-0.30 m											
				D00030 D 0.30-0.50 m											
				E00030 E 0.30-0.90 m											
				S00050 SPT 0.50-0.68 m 21,30/30mm N=30/30mm											
				D00100 D 1.00-1.50 m		293.2	2		SC	Clayey SAND trace gravel: fine grained, off-white, low plasticity clay, fine rounded to sub-rounded gravel	D	VD			RESIDUAL SOIL
				S00150 SPT 1.50-1.59 m 24/90mm											
				D00250 D 2.50-3.00 m											
				S00300 SPT 3.00-3.06 m 30/60mm											
						291.2	4			Continued on cored borehole sheet					
						290.2	5								
						289.2	6								
						288.2	7								

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB - Washbore	No resistance ranging to refusal 	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss	Classification Symbols and Soil Descriptions	Plastic Limit		
C - Casing	Core recovered (hatching indicates material) Core loss	Based on Unified Soil Classification System	< PL = PL < PL		

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297334.0 m E 6848330.3 m N MGA94 Zone 56

Commenced: 02/08/2021
Completed: 02/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 295.23 m
Datum: AHD Operator: B.Boga



310-03-BH3301 Depth Range: 0.50 - 0.95 m



310-03-BH3301 Depth Range: 1.50 - 1.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297334.0 m E 6848330.3 m N MGA94 Zone 56

Commenced: 02/08/2021
Completed: 02/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 295.23 m
Datum: AHD Operator: B.Boga



310-03-BH3301 Depth Range: 3.00 - 3.15 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297334.0 m E 6848330.3 m N MGA94 Zone 56

Commenced: 02/08/2021
Completed: 02/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclinometer: -90° RL Surface: 295.23 m
Barrel Type and Length: HQ3 30 m Bearing: Datum: AHD Operator: B.Boga

Drilling Information								Rock Substance					Rock Mass Defects										
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral				Defect Spacing (mm)				Defect Description thickness, type, inclination, planarity, roughness, coating/infilling				
											EL VL L M H VH EH				30 100 300 1000 3000	Particular	General						
						294.2	1																
						293.2	2																
						292.2	3		Continued from non-cored borehole sheet														
						291.2	4		SANDSTONE: Recovered as silty gravelly SAND, fine to coarse grained sand, fine to medium sub rounded to sub angular gravel, pale grey orange brown. SANDSTONE: medium to coarse grained, yellow to grey, indistinctly bedded to massive	xw						JT, 0°, PR, VR JT, 15°, PR, RF JT, 15°, PR, RF							
						290.2	5										JT, 30°, UN, RF						
						289.2	6		06.25m SPT, N=60	HW							JT, 10°, PR, RF						
						288.2	7										CS, gravel and clay						
Method AS - Auger Screwing WB- Washbore HQ3 HQ3 Core Barrel NQ3 NQ3 Core Barrel								Water ☒ Level (Date) ☐ Inflow ☐ Partial Loss ▲ Complete Loss				Graphic Log/Core Loss [Hatched Box] Core recovered (hatching indicates material) [Empty Box] Core loss				Weathering FR - Fresh SW - Slightly Weathered DW - Distinctly Weathered XW - Extremely Weathered RS - Residual Soil				Strength (indirect tensile strength) EL - Extremely Low VL - Very Low L - Low M - Medium H - High VH - Very High EH - Extremely High			
HQ3								Not Observed															
								100															
								0															
								100															
								0															

Method
AS - Auger Screwing
WB - Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Support
T - Timbering

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Weathering
FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

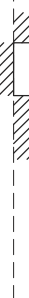
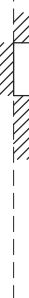
Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297334.0 m E 6848330.3 m N MGA94 Zone 56

Commenced: 02/08/2021
Completed: 02/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclin: -90° RL Surface: 295.23 m
Barrel Type and Length: HQ3 30 m Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Rock Substance					Rock Mass Defects																																			
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling																																		
										EL VL L M H VH EH		30 100 300 1000 3000	Particular	General																																	
HQ3		Not Observed	100		0	286.2	9		SANDSTONE: medium to coarse grained, yellow to grey, indistinctly bedded to massive(continued) 07.10m becoming lateritised 07.10m becoming lateritised(continued)	HW				XS, sand & clay																																	
						285.2	10												XS																												
						284.2	11																JT, 15°, UN, VR																								
						283.2	12																				JT, 5°, Fe SN, PR, RF																				
						282.2	13																								JT, 35°, Fe SN, PR, RF																
						281.2	14																												BP, 0°, CN, PR, RF												
						280.2	15																																BP, 0°, Clay VNR, PR, S BP, 0°, Fe SN, UN, RF								
																																											BP, 5°, Fe SN, PR, RF BP, 10°, Fe SN, UN, RF				

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC Project Name: Inland Rail B2G Hole Location: N4 - Whetstone Greenfield Corridor Hole Coordinates: 297334.0 m E 6848330.3 m N MGA94 Zone 56										Commenced: 02/08/2021 Completed: 02/08/2021 Logged By: A.Sharma Checked By: C.Green										
Drill Model and Mounting: D4TAPG Barrel Type and Length: HQ3 30 m										Inclination: -90° Bearing: RL Surface: 295.23 m Datum: AHD Operator: B.Boga										
Drilling Information							Rock Substance							Rock Mass Defects						
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling							
										EL VL L M H VH EH		30 100 300 1000 3000	Particular	General						
HQ3		Not Observed	100		27	278.2	17		SANDSTONE: medium to coarse grained, red brown and pale grey, massive with indistinctly thin bedding lateritised(continued)	HW			BP, 0°, CN, PR, RF BP, 0°, Fe SN, UN, S BP, 5°, Fe SN, PR, RF BP, 0°, Fe SN, UN, RF							
						277.2	18		Hole Terminated at 18.00 m Target depth											
						276.2	19													
						275.2	20													
						274.2	21													
						273.2	22													
						272.2	23													

Method

AS - Auger Screwing
WB- Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water

Level (Date)
Inflow
Partial Loss
Complete Loss

Support

T - Timbering

Graphic Log/Core Loss

Core recovered (hatching)
indicates material

Core loss

Weathering

FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)

EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297334.0 m E 6848330.3 m N MGA94 Zone 56

Commenced: 02/08/2021
Completed: 02/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclusion: -90° RL Surface: 295.23 m
Barrel Type and Length: HQ3 30 m Bearing: Datum: AHD Operator: B.Boga



PointID : 310-03-BH3301 Depth Range: 3.15 - 6.00 m



PointID : 310-03-BH3301 Depth Range: 6.00 - 10.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	02/08/2021
Project Name:	Inland Rail B2G	Completed:	02/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	297334.0 m E 6848330.3 m N MGA94 Zone 56	Checked By:	C.Green

Drill Model and Mounting:	D4TAPG	Inclination:	-90°	RL Surface:	295.23 m
Barrel Type and Length:	HQ3 30 m	Bearing:		Datum:	AHD
				Operator:	B.Boga



PointID : 310-03-BH3301 Depth Range: 6.25 - 6.68 m

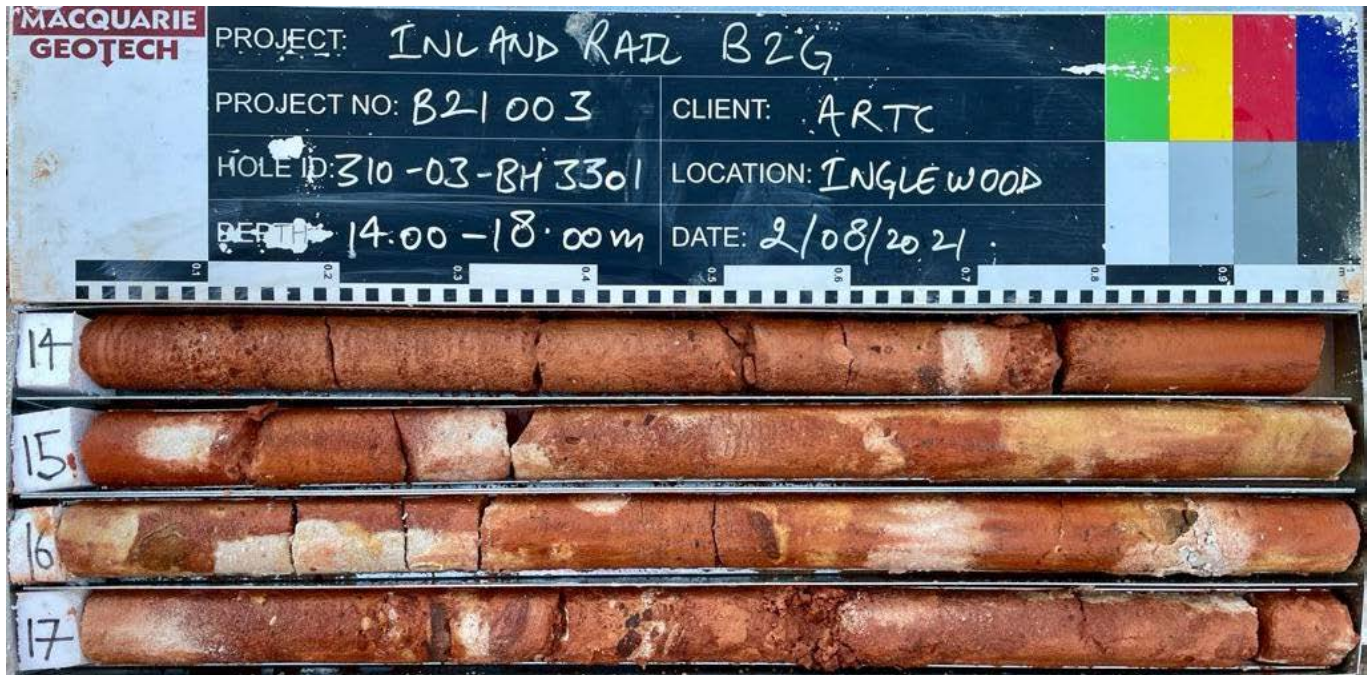


PointID : 310-03-BH3301 Depth Range: 10.00 - 14.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	02/08/2021
Project Name:	Inland Rail B2G	Completed:	02/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	297334.0 m E 6848330.3 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Barrel Type and Length:	HQ3 30 m	RL Surface:	295.23 m
		Bearing:	
		Datum:	AHD
		Operator:	B.Boga



PointID : 310-03-BH3301 Depth Range: 14.00 - 18.00 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297985.7 m E 6849827.1 m N MGA94 Zone 56

Commenced: 20/07/2021
Completed: 20/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: Comacchio 305/Track Inclin: -90° RL Surface: 305.74 m
Hole Diameter: 115 mm Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations	
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
AD/V		Not Observed		J00000 ES 0.00-0.20 m J00020 ES 0.20-0.30 m D00030 D 0.30-0.50 m J00030 ES 0.30-0.90 m S00050 0.50 m S00050 0.50-0.95 m SPT 3,2,3 N=5 D00100 D 1.00-1.50 m S00150 SPT 1.50-1.62 m 3/120mm D00250 D 2.50-3.00 m S00300 SPT 3.00-3.07 m 3/70mm D00400 D 4.00-4.50 m		304.7	1		SC <						

Method
AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration
No resistance ranging to refusal

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition
D - Dry
M - Moist
W - Wet

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support
C - Casing

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

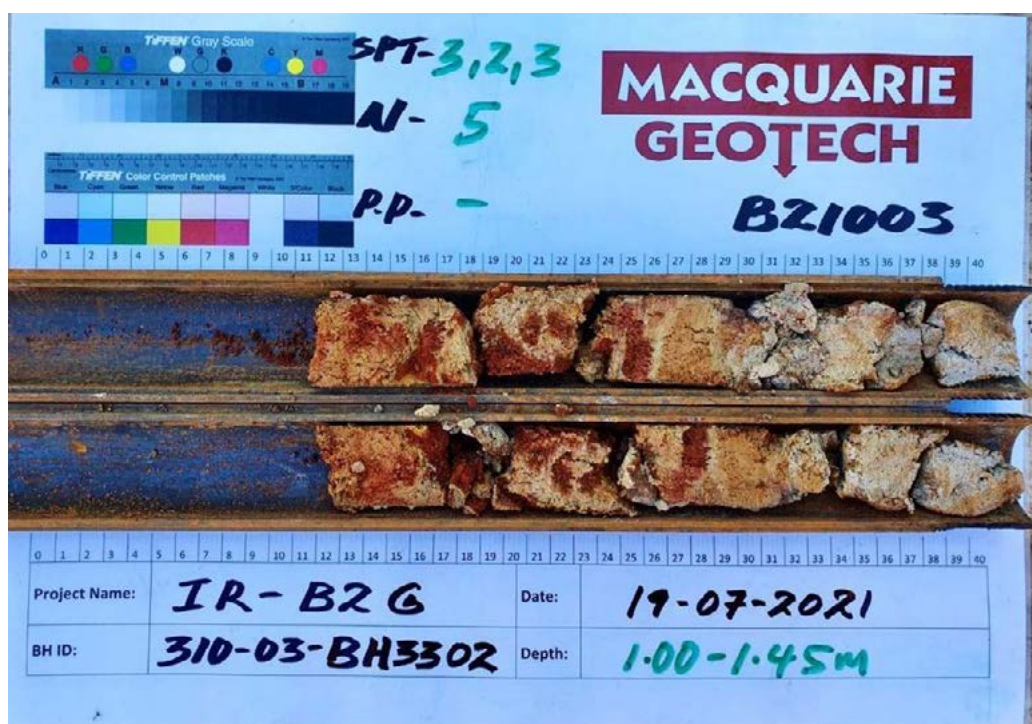
Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

Plastic Limit
< PL
= PL
< PL

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	20/07/2021
Project Name:	Inland Rail B2G	Completed:	20/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	297985.7 m E 6849827.1 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	Comacchio 305/Track	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	305.74 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3302 Depth Range: 1.00 - 1.45 m

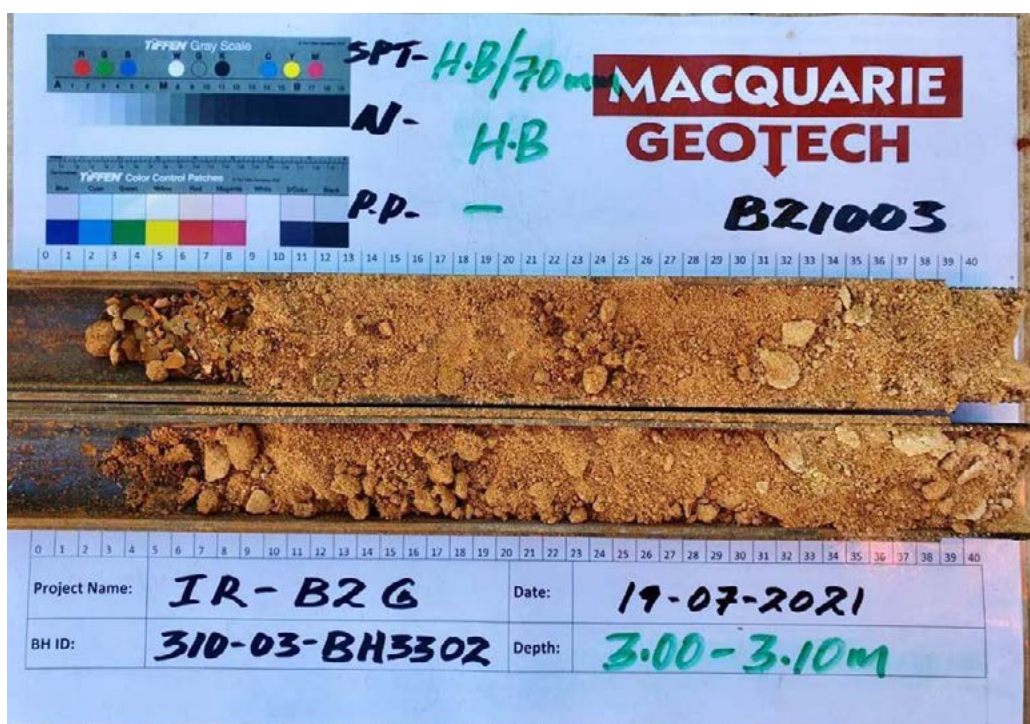


310-03-BH3302 Depth Range: 1.50 - 1.75 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	20/07/2021
Project Name:	Inland Rail B2G	Completed:	20/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	297985.7 m E 6849827.1 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	Comacchio 305/Track	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	305.74 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3302 Depth Range: 3.00 - 3.10 m



310-03-BH3302 Depth Range: 4.50 - 4.60 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC Project Name: Inland Rail B2G Hole Location: N4 - Whetstone Greenfield Corridor Hole Coordinates: 297985.7 m E 6849827.1 m N MGA94 Zone 56										Commenced: 20/07/2021 Completed: 20/07/2021 Logged By: A.Sharma Checked By: C.Green														
Drill Model and Mounting: Comacchio 305/Track Barrel Type and Length: HQ3 4.2 m										Inclination: -90° Bearing: RL Surface: 305.74 m Datum: AHD Operator: B.Boga														
Drilling Information							Rock Substance							Rock Mass Defects										
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral						Defect Spacing (mm)				Defect Description thickness, type, inclination, planarity, roughness, coating/infilling			
											EL	VL	L	M	H	VH	EH	30	100	300	1000	3000	Particular	General
						304.7	1																	
						303.7	2																	
						302.7	3																	
						301.7	4																	
									Continued from non-cored borehole sheet															
						300.7	5		SANDSTONE: medium grained, orange brown and pale grey	HW													BP, 0°, Fe SN, PR, RF BP, 10°, Fe SN, PR, RF JT, 90°, CN, PR, RF	
						299.7	6																BP, 5°, Fe SN, PR, RF BP, 5°, Fe SN, PR, RF	
						298.7	7			MW to HW													BP, 10°, Fe SN, PR, S	

Method

AS - Auger Screwing
WB - Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water

Level (Date)
Inflow
Partial Loss
Complete Loss

Support

T - Timbering

Graphic Log/Core Loss

Core recovered (hatching indicates material)
Core loss

Weathering

FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)

EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

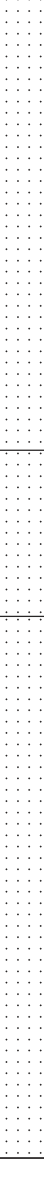
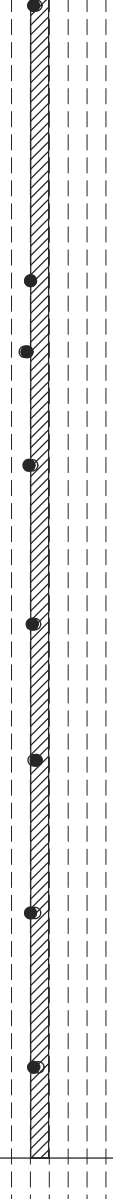
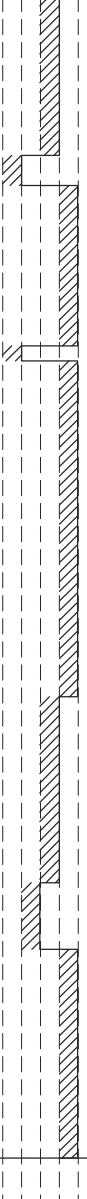
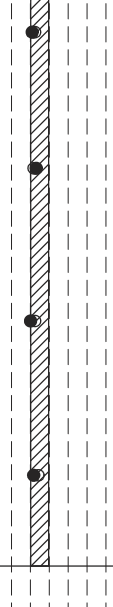
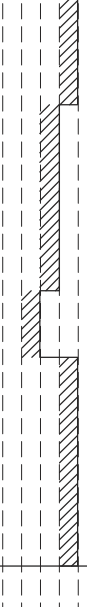
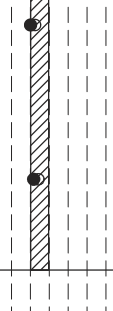
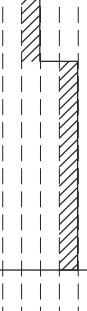
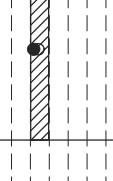
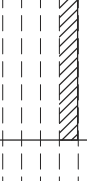
Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297985.7 m E 6849827.1 m N MGA94 Zone 56

Commenced: 20/07/2021
Completed: 20/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: Comacchio 305/Track Inclin: -90° RL Surface: 305.74 m
Barrel Type and Length: HQ3 4.2 m Bearing: Datum: AHD Operator: B.Boga

Drilling Information								Rock Substance					Rock Mass Defects				
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling				
													Particular	General			
HQ3		Not Observed	100		93	296.7	9		SANDSTONE: medium grained, orange brown and pale grey(continued)	MW to HW			BP, 10°, Fe SN, PR, S				
							10		From 9.50m to 10.20m medium to coarse grained, pink grey				BP, 5°, Fe SN, PR, RF BP, 5°, Fe SN, PR, RF BP, 5°, Fe SN, PR, RF				
							11		SANDSTONE: fine to medium grained, pale orange brown				BP, 5°, Fe SN, PR, RF BP, 5°, Fe SN, PR, RF BP, 5°, Fe SN, PR, RF				
			100		97	294.7	12		SANDSTONE: fine to medium grained, pale orange brown	MW			BP, 0°, Clay Vnr, PR, S				
							13		SANDSTONE: fine grained, pink grey, orange brown and grey, distinctly thinly laminated, very close to closely spaced				BP, 10°, Fe SN, PR, RF				
							14						BP, 5°, Clay Vnr, PR, S BP, 5°, Clay SN, PR, S BP, 5°, Clay SN, PR, S				
			100			291.7	15			MW							
			100					290.7			MW						
											Hole Terminated at 15.68 m Target depth						

Method

AS - Auger Screwing
WB- Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water

 Level (Date)
 Inflow
 Partial Loss
 Complete Loss

Support

T - Timbering

Graphic Log/Core Loss

 Core recovered (hatching indicates material)
 Core loss

Weathering

FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)

EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	20/07/2021
Project Name:	Inland Rail B2G	Completed:	20/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	297985.7 m E 6849827.1 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	Comacchio 305/Track	Inclination:	-90°
Barrel Type and Length:	HQ3 4.2 m	RL Surface:	305.74 m
		Bearing:	
		Datum:	AHD
		Operator:	B.Boga



PointID : 310-03-BH3302 Depth Range: 4.50 - 8.00 m



PointID : 310-03-BH3302 Depth Range: 8.00 - 12.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	20/07/2021
Project Name:	Inland Rail B2G	Completed:	20/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	297985.7 m E 6849827.1 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	Comacchio 305/Track	Inclination:	-90°
Barrel Type and Length:	HQ3 4.2 m	RL Surface:	305.74 m
		Bearing:	
		Datum:	AHD
		Operator:	B.Boga



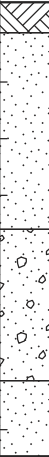
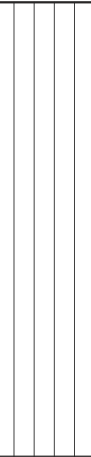
PointID : 310-03-BH3302 Depth Range: 12.00 - 15.68 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 16/08/2021
Project Name: Inland Rail B2G	Completed: 16/08/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: A.Sharma
Hole Coordinates: 298604.3 m E 6850509.8 m N MGA94 Zone 56	Checked By: C.Green

Drill Model and Mounting: D4TAPG	Inclination: -90°	RL Surface: 301.85 m
Hole Diameter: 115 mm	Bearing:	Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations		
Method	Penetration		Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
ADV				Not Observed	D00000 0.00-0.50 m		300.8	1		SC	Clayey SAND: fine grained sand, brown mottled red, medium plasticity, trace roots (<2mm).	W		VL		TOPSOIL
					J00000 0.00-0.20 m	Clayey SAND: fine to medium grained sand, brown-red, medium plasticity.					RESIDUAL SOIL					
					J00020 0.20-0.50 m											
					S00050 SPT 0.50-0.95 m 1,2,1 N=3											
					E00095 0.95-1.00 m		299.8	2		SP	Gravelly SAND with clay: fine to coarse grained, pink mottled grey-brown and white, fine to medium rounded to sub-rounded gravel, medium plasticity clay.	M	VD		EXTREMELY WEATHERED MATERIAL	
				S00150 SPT 1.50-1.60 m 7/100mm												
					D00250 2.50-3.00 m		298.8	3		SC	Clayey SAND trace gravels: fine to coarse grained sand, red brown grey, medium plasticity, fine to medium sub rounded gravel					
							298.8				Continued on cored borehole sheet					
							297.8	4								
							296.8	5								
							295.8	6								
							294.8	7								

Method AS - Auger Screwing RR - Rock Roller WB - Washbore	Penetration  No resistance ranging to refusal	Water  Level (Date)  Inflow  Partial Loss  Complete Loss	Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	Moisture Condition D - Dry M - Moist W - Wet	Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support C - Casing	Graphic Log/Core Loss  Core recovered (hatching indicates material)  Core loss	Classification Symbols and Soil Descriptions Based on Unified Soil Classification System	Plastic Limit < PL = PL < PL		

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 298604.3 m E 6850509.8 m N MGA94 Zone 56

Commenced: 16/08/2021
Completed: 16/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 301.85 m
Datum: AHD Operator: B.Boga



310-03-BH3303 Depth Range: 0.50 - 0.85 m



310-03-BH3303 Depth Range: 1.50 - 1.60 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 298604.3 m E 6850509.8 m N MGA94 Zone 56

Commenced: 16/08/2021
Completed: 16/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclinometer: -90° RL Surface: 301.85 m
Barrel Type and Length: HQ3 3 m Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Rock Substance					Rock Mass Defects					
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral		Defect Spacing (mm)		Defect Description thickness, type, inclination, planarity, roughness, coating/infilling		
											EL VL L M H VH EH	30 100 300 1000 3000	Particular	General			
HQ3		Not Observed	100		40	300.8	1										
						299.8	2										
						298.8	3		Continued from non-cored borehole sheet								
						100		40	298.8		Extremely Weathered SANDSTONE: Recovered as Clayey SAND: fine to medium grained, brown mottled orange, low plasticity clay. SANDSTONE: medium grained, grey mottled orange brown.	XW				BP, 10°, Fe Clay SN, PR, RF BP, 0°, Fe SN, PR, RF BP, 5°, Fe SN, UN, RF BP, 10°, Fe SN, UN, RF	
									297.8			HW				BP, 0°, Fe SN, UN, RF	
									296.8							BP, 5°, Fe SN, PR, RF BP, 0°, Clay CN, PR, S	
									295.8							BP, 5°, Fe SN, PR, RF	
						100		90	294.8		Extremely Weathered SANDSTONE: Recovered as Clayey SAND: fine to medium grained sand, brown mottled orange, low plasticity clay. SANDSTONE: medium grained, grey and orange brown, very thinly bedded.	XW MW				- 6.30: SPT 6.30 - 6.45m N=9/140mm (R) BP, 5°, Fe SN, PR, RF	
Method AS - Auger Screwing WB- Washbore HQ3 HQ3 Core Barrel NQ3 NQ3 Core Barrel Water Level (Date) Inflow Partial Loss Complete Loss Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss Weathering FR - Fresh SW - Slightly Weathered DW - Distinctly Weathered XW - Extremely Weathered RS - Residual Soil Strength (indirect tensile strength) EL - Extremely Low VL - Very Low L - Low M - Medium H - High VH - Very High EH - Extremely High																	

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 298604.3 m E 6850509.8 m N MGA94 Zone 56

Commenced: 16/08/2021
Completed: 16/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclinometer: -90° RL Surface: 301.85 m
Barrel Type and Length: HQ3 3 m Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Rock Substance					Rock Mass Defects			
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling		
										EL VL M H VH EH		30 100 300 1000 3000	Particular	General	
HQ3	Not Observed	100	100	90	292.8	9			SANDSTONE: medium grained, grey and orange brown, very thinly bedded.(continued)	MW			BP, 0°, Fe SN, PR, RF BP, 0°, Fe SN, PR, RF BP, 0°, Fe SN, PR, RF BP, 0°, Fe SN, PR, RF JT, 45°, Fe SN, PR, RF BP, 5°, Fe SN, UN, RF BP, 0°, Fe SN, PR, RF BP, 5°, Fe SN, PR, RF BP, 0°, Fe SN, PR, RF BP, 0°, CN, PR, RF		
									Below 9.30m: coarse grained, pink mottled grey-brown.						
							10		Below 10.00m: coarse grained.						
							11								
							12								
							13								
							14		Hole Terminated at 13.70 m Target depth						
							15								

Method
AS - Auger Screwing
WB - Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water
 Level (Date)
 Inflow
 Partial Loss
 Complete Loss

Support
T - Timbering

Graphic Log/Core Loss
 Core recovered (hatching indicates material)
 Core loss

Weathering
FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	16/08/2021
Project Name:	Inland Rail B2G	Completed:	16/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	298604.3 m E 6850509.8 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Barrel Type and Length:	HQ3 3 m	RL Surface:	301.85 m
		Bearing:	
		Datum:	AHD
		Operator:	B.Boga



PointID : 310-03-BH3303 Depth Range: 3.00 - 6.00 m



PointID : 310-03-BH3303 Depth Range: 6.00 - 10.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	16/08/2021
Project Name:	Inland Rail B2G	Completed:	16/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	298604.3 m E 6850509.8 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Barrel Type and Length:	HQ3 3 m	RL Surface:	301.85 m
		Bearing:	
		Datum:	AHD
		Operator:	B.Boga



PointID : 310-03-BH3303 Depth Range: 6.30 - 6.45 m



PointID : 310-03-BH3303 Depth Range: 10.00 - 13.70 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 304240.2 m E 6855398.2 m N MGA94 Zone 56

Commenced: 27/10/2021
Completed: 28/10/2021
Logged By: A.Sharma
Checked By: J.Cooper

Drill Model and Mounting: Comacchio 305/Track Inclin: -90° RL Surface: 325.32 m
Hole Diameter: 115 mm Bearing: Datum: AHD Operator: J. Komung

Drilling Information							Soil Description							Observations				
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)					Structure and Additional Observations
AD/T		Not Observed		D00000 D 0.20-0.50 m		324.3	1		SC	TOPSOIL: Clayey SAND: fine grained sand, brown, low to medium plasticity, trace rootlets	M	VL					TOPSOIL	
				Clayey SAND: fine grained sand, dark-brown, low plasticity						RESIDUAL SOIL								
				D00050 SPT 0.50-0.95 m 3,2,2 N=4					Clayey SAND with gravel: fine grained sand, red-brown to grey white, fine to medium plasticity, fine to coarse sub-rounded to rounded gravel	EXTREMELY WEATHERED MATERIAL								
				D00100 D 1.00-1.50 m							RESIDUAL SOIL							
S00150 SPT 1.50-1.83 m 3,4,30/30mm N=34/180mm	Below 2.00m: colour changes to white	D	D															
D00200 D 2.00-2.50 m																		
						322.3	3			Continued on cored borehole sheet								
						321.3	4											
						320.3	5											
						319.3	6											
						318.3	7											
<u>Method</u> AS - Auger Screwing RR - Rock Roller WB- Washbore <u>Support</u> C - Casing <u>Penetration</u>  No resistance ranging to refusal <u>Graphic Log/Core Loss</u>  Core recovered (hatching indicates material)  Core loss <u>Water</u>  Level (Date)  Inflow  Partial Loss  Complete Loss <u>Samples and Tests</u> U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test <u>Classification Symbols and Soil Descriptions</u> Based on Unified Soil Classification System <u>Moisture Condition</u> D - Dry M - Moist W - Wet <u>Plastic Limit</u> < PL = PL < PL <u>Consistency/Relative Density</u> VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense																		

Method
AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration
No resistance ranging to refusal

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition
D - Dry
M - Moist
W - Wet

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support
C - Casing

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

Plastic Limit
< PL
= PL
< PL

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	27/10/2021
Project Name:	Inland Rail B2G	Completed:	28/10/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	304240.2 m E 6855398.2 m N MGA94 Zone 56	Checked By:	J.Cooper
Drill Model and Mounting:	Comacchio 305/Track	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	325.32 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3304 Depth Range: 0.50 - 0.95 m



310-03-BH3304 Depth Range: 1.50 - 1.92 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 304240.2 m E 6855398.2 m N MGA94 Zone 56

Commenced: 27/10/2021
Completed: 28/10/2021
Logged By: A.Sharma
Checked By: J.Cooper

Drill Model and Mounting: Comacchio 305/Track Inclin: -90° RL Surface: 325.32 m
Barrel Type and Length: HQ3 3 m Bearing: Datum: AHD Operator: J. Komung

Drilling Information								Rock Substance					Rock Mass Defects				
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling				
										EL VL L M H VH EH		30 100 300 1000 3000	Particular	General			
							1										
							2										
									Continued from non-cored borehole sheet								
HQ3	Not Observed	100	88	322.3	321.3	320.3	3		SANDSTONE: coarse grained, yellow brown, massive	MW	●			JT, 0°, CN, PR, RF			
							4	From 4.0m becoming very thin cross bedded				JT, 0°, CN, PR, RF					
							5	Below 4.60m: colour changes to pale-brown mottled pink		●							
							6	Below 5.45m: colour changes to pale-brown with irregular white	SW	●		BP, 0°, CN, UN, RF					
							7	Below 7.00m: colour changes to brown		●		BP, 0°, CN, UN, RF					
Method AS - Auger Screwing WB- Washbore HQ3 HQ3 Core Barrel NQ3 NQ3 Core Barrel Water Level (Date) Inflow Partial Loss Complete Loss Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss Weathering FR - Fresh SW - Slightly Weathered DW - Distinctly Weathered XW - Extremely Weathered RS - Residual Soil Strength (indirect tensile strength) EL - Extremely Low VL - Very Low L - Low M - Medium H - High VH - Very High EH - Extremely High Support T - Timbering																	

Method
AS - Auger Screwing
WB - Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water
Level (Date)
Inflow
Partial Loss
Complete Loss
Support
T - Timbering

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Weathering
FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

[illegible]

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	27/10/2021
Project Name:	Inland Rail B2G	Completed:	28/10/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	304240.2 m E 6855398.2 m N MGA94 Zone 56	Checked By:	J.Cooper

Drill Model and Mounting:	Comacchio 305/Track	Inclination:	-90°	RL Surface:	325.32 m	
Barrel Type and Length:	HQ3 3 m	Bearing:		Datum:	AHD	Operator: J. Komung

Drilling Information								Rock Substance					Rock Mass Defects																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral			Defect Spacing (mm)		Defect Description thickness, type, inclination, planarity, roughness, coating/infilling																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
HQ3		Not Observed	100		99	308.3	17		SANDSTONE: coarse grained, pale brown grey, indistinctly thinly bedded	FR	EL	VL	L	M	H	VH	EH	30	100	300	1000	3000	Particular	General																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
						307.3	18		Below 18.00m: colour changes to dark-brown mottled white		●	●	●	●	●	●	●	●	●	●	●	●			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Method
AS - Auger Screwing
WB - Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water
Level (Date)
Inflow
Partial Loss
Complete Loss
Support
T - Timbering

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Weathering
FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 304240.2 m E 6855398.2 m N MGA94 Zone 56

Commenced: 27/10/2021
Completed: 28/10/2021
Logged By: A.Sharma
Checked By: J.Cooper

Drill Model and Mounting: Comacchio 305/Track Inclusion: -90° RL Surface: 325.32 m
Barrel Type and Length: HQ3 3 m Bearing: Datum: AHD Operator: J. Komung



PointID : 310-03-BH3304 Depth Range: 2.75 - 7.00 m



PointID : 310-03-BH3304 Depth Range: 7.00 - 12.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 304240.2 m E 6855398.2 m N MGA94 Zone 56

Commenced: 27/10/2021
Completed: 28/10/2021
Logged By: A.Sharma
Checked By: J.Cooper

Drill Model and Mounting: Comacchio 305/Track Inclusion: -90° RL Surface: 325.32 m
Barrel Type and Length: HQ3 3 m Bearing: Datum: AHD Operator: J. Komung



PointID : 310-03-BH3304 Depth Range: 12.00 - 17.00 m



PointID : 310-03-BH3304 Depth Range: 17.00 - 22.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 304240.2 m E 6855398.2 m N MGA94 Zone 56

Commenced: 27/10/2021
Completed: 28/10/2021
Logged By: A.Sharma
Checked By: J.Cooper

Drill Model and Mounting: Comacchio 305/Track Inclinometer: -90° RL Surface: 325.32 m
Barrel Type and Length: HQ3 3 m Bearing: Datum: AHD Operator: J. Komung



PointID : 310-03-BH3304 Depth Range: 22.00 - 22.50 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 22/07/2021
Project Name: Inland Rail B2G	Completed: 22/07/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: A.Sharma
Hole Coordinates: 3051109.1 m E 6856078.5 m N MGA94 Zone 56	Checked By: C.Green
Drill Model and Mounting: Comacchio Geo305/Track	Inclination: -90°
Hole Diameter: 115 mm	Bearing:
	RL Surface: 332.24 m
	Datum: AHD
	Operator: B.Boga

Drilling Information							Soil Description						Observations																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)				Structure and Additional Observations																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
AD/V		Not Observed		J00000 E 0.00-0.20 m		331.2	1		CL	TOPSOIL: Clayey SILT with gravel: medium plasticity, dark-brown mottled white, fine to coarse rounded to sub-rounded gravel	M (PL)	H				TOPSOIL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
				J00020 E 0.20-0.50 m						Silty CLAY: medium plasticity, grey brown and grey						RESIDUAL SOIL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
				J00050 E 0.50-0.70 m													Silty CLAY: high plasticity, grey to pale brown	* 0.70: PP Samp >600 kPa																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
				S00050 SPT 0.50-0.95 m 10,25,26 N=51															CLAY: medium plasticity, grey mottled brown	* 1.50: PP Samp >600 kPa																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
				D00100 D 1.00-1.50 m																	CLAY trace sand gravel: medium plasticity, grey, fine to coarse sand, fine sub rounded gravel	* 3.00: PP Samp >600 kPa																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
				S00150 SPT 1.50-1.68 m 11,30/30mm N=30/30mm																			Below 3.50m: colour changes to off white to grey	* 4.50: PP Samp >600 kPa																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
				D00250 D 2.50-3.00 m																					Continued on cored borehole sheet																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
				S00400 SPT 3.00-3.19 m 22,30/40mm N=30/40mm																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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MG 4.02 LUB LIB Log MG BOREHOLE EXCL DCP MG 4.02 GPJ <<DrawingFile>> 2602/2022 23.01 10.02.00.04 Daugel Lab and In Situ Tool - DGD Lib: DGD-P 4.01.2 dpt 3.04.2018-07-02 Pjt: DGD-P 4.00.6 2017-11-25

Method
AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration
No resistance
ranging to
refusal

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition
D - Dry
M - Moist
W - Wet

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support
C - Casing

Graphic Log/Core Loss
Core recovered (hatching
indicates material)
Core loss

**Classification Symbols
and Soil Descriptions**
Based on Unified Soil
Classification System

Plastic Limit
< PL
= PL
< PL

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 3051109.1 m E 6856078.5 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 22/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: Comacchio Geo305/Track
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 332.24 m
Datum: AHD Operator: B.Boga



310-03-BH3305 Depth Range: 0.50 - 0.95 m



310-03-BH3305 Depth Range: 1.50 - 1.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 3051109.1 m E 6856078.5 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 22/07/2021
Logged By: A.Sharma
Checked By: C.Green

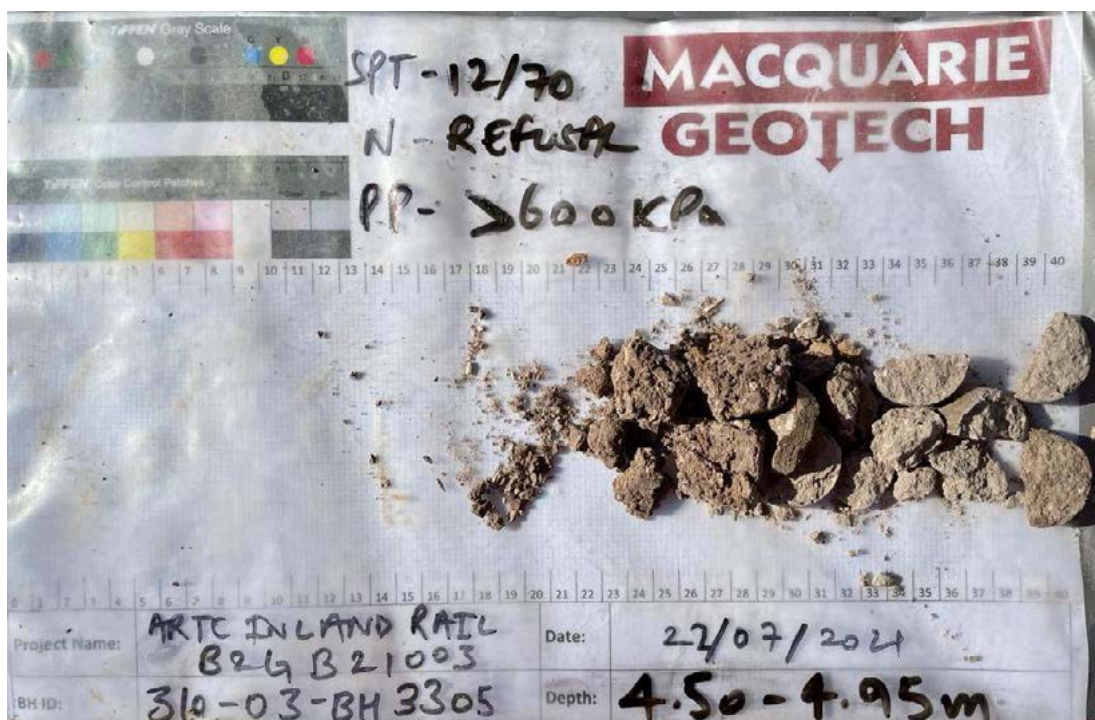
Drill Model and Mounting: Comacchio Geo305/Track
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 332.24 m
Datum: AHD Operator: B.Boga



310-03-BH3305 Depth Range: 3.00 - 3.45 m



310-03-BH3305 Depth Range: 4.50 - 4.95 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC Project Name: Inland Rail B2G Hole Location: N4 - Whetstone Greenfield Corridor Hole Coordinates: 3051109.1 m E 6856078.5 m N MGA94 Zone 56										Commenced: 22/07/2021 Completed: 22/07/2021 Logged By: A.Sharma Checked By: C.Green																			
Drill Model and Mounting: Comacchio Geo305/Track Barrel Type and Length:										Inclination: -90° Bearing:										RL Surface: 332.24 m Datum: AHD Operator: B.Boga									
Drilling Information										Rock Substance										Rock Mass Defects									
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling																
										EL VL L M H VH EH	30 100 300 1000 3000	Particular	General																
						331.2	1																						
						330.2	2																						
						329.2	3																						
						328.2	4																						
						327.2	5	Continued from non-cored borehole sheet																					
						326.2	6	SANDSTONE: medium to coarse grained, orange brown	HW	●		BP, 0°, Fe SN, PR, RF																	
						325.2	7	SANDSTONE: medium grained, yellow brown and pale grey																					
								Below 6.40m very thinly bedded closely to medium spaced	MW	●		BP, 0°, Fe SN, PR, RF																	
												BP, 0°, Fe SN, PR, RF																	

Method

AS - Auger Screwing
WB - Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water

≡ Level (Date)
▽ Inflow
△ Partial Loss
▲ Complete Loss

Graphic Log/Core Loss

Core recovered (hatching indicates material)
Core loss

Weathering

FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Support

T - Timbering

Strength
(indirect tensile strength)

EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 3051109.1 m E 6856078.5 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 22/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: Comacchio Geo305/Track Inclin: -90° RL Surface: 332.24 m
Barrel Type and Length: Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Rock Substance					Rock Mass Defects			
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling		
HQ3		Not Observed	100		100	323.2	9		SANDSTONE: medium to coarse grained, orange brown	MW			Particular	General	
							SANDSTONE: medium grained, pale grey and pink grey		BP, 0°, Fe SN, PR, RF						
			100		100	322.2	10		NO CORE 1.235m					BP, 0°, Fe SN, UN, RF	
							SANDSTONE: medium to coarse grained, orange brown, pale grey and pink, distinctly thinly laminated very closely spaced		BP, 0°, Fe SN, PR, RF						
			100		100	321.2	11		SANDSTONE: medium to coarse grained, orange brown, pale grey and pink, distinctly thinly laminated very closely spaced	MW				BP, 0°, Fe SN, UN, RF	
							SANDSTONE: medium grained, yellow brown and pale grey, indistinctly thinly laminated very closely to closely spaced		JT, 75°, Fe SN, PR, RF						
			100		100	320.2	12							BP, 0°, Fe SN, UN, RF	
									JT, 75°, Fe SN, PR, RF						
			100		100	319.2	13							SH, 0°, Clay FILLED, DIS, S	
			100		100	318.2	14							BP, 0°, CN, PR, RF	
100		100	317.2	15							BP, 0°, Fe SN, PR, RF				
Method AS - Auger Screwing WB- Washbore HQ3 HQ3 Core Barrel NQ3 NQ3 Core Barrel			Water Level (Date) Inflow Partial Loss Complete Loss			Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss			Weathering FR - Fresh SW - Slightly Weathered DW - Distinctly Weathered XW - Extremely Weathered RS - Residual Soil			Strength (indirect tensile strength) EL - Extremely Low VL - Very Low L - Low M - Medium H - High VH - Very High EH - Extremely High			
			Support T - Timbering												

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC		Commenced: 22/07/2021	
Project Name: Inland Rail B2G		Completed: 22/07/2021	
Hole Location: N4 - Whetstone Greenfield Corridor		Logged By: A.Sharma	
Hole Coordinates: 3051109.1 m E 6856078.5 m N MGA94 Zone 56		Checked By: C.Green	
Drill Model and Mounting: Comacchio Geo305/Track		Inclination: -90°	
Barrel Type and Length:		RL Surface: 332.24 m	
		Datum: AHD Operator: B.Boga	

Drilling Information				Rock Substance				Rock Mass Defects					
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling
													Particular
HQ3		Not Observed	100		100	315.2	17		SANDSTONE: coarse grained, orange brown and pale grey, indistinctly very thinly laminated, very closely to closely spaced From 16.05m to 16.60m distinctly very thinly laminated Below 17.60m distinctly very thinly laminated	MW			BP, 5°, Fe SN, PR, RF BP, 10°, Fe SN, PR, RF
						314.2	18		Hole Terminated at 17.90 m Target depth				
						313.2	19						
						312.2	20						
						311.2	21						
						310.2	22						
						309.2	23						

Method
AS - Auger Screwing
WB- Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water
≡ Level (Date)
▽ Inflow
△ Partial Loss
▲ Complete Loss

Support
T - Timbering

Graphic Log/Core Loss
 Core recovered (hatching indicates material)
 Core loss

Weathering
FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 3051109.1 m E 6856078.5 m N MGA94 Zone 56

Commenced: 22/07/2021
Completed: 22/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: Comacchio Geo305/Track Inclination: -90° RL Surface: 332.24 m
Barrel Type and Length: Bearing: Datum: AHD Operator: B.Boga



PointID : 310-03-BH3305 Depth Range: 4.95 - 8.00 m



PointID : 310-03-BH3305 Depth Range: 8.00 - 12.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	22/07/2021
Project Name:	Inland Rail B2G	Completed:	22/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	3051109.1 m E 6856078.5 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	Comacchio Geo305/Track	Inclination:	-90°
Barrel Type and Length:		RL Surface:	332.24 m
		Bearing:	
		Datum:	AHD
		Operator:	B.Boga



PointID : 310-03-BH3305 Depth Range: 12.00 - 16.00 m



PointID : 310-03-BH3305 Depth Range: 16.00 - 17.90 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 24/07/2021
Project Name: Inland Rail B2G	Completed: 24/07/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: A.Sharma
Hole Coordinates: 305378.1 m E 6856297.5 m N MGA94 Zone 56	Checked By: C.Green
Drill Model and Mounting: Comacchio Geo305/Track	Inclination: -90°
Hole Diameter: 115 mm	Bearing: RL Surface: 336.11 m
	Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations	
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
ADV			Not Observed	J00000 ES 0.00-0.20 m		335.1	1		CL	TOPSOIL: Silty SAND, brown mottled red, fine grained sand, trace rootlets (<2mm)	M (=PL) to M (<PL)	S		x	TOPSOIL
	J00020 ES 0.20-0.50 m	Clayey SAND: fine grained sand, brown mottled red, low plasticity		RESIDUAL SOIL											
	D00030 D 0.30-0.50 m			0.70: PP Samp =210 kPa											
				J00050 ES 0.50-0.70 m		334.1	2		SM	Silty SAND: fine to coarse grained, white mottled brown trace sub rounded gravel	D	VD			EXTREMELY WEATHERED MATERIAL
		S00050 SPT 0.50-0.95 m													
		2,1,1 N=2 D00100 D 1.00-1.50 m													
				S00150 SPT 1.50-1.61 m		333.1	3			Continued on cored borehole sheet					
						332.1	4								
						331.1	5								
						330.1	6								
						329.1	7								

Method AS - Auger Screwing RR - Rock Roller WB - Washbore	Penetration 	Water Level (Date) Inflow Partial Loss Complete Loss	Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	Moisture Condition D - Dry M - Moist W - Wet	Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support C - Casing	Graphic Log/Core Loss 	Classification Symbols and Soil Descriptions Based on Unified Soil Classification System	Plastic Limit < PL = PL < PL		

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 305378.1 m E 6856297.5 m N MGA94 Zone 56

Commenced: 24/07/2021
Completed: 24/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: Comacchio Geo305/Track
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 336.11 m
Datum: AHD Operator: B.Boga



310-03-BH3306 Depth Range: 0.50 - 0.95 m



310-03-BH3306 Depth Range: 1.50 - 1.95 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 305378.1 m E 6856297.5 m N MGA94 Zone 56

Commenced: 24/07/2021
Completed: 24/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: Comacchio Geo305/Track Inclin: -90° RL Surface: 336.11 m
Barrel Type and Length: HQ3 4.2 m Bearing: Datum: AHD Operator: B.Boga

Drilling Information								Rock Substance					Rock Mass Defects				
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling				
										EL VL L M H VH EH		30 100 300 1000 3000	Particular	General			
HQ3	Not Observed	100	100	80	100	335.1	1										
						334.1	2										
						333.1	3		Continued from non-cored borehole sheet								
						332.1	4		SANDSTONE: medium grained, white and yellow brown, distinctly very thinly to thinly bedded, very closely to closely spaced								
						331.1	5										
						330.1	6										
						329.1	7										
Method AS - Auger Screwing WB- Washbore HQ3 HQ3 Core Barrel NQ3 NQ3 Core Barrel Water Level (Date) Inflow Partial Loss Complete Loss Support T - Timbering Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss Weathering FR - Fresh SW - Slightly Weathered DW - Distinctly Weathered XW - Extremely Weathered RS - Residual Soil Strength (indirect tensile strength) EL - Extremely Low VL - Very Low L - Low M - Medium H - High VH - Very High EH - Extremely High																	

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 305378.1 m E 6856297.5 m N MGA94 Zone 56

Commenced: 24/07/2021
Completed: 24/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: Comacchio Geo305/Track Inclin: -90° RL Surface: 336.11 m
Barrel Type and Length: HQ3 4.2 m Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Rock Substance					Rock Mass Defects				
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral		Defect Spacing (mm)		Defect Description thickness, type, inclination, planarity, roughness, coating/infilling	
											EL VL L M H VH EH	30 100 300 1000 3000			Particular	General
HQ3									SANDSTONE: medium grained, white and yellow brown, distinctly very thinly to thinly bedded, very closely to closely spaced(continued)	MW					BP, 5°, CN, PR, RF	
Not Observed							9								BP, 0°, CN, PR, RF	
							10								BP, 0°, Fe SN, PR, RF	
							11								BP, 0°, CN, PR, RF	
							12								BP, 0°, Clay VNR, PR, RF	
							13								BP, 0°, Fe SN, PR, RF	
							14								BP, 0°, CN, PR, RF	
							15								BP, 0°, Fe SN, PR, RF	
															BP, 5°, Fe SN, UN, RF	
															BP, 10°, Fe SN, PR, RF	
													BP, 5°, Clay VNR, UN, RF			
													BP, 5°, Fe SN, PR, RF			
													BP, 0°, Fe SN, PR, RF			

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 305378.1 m E 6856297.5 m N MGA94 Zone 56

Commenced: 24/07/2021
Completed: 24/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: Comacchio Geo305/Track Inclin: -90° RL Surface: 336.11 m
Barrel Type and Length: HQ3 4.2 m Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Rock Substance				Rock Mass Defects			
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling	
										EL VL L M H VH EH		30 100 300 1000 3000	Particular	General
HQ3	Not Observed	100	100	100	100	319.1	17		SANDSTONE: medium grained, white and yellow brown, distinctly very thinly to thinly bedded, very closely to closely spaced(continued)	MW			BP, 5°, Fe SN, UN, RF	
						318.1	18		From 17.70m to 18.95m coarse grained				BP, 0°, Fe SN, PR, RF	
						317.1	19		From 19.50m to 19.75m pink grey				BP, 5°, Clay VNR, PR, S	
						316.1	20		Below 19.80m coarse grained				BP, 5°, CN, UN, RF	
						313.1	23		Hole Terminated at 20.18 m Target depth				BP, 0°, CN, PR, RF	
						315.1	21							
						314.1	22							
						313.1	23							

Method
AS - Auger Screwing
WB- Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Support
T - Timbering

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Weathering
FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

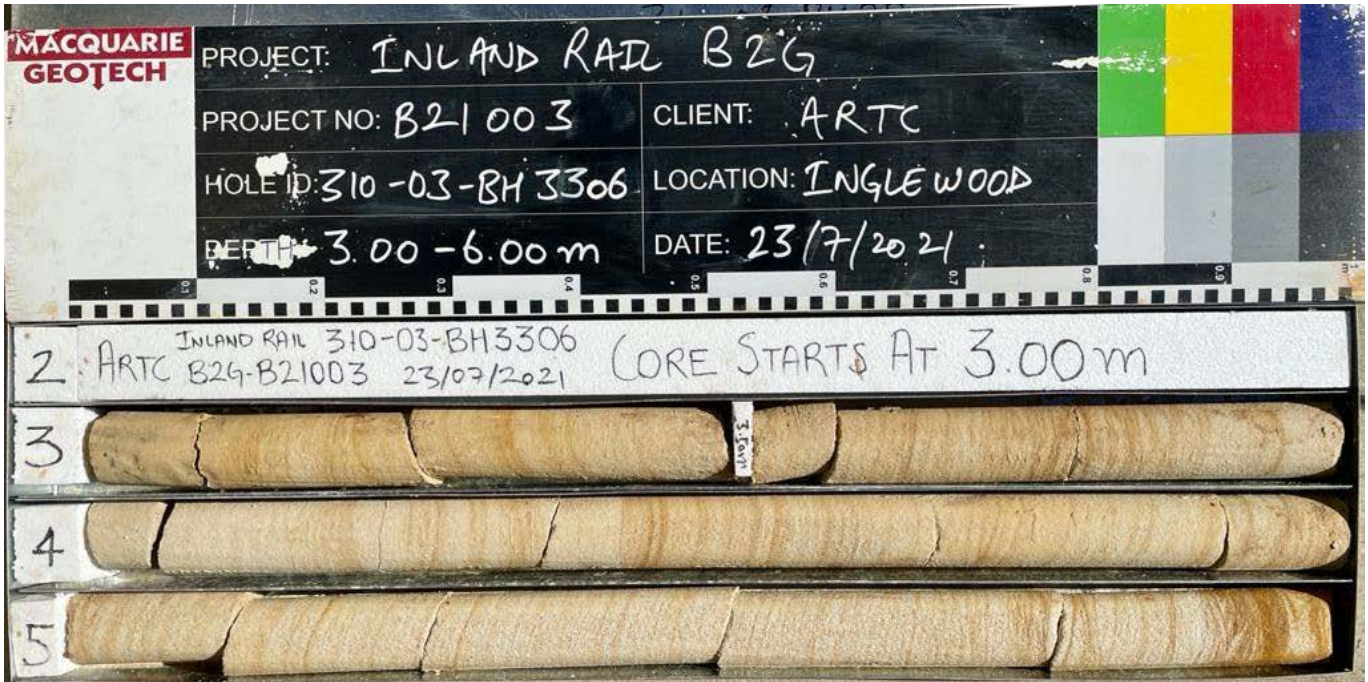
Engineering Log - Cored Borehole

Project No.: B21003

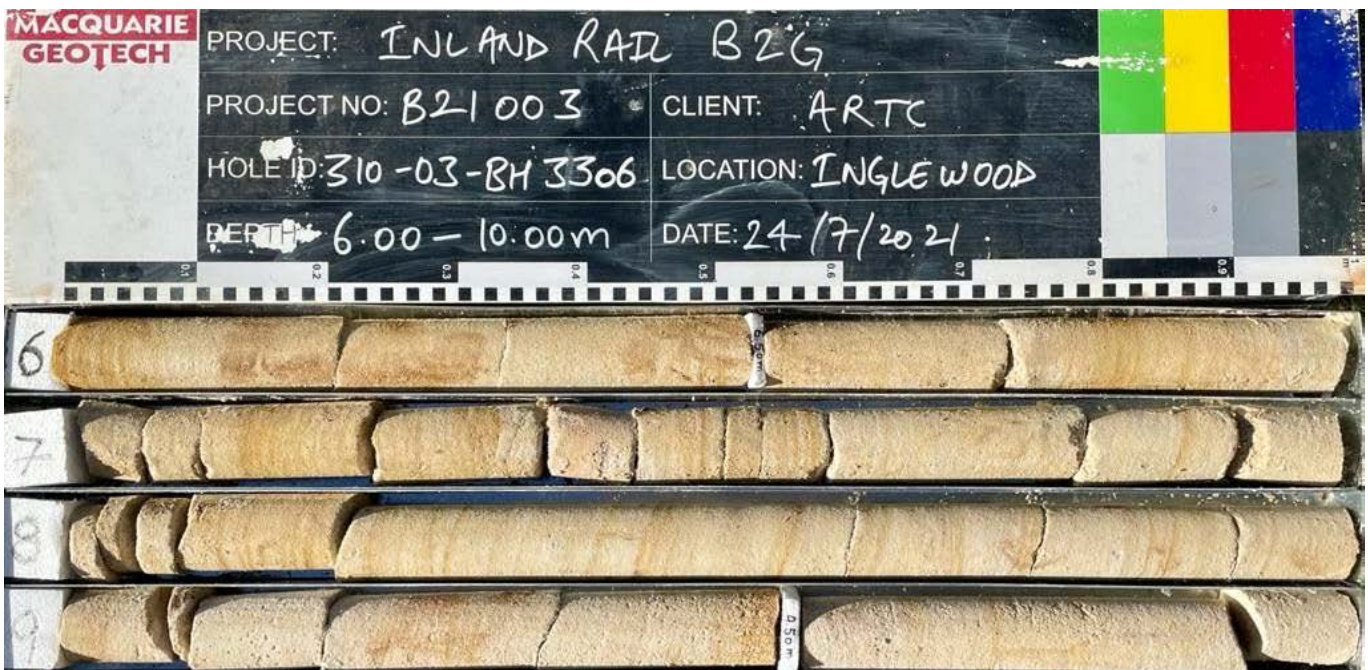
Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 305378.1 m E 6856297.5 m N MGA94 Zone 56

Commenced: 24/07/2021
Completed: 24/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: Comacchio Geo305/Track Inclusion: -90° RL Surface: 336.11 m
Barrel Type and Length: HQ3 4.2 m Bearing: Datum: AHD Operator: B.Boga



PointID : 310-03-BH3306 Depth Range: 3.00 - 6.00 m



PointID : 310-03-BH3306 Depth Range: 6.00 - 10.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 305378.1 m E 6856297.5 m N MGA94 Zone 56

Commenced: 24/07/2021
Completed: 24/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: Comacchio Geo305/Track Inclin: -90° RL Surface: 336.11 m
Barrel Type and Length: HQ3 4.2 m Bearing: Datum: AHD Operator: B.Boga



PointID : 310-03-BH3306 Depth Range: 10.00 - 14.00 m



PointID : 310-03-BH3306 Depth Range: 14.00 - 18.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	24/07/2021
Project Name:	Inland Rail B2G	Completed:	24/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	305378.1 m E 6856297.5 m N MGA94 Zone 56	Checked By:	C.Green

Drill Model and Mounting:	Comacchio Geo305/Track	Inclination:	-90°	RL Surface:	336.11 m
Barrel Type and Length:	HQ3 4.2 m	Bearing:		Datum:	AHD Operator: B.Boga



PointID : 310-03-BH3306 Depth Range: 18.00 - 20.18 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 13/11/2021
Project Name: Inland Rail B2G	Completed: 13/11/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: A.Sharma
Hole Coordinates: 306810.9 m E 6857410.8 m N MGA94 Zone 56	Checked By: J.Cooper

Drill Model and Mounting: Comacchio 305/Track	Inclination: -90°	RL Surface: 324.86 m
Hole Diameter: 115 mm	Bearing:	Datum: AHD Operator: J. Komung

Drilling Information							Soil Description							Observations		
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations	
AD/T			Not Observed	D00000 D 0.00-0.50 m						TOPSOIL: Sandy CLAY: low plasticity, dark-brown, fine grained sand	M (<PL) to M (=PL)	H			TOPSOIL	
				S00050 SPT 0.50-0.61 m 30/110mm D00100 D 1.00-1.50 m		323.9	1		SC	Clayey SAND with gravel: fine grained sand, red-brown mottled white, fine grained sand, fine to medium sub-rounded to rounded gravel	D	VD		RESIDUAL SOIL to EXTREMELY WEATHERED MATERIAL		
				S00150 SPT 1.50-1.75 m 20,30/100mm N=30/100mm		322.9	2		CL SC	Silty CLAY trace sand: low plasticity, off-white mottled brown, fine grained sand Clayey SAND with gravel: fine grained sand, red-brown mottled white, fine grained sand, fine sub-rounded to rounded gravel	M (<PL)	H				
				D00250 D 2.50-3.00 m		321.9	3			D	VD					
				S00300 SPT 3.00-3.30 m 10,30 N=30/150mm		320.9	4			Continued on cored borehole sheet						
						320.9										
						319.9	5									
						318.9	6									
						317.9	7									

Method AS - Auger Screwing RR - Rock Roller WB - Washbore	Penetration No resistance ranging to refusal	Water Level (Date) Inflow Partial Loss Complete Loss	Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	Moisture Condition D - Dry M - Moist W - Wet	Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support C - Casing	Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss	Plastic Limit < PL = PL < PL	Classification Symbols and Soil Descriptions Based on Unified Soil Classification System		

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	13/11/2021
Project Name:	Inland Rail B2G	Completed:	13/11/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	306810.9 m E 6857410.8 m N MGA94 Zone 56	Checked By:	J.Cooper
Drill Model and Mounting:	Comacchio 305/Track	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	324.86 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3307 Depth Range: 0.50 - 0.61 m



310-03-BH3307 Depth Range: 1.50 - 1.70 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	13/11/2021
Project Name:	Inland Rail B2G	Completed:	13/11/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	306810.9 m E 6857410.8 m N MGA94 Zone 56	Checked By:	J.Cooper
Drill Model and Mounting:	Comacchio 305/Track	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	324.86 m
		Datum:	AHD
		Operator:	J. Komung



310-03-BH3307 Depth Range: 3.00 - 3.30 m



310-03-BH3307 Depth Range: 9.50 - 9.64 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC Project Name: Inland Rail B2G Hole Location: N4 - Whetstone Greenfield Corridor Hole Coordinates: 306810.9 m E 6857410.8 m N MGA94 Zone 56										Commenced: 13/11/2021 Completed: 13/11/2021 Logged By: A.Sharma Checked By: J.Cooper																			
Drill Model and Mounting: Comacchio 305/Track Barrel Type and Length:										Inclination: -90° Bearing:										RL Surface: 324.86 m Datum: AHD Operator: J. Komung									

Drilling Information							Rock Substance							Rock Mass Defects						
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling							
										EL VL L M H VH EH	30 100 300 1000 3000	Particular	General							
						323.9	1													
						322.9	2													
						321.9	3													
									Continued from non-cored borehole sheet											
			100				4		SANDSTONE: coarse grained, red-brown											
									Below 3.87m: colour changes to grey with irregular red-brown											
			100				5													
			100				6													
									No core: 0.21m											
			70				7		SANDSTONE: coarse grained, red-brown, recovered as clayey sand											
									No core: 2.25m											
			10		0															

Method

AS - Auger Screwing
WB - Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water

≡ Level (Date)
▽ Inflow
△ Partial Loss
▲ Complete Loss

Support

T - Timbering

Graphic Log/Core Loss

Core recovered (hatching indicates material)
 Core loss

Weathering

FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)

EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 306810.9 m E 6857410.8 m N MGA94 Zone 56

Commenced: 13/11/2021
Completed: 13/11/2021
Logged By: A.Sharma
Checked By: J.Cooper

Drill Model and Mounting: Comacchio 305/Track Inclin: -90° RL Surface: 324.86 m
Barrel Type and Length: Bearing: Datum: AHD Operator: J. Komung

Drilling Information						Rock Substance				Rock Mass Defects			
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling
			10		0	315.9	9		No core: 2.25m(continued)				
						314.9	10		Sandy CLAY: low plasticity, red-brown, fine grained sand No core: 0.54m				
			58		0	313.9	11		SANDSTONE: coarse grained, red-brown, recovered as clayey SAND with gravel	XW			
			100			312.9	12						
						311.9	13		SANDSTONE: coarse grained, yellow, red brown, massive				JT, 45°, CN, PR, RF JT, 85°, CN, PR, RF JT, 0°, CN, PR, RF JT, 65°, CN, PR, RF JT, 0°, Clay SN, PR, S
			100	66		310.9	14		becoming pale brown	MW			JT, 15°, Clay SN, PR, S JT, 10°, Clay SN, PR, RF JT, 0°, Clay SN, DIS, S JT, 10°, Clay SN, UN, RF JT, 25°, CN, PR, RF JT, 90°, Clay SN, PR, S Sub-vertical joint JT, 85°, CN, UN, RF JT, 55°, CN, PR, RF
			100	83		309.9	15						JT, 0°, Clay SN, DIS, S JT, 0°, CN, PR, RF JT, 55°, CN, PR, S JT, 25°, CN, PR, RF

Method
AS - Auger Screwing
WB - Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Support
T - Timbering

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Weathering
FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 306810.9 m E 6857410.8 m N MGA94 Zone 56

Commenced: 13/11/2021
Completed: 13/11/2021
Logged By: A.Sharma
Checked By: J.Cooper

Drill Model and Mounting: Comacchio 305/Track Inclin: -90° RL Surface: 324.86 m
Barrel Type and Length: Bearing: Datum: AHD Operator: J. Komung

Drilling Information							Rock Substance					Rock Mass Defects			
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling		
										EL VL J M H VH EH		30 100 300 1000 3000	Particular	General	
HQ3	Not Observed	100	83	307.9	17	306.9	18		SANDSTONE: coarse grained, yellow, red brown, massive(continued)	MW			JT, 5°, CN, PR, RF JT, 25°, Clay SN, PR, S		
		100	83	305.9	19	304.9	20			MW to HW			JT, 0°, CN, UN, RF JT, 20°, Clay SN, PR, S JT, 0°, Clay SN, DIS, S		
				303.9	21				Hole Terminated at 20.50 m Target depth				JT, 90°, Clay SN, PR, S		
				302.9	22										
				301.9	23										

Method
AS - Auger Screwing
WB- Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Support
T - Timbering

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Weathering
FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 306810.9 m E 6857410.8 m N MGA94 Zone 56

Commenced: 13/11/2021
Completed: 13/11/2021
Logged By: A.Sharma
Checked By: J.Cooper

Drill Model and Mounting: Comacchio 305/Track Inclin: -90° RL Surface: 324.86 m
Barrel Type and Length: Bearing: Datum: AHD Operator: J. Komung



PointID : 310-03-BH3307 Depth Range: 3.30 - 8.00 m



PointID : 310-03-BH3307 Depth Range: 8.00 - 13.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	13/11/2021
Project Name:	Inland Rail B2G	Completed:	13/11/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	306810.9 m E 6857410.8 m N MGA94 Zone 56	Checked By:	J.Cooper
Drill Model and Mounting:	Comacchio 305/Track	Inclination:	-90°
Barrel Type and Length:		RL Surface:	324.86 m
		Bearing:	
		Datum:	AHD
		Operator:	J. Komung



PointID : 310-03-BH3307 Depth Range: 9.50 - 9.85 m



PointID : 310-03-BH3307 Depth Range: 13.00 - 18.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	13/11/2021
Project Name:	Inland Rail B2G	Completed:	13/11/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	306810.9 m E 6857410.8 m N MGA94 Zone 56	Checked By:	J.Cooper

Drill Model and Mounting:	Comacchio 305/Track	Inclination:	-90°	RL Surface:	324.86 m
Barrel Type and Length:		Bearing:		Datum:	AHD
				Operator:	J. Komung



PointID : 310-03-BH3307 Depth Range: 18.00 - 20.50 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 307850.7 m E 6858017.0 m N MGA94 Zone 56

Commenced: 27/10/2021
Completed: 27/10/2021
Logged By: A.Sharma
Checked By: J.Cooper

Drill Model and Mounting: Comacchio 305/Track Inclin: -90° RL Surface: 315.82 m
Hole Diameter: 115 mm Bearing: Datum: AHD Operator: J. Komung

Drilling Information					Soil Description							Observations						
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)					Structure and Additional Observations
AD/T			Not Observed	D00000 D 0.20-0.70 m														

Method
AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration
No resistance ranging to refusal

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition
D - Dry
M - Moist
W - Wet

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support
C - Casing

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

Plastic Limit
< PL
= PL
< PL

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 307850.7 m E 6858017.0 m N MGA94 Zone 56

Commenced: 27/10/2021
Completed: 27/10/2021
Logged By: A.Sharma
Checked By: J.Cooper

Drill Model and Mounting: Comacchio 305/Track Inclin: -90° RL Surface: 315.82 m
Barrel Type and Length: HQ 3 m Bearing: Datum: AHD Operator: J. Komung

Drilling Information								Rock Substance					Rock Mass Defects				
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling				
										EL VL L M H VH EH		30 100 300 1000 3000	Particular	General			
HQ3									Continued from non-cored borehole sheet								
						314.8	1		SANDSTONE: coarse grained, red-brown mottled grey, massive, lateritised	MW	●		JT, 0°, Fe SN, PR, RF				
			100		82					HW				JT, 0°, Clay SN, PR, RF			
						313.8	2							JT, 0°, Clay SN, DIS, S			
			100		80	312.8	3			MW	● ●		JT, 0°, CN, PR, RF				
													JT, 5°, Fe SN, UN, RF				
													JT, 5°, CN, PR, RF				
						311.8	4		SANDSTONE: fine to coarse grained, dark orange-brown mottled pale grey, massive, lateritised				JT, 0°, Clay SN, PR, S				
														JT, 0°, Clay SN, PR, S			
														JT, 0°, Clay SN, PR, S			
			100		40	310.8	5			HW	● ●		JT, 0°, CN, PR, RF				
										HW			JT, 90°, CN, CU, RF				
						309.8	6			XW			JT, 0°, CN, PR, RF				
													JT, 0°, CN, PR, RF				
													JT, 0°, CN, PR, RF				
													JT, 0°, CN, PR, S				
													JT, 0°, CN, PR, RF				
													JT, 0°, CN, UN, RF				
						308.8	7						JT, 0°, CN, PR, RF				
										HW to XW	○						
Method AS - Auger Screwing WB- Washbore HQ3 HQ3 Core Barrel NQ3 NQ3 Core Barrel Water ▽ Level (Date) ▽ Inflow ▽ Partial Loss ▲ Complete Loss Support T - Timbering Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss Weathering FR - Fresh SW - Slightly Weathered DW - Distinctly Weathered XW - Extremely Weathered RS - Residual Soil Strength (indirect tensile strength) EL - Extremely Low VL - Very Low L - Low M - Medium H - High VH - Very High EH - Extremely High																	

Method
AS - Auger Screwing
WB - Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Weathering
FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Support
T - Timbering

Strength
(indirect tensile strength)
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 307850.7 m E 6858017.0 m N MGA94 Zone 56

Commenced: 27/10/2021
Completed: 27/10/2021
Logged By: A.Sharma
Checked By: J.Cooper

Drill Model and Mounting: Comacchio 305/Track Inclin: -90° RL Surface: 315.82 m
Barrel Type and Length: HQ 3 m Bearing: Datum: AHD Operator: J. Komung

Drilling Information							Rock Substance					Rock Mass Defects							
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral				Defect Spacing (mm)		Defect Description thickness, type, inclination, planarity, roughness, coating/infilling		
										EL VL L M H VH EH	30	100	300	1000	3000	Particular	General		
HQ3		Not Observed	100			306.8	9		SANDSTONE: fine to coarse grained, dark orange-brown mottled pale grey, massive, lateritised(continued)	HW to XW	●								
						305.8	10		SANDSTONE: fine to coarse grained, pale grey-white mottled orange and dark yellow-green and red-brown, massive		○						JT, 0°, Clay SN, PR, S JT, 0°, Clay SN, PR, S JT, 0°, CN, PR, RF		
			304.8	11												JT, 0°, CN, PR, RF JT, 5°, Clay SN, PR, S			
			303.8	12							HW	○						JT, 0°, Clay SN, IR, VR	
			302.8	13									○						
		100	100		89	301.8	14		SANDSTONE: fine to medium grained, pale yellow-green mottled pale red-orange, massive		○						JT, 0°, Clay SN, DIS, S JT, 45°, Clay SN, PR, RF		
					75	300.8	15			HW	○						JT, 25°, Clay SN, PR, S JT, 0°, Clay SN, DIS, S JT, 10°, Clay SN, PR, S JT, 5°, CN, PR, RF JT, 0°, Clay SN, DIS, RF JT, 0°, Clay SN, PR, S		
Method AS - Auger Screwing WB- Washbore HQ3 HQ3 Core Barrel NQ3 NQ3 Core Barrel			Water Level (Date) Inflow Partial Loss Complete Loss			Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss			Weathering FR - Fresh SW - Slightly Weathered DW - Distinctly Weathered XW - Extremely Weathered RS - Residual Soil			Strength (indirect tensile strength) EL - Extremely Low VL - Very Low L - Low M - Medium H - High VH - Very High EH - Extremely High							
Support T - Timbering																			

Method

AS - Auger Screwing
WB- Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water

Level (Date)
Inflow
Partial Loss
Complete Loss

Support

T - Timbering

Graphic Log/Core Loss

Core recovered (hatching indicates material)
Core loss

Weathering

FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength

(indirect tensile strength)
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC		Commenced: 27/10/2021												
Project Name: Inland Rail B2G		Completed: 27/10/2021												
Hole Location: N4 - Whetstone Greenfield Corridor		Logged By: A.Sharma												
Hole Coordinates: 307850.7 m E 6858017.0 m N MGA94 Zone 56		Checked By: J.Cooper												
Drill Model and Mounting: Comacchio 305/Track		Inclination: -90°	RL Surface: 315.82 m											
Barrel Type and Length: HQ 3 m		Bearing:	Datum: AHD Operator: J. Komung											
Drilling Information		Rock Substance		Rock Mass Defects										
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling	
HQ3		Not Observed	100		75	298.8	17		SANDSTONE: fine grained, pale brown-orange mottled pink-grey and orange-brown, massive	MW HW			JT, 90°, Clay SN, PR, S	
						297.8	18						JT, 0°, Clay SN, PR, S JT, 0°, Clay SN, PR, S	
			100		92	296.8	19		SANDSTONE: coarse grained, dark red-brown and pale grey, massive				JT, 0°, Clay SN, PR, S	
						295.8	20						JT, 5°, Clay SN, PR, S JT, 90°, Clay SN, PR, S JT, 45°, Clay SN, PR, S	
						294.8	21		Hole Terminated at 20.36 m Target depth					
						293.8	22							
						292.8	23							
Method		Water		Graphic Log/Core Loss		Weathering		Strength						
AS - Auger Screwing WB- Washbore HQ3 HQ3 Core Barrel NQ3 NQ3 Core Barrel		Level (Date) Inflow Partial Loss Complete Loss		Core recovered (hatching indicates material) Core loss		FR - Fresh SW - Slightly Weathered DW - Distinctly Weathered XW - Extremely Weathered RS - Residual Soil		(indirect tensile strength) EL - Extremely Low VL - Very Low L - Low M - Medium H - High VH - Very High EH - Extremely High						
Support		T - Timbering												

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	27/10/2021
Project Name:	Inland Rail B2G	Completed:	27/10/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	307850.7 m E 6858017.0 m N MGA94 Zone 56	Checked By:	J.Cooper

Drill Model and Mounting:	Comacchio 305/Track	Inclination:	-90°	RL Surface:	315.82 m
Barrel Type and Length:	HQ 3 m	Bearing:		Datum:	AHD Operator: J. Komung



PointID : 310-03-BH3308 Depth Range: 0.70 - 4.00 m



PointID : 310-03-BH3308 Depth Range: 4.00 - 9.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	27/10/2021
Project Name:	Inland Rail B2G	Completed:	27/10/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	307850.7 m E 6858017.0 m N MGA94 Zone 56	Checked By:	J.Cooper
Drill Model and Mounting:	Comacchio 305/Track	Inclination:	-90°
Barrel Type and Length:	HQ 3 m	RL Surface:	315.82 m
		Bearing:	
		Datum:	AHD
		Operator:	J. Komung



PointID : 310-03-BH3308 Depth Range: 9.00 - 14.00 m



PointID : 310-03-BH3308 Depth Range: 14.00 - 19.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 307850.7 m E 6858017.0 m N MGA94 Zone 56

Commenced: 27/10/2021
Completed: 27/10/2021
Logged By: A.Sharma
Checked By: J.Cooper

Drill Model and Mounting: Comacchio 305/Track Inclusion: -90° RL Surface: 315.82 m
Barrel Type and Length: HQ 3 m Bearing: Datum: AHD Operator: J. Komung



PointID : 310-03-BH3308 Depth Range: 19.00 - 20.36 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 317314.2 m E 6861762.2 m N MGA94 Zone 56

Commenced: 23/08/2021
Completed: 24/08/2021
Logged By: A. Drösemeyer
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclinometer: -90° RL Surface: 305.32 m
Hole Diameter: 115 mm Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations		
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations	
ADV			Not Observed	D00030 D 0.30-0.50 m S00050		304.3	1		SM	TOPSOIL: Clayey Silty SAND: fine to medium grained, pale grey mottled orange and white, medium plasticity fines, trace rootlets (<2mm) Clayey Silty SAND: fine to medium grained, pale grey mottled orange and white, medium plasticity fines.	M	VD			TOPSOIL	
				D00120 D 1.20-1.50 m S00150		303.3	2	 	CI SM	Sandy Silty CLAY: medium plasticity, pale grey mottled orange and white, fine to medium grained sand. Clayey Silty SAND: fine to medium grained, pale grey mottled orange and white, medium plasticity fines.					RESIDUAL SOIL	
				D00200 D 2.50-3.00 m S00300 SPT 3.00-3.45 m 11,21,30 N=51		302.3	3		SM							
				D00400 D 4.00-4.50 m		301.3	4	 	CI-CH CH	Sandy Silty CLAY trace gravel: medium to high plasticity, pale grey mottled orange and white, fine to medium grained sand, fine grained sub-rounded to sub-angular gravel. Silty CLAY with sand trace gravel: high plasticity, pale grey mottled orange and white, fine to medium grained sand, fine, sub-rounded to sub-angular gravel.						
				S00450 SPT 4.50-4.95 m 9,14,18 N=32		300.3	5		SM	Silty SAND trace gravel: fine to coarse grained, grey and orange, low plasticity silt, fine grained sub-angular gravel.						
				D00550 D 5.50-6.00 m		299.3	6		SM	Silty SAND: fine to medium grained, grey and orange, low plasticity silt.					D	
				S00600 SPT 6.00-6.45 m 18,19,25 N=44		298.3	7		SM	Silty SAND trace gravel: fine to medium grained, grey and orange mottled black and white, low plasticity silt, fine to medium grained sub-angular gravel.					M	
				D00700 D 7.00-7.50 m					SM						VD	
				S00750 SPT 7.50-7.77 m 21,30/120mm					SM							
				4.70: PP Samp >600 kPa												
Method AS - Auger Screwing RR - Rock Roller WB - Washbore Support C - Casing Penetration No resistance ranging to refusal Graphic Log/Core Loss Core recovered (hatching indicates material) Core loss Water Level (Date) Inflow Partial Loss Complete Loss Classification Symbols and Soil Descriptions Based on Unified Soil Classification System Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test Moisture Condition D - Dry M - Moist W - Wet Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense Plastic Limit < PL = PL > PL																

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 23/08/2021
Project Name: Inland Rail B2G	Completed: 24/08/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: A. Drösemeyer
Hole Coordinates: 317314.2 m E 6861762.2 m N MGA94 Zone 56	Checked By: C.Green

Drill Model and Mounting: D4TAPG	Inclination: -90°	RL Surface: 305.32 m
Hole Diameter: 115 mm	Bearing:	Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations		
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations	
ADV			Not Observed	N=30/120mm					SM	Silty SAND trace gravel: fine to medium grained, grey and orange mottled black and white, low plasticity silt, fine to medium grained sub-angular gravel. (continued)	M	VD			RESIDUAL SOIL	
				D00850 D 8.50-9.00 m		296.3	9		SM	Clayey Silty SAND: fine grained, pale grey and orange mottled black and white, medium plasticity fines.						
				S00900 SPT 9.00-9.30 m 21,30 N=30/150mm		295.3	10									
				D01000 D 10.00-10.50 m		294.3	11			Hole Terminated at 10.95 m Target depth						
				S01050 SPT 10.50-10.95 m 14,24,29 N=53		293.3	12									
					292.3	13										
					291.3	14										
					290.3	15										

Method AS - Auger Screwing RR - Rock Roller WB - Washbore	Penetration  No resistance ranging to refusal	Water  Level (Date)  Inflow  Partial Loss  Complete Loss	Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	Moisture Condition D - Dry M - Moist W - Wet	Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support C - Casing	Graphic Log/Core Loss  Core recovered (hatching indicates material)  Core loss	Classification Symbols and Soil Descriptions Based on Unified Soil Classification System	Plastic Limit < PL = PL < PL		

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	23/08/2021
Project Name:	Inland Rail B2G	Completed:	24/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A. Drösemeyer
Hole Coordinates:	317314.2 m E 6861762.2 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	305.32 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3310 Depth Range: 3.00 - 3.45 m

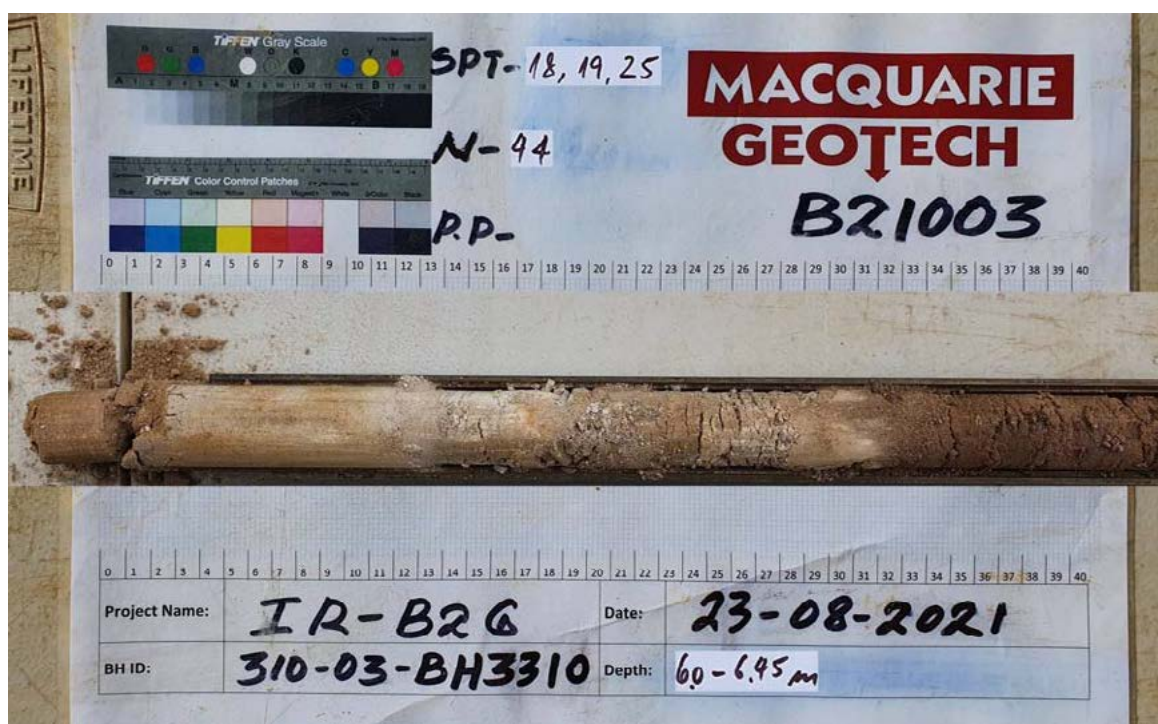


310-03-BH3310 Depth Range: 4.50 - 4.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	23/08/2021
Project Name:	Inland Rail B2G	Completed:	24/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A. Drösemeyer
Hole Coordinates:	317314.2 m E 6861762.2 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	305.32 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3310 Depth Range: 6.00 - 6.45 m



310-03-BH3310 Depth Range: 7.50 - 7.77 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	23/08/2021
Project Name:	Inland Rail B2G	Completed:	24/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A. Drösemeyer
Hole Coordinates:	317314.2 m E 6861762.2 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	305.32 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3310 Depth Range: 9.00 - 9.27 m



310-03-BH3310 Depth Range: 10.50 - 10.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297438.6 m E 6849027.6 m N MGA94 Zone 56

Commenced: 11/08/2021
Completed: 11/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter:

Inclination: -90°
Bearing:

RL Surface: 274.54 m
Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations			
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)				Structure and Additional Observations
AD/V				E00000 E 0.00-0.20 m		273.5	1		CL	TOPSOIL: Clayey SAND: fine grained, grey mottled brown, low plasticity trace roots (<5mm)	M (<PL)	VSt				TOPSOIL	
				E00020 E 0.20-0.30 m						Sandy CLAY: low plasticity, grey brown, fine to medium grained sand						RESIDUAL SOIL	
				D00030 D 0.30-0.50 m						Sandy CLAY: medium to high plasticity, dark brown, fine grained sand							
				S00050 SPT 0.50-0.95 m						Silty CLAY trace sand: medium to high plasticity, grey, fine grained sand							
				9,11,16 N=27													
				E00095 E 0.95-1.00 m						Clayey SAND: fine grained, grey, low plasticity clay							
				U00100 U 1.00-1.40 m													
				S00150 SPT 1.50-1.95 m													
				21,25,25 N=50													
				D00250 D 2.50-3.00 m						Silty SAND: fine grained, grey mottled brown, low plasticity fines							
WB				S00300 SPT 3.00-3.45 m		271.5	3		SM		M	MD					
				11,14,14 N=28													
				S00625						04.00m fine to coarse sand							
				S00450 SPT 4.50-4.88 m						Clayey SAND: fine grained, grey mottled brown, low plasticity clay						RESIDUAL SOIL	
				19,27,27/80mm N=54/230mm													
				D00550 D 5.50-6.00 m		268.5	6		SC		D	VD					
				S00600 SPT 6.00-6.45 m													
				14,30,32 N=62													
				S00750 SPT 7.50-7.95 m		267.5	7			Below 7.00m: colour changes to brown mottled orange							
				25,29,27													

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB- Washbore	 No resistance ranging to refusal	 Level (Date)  Inflow  Partial Loss  Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss		Classification Symbols and Soil Descriptions	Plastic Limit	
C - Casing	 Core recovered (hatching indicates material)  Core loss		Based on Unified Soil Classification System	< PL = PL < PL	

Method

AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration

No resistance ranging to refusal

Water

Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests

U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition

D - Dry
M - Moist
W - Wet

Consistency/Relative Density

VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support

C - Casing

Graphic Log/Core Loss

Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions

Based on Unified Soil Classification System

Plastic Limit

< PL
= PL
< PL

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 11/08/2021
Project Name: Inland Rail B2G	Completed: 11/08/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: A.Sharma
Hole Coordinates: 297438.6 m E 6849027.6 m N MGA94 Zone 56	Checked By: C.Green

Drill Model and Mounting: D4TAPG	Inclination: -90°	RL Surface: 274.54 m
Hole Diameter:	Bearing:	Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations	
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
WB		Not Observed		N=56					SC	Clayey SAND: fine grained, grey mottled brown, low plasticity clay (<i>continued</i>)	D	VD			RESIDUAL SOIL
				S00900 SPT 9.00-9.17 m 21,30/20mm N=30/20mm		265.5	9			Below 9.00m: colour changes to brown					
				S01050 SPT 10.50-10.95 m 6,12,16 N=28		264.5	10								
				S01200 SPT 12.00-12.30 m 30,1/147mm N=1/147mm		263.5	11		SM	Silty SAND with clay: fine to coarse grained, grey mottled purple, medium plasticity fines					
HQ3						262.5	12		SC	Clayey SAND with gravel: fine to coarse grained, grey mottled brown, medium plasticity clay, fine to medium angular to sub-angular gravel Continued on cored borehole sheet		VD			
						261.5	13								
						260.5	14								
						259.5	15								

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB - Washbore	No resistance ranging to refusal	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss	Classification Symbols and Soil Descriptions	Plastic Limit		
C - Casing	Core recovered (hatching indicates material) Core loss	Based on Unified Soil Classification System	< PL = PL < PL		

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297438.6 m E 6849027.6 m N MGA94 Zone 56

Commenced: 11/08/2021
Completed: 11/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter:

Inclination: -90°
Bearing:

RL Surface: 274.54 m
Datum: AHD Operator: B.Boga



310-03-BH3600 Depth Range: 0.50 - 0.95 m



310-03-BH3600 Depth Range: 1.50 - 1.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	11/08/2021
Project Name:	Inland Rail B2G	Completed:	11/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	297438.6 m E 6849027.6 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:		RL Surface:	274.54 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3600 Depth Range: 3.00 - 3.45 m



310-03-BH3600 Depth Range: 4.50 - 4.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297438.6 m E 6849027.6 m N MGA94 Zone 56

Commenced: 11/08/2021
Completed: 11/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter:

Inclination: -90°
Bearing:

RL Surface: 274.54 m
Datum: AHD Operator: B.Boga



310-03-BH3600 Depth Range: 6.00 - 6.45 m



310-03-BH3600 Depth Range: 7.50 - 7.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297438.6 m E 6849027.6 m N MGA94 Zone 56

Commenced: 11/08/2021
Completed: 11/08/2021
Logged By: A.Sharma
Checked By: C.Green

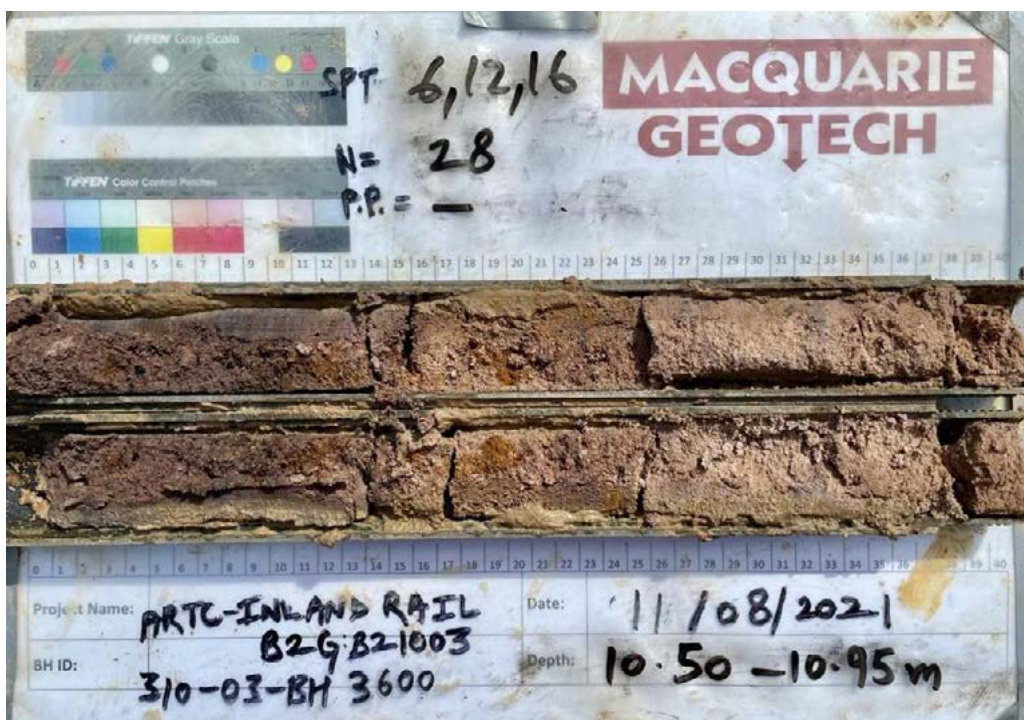
Drill Model and Mounting: D4TAPG
Hole Diameter:

Inclination: -90°
Bearing:

RL Surface: 274.54 m
Datum: AHD Operator: B.Boga



310-03-BH3600 Depth Range: 9.00 - 9.45 m



310-03-BH3600 Depth Range: 10.50 - 10.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 297438.6 m E 6849027.6 m N MGA94 Zone 56

Commenced: 11/08/2021
Completed: 11/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter:

Inclination: -90°
Bearing:

RL Surface: 274.54 m
Datum: AHD Operator: B.Boga



310-03-BH3600 Depth Range: 12.00 - 12.15 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC Project Name: Inland Rail B2G Hole Location: N4 - Whetstone Greenfield Corridor Hole Coordinates: 297438.6 m E 6849027.6 m N MGA94 Zone 56										Commenced: 11/08/2021 Completed: 11/08/2021 Logged By: A.Sharma Checked By: C.Green																			
Drill Model and Mounting: D4TAPG Barrel Type and Length: HQ3 4.2 m										Inclination: -90° Bearing: RL Surface: 274.54 m Datum: AHD Operator: B.Boga																			
Drilling Information										Rock Substance										Rock Mass Defects									
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling																
										EL VL L M H VH EH	30 100 300 1000 3000	Particular	General																
						265.5	9																						
						264.5	10																						
						263.5	11																						
						262.5	12		Continued from non-cored borehole sheet																				
HQ3	Not Observed	100	99			261.5	13		SANDSTONE: medium grained, red brown and white																				
						260.5	14		From 13.23m: medium grained, red-brown	HW			JT, 90°, Fe SN, PR, RF																
						259.5	15		From 13.76m: fine to medium grained, white																				
									From 14.00m: fine to medium grained, red-brown				BP, 0°, Fe SN, UN, RF																
									From 14.45m: medium grained, white				BP, 0°, Fe SN, PR, RF																
									From 14.85m: fine to medium grained, red-brown				JT, 60°, CN, PR, RF																
									Hole Terminated at 15.00 m Target depth				BP, 10°, Fe SN, UN, RF																
													BP, 0°, Fe SN, UN, RF																
													BP, 30°, Fe SN, PR, RF																

Method

AS - Auger Screwing

WB- Washbore

HQ3 HQ3 Core Barrel

NQ3 NQ3 Core Barrel

Water

≡ Level (Date)

▽ Inflow

△ Partial Loss

▲ Complete Loss

Support

T - Timbering

Graphic Log/Core Loss

Core recovered (hatching indicates material)

Core loss

Weathering

FR - Fresh

SW - Slightly Weathered

DW - Distinctly Weathered

XW - Extremely Weathered

RS - Residual Soil

Strength
(indirect tensile strength)

EL - Extremely Low

VL - Very Low

L - Low

M - Medium

H - High

VH - Very High

EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	11/08/2021
Project Name:	Inland Rail B2G	Completed:	11/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	297438.6 m E 6849027.6 m N MGA94 Zone 56	Checked By:	C.Green

Drill Model and Mounting:	D4TAPG	Inclination:	-90°	RL Surface:	274.54 m
Barrel Type and Length:	HQ3 4.2 m	Bearing:		Datum:	AHD Operator: B.Boga



PointID : 310-03-BH3600 Depth Range: 12.15 - 15.00 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 17/08/2021
Project Name: Inland Rail B2G	Completed: 17/08/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: A.Sharma
Hole Coordinates: 306426.9 m E 6857098.5 m N MGA94 Zone 56	Checked By: C.Green
Drill Model and Mounting: D4TAPG	Inclination: -90°
Hole Diameter: 115 mm	RL Surface: 295.18 m
	Bearing: AHD
	Operator: B.Boga

Drilling Information							Soil Description						Observations		
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa) 100 200 300 400 500	Structure and Additional Observations
ADV				J00000 0.00-0.20 m						TOPSOIL: SAND: fine grained sand, brown, trace roots (<5mm).					TOPSOIL
				J00020 0.20-0.50 m					CI	Sandy CLAY: medium plasticity, dark brown and red brown, fine grained sand.	M (<PL)				RESIDUAL SOIL
				S00050 SPT 0.50-0.95 m 6,5,9 N=14		294.2	1		CI	CLAY trace sand: medium plasticity, dark brown, fine grained sand.		St			* 0.80: PP Samp >600 kPa
				J00050 0.95-1.00 m U00100 1.00-1.40 m S00150 SPT 1.50-1.95 m 11,23,25 N=48		293.2	2		CL-CI	Sandy CLAY trace gravel: low to medium plasticity, brown mottled red, fine grained sand, fine sub-rounded gravel.		H			* 1.80: PP Samp >600 kPa
				D00250 2.50-3.00 m		292.2	3		SP-SC	Clayey SAND trace gravel: fine to coarse sand low plasticity, fine to medium sub angular gravel.					
				S00300 SPT 3.00-3.45 m 7,11,14 N=25		291.2	4		CL-CI	Silty CLAY: low to medium plasticity, grey brown mottled grey and orange brown.	M (<PL) to M (=PL)				* 3.30: PP Samp <600 kPa
				S00450 SPT 4.50-4.95 m 6,11,14 N=25		290.2	5			Below 4.50m: colour changes to grey mottled red brown.		VSt			* 4.80: PP Samp >600 kPa
				D00550 5.50-6.00 m		289.2	6			Below 5.50m: trace gravel: fine sub-rounded to rounded gravel.					
				S00600 SPT 6.00-6.45 m 8,19,18 N=37		288.2	7		CI	Sandy CLAY with gravel: medium plasticity, grey mottled brown to pale brown, fine grained sand, fine to coarse angular to sub-angular gravel.	M (=PL) to M (>PL)	H			* 6.30: PP Samp >600 kPa
				D00700 7.00-7.50 m											
				S00750 SPT 7.50-7.68 m 21,31/30mm											* 7.80: PP Samp
Method AS - Auger Screwing RR - Rock Roller WB - Washbore				Penetration  No resistance ranging to refusal		Water  Level (Date)  Inflow  Partial Loss  Complete Loss		Samples and Tests U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test		Moisture Condition D - Dry M - Moist W - Wet		Consistency/Relative Density VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense			
Support C - Casing				Graphic Log/Core Loss  Core recovered (hatching indicates material)  Core loss		Classification Symbols and Soil Descriptions Based on Unified Soil Classification System		Plastic Limit < PL = PL > PL							

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 306426.9 m E 6857098.5 m N MGA94 Zone 56

Commenced: 17/08/2021
Completed: 17/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclinometer: -90° RL Surface: 295.18 m
Hole Diameter: 115 mm Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Soil Description						Observations			
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations		
AD/V				N=31/30mm					CI	Sandy CLAY with gravel: medium plasticity, grey mottled brown to pale brown, fine grained sand, fine to coarse angular to sub-angular gravel. (continued)	M (=PL) to M (>PL)			RESIDUAL SOIL		
				D00850 8.50-9.00 m		286.2	9	CL-CI	Silty CLAY trace sand: low to medium plasticity, dark grey and brown, fine to coarse grained sand, indistinctly thinly laminated.				EXTREMELY WEATHERED MATERIAL			
				S00900 SPT 9.00-9.34 m 12,29,31/40mm N=60/190mm		285.2	10					9.20: PP Samp >600 kPa				
				S01050 SPT 10.50-10.84 m 12,23,30/35mm N=53/185mm		284.2	11					10.85: PP Samp >600 kPa				
				S01200 SPT 12.00-12.28 m 21,30/130mm N=30/130mm		283.2	12	CH	CLAY: high plasticity, dark grey, distinctly very thinly laminated.	M (<PL)		12.40: PP Samp >600 kPa				
				S01350 SPT 13.50-13.78 m 30,9/130mm N=9/130mm		282.2	13					13.70: PP Samp >600 kPa				
				S01500 SPT 15.00-15.22 m 26,30/65mm N=30/65mm		280.2	15					15.15: PP Samp >600 kPa				
										Hole Terminated at 15.45 m Target depth						
<u>Method</u> AS - Auger Screwing RR - Rock Roller WB - Washbore <u>Support</u> C - Casing <u>Penetration</u> No resistance ranging to refusal <u>Graphic Log/Core Loss</u> Core recovered (hatching indicates material) Core loss <u>Water</u> Level (Date) Inflow Partial Loss Complete Loss <u>Samples and Tests</u> U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test <u>Moisture Condition</u> D - Dry M - Moist W - Wet <u>Plastic Limit</u> < PL = PL < PL <u>Consistency/Relative Density</u> VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense <u>Classification Symbols and Soil Descriptions</u> Based on Unified Soil Classification System																

Method
AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration
No resistance ranging to refusal

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition
D - Dry
M - Moist
W - Wet

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support
C - Casing

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

Plastic Limit
< PL
= PL
< PL

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 306426.9 m E 6857098.5 m N MGA94 Zone 56

Commenced: 17/08/2021
Completed: 17/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 295.18 m
Datum: AHD Operator: B.Boga



310-03-BH3601 Depth Range: 0.50 - 0.95 m



310-03-BH3601 Depth Range: 1.50 - 1.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 306426.9 m E 6857098.5 m N MGA94 Zone 56

Commenced: 17/08/2021
Completed: 17/08/2021
Logged By: A.Sharma
Checked By: C.Green

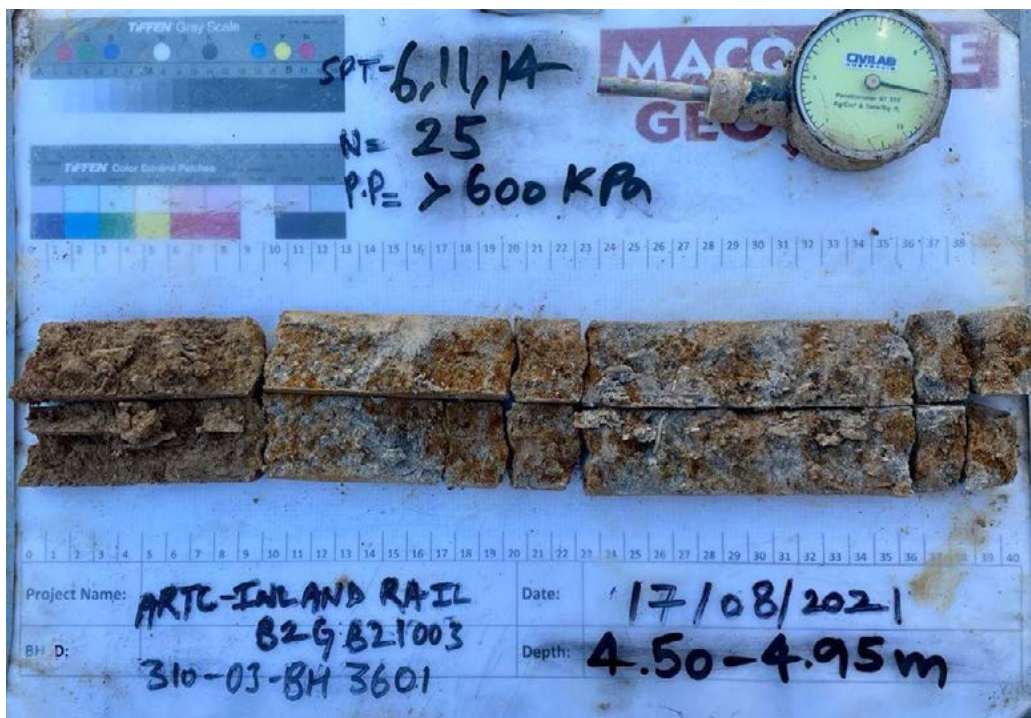
Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 295.18 m
Datum: AHD Operator: B.Boga



310-03-BH3601 Depth Range: 3.00 - 3.45 m



310-03-BH3601 Depth Range: 4.50 - 4.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	17/08/2021
Project Name:	Inland Rail B2G	Completed:	17/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	306426.9 m E 6857098.5 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	295.18 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3601 Depth Range: 6.00 - 6.45 m



310-03-BH3601 Depth Range: 7.50 - 7.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 306426.9 m E 6857098.5 m N MGA94 Zone 56

Commenced: 17/08/2021
Completed: 17/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 295.18 m
Datum: AHD Operator: B.Boga



310-03-BH3601 Depth Range: 9.00 - 9.31 m



310-03-BH3601 Depth Range: 10.50 - 10.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	17/08/2021
Project Name:	Inland Rail B2G	Completed:	17/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	306426.9 m E 6857098.5 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	295.18 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3601 Depth Range: 12.00 - 12.45 m



310-03-BH3601 Depth Range: 13.50 - 13.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 306426.9 m E 6857098.5 m N MGA94 Zone 56

Commenced: 17/08/2021
Completed: 17/08/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 295.18 m
Datum: AHD Operator: B.Boga



310-03-BH3601 Depth Range: 15.00 - 15.45 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 27/07/2021
Project Name: Inland Rail B2G	Completed: 27/07/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: A.Sharma
Hole Coordinates: 307501.0 m E 6857839.9 m N MGA94 Zone 56	Checked By: C.Green

Drill Model and Mounting: D4TAPG	Inclination: -90°	RL Surface: 290.32 m
Hole Diameter: 115 mm	Bearing:	Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations		
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations	
ADM				J00000 E 0.00-0.20 m						TOPSOIL: SAND: fine grained, brown mottled black trace rootlets (<2mm)					TOPSOIL	
				J00020 E 0.20-0.50 m												
				J00050 E 0.50-0.70 m												
				S00050 SPT 0.50-0.95 m 2.2,1 N=3												
				D00100 D 1.00-1.50 m												
				S00150 SPT 1.50-1.85 m 2.2,10/50mm N=12/200mm												
				D00250 D 2.50-3.00 m												
				S00300 SPT 3.00-3.18 m 20,30/30mm N=30/30mm												
				D00400 D 4.00-4.50 m												
				S00450 SPT 4.50-4.69 m 22,30/35mm N=30/35mm												
D00550 D 5.50-6.00 m																
S00600 SPT 6.00-6.19 m 18,31/40mm N=31/40mm																

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB - Washbore	No resistance ranging to refusal	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss	Plastic Limit	Classification Symbols and Soil Descriptions		
C - Casing	Core recovered (hatching indicates material) Core loss	< PL = PL < PL	Based on Unified Soil Classification System		

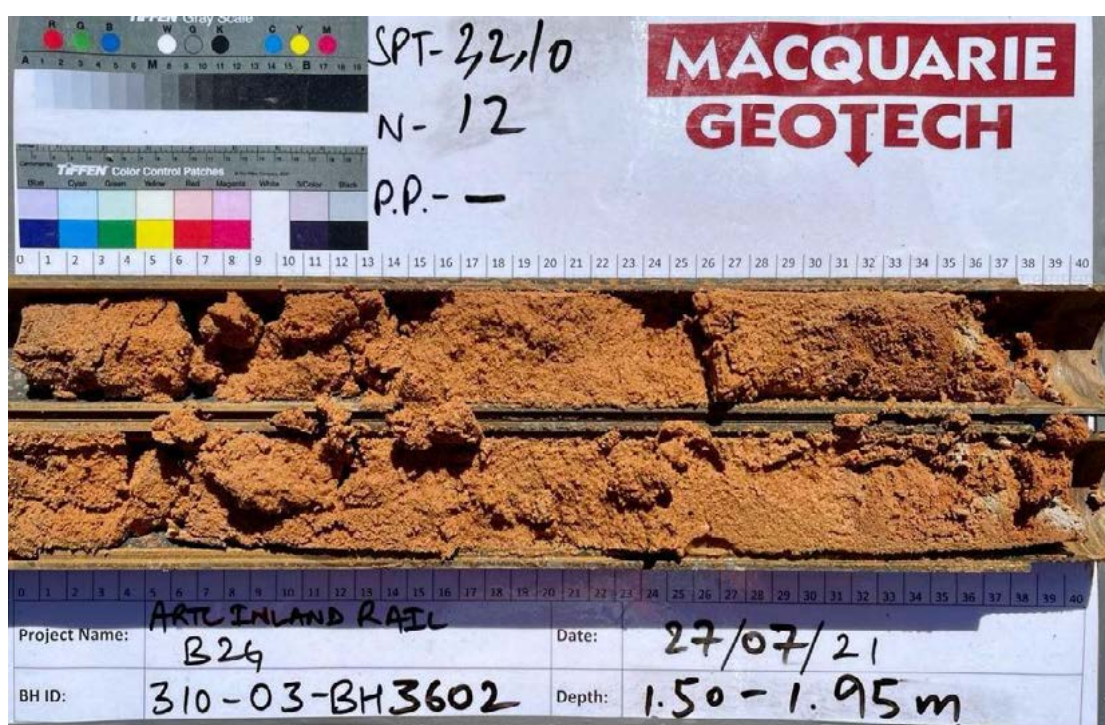
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	27/07/2021
Project Name:	Inland Rail B2G	Completed:	27/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	307501.0 m E 6857839.9 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	290.32 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3602 Depth Range: 0.50 - 0.95 m

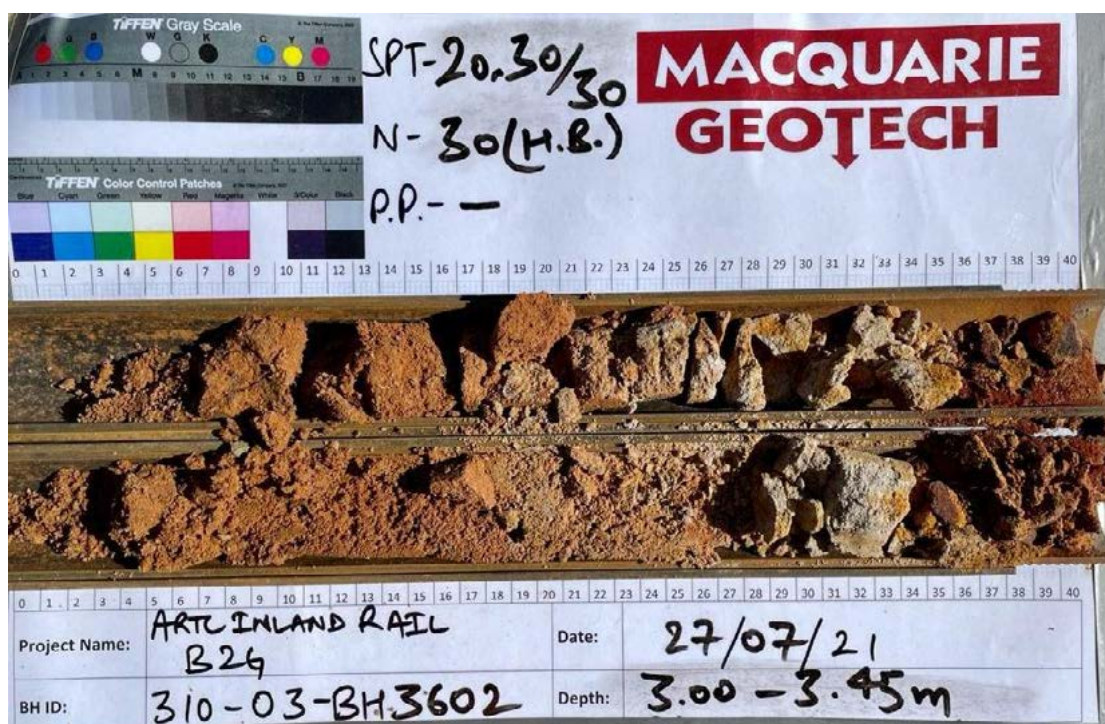


310-03-BH3602 Depth Range: 1.50 - 1.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	27/07/2021
Project Name:	Inland Rail B2G	Completed:	27/07/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A.Sharma
Hole Coordinates:	307501.0 m E 6857839.9 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	290.32 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3602 Depth Range: 3.00 - 3.45 m



310-03-BH3602 Depth Range: 4.50 - 4.95 m

Engineering Log - Borehole

Project No.: B21003

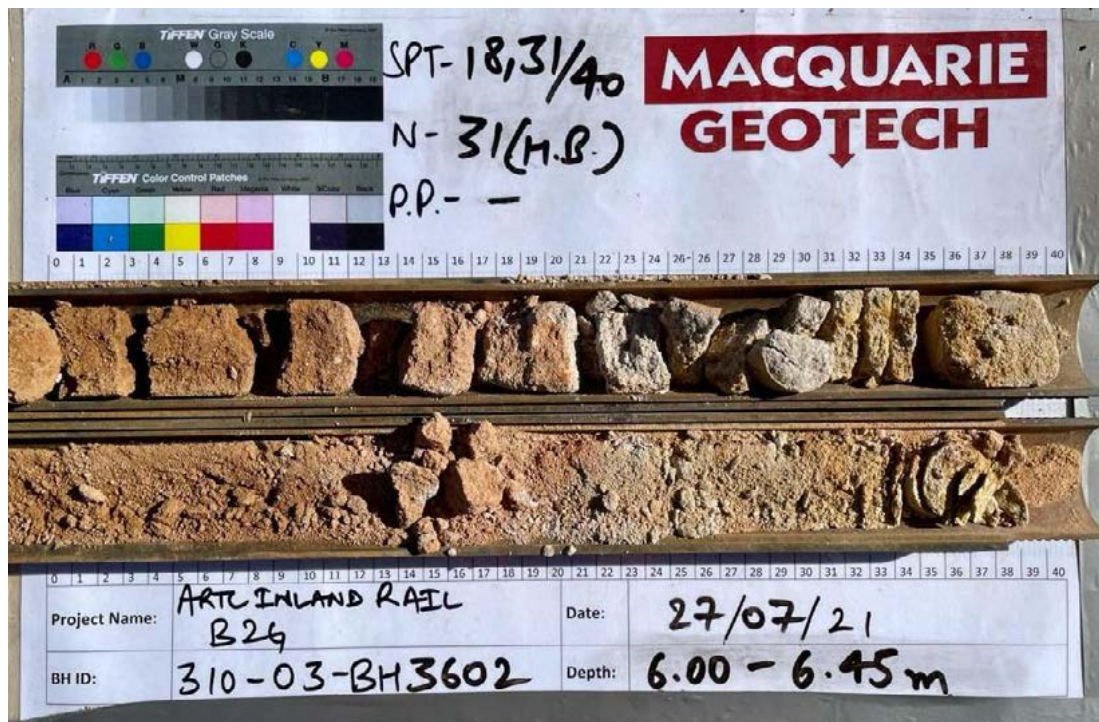
Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 307501.0 m E 6857839.9 m N MGA94 Zone 56

Commenced: 27/07/2021
Completed: 27/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 290.32 m
Datum: AHD Operator: B.Boga



310-03-BH3602 Depth Range: 6.00 - 6.45 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC Project Name: Inland Rail B2G Hole Location: N4 - Whetstone Greenfield Corridor Hole Coordinates: 307501.0 m E 6857839.9 m N MGA94 Zone 56										Commenced: 27/07/2021 Completed: 27/07/2021 Logged By: A.Sharma Checked By: C.Green														
Drill Model and Mounting: D4TAPG Barrel Type and Length: HQ3 4.2 m										Inclination: -90° Bearing: RL Surface: 290.32 m Datum: AHD Operator: B.Boga														
Drilling Information							Rock Substance							Rock Mass Defects										
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral						Defect Spacing (mm)				Defect Description thickness, type, inclination, planarity, roughness, coating/infilling			
											EL	VL	L	M	H	VH	EH	30	100	300	1000	3000	Particular	General
						289.3	1																	
						288.3	2																	
						287.3	3																	
						286.3	4																	
						285.3	5																	
						284.3	6																	
									Continued from non-cored borehole sheet															
HQ3			100		100	283.3	7		SANDSTONE: medium grained, orange brown, massive	HW														
			100		100																			

Method

AS - Auger Screwing
WB- Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water

≡ Level (Date)
▽ Inflow
△ Partial Loss
▲ Complete Loss

Support

T - Timbering

Graphic Log/Core Loss

Core recovered (hatching indicates material)
 Core loss

Weathering

FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)

EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 307501.0 m E 6857839.9 m N MGA94 Zone 56

Commenced: 27/07/2021
Completed: 27/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclinometer: -90° RL Surface: 290.32 m
Barrel Type and Length: HQ3 4.2 m Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Rock Substance					Rock Mass Defects				
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling			
										EL VL L M H VH EH		30 100 300 1000 3000	Particular	General		
HQ3			100		100	281.3	9		SANDSTONE: medium grained, grey, massive							
						280.3	10		Below 10.15m pale grey and red brown, becoming lateritised.					JT, 80°, Fe SN, PR, S		
						279.3	11							JT, 20°, Clay Vnr, UN, S		
			100		74	278.3	12							BP, 10°, Fe SN, UN, RF		
						277.3	13							JT, 90°, Fe SN, UN, RF		
						276.3	14		NO CORE 2.60m				JT, 0°, SN, PR, RF			
						275.3	15						CZ, 0°, SN, UN, RF			
				100		93				SANDSTONE: medium grained, red brown mottled grey, massive, lateritised				Non Intact		

Method
AS - Auger Screwing
WB- Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Support
T - Timbering

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Weathering
FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Method
AS - Auger Screwing
WB - Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Support
T - Timbering

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Weathering
FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC		Commenced: 27/07/2021																					
Project Name: Inland Rail B2G		Completed: 27/07/2021																					
Hole Location: N4 - Whetstone Greenfield Corridor		Logged By: A.Sharma																					
Hole Coordinates: 307501.0 m E 6857839.9 m N MGA94 Zone 56		Checked By: C.Green																					
Drill Model and Mounting: D4TAPG		Inclination: -90°																					
Barrel Type and Length: HQ3 4.2 m		RL Surface: 290.32 m																					
		Datum: AHD																					
		Operator: B.Boga																					
Drilling Information								Rock Substance								Rock Mass Defects							
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling	Particular	General								
			100		93	273.3	17		SANDSTONE: medium grained, red brown mottled grey, massive, lateritised(continued)	EL	○												
			100		95	272.3	18		18.00m: becoming orange brown, mottled yellow and grey	HW	●		JT, 90°, Fe SN, UN, RF										
						271.3	19		Hole Terminated at 19.00 m Target depth				JT, 0°, SN, PR, RF										
						270.3	20						BP, 10°, Fe SN, UN, RF										
						269.3	21																
						268.3	22																
						267.3	23																
Method AS - Auger Screwing WB- Washbore HQ3 HQ3 Core Barrel NQ3 NQ3 Core Barrel Water ▬ Level (Date) ▽ Inflow ▵ Partial Loss ◄ Complete Loss Support T - Timbering Graphic Log/Core Loss ▨ Core recovered (hatching indicates material) ▩ Core loss Weathering FR - Fresh SW - Slightly Weathered DW - Distinctly Weathered XW - Extremely Weathered RS - Residual Soil Strength (indirect tensile strength) EL - Extremely Low VL - Very Low L - Low M - Medium H - High VH - Very High EH - Extremely High																							

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 307501.0 m E 6857839.9 m N MGA94 Zone 56

Commenced: 27/07/2021
Completed: 27/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclinaton: -90° RL Surface: 290.32 m
Barrel Type and Length: HQ3 4.2 m Bearing: Datum: AHD Operator: B.Boga



PointID : 310-03-BH3602 Depth Range: 6.27 - 10.00 m



PointID : 310-03-BH3602 Depth Range: 10.00 - 14.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 307501.0 m E 6857839.9 m N MGA94 Zone 56

Commenced: 27/07/2021
Completed: 27/07/2021
Logged By: A.Sharma
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclusion: -90° RL Surface: 290.32 m
Barrel Type and Length: HQ3 4.2 m Bearing: Datum: AHD Operator: B.Boga



PointID : 310-03-BH3602 Depth Range: 14.00 - 18.00 m



PointID : 310-03-BH3602 Depth Range: 18.00 - 19.00 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 311759.8 m E 6858734.1 m N MGA94 Zone 56

Commenced: 24/08/2021
Completed: 25/08/2021
Logged By: A. Drösemeyer
Checked By: C.Green

Drill Model and Mounting: D4TAPG Inclinometer: -90° RL Surface: 285.09 m
Hole Diameter: 115 mm Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations	
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
WB	ADV	Not Observed	Not Observed	D00000 D 0.00-0.50 m					SP	SAND: fine to medium grained, pale yellow-brown.	M	VL		100	ALLUVIAL SOIL
				S00050 SPT 0.50-0.95 m 1,0,1 N=1		284.1	1		SP	SAND: fine to medium grained, pale orange-brown.	W			200	
				D00100 D 1.00-1.50 m							D			300	
				S00150 SPT 1.50-1.95 m 17,20,26 N=46		283.1	2		SP	SAND: fine to coarse grained, dark grey.				400	
														500	
				D00200 D 2.50-3.00 m		282.1	3		SM	Silty SAND with gravel: fine to coarse grained, pale grey and orange, fine grained sub-rounded to sub-angular gravel (quartz).	M	VD			
				S00300 SPT 3.00-3.27 m 19,30/120mm N=30/120mm					SP	SAND with clay trace gravel: fine to coarse grained, orange-brown, medium plasticity clay, fine to medium grained sub-rounded to sub-angular gravel.					
				D00400 D 4.00-4.50 m		281.1	4								
				S00450 SPT 4.50-4.95 m 15,19,31 N=50		280.1	5		SP CI	Gravelly SAND with clay: fine to coarse grained, orange-brown, fine grained sub-angular to angular gravel (Fe staining), medium to high plasticity clay.	M (<PL)	H			
				D00550 D 5.50-6.00 m		279.1	6								
				S00600 SPT 6.00-6.29 m 19,30/140mm N=30/140mm		278.1	7		SC	Clayey SAND trace silt: fine to medium grained, pale grey, medium plasticity fines.					
				D00700 D 7.00-7.50 m							M	VD			
				S00750 SPT 7.50-7.80 m 20,30/145mm											

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB- Washbore	 No resistance ranging to refusal	 Level (Date)  Inflow  Partial Loss  Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss		Classification Symbols and Soil Descriptions	Plastic Limit	
C - Casing	 Core recovered (hatching indicates material)  Core loss		Based on Unified Soil Classification System	< PL = PL < PL	

Method
AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration
No resistance ranging to refusal

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition
D - Dry
M - Moist
W - Wet

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support
C - Casing

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

Plastic Limit
< PL
= PL
< PL

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 24/08/2021
Project Name: Inland Rail B2G	Completed: 25/08/2021
Hole Location: N4 - Whetstone Greenfield Corridor	Logged By: A. Drösemeyer
Hole Coordinates: 311759.8 m E 6858734.1 m N MGA94 Zone 56	Checked By: C.Green
Drill Model and Mounting: D4TAPG	Inclination: -90°
Hole Diameter: 115 mm	RL Surface: 285.09 m
	Bearing: Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations		
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations	
WB		Not Observed		N=30/145mm					SC	Clayey SAND trace silt: fine to medium grained, pale grey, medium plasticity fines. (continued) 07.00m: becoming low palsticity 07.00m: becoming low palsticity (continued)	M	VD				
				S00900 SPT 9.00-9.22 m 19.30/70mm N=30/70mm		276.1	9		SC	Clayey SAND: fine to medium grained, pale grey mottled red, medium to high plasticity clay.						RESIDUAL SOIL
						275.1	10									
				S01050 SPT 10.50-10.68 m 28.30/30mm N=30/30mm		274.1	11		SC	Clayey SAND: fine to medium grained, pale grey, medium plasticity clay.						
				S01200 SPT 12.00-12.26 m 13.30/110mm N=30/110mm		273.1	12			Between 10.50 to 15.18m: Clayey SAND with gravel lenses 50 to 100mm thick: fine to medium grained, red mottled orange, medium plasticity clay, fine grained sub-angular to angular gravel.						
						272.1	13									
				S01350 SPT 13.50-13.55 m 30/50mm		271.1	14									
S01500 SPT 15.00-15.18 m 26.30/30mm N=30/30mm		270.1	15			Hole Terminated at 15.18 m Target depth										

Method	Penetration	Water	Samples and Tests	Moisture Condition	Consistency/Relative Density
AS - Auger Screwing RR - Rock Roller WB - Washbore	No resistance ranging to refusal	Level (Date) Inflow Partial Loss Complete Loss	U - Undisturbed Sample D - Disturbed Sample SPT - Standard Penetration Test	D - Dry M - Moist W - Wet	VS - Very Soft S - Soft F - Firm VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense
Support	Graphic Log/Core Loss	Classification Symbols and Soil Descriptions	Plastic Limit		
C - Casing	Core recovered (hatching indicates material) Core loss	Based on Unified Soil Classification System	< PL = PL < PL		

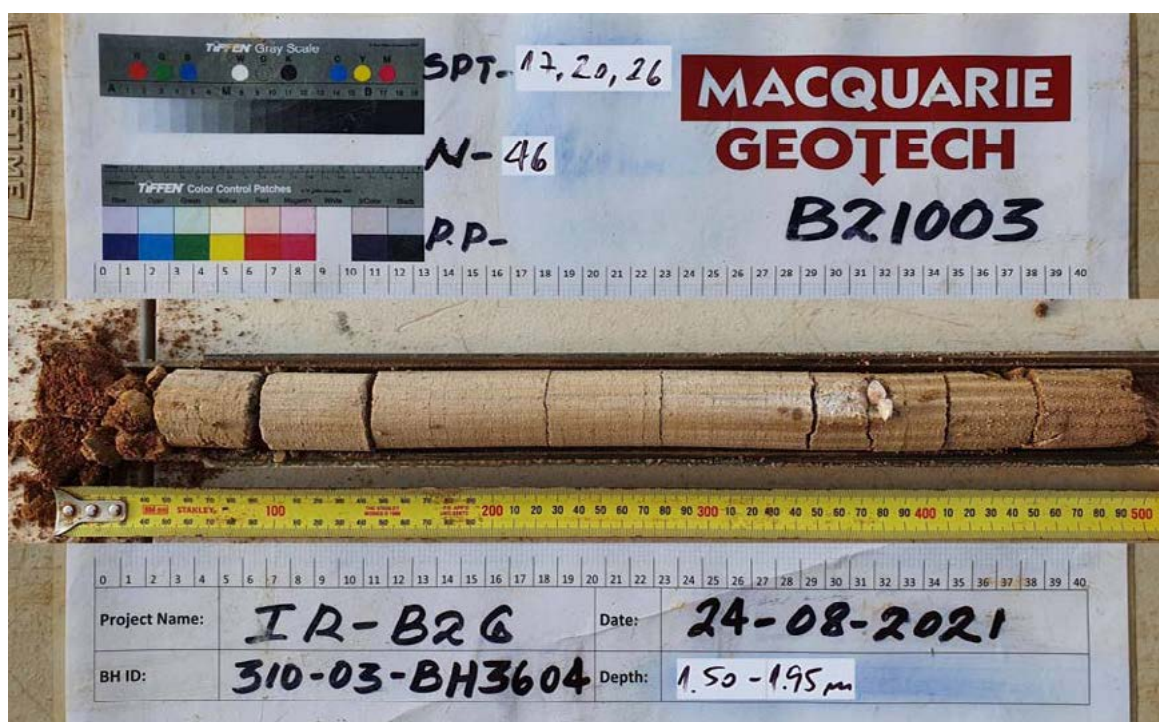
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	24/08/2021
Project Name:	Inland Rail B2G	Completed:	25/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A. Drösemeyer
Hole Coordinates:	311759.8 m E 6858734.1 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	285.09 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3604 Depth Range: 0.50 - 0.95 m



310-03-BH3604 Depth Range: 1.50 - 1.95 m

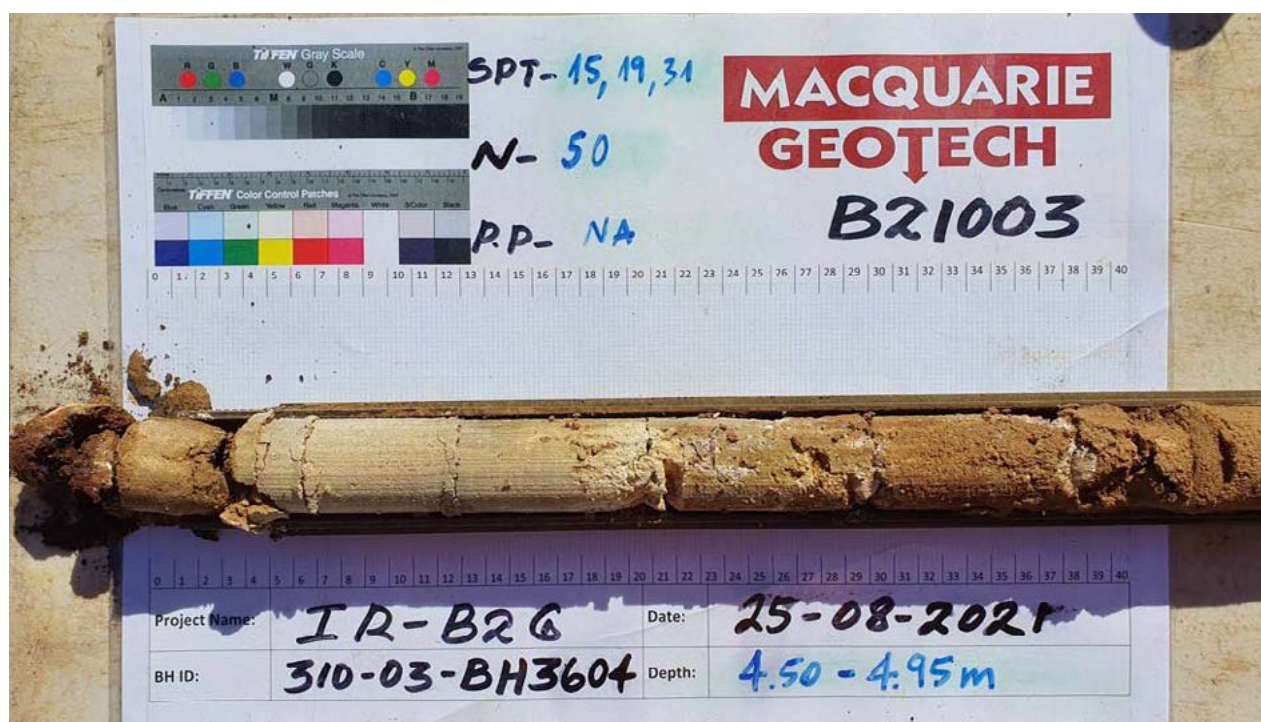
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	24/08/2021
Project Name:	Inland Rail B2G	Completed:	25/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A. Drösemeyer
Hole Coordinates:	311759.8 m E 6858734.1 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	285.09 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3604 Depth Range: 3.00 - 3.27 m



310-03-BH3604 Depth Range: 4.50 - 4.95 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 311759.8 m E 6858734.1 m N MGA94 Zone 56

Commenced: 24/08/2021
Completed: 25/08/2021
Logged By: A. Drösemeyer
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 285.09 m
Datum: AHD Operator: B.Boga



310-03-BH3604 Depth Range: 6.00 - 6.29 m

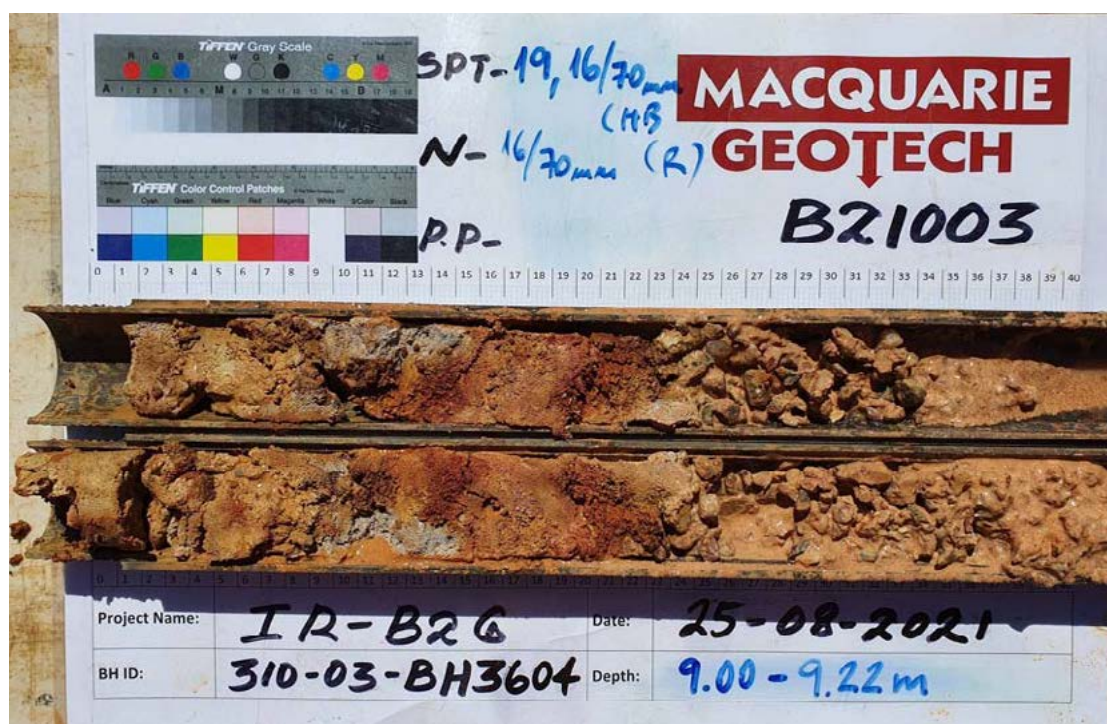


310-03-BH3604 Depth Range: 7.50 - 7.75 m

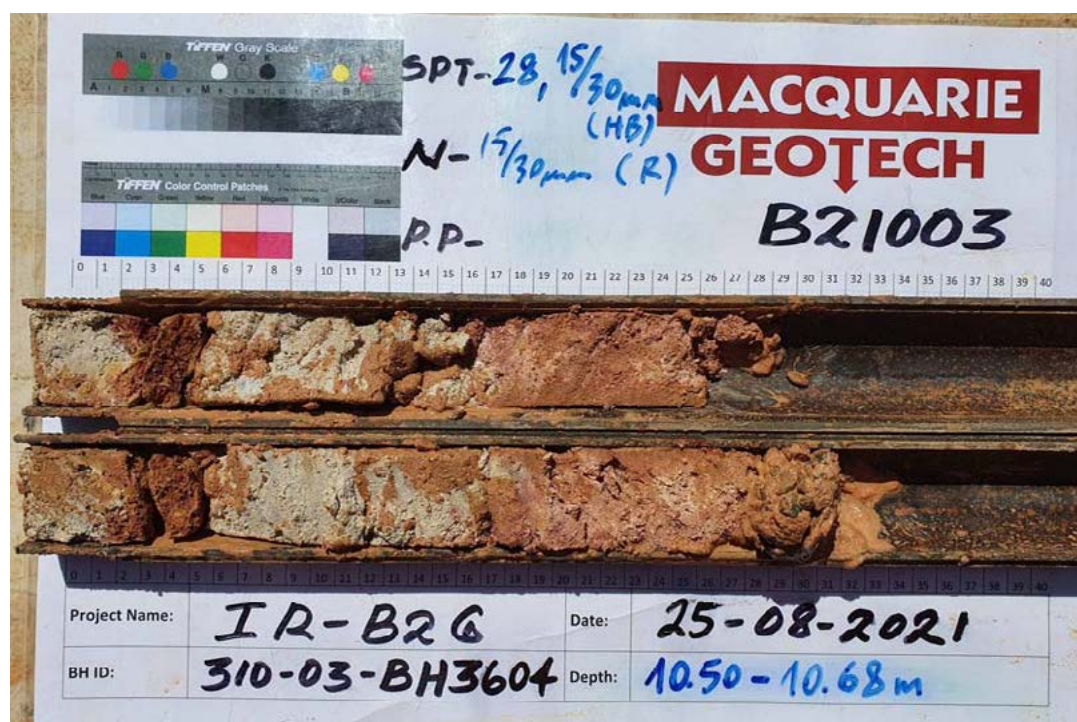
Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	24/08/2021
Project Name:	Inland Rail B2G	Completed:	25/08/2021
Hole Location:	N4 - Whetstone Greenfield Corridor	Logged By:	A. Drösemeyer
Hole Coordinates:	311759.8 m E 6858734.1 m N MGA94 Zone 56	Checked By:	C.Green
Drill Model and Mounting:	D4TAPG	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	285.09 m
		Datum:	AHD
		Operator:	B.Boga



310-03-BH3604 Depth Range: 9.00 - 9.22 m



310-03-BH3604 Depth Range: 10.50 - 10.68 m

Engineering Log - Borehole

Project No.: B21003

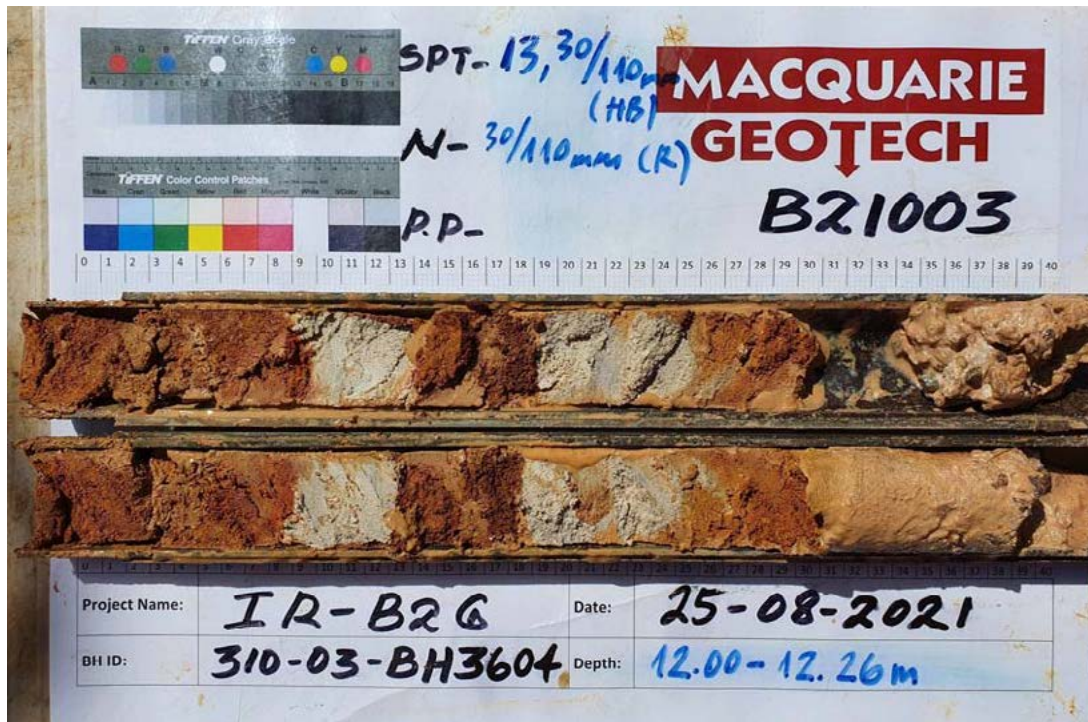
Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 311759.8 m E 6858734.1 m N MGA94 Zone 56

Commenced: 24/08/2021
Completed: 25/08/2021
Logged By: A. Drösemeyer
Checked By: C.Green

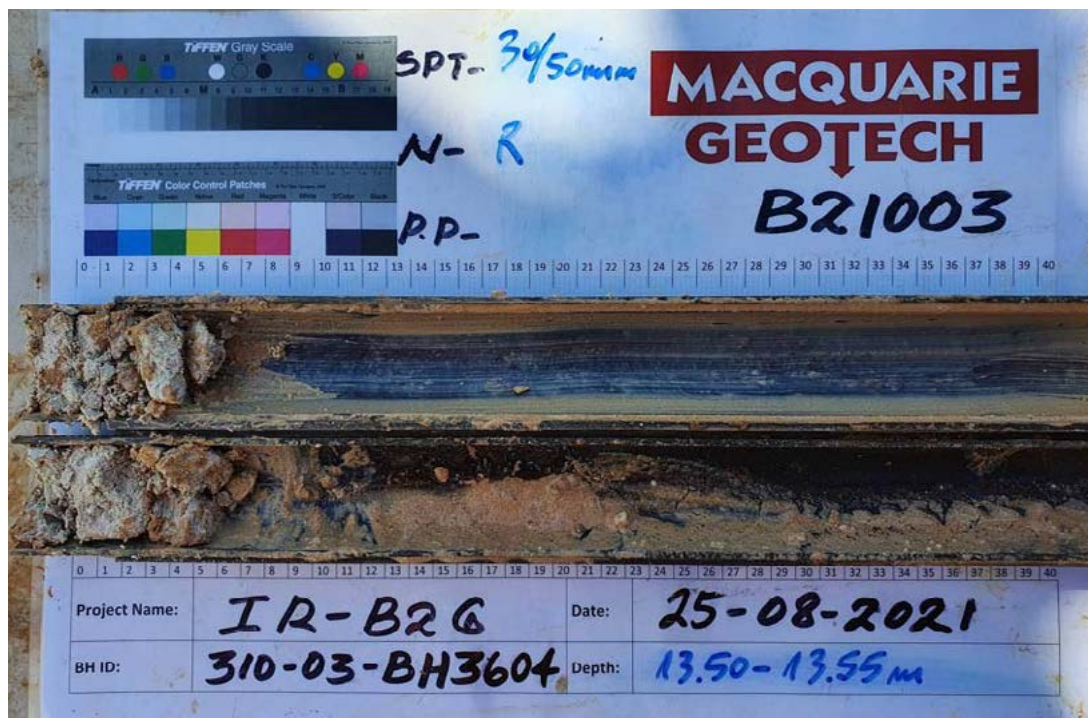
Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 285.09 m
Datum: AHD Operator: B.Boga



310-03-BH3604 Depth Range: 12.00 - 12.26 m



310-03-BH3604 Depth Range: 13.50 - 13.55 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC
Project Name: Inland Rail B2G
Hole Location: N4 - Whetstone Greenfield Corridor
Hole Coordinates: 311759.8 m E 6858734.1 m N MGA94 Zone 56

Commenced: 24/08/2021
Completed: 25/08/2021
Logged By: A. Drösemeyer
Checked By: C.Green

Drill Model and Mounting: D4TAPG
Hole Diameter: 115 mm

Inclination: -90°
Bearing:

RL Surface: 285.09 m
Datum: AHD Operator: B.Boga

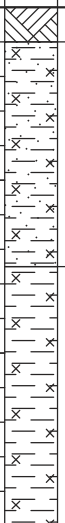


310-03-BH3604 Depth Range: 15.00 - 15.18 m

Engineering Log - Borehole

Project No.: B21003

Client: ARTC	Commenced: 15/02/2021
Project Name: Inland Rail B2G	Completed: 15/02/2021
Hole Location: Approx. CH75694 - Inglewood	Logged By: V. Chandrasena
Hole Coordinates: 319323.8 m E 6863678.7 m N MGA94 Zone 56	Checked By: J.Boyle
Drill Model and Mounting: D4TAPG Truck mounted rig	Inclination: -90°
Hole Diameter: 115 mm	Bearing: RL Surface: 317.03 m
	Datum: AHD Operator: B.Boga

Drilling Information							Soil Description							Observations	
Method	Penetration	Support	Water	Samples Tests Remarks	Recovery	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description Fraction, Colour, Structure, Bedding, Plasticity, Sensitivity, Additional	Moisture Condition	Consistency	Relative Density	Pocket Penetrometer UCS (kPa)	Structure and Additional Observations
AD/T		Not Observed		J00020 0.20-0.30 m PID 0.20 m 0.9 ppm J00050 0.50-0.60 m S00050 SPT 0.50-0.95 m 11,13,18 N=31 PID 0.50 m 0.8 ppm PP 0.80 m >600 kPa D00100 1.00-1.50 m J00100 1.00-1.10 m PID 1.00 m 0.8 ppm D00150 SPT 1.50-1.92 m 10,20,30/120 mm N=50/270 mm PP 1.80 m >600 kPa D00250 2.50-3.00 m		316.0	1		CL	TOP SOIL: Sandy silty CLAY with gravel, low to medium plasticity, brown, fine to coarse grained sand, fine to coarse angular gravel, trace rootlets. Sandy silty CLAY with gravel: low plasticity, white brown mottled yellow, fine to coarse grained sand, fine to coarse angular gravel.	M (<PL)	H			TOPSOIL
										RESIDUAL SOIL					
						315.0	2		CL	Silty CLAY with sand trace gravel: low plasticity, white brown mottled yellow, fine to coarse grained sand, fine to coarse sub-angular to angular gravel.					
						314.0	3			Continued on cored borehole sheet					
						313.0	4								
						312.0	5								
						311.0	6								

Method

AS - Auger Screwing
RR - Rock Roller
WB- Washbore

Penetration

 No resistance ranging to refusal

Water

 Level (Date)
 Inflow
 Partial Loss
 Complete Loss

Support

C - Casing

Graphic Log/Core Loss

 Core recovered (hatching indicates material)
 Core loss

Samples and Tests

U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Classification Symbols and Soil Descriptions

Based on Unified Soil Classification System

Moisture Condition

D - Dry
M - Moist
W - Wet

Plastic Limit

< PL
= PL
< PL

Consistency/Relative Density

VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

MG 4.02 LUB Log MG BOREHOLE EXCL DCP MG 4.02 GPJ <<DrawingFile>> 2602/2022 23:30 10.02.00.04 Dargal Lab and In Situ Tool - DGD [Lib: DGD-P 4.01.2 dpt 3.04.2016-07-02 Pjt: DGD-P 4.00.6 2017-11-25]

Method
AS - Auger Screwing
RR - Rock Roller
WB - Washbore

Penetration
No resistance ranging to refusal

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Samples and Tests
U - Undisturbed Sample
D - Disturbed Sample
SPT - Standard Penetration Test

Moisture Condition
D - Dry
M - Moist
W - Wet

Consistency/Relative Density
VS - Very Soft
S - Soft
F - Firm
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

Support
C - Casing

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Classification Symbols and Soil Descriptions
Based on Unified Soil Classification System

Plastic Limit
< PL
= PL
< PL

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC		Commenced:	15/02/2021	
Project Name:	Inland Rail B2G		Completed:	15/02/2021	
Hole Location:	Approx. CH75694 - Inglewood		Logged By:	V. Chandrasena	
Hole Coordinates:	319323.8 m E 6863678.7 m N MGA94 Zone 56		Checked By:	J.Boyle	
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°	RL Surface:	317.03 m
Hole Diameter:	115 mm	Bearing:		Datum:	AHD Operator: B.Boga

310-03-BH3800 Depth Range: 0.50 - 0.95 m

310-03-BH3800 Depth Range: 1.50 - 1.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC	Commenced:	15/02/2021
Project Name:	Inland Rail B2G	Completed:	15/02/2021
Hole Location:	Approx. CH75694 - Inglewood	Logged By:	V. Chandrasena
Hole Coordinates:	319323.8 m E 6863678.7 m N MGA94 Zone 56	Checked By:	J.Boyle
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°
Hole Diameter:	115 mm	Bearing:	
		RL Surface:	317.03 m
		Datum:	AHD
		Operator:	B.Boga

310-03-BH3800 Depth Range: 12.55 - 12.67 m

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC	Commenced: 15/02/2021
Project Name: Inland Rail B2G	Completed: 15/02/2021
Hole Location: Approx. CH75694 - Inglewood	Logged By: V. Chandrasena
Hole Coordinates: 319323.8 m E 6863678.7 m N MGA94 Zone 56	Checked By: J.Boyle

Drill Model and Mounting: D4TAPG Truck mounted rig	Inclination: -90°	RL Surface: 317.03 m
Barrel Type and Length:	Bearing:	Datum: AHD Operator: B.Boga

Drilling Information							Rock Substance					Rock Mass Defects				
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling			
													Particular	General		
						316.0	1									
						315.0	2									
						314.0	3		Continued from non-cored borehole sheet							
			91		0	313.0	4		Extremely weathered SANDSTONE: Recovered as Silty SAND with clay; fine to coarse grained, red brown mottled grey and yellow, medium plasticity clay.							
			100		0	312.0	5			XW						
			100		0	311.0	6									
			100		0											

Method
AS - Auger Screwing
WB- Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Weathering
FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Support
T - Timbering

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC		Commenced: 15/02/2021												
Project Name: Inland Rail B2G		Completed: 15/02/2021												
Hole Location: Approx. CH75694 - Inglewood		Logged By: V. Chandrasena												
Hole Coordinates: 319323.8 m E 6863678.7 m N MGA94 Zone 56		Checked By: J.Boyle												
Drill Model and Mounting: D4TAPG Truck mounted rig		Inclination: -90°	RL Surface: 317.03 m											
Barrel Type and Length:		Bearing:	Datum: AHD Operator: B.Boga											
Drilling Information		Rock Substance		Rock Mass Defects										
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral	Defect Spacing (mm)	Defect Description thickness, type, inclination, planarity, roughness, coating/infilling	
													Particular	General
HQ3		Not Observed	100		0	309.0	8	XXXXXX	Extremely weathered SILTSTONE: Recovered as Silty CLAY trace sand: medium plasticity, red brown and mottled grey. fine coarse grained sand. (continued)					
								XXXXXX						
								XXXXXX						
						308.0	9	XXXXXX						
						307.0	10		Extremely weathered SANDSTONE: Recovered as Silty SAND with clay; fine to coarse grained, red brown and grey mottled yellow, medium plasticity clay.	XW				
						306.0	11							
						305.0	12							
						304.0	13		Hole Terminated at 12.67 m Target depth. Hole grouted to surface. Hole grouted to surface.					
Method		Water		Graphic Log/Core Loss		Weathering		Strength						
AS - Auger Screwing WB- Washbore HQ3 HQ3 Core Barrel NQ3 NQ3 Core Barrel		☒ Level (Date) ☐ Inflow ☐ Partial Loss ▲ Complete Loss		☐ Core recovered (hatching indicates material) ☐ Core loss		FR - Fresh SW - Slightly Weathered DW - Distinctly Weathered XW - Extremely Weathered RS - Residual Soil		(indirect tensile strength) EL - Extremely Low VL - Very Low L - Low M - Medium H - High VH - Very High EH - Extremely High						
Support		T - Timbering												

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC			Commenced:	15/02/2021	
Project Name:	Inland Rail B2G			Completed:	15/02/2021	
Hole Location:	Approx. CH75694 - Inglewood			Logged By:	V. Chandrasena	
Hole Coordinates:	319323.8 m E 6863678.7 m N MGA94 Zone 56			Checked By:	J.Boyle	
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°	RL Surface:	317.03 m	
Barrel Type and Length:		Bearing:		Datum:	AHD	Operator: B.Boga

PointID : 310-03-BH3800 Depth Range: 0.50 - 0.95 m

PointID : 310-03-BH3800 Depth Range: 1.50 - 1.95 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC			Commenced:	15/02/2021	
Project Name:	Inland Rail B2G			Completed:	15/02/2021	
Hole Location:	Approx. CH75694 - Inglewood			Logged By:	V. Chandrasena	
Hole Coordinates:	319323.8 m E 6863678.7 m N MGA94 Zone 56			Checked By:	J.Boyle	
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°	RL Surface:	317.03 m	
Barrel Type and Length:		Bearing:		Datum:	AHD	Operator: B.Boga

PointID : 310-03-BH3800 Depth Range: 3.00 - 5.00 m

PointID : 310-03-BH3800 Depth Range: 5.00 - 9.00 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC			Commenced:	15/02/2021	
Project Name:	Inland Rail B2G			Completed:	15/02/2021	
Hole Location:	Approx. CH75694 - Inglewood			Logged By:	V. Chandrasena	
Hole Coordinates:	319323.8 m E 6863678.7 m N MGA94 Zone 56			Checked By:	J.Boyle	
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°	RL Surface:	317.03 m	
Barrel Type and Length:		Bearing:		Datum:	AHD	Operator: B.Boga

PointID : 310-03-BH3800 Depth Range: 9.00 - 12.55 m

PointID : 310-03-BH3800 Depth Range: 12.55 - 12.67 m

Engineering Log - Borehole

Project No.: B21003

[illegible]

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC		Commenced:	19/02/2021	
Project Name:	Inland Rail B2G		Completed:	19/02/2021	
Hole Location:	Approx. CH76219 - Inglewood		Logged By:	H.Tran	
Hole Coordinates:	319356.1 m E 6864201.5 m N MGA94 Zone 56		Checked By:	J.Boyle	
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°	RL Surface:	314.75 m
Hole Diameter:	115 mm	Bearing:		Datum:	AHD Operator: B.Boga

310-03-BH3801 Depth Range: 0.50 - 0.95 m

310-03-BH3801 Depth Range: 1.50 - 1.95 m

Engineering Log - Borehole

Project No.: B21003

Client:	ARTC		Commenced:	19/02/2021	
Project Name:	Inland Rail B2G		Completed:	19/02/2021	
Hole Location:	Approx. CH76219 - Inglewood		Logged By:	H.Tran	
Hole Coordinates:	319356.1 m E 6864201.5 m N MGA94 Zone 56		Checked By:	J.Boyle	
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°	RL Surface:	314.75 m
Hole Diameter:	115 mm	Bearing:		Datum:	AHD Operator: B.Boga

310-03-BH3801 Depth Range: 3.00 - 3.45 m

310-03-BH3801 Depth Range: 4.50 - 4.75 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC	Commenced:	19/02/2021
Project Name:	Inland Rail B2G	Completed:	19/02/2021
Hole Location:	Approx. CH76219 - Inglewood	Logged By:	H.Tran
Hole Coordinates:	319356.1 m E 6864201.5 m N MGA94 Zone 56	Checked By:	J.Boyle

Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°	RL Surface:	314.75 m		
Barrel Type and Length:		Bearing:		Datum:	AHD	Operator:	B.Boga

Drilling Information							Rock Substance						Rock Mass Defects												
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral					Defect Spacing (mm)				Defect Description thickness, type, inclination, planarity, roughness, coating/infilling					
											EL	VL	L	M	H	VH	EH	30	100	300	1000	3000	Particular	General	
HQ3																									

Method
AS - Auger Screwing
WB - Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water
Level (Date)
Inflow
Partial Loss
Complete Loss

Support
T - Timbering

Graphic Log/Core Loss
Core recovered (hatching indicates material)
Core loss

Weathering
FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)
EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client: ARTC Project Name: Inland Rail B2G Hole Location: Approx. CH76219 - Inglewood Hole Coordinates: 319356.1 m E 6864201.5 m N MGA94 Zone 56										Commenced: 19/02/2021 Completed: 19/02/2021 Logged By: H.Tran Checked By: J.Boyle																			
Drill Model and Mounting: D4TAPG Truck mounted rig Barrel Type and Length:										Inclination: -90° Bearing:										RL Surface: 314.75 m Datum: AHD Operator: B.Boga									
Drilling Information										Rock Substance										Rock Mass Defects									
Method	Support	Water	TCR (%)	SCR (%)	RQD (%)	RL (m)	Depth (m)	Graphic Log	Material Description rock type: grain characteristics, colour, structure, minor components	Weathering	Strength Is(50) ● - Axial ○ - Diametral						Defect Spacing (mm)				Defect Description thickness, type, inclination, planarity, roughness, coating/infilling								
											EL	VL	L	M	H	VH	EH	30	100	300	1000	3000	Particular	General					
HQ3		70% Water Observed	100	0		305.7	9	XXXXXX	Extremely weathered SILTSTONE: Recovered as Silty CLAY: medium plasticity, orange red and yellow brown and off-white.(continued)	XW													8.80: PP In-situ >600 kPa JT, 90°, Fe SN, PR, S, 800mm with multiple defects						
						304.7	10	XXXXXX	Hole Terminated at 10.10 m Target depth. Hole grouted to surface. Hole grouted to surface.														HB 9.80: PP In-situ >600 kPa						
						303.7	11																						
						302.7	12																						
						301.7	13																						
						300.7	14																						
						299.7	15																						

Method

AS - Auger Screwing
WB- Washbore
HQ3 HQ3 Core Barrel
NQ3 NQ3 Core Barrel

Water

Level (Date)
Inflow
Partial Loss
Complete Loss

Support

T - Timbering

Graphic Log/Core Loss

Core recovered (hatching indicates material)
Core loss

Weathering

FR - Fresh
SW - Slightly Weathered
DW - Distinctly Weathered
XW - Extremely Weathered
RS - Residual Soil

Strength
(indirect tensile strength)

EL - Extremely Low
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC			Commenced:	19/02/2021	
Project Name:	Inland Rail B2G			Completed:	19/02/2021	
Hole Location:	Approx. CH76219 - Inglewood			Logged By:	H.Tran	
Hole Coordinates:	319356.1 m E 6864201.5 m N MGA94 Zone 56			Checked By:	J.Boyle	
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°	RL Surface:	314.75 m	
Barrel Type and Length:		Bearing:		Datum:	AHD	Operator: B.Boga

PointID : 310-03-BH3801 Depth Range: 0.50 - 0.95 m

PointID : 310-03-BH3801 Depth Range: 1.50 - 1.95 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC			Commenced:	19/02/2021	
Project Name:	Inland Rail B2G			Completed:	19/02/2021	
Hole Location:	Approx. CH76219 - Inglewood			Logged By:	H.Tran	
Hole Coordinates:	319356.1 m E 6864201.5 m N MGA94 Zone 56			Checked By:	J.Boyle	
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°	RL Surface:	314.75 m	
Barrel Type and Length:		Bearing:		Datum:	AHD	Operator: B.Boga

PointID : 310-03-BH3801 Depth Range: 3.00 - 3.45 m

PointID : 310-03-BH3801 Depth Range: 4.50 - 4.75 m

Engineering Log - Cored Borehole

Project No.: B21003

Client:	ARTC			Commenced:	19/02/2021	
Project Name:	Inland Rail B2G			Completed:	19/02/2021	
Hole Location:	Approx. CH76219 - Inglewood			Logged By:	H.Tran	
Hole Coordinates:	319356.1 m E 6864201.5 m N MGA94 Zone 56			Checked By:	J.Boyle	
Drill Model and Mounting:	D4TAPG Truck mounted rig	Inclination:	-90°	RL Surface:	314.75 m	
Barrel Type and Length:		Bearing:		Datum:	AHD	Operator: B.Boga

PointID : 310-03-BH3801 Depth Range: 4.75 - 7.00 m

PointID : 310-03-BH3801 Depth Range: 7.00 - 10.10 m

POSITION : E: 297076.2, N: 6846125.4 (MGA94 Zone 56)

SURFACE ELEVATION : 264.93 (AHD)

EQUIPMENT TYPE : 9t Backhoe

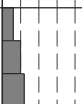
METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : R.Ebrahimi

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.40 m LONG 1.40 m WIDE

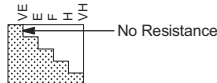
EXCAVATION INFORMATION					MATERIAL										
PENETRATION VE E F H				GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations	
Not Observed					D-D00000	0.0			silty SAND, fine to medium grained, pale brown trace root < 10mm	D to M				TOPSOIL	
					0.20m		0.30m								
					0.50m	264.4			silty SAND, fine to medium grained, pale brown						ALLUVIAL SOIL
					B-B00050	0.5									
					0.70m										
						263.9		SM							
						263.4									
					1.80m	262.9			SAND trace silt and clay, fine to coarse grained, pale brown, low plasticity, weakly cemented						
					B-B00180	2.0		SP							
					2.00m										
2.10m															
B-B00210															
2.30m	262.4														
	2.5				Hole Terminated at 2.40 m Practical Refusal										
	261.9														
	3.0														
	261.4														
	3.5														
	4.0														

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 297076.2, N: 6846125.4 (MGA94 Zone 56)

SURFACE ELEVATION : 264.93 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : R.Ebrahimi

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.40 m LONG 1.40 m WIDE



310-03-TP3045 - 1 Depth Range: 0.00 - 2.40 m



310-03-TP3045 - 2 Depth Range: 0.00 - 2.40 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 297076.2, N: 6846125.4 (MGA94 Zone 56)

SURFACE ELEVATION : 264.93 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : R.Ebrahimi

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.40 m LONG 1.40 m WIDE



310-03-TP3045 - 3 Depth Range: 0.00 - 2.40 m



310-03-TP3045 - 4 Depth Range: 0.00 - 2.40 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 297076.2, N: 6846125.4 (MGA94 Zone 56)

SURFACE ELEVATION : 264.93 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : R.Ebrahimi

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.40 m LONG 1.40 m WIDE



310-03-TP3045 - 5 Depth Range: 0.00 - 2.40 m

POSITION : E: 297195.5, N: 6846894.1 (MGA94 Zone 56)

SURFACE ELEVATION : 272.34 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : R.Ebrahimi

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.00 m LONG 1.50 m WIDE

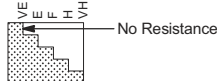
EXCAVATION INFORMATION				MATERIAL								
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER 100 200 300 400 kPa	STRUCTURE & Other Observations
Not Observed				0.0			silty SAND, fine to medium grained, brown, trace root < 10mm					TOPSOIL
				0.30m			silty SAND, fine to medium grained, pale brown	M	D - VD			ALLUVIAL SOIL
			0.60m B-B00060	0.5		SM	silty CLAY trace sand medium to high plasticity, orange brown, fine to medium grained sand					
			0.80m	0.60m								
				0.80m								
				1.0								
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PHOTOGRAPHS
NOTES

METHOD

- N Natural Exposure
- X Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

- U - Undisturbed Sample
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- PP - Pocket Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

- D - Dry
- M - Moist
- W - Wet
- M > PL - Moisture Content > Plastic Limit
- M ~ PL - Moisture Content = Plastic Limit
- M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

- VS - Very Soft
- S - Soft
- F - Firm
- St - Stiff
- VSt - Very Stiff
- H - Hard
- VL - Very Loose
- L - Loose
- MD - Medium Dense
- D - Dense
- VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 297195.5, N: 6846894.1 (MGA94 Zone 56)

SURFACE ELEVATION : 272.34 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : R.Ebrahimi

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.00 m LONG 1.50 m WIDE



310-03-TP3046 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3046 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 297195.5, N: 6846894.1 (MGA94 Zone 56)

SURFACE ELEVATION : 272.34 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 450mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : R.Ebrahimi

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.00 m LONG 1.50 m WIDE



310-03-TP3046 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3046 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 297195.5, N: 6846894.1 (MGA94 Zone 56)	SURFACE ELEVATION : 272.34 (AHD)	
EQUIPMENT TYPE : 9t Backhoe	METHOD : 450mm Toothed Bucket	
DATE EXCAVATED : 26/08/2021	LOGGED BY : R.Ebrahimi	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 3.00 m LONG 1.50 m WIDE		



310-03-TP3046 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 299533.6, N: 6851224.4 (MGA94 Zone 56)

SURFACE ELEVATION : 281.93 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD :

DATE EXCAVATED : 10/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.40 m LONG 1.30 m WIDE

EXCAVATION INFORMATION				MATERIAL									
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations	
				0.0			TOP SOIL: SAND with silt trace clay; fine to medium grained, black brown, low to medium plasticity clay, trace rootlets (<2mm)					TOPSOIL	
				0.30m			SAND trace silt and clay; fine to medium grained, grey brown, fine to medium grained, grey brown, low plasticity clay.	M	L			ALLUVIAL SOIL	
				0.50m									
				0.60m			Extremely weathered SANDSTONE recovered as SAND; fine to medium grained, yellow grey brown.		D				EXTREMELY WEATHERED BEDROCK
				0.80m									
				281.4									
				280.9				D to M					
				280.4									
				279.9									
				279.4									
				2.00m									
				2.30m									
				2.50m			Hole Terminated at 2.50 m Refusal on rock Testpit reinstated to surface						
				278.9									
				278.4									
				4.0									

PHOTOGRAPHS
NOTES

METHOD	PENETRATION	SAMPLES & FIELD TESTS	CLASSIFICATION SYMBOLS & SOIL DESCRIPTION	CONSISTENCY/RELATIVE DENSITY
N Natural Exposure X Existing Excavation BH Backhoe Bucket B Bulldozer Blade R Ripper	 WATER 10 Oct., 73 Water Level on Date shown water inflow water outflow	U Undisturbed Sample D Disturbed Sample B Bulk Disturbed Sample MC Moisture Content PP Pocket Penetrometer (UCS kPa) VS Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)	Based on Unified Classification System MOISTURE D Dry M Moist W Wet M > PL - Moisture Content > Plastic Limit M ~ PL - Moisture Content = Plastic Limit M < PL - Moisture Content < Plastic Limit	VS Very Soft S Soft F Firm St Stiff VSt Very Stiff H Hard VL Very Loose L Loose MD Medium Dense D Dense VD Very Dense

PHOTOGRAPHS
NOTES

METHOD

- N Natural Exposure
- X Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

- U - Undisturbed Sample
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- PP - Pocket Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

- D - Dry
- M - Moist
- W - Wet
- M > PL - Moisture Content > Plastic Limit
- M ~ PL - Moisture Content = Plastic Limit
- M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

- VS - Very Soft
- S - Soft
- F - Firm
- St - Stiff
- VSt - Very Stiff
- H - Hard
- VL - Very Loose
- L - Loose
- MD - Medium Dense
- D - Dense
- VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 299533.6, N: 6851224.4 (MGA94 Zone 56)

SURFACE ELEVATION : 281.93 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD :

DATE EXCAVATED : 10/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.40 m LONG 1.30 m WIDE



310-03-TP3047 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3047 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 299533.6, N: 6851224.4 (MGA94 Zone 56)

SURFACE ELEVATION : 281.93 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD :

DATE EXCAVATED : 10/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.40 m LONG 1.30 m WIDE



310-03-TP3047 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3047 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 299533.6, N: 6851224.4 (MGA94 Zone 56)

SURFACE ELEVATION : 281.93 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD :

DATE EXCAVATED : 10/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.40 m LONG 1.30 m WIDE



310-03-TP3047 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 301043.5, N: 6852398.8 (MGA94 Zone 56)

SURFACE ELEVATION : 277.77 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD :

DATE EXCAVATED : 10/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.70 m LONG 1.20 m WIDE

EXCAVATION INFORMATION					MATERIAL									
GROUND WATER LEVELS			SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations	
VE	E	F												H
Not Observed			0.10m D-D00010	0.0		SM	TOP SOIL: silty SAND trace gravel; fine to medium grained, pale brown, fine to medium sub-angular gravel, trace rootlets. Silty SAND; fine to medium grained, grey brown.	M to W	L				TOPSOIL	
			0.30m			SM							ALLUVIAL SOIL	
			0.50m B-B00050 U-U00050	0.5		CL-CI	Sandy silty CLAY; low to medium plasticity, orange brown mottled grey, fine to medium grained sand.	M	St				RESIDUAL SOIL	
			0.70m					($<PL$)	VSt			X	0.50: PP In-situ =320 kPa	
			0.80m						H					
			1.30m B-B00130	1.0		SM	Silty SAND with clay; fine to medium grained, grey, low to medium plasticity clay.							
			1.50m	1.5		SM	Silty SAND with clay trace gravel; fine to medium grained, grey, low to medium plasticity clay, fine sub angular gravel.	M	VD					
			2.20m D-D00220	2.0		SM	Silty SAND with clay; fine to medium grained, grey, low to medium plasticity clay.							
			2.40m	2.5			Below 1.80m : grey mottled brown.							
			2.40m	2.5			Highly weathered SANDSTONE; fine to medium grained, grey mottled brown.						HIGHLY WEATHERED BEDROCK	
				2.5			Hole Terminated at 2.40 m Refusal on rock Testpit reinstated to surface							
				3.0										
				3.5										

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 301043.5, N: 6852398.8 (MGA94 Zone 56)

SURFACE ELEVATION : 277.77 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD :

DATE EXCAVATED : 10/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.70 m LONG 1.20 m WIDE



310-03-TP3048 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3048 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 301043.5, N: 6852398.8 (MGA94 Zone 56)

SURFACE ELEVATION : 277.77 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD :

DATE EXCAVATED : 10/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.70 m LONG 1.20 m WIDE



310-03-TP3048 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3048 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 301043.5, N: 6852398.8 (MGA94 Zone 56)

SURFACE ELEVATION : 277.77 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD :

DATE EXCAVATED : 10/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.70 m LONG 1.20 m WIDE



310-03-TP3048 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 301985.0, N: 6853105.9 (MGA94 Zone 56)

SURFACE ELEVATION : 282.96 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 10/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.20 m WIDE

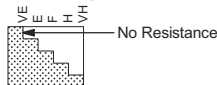
EXCAVATION INFORMATION				MATERIAL								
VE E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER 100 200 300 400	STRUCTURE & Other Observations
				0.0			FILL: Gravelly SAND; fine to coarse grained, white brown, fine to coarse sub-angular to angular gravel.					FILL
				0.20m			0.20m					
			D-D00020		X		Silty SAND trace gravel and clay; fine to medium grained, grey brown, fine to medium sub-angular gravel, low to medium plasticity clay.		VD			ALLUVIAL SOIL
			0.40m		X				D			
			U-U00040	282.5	X				MD			
			0.50m		X	SM		M				
			B-B00050	0.5	X							
			0.70m		X							
					X		0.80m		L			RESIDUAL SOIL
				282.0	X		Clayey silty SAND with gravel; fine to medium grained, orange brown mottled grey, low to medium plasticity clay, fine to medium sub-angular to angular gravel.					
				1.0		SC-SM		M to W	D			
			1.30m									
			D-D00130	281.5				W	VD			
			1.50m				1.50m					HIGHLY WEATHERED BEDROCK
			D-D00150	1.5			Moderately to Highly weathered SANDSTONE; fine to medium grained, grey, orange and red brown.	M				
			1.80m				1.80m					
				281.0			Hole Terminated at 1.80 m Refusal on rock Testpit reinstated to surface					
				2.0								
				280.5								
				2.5								
				280.0								
				3.0								
				279.5								
				3.5								
				4.0								

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 301985.0, N: 6853105.9 (MGA94 Zone 56)

SURFACE ELEVATION : 282.96 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 10/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.20 m WIDE



310-03-TP3049 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3049 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 301985.0, N: 6853105.9 (MGA94 Zone 56)

SURFACE ELEVATION : 282.96 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 10/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.20 m WIDE



310-03-TP3049 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3049 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 301985.0, N: 6853105.9 (MGA94 Zone 56)

SURFACE ELEVATION : 282.96 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 10/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.20 m WIDE



310-03-TP3049 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 302292.4, N: 6853431.0 (MGA94 Zone 56)

SURFACE ELEVATION : 274.05 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 11/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.10 m WIDE

EXCAVATION INFORMATION					MATERIAL									
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO-METER kPa 100 200 300 400	STRUCTURE & Other Observations	
Not Observed			0.70m	B00070	0.30m			TOP SOIL: silty SAND trace clay and gravel; fine to medium grained, pale brown, low plasticity clay, fine to medium sub-angular gravel, trace rootlets (<10mm)					TOPSOIL	
			0.90m		0.70m	SM	Silty SAND trace clay; fine to medium grained, grey brown, low plasticity clay, trace roots (<15mm)	W	L			ALLUVIAL SOIL		
							Sandy silty CLAY; medium plasticity, grey and orange brown, fine to medium grained sand, trace gravel fine to medium sub angular.		St		X	RESIDUAL SOIL		
								M (<PL) to M (~PL)	VSt			0.80: PP In-situ =180 kPa		

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 302292.4, N: 6853431.0 (MGA94 Zone 56)

SURFACE ELEVATION : 274.05 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 11/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.10 m WIDE



310-03-TP3050 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3050 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 302292.4, N: 6853431.0 (MGA94 Zone 56)

SURFACE ELEVATION : 274.05 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 11/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.10 m WIDE



310-03-TP3050 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3050 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 302292.4, N: 6853431.0 (MGA94 Zone 56)

SURFACE ELEVATION : 274.05 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 11/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.10 m WIDE



310-03-TP3050 - 5 Depth Range: 0.00 - 3.00 m

MG 4.02 LIB.GLB Log MG TEST PPT MG 4.02 GPJ <DrawingFile> 26/02/2022 21:22 10/02/00.04 Dated Lib and in Situ Tool - DGD | Lib: DGD P 4.01 2 dtd 3.04 2018-07-02 Pj: DGD P 4.00 6 2017-11-25

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 355401.6, N: 6932707.4 (MGA94 Zone 56)

SURFACE ELEVATION : 282.06 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 11/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.60 m LONG 1.20 m WIDE

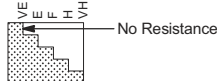
EXCAVATION INFORMATION					MATERIAL									
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations	
Not Observed				0.0			TOP SOIL: SAND; fine to medium grained, pale yellow brown, trace rootlets.						TOPSOIL	
				0.20m			Silty SAND; fine to medium grained, grey brown.						ALLUVIAL SOIL	
		0.40m		281.6		SM			W	L				
		D-D00040 U-U00040		0.5				MD						
		0.60m					0.60m			D				RESIDUAL SOIL
		0.70m				SP				VD				
		0.80m						0.80m			D			
		B-B00080		281.1		SM		Geavelly Silty SAND: fine to coarse , sub rounded to sub angular gravel, trace cobbles (~75mm)						
		1.00m		1.0				1.10m			M			
		1.30m					1.30m		Highly weathered SANDSTONE; fine to coarse grained, grey and red orange brown.			VD		
D-D00130 1.40m		280.6			1.40m		Moderately weathered SANDSTONE; fine to coarse grained, grey and red brown.						MODERATELY WEATHERED BEDROCK	
				280.6			Hole Terminated at 1.40 m Refusal on weathered rock Testpit reinstated to surface							
				280.1										
				279.6										
				279.1										
				278.6										

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 355401.6, N: 6932707.4 (MGA94 Zone 56)

SURFACE ELEVATION : 282.06 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 11/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.60 m LONG 1.20 m WIDE



310-03-TP3051 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3051 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 355401.6, N: 6932707.4 (MGA94 Zone 56)

SURFACE ELEVATION : 282.06 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 11/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.60 m LONG 1.20 m WIDE



310-03-TP3051 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3051 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 355401.6, N: 6932707.4 (MGA94 Zone 56)	SURFACE ELEVATION : 282.06 (AHD)	
EQUIPMENT TYPE : 13T Excavator	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 11/08/2021	LOGGED BY : V.Chandrasena	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.60 m LONG 1.20 m WIDE		



310-03-TP3051 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 303564.7, N: 6854795.8 (MGA94 Zone 56)

SURFACE ELEVATION : 305.95 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 11/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.20 m WIDE

EXCAVATION INFORMATION					MATERIAL								
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER 100 200 300 400	STRUCTURE & Other Observations	
		Not Observed		0.0			TOP SOIL: silty SAND; fine to medium grained, pale brown, trace rootlets (<5mm)					TOPSOIL	
			0.20m D00020		0.20m		Silty SAND; fine to medium grained, dark orange brown.	M to W	L			ALLUVIAL SOIL	
			0.40m	305.4		0.50m	SM	Gravelly SAND with silt and clay; fine to medium grained, grey and orange brown, fine to medium sub-angular to angular gravel, low to medium plasticity clay.		D			RESIDUAL SOIL
			0.80m B00080			Becoming clayey, low plasticity.	W	VD					
			1.00m	304.9		1.00m	SP	Moderately weathered SANDSTONE; fine to medium grained, white grey and red brown.		D			MODERATELY WEATHERED BEDROCK
			1.20m D00120				D to M	VD	27				
			1.30m			1.30m				30			
				304.4			Hole Terminated at 1.30 m Refusal on rock Testpit reinstated to surface						
				1.5									
				303.9									
				2.0									
				303.4									
				2.5									
				302.9									
				3.0									
				302.4									
				3.5									
				4.0									
PHOTOGRAPHS NOTES													
METHOD		PENETRATION		SAMPLES & FIELD TESTS		CLASSIFICATION SYMBOLS & SOIL DESCRIPTION		CONSISTENCY/ RELATIVE DENSITY					
N Natural Exposure X Existing Excavation BH Backhoe Bucket B Bulldozer Blade R Ripper				U - Undisturbed Sample D - Disturbed Sample B - Bulk Disturbed Sample MC - Moisture Content PP - Pocket Penetrometer (UCS kPa) VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)		Based on Unified Classification System		VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense					
						MOISTURE							
						D - Dry M - Moist W - Wet M > PL - Moisture Content > Plastic Limit M ~ PL - Moisture Content = Plastic Limit M < PL - Moisture Content < Plastic Limit							

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

POSITION : E: 303564.7, N: 6854795.8 (MGA94 Zone 56)

SURFACE ELEVATION : 305.95 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 11/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.20 m WIDE



310-03-TP3052 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3052 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 303564.7, N: 6854795.8 (MGA94 Zone 56)

SURFACE ELEVATION : 305.95 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 11/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.20 m WIDE



310-03-TP3052 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3052 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 303564.7, N: 6854795.8 (MGA94 Zone 56)

SURFACE ELEVATION : 305.95 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 11/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.30 m LONG 1.20 m WIDE



310-03-TP3052 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 306071.8, N: 6856807.0 (MGA94 Zone 56)

SURFACE ELEVATION : 312.48 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.40 m LONG 1.20 m WIDE

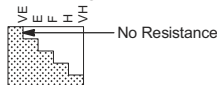
EXCAVATION INFORMATION					MATERIAL									
GROUND WATER LEVELS				SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm	POCKET PENETROMETER kPa	STRUCTURE & Other Observations
VE	E	F	H											
Not Observed				D-D00000	0.0			TOPSOIL: Clayey silty SAND trace gravel: fine to medium grained, brown, low to medium plasticity clay, fine to coarse sub-angular gravel, trace roots (<10mm)						TOPSOIL
				0.20m			0.30m							
				0.50m	312.0		SC	Clayey silty SAND: fine to medium grained, brown, low to medium plasticity clay	M	D				RESIDUAL SOIL
				B-B00050 U-U00050	0.5			Silty CLAY trace sand: medium to high plasticity, red brown, fine to medium grained sand						
				0.70m			CI-CH		M (<PL)	VSt				
				0.80m	311.5									0.80: PP Samp
				1.10m	1.0			Extremely weathered SANDSTONE: Recovered as silty SAND: fine to medium grained, orange brown and grey						EXTREMELY WEATHERED BEDROCK
				B-B00110	1.20m			Extremely weathered SANDSTONE: Recovered as gravelly SAND: fine to medium grained, pale grey				30		
				1.30m	311.0									
					1.5			Hole Terminated at 1.50 m Refusal on rock Testpit reinstated to surface						
					2.0									
					2.5									
					3.0									
					3.5									
					4.0									

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 306071.8, N: 6856807.0 (MGA94 Zone 56)

SURFACE ELEVATION : 312.48 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.40 m LONG 1.20 m WIDE



310-03-TP3053 - 1 Depth Range: 0.00 - 1.50 m



310-03-TP3053 - 2 Depth Range: 0.00 - 1.50 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 306071.8, N: 6856807.0 (MGA94 Zone 56)

SURFACE ELEVATION : 312.48 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.40 m LONG 1.20 m WIDE



310-03-TP3053 - 3 Depth Range: 0.00 - 1.50 m



310-03-TP3053 - 4 Depth Range: 0.00 - 1.50 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 306071.8, N: 6856807.0 (MGA94 Zone 56)

SURFACE ELEVATION : 312.48 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 26/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.40 m LONG 1.20 m WIDE



310-03-TP3053 - 5 Depth Range: 0.00 - 1.50 m

POSITION : E: 311324.2, N: 6858529.4 (MGA94 Zone 56)

SURFACE ELEVATION : 293.02 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.50 m LONG 1.20 m WIDE

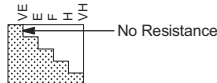
EXCAVATION INFORMATION						MATERIAL						
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER 100 200 300 400	STRUCTURE & Other Observations
Not Observed		D00000	0.0		TOPSOIL: SAND trace silt and clay: fine to medium grained, pale brown, low plasticity fines, trace roots (<10mm).						TOPSOIL	
		0.20m			SAND: fine to medium grained, grey, brown and orange.						ALLUVIAL SOIL	
		292.5	SP			M to W	D to VD					
		0.5										
		0.60m										
		0.70m										
		B00070										
		0.90m										
		292.0	SM									
		1.0										
1.20m												
B00120												
1.40m												
291.5												
1.5												
291.0	SM											
2.0												
2.20m												
B00220												
290.5												
2.50m												
2.5												
						Hole Terminated at 2.50 m Refusal - Very Slow Progress Testpit reinstated to surface						
						</						

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 311324.2, N: 6858529.4 (MGA94 Zone 56)

SURFACE ELEVATION : 293.02 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.50 m LONG 1.20 m WIDE



310-03-TP3055 - 1 Depth Range: 0.00 - 2.50 m



310-03-TP3055 - 2 Depth Range: 0.00 - 2.50 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 311324.2, N: 6858529.4 (MGA94 Zone 56)

SURFACE ELEVATION : 293.02 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.50 m LONG 1.20 m WIDE



310-03-TP3055 - 3 Depth Range: 0.00 - 2.50 m



310-03-TP3055 - 4 Depth Range: 0.00 - 2.50 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 311324.2, N: 6858529.4 (MGA94 Zone 56)

SURFACE ELEVATION : 293.02 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 3.50 m LONG 1.20 m WIDE



310-03-TP3055 - 5 Depth Range: 0.00 - 2.50 m

POSITION : E: 311759.8, N: 6858734.2 (MGA94 Zone 56)

SURFACE ELEVATION : 285.10 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/08/2021

LOGGED BY : R.Ebrahimi

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.20 m LONG 0.90 m WIDE

EXCAVATION INFORMATION				MATERIAL								
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations	
Not Observed			D00000	0.0			TOPSOIL: Sandy Silty CLAY: medium to high plasticity, dark brown, fine to medium grained sand.				TOPSOIL	
				0.20m			Silty CLAY: high plasticity, black.				ALLUVIAL SOIL	
			U00050 0.60m B00060	0.5		CH	Below 0.50m: grey and black.	M (<PL)	F		X	0.50: PP In-situ =350 kPa
				0.80m				St to VSt				
				0.90m								
				1.0			Clayey Silty SAND: fine to medium grained, grey and brown, medium to high plasticity fines.					
			B00130	1.30m		SM		M			26	
				1.50m								
				1.80m			SAND with silt and clay: fine to medium grained, grey mottled orange, low plasticity fines.					
				2.0		SP		D to M	VD			
		B00250	2.50m			SAND: fine to medium grained, grey mottled orange, weakly cemented.						
		2.70m				D						
				3.0		SP						
				3.20m			Hole Terminated at 3.20 m Target depth Testpit reinstated to surface					
				3.5								
				4.0								

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
Vst - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 311759.8, N: 6858734.2 (MGA94 Zone 56)

SURFACE ELEVATION : 285.10 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/08/2021

LOGGED BY : R.Ebrahimi

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.20 m LONG 0.90 m WIDE



310-03-TP3056 - 1 Depth Range: 0.00 - 3.20 m



310-03-TP3056 - 2 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 311759.8, N: 6858734.2 (MGA94 Zone 56)

SURFACE ELEVATION : 285.10 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/08/2021

LOGGED BY : R.Ebrahimi

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.20 m LONG 0.90 m WIDE



310-03-TP3056 - 3 Depth Range: 0.00 - 3.20 m



310-03-TP3056 - 4 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 311759.8, N: 6858734.2 (MGA94 Zone 56)

SURFACE ELEVATION : 285.10 (AHD)

EQUIPMENT TYPE : 9t Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 27/08/2021

LOGGED BY : R.Ebrahimi

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.20 m LONG 0.90 m WIDE



310-03-TP3056 - 5 Depth Range: 0.00 - 3.20 m

POSITION : E: 297287.2, N: 6845901.0 (MGA94 Zone 56)	SURFACE ELEVATION : 265.33 (AHD)
EQUIPMENT TYPE : 13T Excavator	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 09/08/2021	LOGGED BY : V.Chandrasena
EXCAVATION DIMENSIONS : 5.80 m LONG 1.10 m WIDE	CHECKED BY : J.Boyle

EXCAVATION INFORMATION						MATERIAL							
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
					0.0			TOP SOIL: Silty SAND trace clay; fine to coarse grained, dark brown, low plasticity clay, trace rootlets (<5mm)					TOPSOIL
					0.30m								
				D00030	264.8	X		Silty SAND trace clay and gravel; fine to medium grained, dark brown, low plasticity clay, fine sub-rounded to sub-angular gravel, trace rootlets (<2mm)					ALLUVIAL SOIL
					0.50m	X	SM			L			
					0.70m	X							
				B00070 U00070	264.3	X	SM	Silty SAND trace gravel: fine to coarse grained, pale brown, fine gravel		MD			
					0.90m	X				D			
					1.00m			SAND trace silt; fine to medium grained, pale brown.					ALLUVIAL SOIL
			Not Observed										
						263.8							
						1.5				M			
						263.3							
						2.0	SP	Below 1.80m : pale yellow brown.		VD			
						2.30m							
						262.8							
						2.5							
						262.3			Below 2.60m : grey yellow brown.				
					3.0				M to W				
					3.00m			Hole Terminated at 3.00 m Target depth Testpit reinstated to surface					
					261.8								
					3.5								
					4.0								

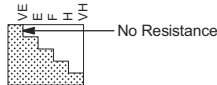
PHOTOGRAPHS
NOTES



METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS & SOIL DESCRIPTION
Based on Unified Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/ RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 297287.2, N: 6845901.0 (MGA94 Zone 56)

SURFACE ELEVATION : 265.33 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 09/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.80 m LONG 1.10 m WIDE



310-03-TP3057 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3057 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 313989.5, N: 6859674.2 (MGA94 Zone 56)

SURFACE ELEVATION : 286.07 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 09/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.80 m LONG 1.10 m WIDE

EXCAVATION INFORMATION				MATERIAL									
VE PENETRATION F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations	
		Not Observed		0.0			TOP SOIL: Silty SAND trace clay; fine to medium grained, dark brown, low plasticity clay, trace rootlets (<2mm)					TOPSOIL	
		0.30m D-D00030		0.30m			Silty SAND with clay; fine to medium grained, dark brown, low to medium plasticity clay, trace rootlets (<5mm)	M	L			ALLUVIAL SOIL	
		0.50m 0.60m B-B00060 U-U00060		0.5			Sandy CLAY trace gravel: low pasticity, red brown, fine to coarse grained sand, fine to medium sub rounded gravel	M (<PL)	St				
		0.90m		1.0		CL	Below 0.90m : grey brown and orange brown mottled black.						
				1.00m									
				1.5									
		1.60m B-B00160		1.5		SM							
				2.0									
		1.90m 2.00m D-D00200		2.0			Below 2.00m : orange brown.	D to M	VD				
				2.5									
2.50m		2.5											
		3.0											
2.80m D-D00280		2.8											
3.00m		3.0											
		3.5					Hole Terminated at 3.00 m Target depth Testpit reinstated to surface						

PHOTOGRAPHS
NOTES



METHOD

- N Natural Exposure
- X Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

- U - Undisturbed Sample
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- PP - Pocket Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)

**CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION**
Based on Unified
Classification System

MOISTURE

- D - Dry
- M - Moist
- W - Wet
- M > PL - Moisture Content > Plastic Limit
- M ~ PL - Moisture Content = Plastic Limit
- M < PL - Moisture Content < Plastic Limit

**CONSISTENCY/
RELATIVE DENSITY**

- VS - Very Soft
- S - Soft
- F - Firm
- St - Stiff
- VSt - Very Stiff
- H - Hard
- VL - Very Loose
- L - Loose
- MD - Medium Dense
- D - Dense
- VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 313989.5, N: 6859674.2 (MGA94 Zone 56)

SURFACE ELEVATION : 286.07 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 09/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.80 m LONG 1.10 m WIDE



310-03-TP3058 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3058 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 313989.5, N: 6859674.2 (MGA94 Zone 56)

SURFACE ELEVATION : 286.07 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 09/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.80 m LONG 1.10 m WIDE



310-03-TP3058 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3058 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 313989.5, N: 6859674.2 (MGA94 Zone 56)

SURFACE ELEVATION : 286.07 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 09/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.80 m LONG 1.10 m WIDE



310-03-TP3058 - 5 Depth Range: 0.00 - 3.00 m

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See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 314408.9, N: 6859816.2 (MGA94 Zone 56)

SURFACE ELEVATION : 285.76 (AHD)

EQUIPMENT TYPE : 13T Excavator

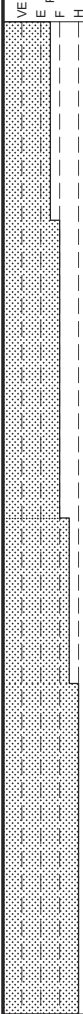
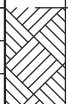
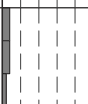
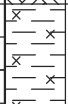
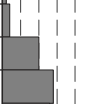
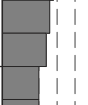
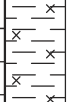
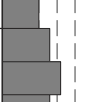
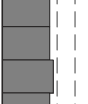
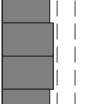
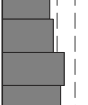
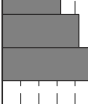
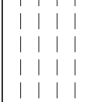
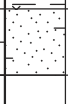
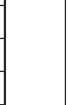
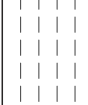
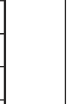
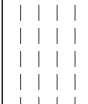
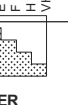
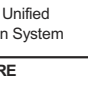
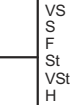
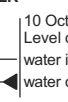
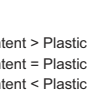
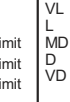
METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 09/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.50 m LONG 1.20 m WIDE

EXCAVATION INFORMATION						MATERIAL						
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
		Not Observed		0.0		TOP SOIL: silty CLAY with sand; medium to high plasticity, dark grey, fine to medium grained sand, trace rootlets (<2mm)					TOPSOIL	
			285.3		0.30m	Silty CLAY with sand; medium to high plasticity, dark grey, fine to medium grained sand.		F			ALLUVIAL SOIL	
	0.50m		0.5					VSt				
	U00090 0.60m B00060						Below 0.60m : grey black, trace sand.		H			>>X 0.60: PP In-situ >600 kPa
	0.80m								VSt			
	0.90m											>>X 1.00: PP In-situ >600 kPa
												
	1.50m											
	B00150					CI-CH						
	1.80m											
												
	2.00m											
	D00200											
												
	2.50m											
												
	2.80m											
	D00280											
	3.00m											

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 314408.9, N: 6859816.2 (MGA94 Zone 56)

SURFACE ELEVATION : 285.76 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 09/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.50 m LONG 1.20 m WIDE



310-03-TP3059 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3059 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 314408.9, N: 6859816.2 (MGA94 Zone 56)

SURFACE ELEVATION : 285.76 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 09/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.50 m LONG 1.20 m WIDE



310-03-TP3059 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3059 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 314408.9, N: 6859816.2 (MGA94 Zone 56)

SURFACE ELEVATION : 285.76 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 09/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.50 m LONG 1.20 m WIDE



310-03-TP3059 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 315840.4, N: 6860330.9 (MGA94 Zone 56)

SURFACE ELEVATION : 289.48 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 07/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.70 m LONG 1.10 m WIDE

EXCAVATION INFORMATION					MATERIAL									
GROUND WATER LEVELS			SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER kPa 100 200 300 400	STRUCTURE & Other Observations	
VE	E	F												H
Not Observed				0.0			TOP SOIL: clayey silty SAND; black brown, medium plasticity clay, trace rootlets (<20 mm)						TOPSOIL	
			0.30m D-D00030	289.0		SC-SM	0.20m Clayey silty SAND trace gravel; fine to medium grained, grey orange brown, medium plasticity clay, fine sub-rounded to sub-angular gravel.	W		L			ALLUVIAL SOIL	
			0.50m D-D00050 B-B00060	0.5			Below 0.50m : dark orange brown.			MD				
			0.70m				Sandy CLAY trace gravel: low to medium plasticity, dark orange brown, fine to coarse sand, fine to medium gravel.	M to W		MD				
			0.80m			CL-CI	0.90m Silty SAND; fine to coarse grained, grey orange brown, trace fine sub-rounded to sub-angular gravel.			D				
			1.50m B-B00150	1.5										
			1.70m											
			2.30m D-D00230	2.3		SM			M					
			2.50m	2.5			Below 2.30m : dark grey brown mottled orange brown.		VD					
			2.70m D-D00270	2.7										
			3.00m	3.0										
				3.00m			Hole Terminated at 3.00 m Target depth Testpit reinstated to surface							
				3.5										

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 315840.4, N: 6860330.9 (MGA94 Zone 56)

SURFACE ELEVATION : 289.48 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 07/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.70 m LONG 1.10 m WIDE



310-03-TP3060 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3060 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 315840.4, N: 6860330.9 (MGA94 Zone 56)

SURFACE ELEVATION : 289.48 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 07/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.70 m LONG 1.10 m WIDE



310-03-TP3060 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3060 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 315840.4, N: 6860330.9 (MGA94 Zone 56)

SURFACE ELEVATION : 289.48 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 07/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.70 m LONG 1.10 m WIDE



310-03-TP3060 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 316328.3, N: 6860739.9 (MGA94 Zone 56)

SURFACE ELEVATION : 296.17 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 07/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.80 m LONG 1.10 m WIDE

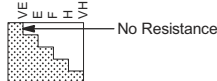
EXCAVATION INFORMATION				MATERIAL									
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER KPa 100 200 300 400	STRUCTURE & Other Observations
Not Observed		D-D00020	0.0				TOP SOIL: Silty SAND trace clay; fine to coarse grained, dark brown, low plasticity clay, trace rootlets.						TOPSOIL
		0.20m	0.30m				SAND trace silt and clay; fine to medium grained, red orange brown, low to medium plasticity clay.						
		0.60m	0.5	SP		L			ALLUVIAL SOIL				
		U-U00060			MD								
		0.80m											
		B-B00080		0.80m									
		0.90m											
		1.00m	1.0	SC	Clayey SAND trace gravel, fine to coarse sand, fine to medium gravel.		D						
					Silty SAND; fine to medium grained, brown grey mottled white (< 20% CaCO3)								
			1.5										
		1.60m		SM		M		28					
		B-B00160											
		1.80m											
			2.0				VD						
2.30m			SAND trace silt and clay; yellow grey brown, low plasticity clay.										
D-D00230													
2.50m	2.5	SP											
2.80m			2.80m										
D-D00280		SM	Silty SAND; fine grained, yellow grey brown.	D to M									
3.00m	3.0												

PHOTOGRAPHS
NOTES

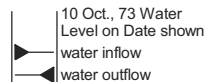
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 316328.3, N: 6860739.9 (MGA94 Zone 56)

SURFACE ELEVATION : 296.17 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 07/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.80 m LONG 1.10 m WIDE



310-03-TP3061 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3061 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 316328.3, N: 6860739.9 (MGA94 Zone 56)

SURFACE ELEVATION : 296.17 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 07/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.80 m LONG 1.10 m WIDE



310-03-TP3061 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3061 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 316328.3, N: 6860739.9 (MGA94 Zone 56)

SURFACE ELEVATION : 296.17 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 07/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.80 m LONG 1.10 m WIDE



310-03-TP3061 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 316442.0, N: 6860883.9 (MGA94 Zone 56)

SURFACE ELEVATION : 297.09 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 07/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.60 m LONG 1.20 m WIDE

EXCAVATION INFORMATION					MATERIAL									
GROUND WATER LEVELS			SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER kPa 100 200 300 400	STRUCTURE & Other Observations	
VE	E	F												
Not Observed				0.0			TOP SOIL: silty SAND; fine to coarse grained, black brown, trace plant decays and trace rootlets.						TOPSOIL	
				0.10m		SM	Silty SAND ; fine to coarse grained, pale brown, trace fine sub-rounded to sub-angular gravel.						ALLUVIAL SOIL	
				0.30m			Clayey SAND; fine to medium grained, orange and red brown mottled grey, low to medium plasticity clay		L					
			0.60m	0.5		SC			MD					
			U00060 0.70m B00070	0.70m			Sandy CLAY: low to medium plasticity, red brown, fine to coase grained.		L					
				0.90m					MD					
				0.90m		CL-CI			D					
				0.90m			Clayey silty SAND ; fine to medium grained, brown grey mottled white (<20% CaCO3), low to medium plasticity clay, trace fine to medium sub-angular gravel.	M	MD					
				1.0					D					
				1.50m		SC-SM								
				1.50m			Sandy CLAY trace gravel: medium plasticity, grey brown, fine to coarse grained sand, fine to coarse sub rounded gravel.							
			1.70m	1.5		CI								
				1.80m			Silty SAND; fine grained, grey mottled orange brown.							
				2.0										
				2.30m		SM			VD					
			D00230	2.50m										
				2.50m			SAND with silt; fine grained, pale grey.	D to M						
				2.80m		SP								
			D00280	3.00m										
				3.00m			Hole Terminated at 3.00 m Target depth Testpit reinstated to surface							
				3.5										
				3.6										

PHOTOGRAPHS
NOTES

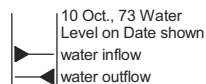
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 316442.0, N: 6860883.9 (MGA94 Zone 56)

SURFACE ELEVATION : 297.09 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 07/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.60 m LONG 1.20 m WIDE



310-03-TP3062 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3062 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 316442.0, N: 6860883.9 (MGA94 Zone 56)

SURFACE ELEVATION : 297.09 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 07/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.60 m LONG 1.20 m WIDE



310-03-TP3062 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3062 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 316442.0, N: 6860883.9 (MGA94 Zone 56)

SURFACE ELEVATION : 297.09 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 07/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.60 m LONG 1.20 m WIDE



310-03-TP3062 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 316878.7, N: 6861443.4 (MGA94 Zone 56)

SURFACE ELEVATION : 301.06 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 07/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.50 m LONG 1.20 m WIDE

EXCAVATION INFORMATION				MATERIAL									
VE E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
Not Observed				0.0			TOP SOIL: Clayey silty SAND; dark brown, fine to medium grained, low to medium plasticity clay, trace rootlets.						TOPSOIL
				0.20m D00020 0.30m		SC- SM	Clayey silty SAND; fine to medium grained, dark brown, low to medium plasticity clay.	M	MD				ALLUVIAL SOIL
				0.60m B00060 U00060		CL-CL	Sandy CLAY trace gravel: low to medium plasticity, pale brown mottled white, fine to coarse sand, fine to medium sub rounded gravel		D				
				0.85m 0.90m			Silty SAND trace clay and gravel; fine to medium grained, pale brown mottled white, low plasticity clay, fine sub-rounded gravel <20% (CaCO3).						
				1.40m B00140			Below 1.20m : pale grey mottled white, medium plasticity clay.						
				1.70m		SM	Below 1.70m : grey mottled orange brown, no gravel.	D to M				27	
				2.00m D00200				VD					
				2.50m									
				2.60m D00260			SAND with silt and clay; fine to medium grained, pale brown and grey, low to medium plasticity clay.						
				2.80m		SP							
				2.98.1									
				3.0			Hole Terminated at 3.00 m Target depth Testpit reinstated to surface						
				297.6									
				3.5									
				4.0									

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 316878.7, N: 6861443.4 (MGA94 Zone 56)

SURFACE ELEVATION : 301.06 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 07/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.50 m LONG 1.20 m WIDE



310-03-TP3063 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3063 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 316878.7, N: 6861443.4 (MGA94 Zone 56)

SURFACE ELEVATION : 301.06 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 07/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.50 m LONG 1.20 m WIDE



310-03-TP3063 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3063 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 316878.7, N: 6861443.4 (MGA94 Zone 56)

SURFACE ELEVATION : 301.06 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 07/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.50 m LONG 1.20 m WIDE



310-03-TP3063 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 317928.3, N: 6861969.6 (MGA94 Zone 56)

SURFACE ELEVATION : 295.83 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 06/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.60 m LONG 1.10 m WIDE

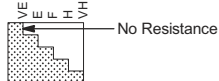
EXCAVATION INFORMATION					MATERIAL									
PENETRATION VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
Not Observed				0.0			TOP SOIL: silty SAND trace gravel; fine to coarse grained, black grey, fine sub-angular gravel, trace rootlets (2mm).							TOPSOIL
				0.20m			Silty SAND trace clay; fine to medium grained, orange brown, low to medium plasticity clay.						ALLUVIAL SOIL	
				0.50m	SM									
			U-U00050 0.60m B-B00060	0.5			Extremely weathered SANDSTONE recovered as; Sandy SILT; fine to medium grained, orange and grey brown, low plasticity.							
				0.80m										
				0.90m										
				294.8										
				1.0										
				294.3										
				1.5						Below 1.40m : <20% calcareous sandstone cobble (<200mm)				
	1.80m													
	D-D00180	2.00m		2.0										

PHOTOGRAPHS
NOTES

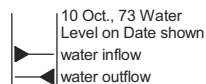
METHOD

- N Natural Exposure
- X Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

- U - Undisturbed Sample
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- PP - Pocket Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

- D - Dry
- M - Moist
- W - Wet
- M > PL - Moisture Content > Plastic Limit
- M ~ PL - Moisture Content = Plastic Limit
- M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

- VS - Very Soft
- S - Soft
- F - Firm
- St - Stiff
- VSt - Very Stiff
- H - Hard
- VL - Very Loose
- L - Loose
- MD - Medium Dense
- D - Dense
- VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 317928.3, N: 6861969.6 (MGA94 Zone 56)

SURFACE ELEVATION : 295.83 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 06/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.60 m LONG 1.10 m WIDE



310-03-TP3064 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3064 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 317928.3, N: 6861969.6 (MGA94 Zone 56)

SURFACE ELEVATION : 295.83 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 06/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.60 m LONG 1.10 m WIDE



310-03-TP3064 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3064 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 317928.3, N: 6861969.6 (MGA94 Zone 56)	SURFACE ELEVATION : 295.83 (AHD)	
EQUIPMENT TYPE : 13T Excavator	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 06/08/2021	LOGGED BY : V.Chandrasena	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.60 m LONG 1.10 m WIDE		



310-03-TP3064 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 318765.1, N: 6862571.4 (MGA94 Zone 56)

SURFACE ELEVATION : 306.82 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 06/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 6.00 m LONG 1.00 m WIDE

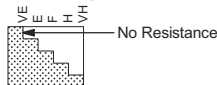
EXCAVATION INFORMATION				MATERIAL								
VE PENETRATION E F H		GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
				0.0			Silty SAND trace clay; fine to medium grained, black grey, low plasticity clay, trace rootlets (<2mm).					TOPSOIL
				0.20m			SAND trace silt and clay; fine to coarse grained, yellow grey brown, low to medium plasticity clay, trace roots (<5mm)					ALLUVIAL SOIL
			0.40m D-D00040	0.40m		SP		W	L			
			0.80m	0.80m			Clayey SAND with gravel; fine to coarse grained, orange and red brown mottled grey, medium plastify clay, fine to medium sub-angular to sub-rounded gravel.		MD			
			1.00m B-B00100	1.00m		SC		M to W	D			
			1.20m	1.20m								
				1.50m		SP	SAND with gravel trace clay; fine to coarse grained, red orange brown, fine to coarse sub-angular to sub-rounded gravel, medium plastify clay.					
				1.70m		CH	Sandy CLAY trace gravel; high plasticity, brown grey, fine to coarse sand, fine to coarse sub rounded to sub angular gravel.					
			2.00m B-B00200	2.00m		SP	SAND with gravel trace clay; fine to coarse grained, red orange brown, fine to coarse sub-angular to sub-rounded gravel, medium plastify clay.		VD			ALLUVIAL SOIL
			2.20m	2.20m			Gravelly SAND with clay; fine to coarse sand, red, orange brown, fine to coarse sub rounded to sub angular gravel.	M				
				2.80m		SP						
			2.80m D-D00280	2.80m			Below 2.80m : red orange mottled grey, with medium plasticity clay.					
			3.00m	3.00m			Hole Terminated at 3.00 m Target depth Testpit reinstated to surface					
				3.03.3								
				3.5								
				4.0								

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 318765.1, N: 6862571.4 (MGA94 Zone 56)

SURFACE ELEVATION : 306.82 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 06/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 6.00 m LONG 1.00 m WIDE



310-03-TP3065 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3065 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 318765.1, N: 6862571.4 (MGA94 Zone 56)

SURFACE ELEVATION : 306.82 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 06/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 6.00 m LONG 1.00 m WIDE



310-03-TP3065 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3065 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 318765.1, N: 6862571.4 (MGA94 Zone 56)

SURFACE ELEVATION : 306.82 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 06/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 6.00 m LONG 1.00 m WIDE



310-03-TP3065 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 319417.2, N: 6864659.2 (MGA94 Zone 56)

SURFACE ELEVATION : 308.31 (AHD)

EQUIPMENT TYPE : 13T Excavator

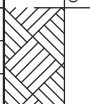
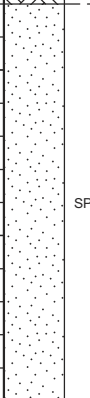
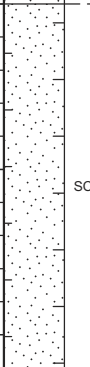
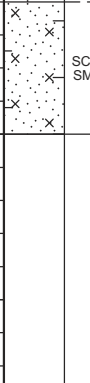
METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 05/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.70 m LONG 1.20 m WIDE

EXCAVATION INFORMATION					MATERIAL										
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER kPa 100 200 300 400	STRUCTURE & Other Observations	
Not Observed			D-D00000	0.0			TOP SOIL: SAND with silt and clay trace gravel; fine coarse grained, dark brown, low to medium plasticity clay, fine sub-rounded to sub-angular gravel, trace rootlets.							TOPSOIL	
			0.20m												
				307.8			SAND with clay; fine to coarse grained, grey and orange brown mottled white (CaCo3), medium plasticity clay.								ALLUVIAL SOIL
			0.60m	0.5											
			B-B00060 U-U00060												
			0.90m	307.3											
			1.00m	1.0	SP										
				306.8			Clayey SAND; fine to coarse grained, brown grey, medium plasticity clay.								
			1.70m	1.5											
			B-B00170												
2.00m	306.3														
D-D00200	2.0	SC		Below 2.00m : trace fine to coarse sub-rounded to sub-angular gravel.											
	305.8														
2.50m	2.5														
	305.3					Clayey silty SAND; fine to coarse grained, red brown and white grey, medium plasticity clay, trace fine to medium sub-rounded to sub-angular gravel.							RESIDUAL SOIL		
2.80m															
D-D00280	3.00m														
	304.8														
	3.5														
	3.0														

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSst - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319417.2, N: 6864659.2 (MGA94 Zone 56)

SURFACE ELEVATION : 308.31 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 05/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.70 m LONG 1.20 m WIDE



310-03-TP3067 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3067 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319417.2, N: 6864659.2 (MGA94 Zone 56)

SURFACE ELEVATION : 308.31 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 05/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.70 m LONG 1.20 m WIDE



310-03-TP3067 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3067 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319417.2, N: 6864659.2 (MGA94 Zone 56)	SURFACE ELEVATION : 308.31 (AHD)	
EQUIPMENT TYPE : 13T Excavator	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 05/08/2021	LOGGED BY : V.Chandrasena	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.70 m LONG 1.20 m WIDE		



310-03-TP3067 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 319539.9, N: 6865674.6 (MGA94 Zone 56)

SURFACE ELEVATION : 307.80 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 05/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.50 m LONG 1.10 m WIDE

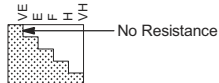
EXCAVATION INFORMATION						MATERIAL									
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER 100 200 300 400	STRUCTURE & Other Observations	
			Not Observed		0.0			TOP SOIL: silty SAND trace clay; black brown, fine to coarse grained, low plasticity clay, trace rootlets (2mm)						TOPSOIL	
					0.30m			Clayey silty SAND; fine to medium grained, orange brown, low to medium plasticity clay.		MD				ALLUVIAL SOIL	
				0.60m	U-U00060 0.70m B-B00070		0.70m	Sand CLAY trace gravel: medium plasticity, orange brown, fine to coarse sand, fine sub rounded gravel.		D					
				0.90m			1.00m	Clayey silty SAND; fine to medium grained, orange brown, low to medium plasticity clay.							
				1.50m	B-B00150		1.80m	Below 1.20m: grey and orange brown.							
				2.20m	D-D00220		2.50m	Gravelly SAND trace silt and clay; fine to coarse grained, orange brown, low to medium plasticity clay.		VD					
				2.80m	D-D00280		3.00m	Hole Terminated at 3.00 m Target depth Testpit reinstated to surface							

PHOTOGRAPHS
NOTES

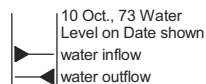
METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319539.9, N: 6865674.6 (MGA94 Zone 56)

SURFACE ELEVATION : 307.80 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 05/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.50 m LONG 1.10 m WIDE



310-03-TP3068 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3068 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319539.9, N: 6865674.6 (MGA94 Zone 56)

SURFACE ELEVATION : 307.80 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 05/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.50 m LONG 1.10 m WIDE



310-03-TP3068 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3068 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319539.9, N: 6865674.6 (MGA94 Zone 56)

SURFACE ELEVATION : 307.80 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 05/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.50 m LONG 1.10 m WIDE



310-03-TP3068 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 319628.1, N: 6866350.6 (MGA94 Zone 56)

SURFACE ELEVATION : 310.13 (AHD)

EQUIPMENT TYPE : 13T Excavator

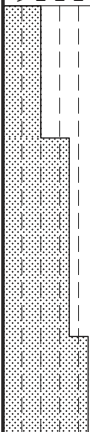
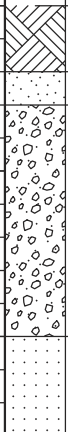
METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 05/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.50 m LONG 1.10 m WIDE

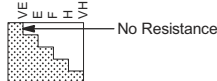
EXCAVATION INFORMATION					MATERIAL																			
VE PENETRATION E F H		GROUND WATER LEVELS		SAMPLES & FIELD TESTS		ELEVATION (RL) DEPTH (M)		GRAPHIC LOG		CLASSIFICATION SYMBOL		MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components			MOISTURE CONDITION		CONSISTENCY RELATIVE DENSITY		DCP Blows/100mm 5 10 15 20		POCKET PENETRO- METER kPa 100 200 300 400		STRUCTURE & Other Observations	
		Not Observed		0.30m		0.30m				SP		TOP SOIL: silty SAND trace clay; dark brown, fine to coarse grained, low plasticity clay, trace rootlets (<2mm)			M to W W M VD		L D VD D MD D		30		100 200 300 400		TOPSOIL	
				0.40m		0.30m				SAND trace silt and clay; fine to coarse grained, pale brown, low plasticity clay, trace roots (<10mm)			ALLUVIAL SOIL											
				0.70m		Sandy GRAVEL trace silt and clay; fine to coarse sub-rounded to sub-angular, grey, fine to medium grained sand, low plasticity clay. Below 0.40m : red orange brown, with medium plasticity clay.				GP														
				B-B00070																				
				U-U00070																				
				0.90m																				
				1.00m		1.00m				Highly weathered SANDSTONE; fine to medium grained, red orange brown and grey.			HIGHLY WEATHERED BEDROCK											
1.20m		1.30m		Hole Terminated at 1.30 m Refusal on rock Testpit reinstated to surface																				
				308.6		1.5																		
				308.1		2.0																		
				307.6		2.5																		
				307.1		3.0																		
				306.6		3.5																		
				4.0																				
PHOTOGRAPHS NOTES																								
METHOD		PENETRATION		SAMPLES & FIELD TESTS		CLASSIFICATION SYMBOLS & SOIL DESCRIPTION		CONSISTENCY/ RELATIVE DENSITY																
N Natural Exposure X Existing Excavation BH Backhoe Bucket B Bulldozer Blade R Ripper		 10 Oct., 73 Water Level on Date shown water inflow water outflow		U - Undisturbed Sample D - Disturbed Sample B - Bulk Disturbed Sample MC - Moisture Content PP - Pocket Penetrometer (UCS kPa) VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)		Based on Unified Classification System MOISTURE D - Dry M - Moist W - Wet M > PL - Moisture Content > Plastic Limit M ~ PL - Moisture Content = Plastic Limit M < PL - Moisture Content < Plastic Limit		VS - Very Soft S - Soft F - Firm St - Stiff VSt - Very Stiff H - Hard VL - Very Loose L - Loose MD - Medium Dense D - Dense VD - Very Dense																

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319628.1, N: 6866350.6 (MGA94 Zone 56)

SURFACE ELEVATION : 310.13 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 05/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.50 m LONG 1.10 m WIDE



310-03-TP3069 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3069 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319628.1, N: 6866350.6 (MGA94 Zone 56)

SURFACE ELEVATION : 310.13 (AHD)

EQUIPMENT TYPE : 13T Excavator

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 05/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 5.50 m LONG 1.10 m WIDE



310-03-TP3069 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3069 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319628.1, N: 6866350.6 (MGA94 Zone 56)	SURFACE ELEVATION : 310.13 (AHD)	
EQUIPMENT TYPE : 13T Excavator	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 05/08/2021	LOGGED BY : V.Chandrasena	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 5.50 m LONG 1.10 m WIDE		



310-03-TP3069 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 319813.6, N: 6868189.8 (MGA94 Zone 56)

SURFACE ELEVATION : 317.54 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE

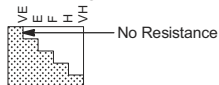
EXCAVATION INFORMATION					MATERIAL										
VE E F H PENETRATION				GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER kPa 100 200 300 400	STRUCTURE & Other Observations
Not Observed				D-D00000	0.0		0.20m	TOPSOIL: Clayey silty SAND with gravel: fine to medium grained, grey brown, low plasticity clay, fine to medium sub-rounded to sub-angular gravel, trace roots (<10mm)	M (<PL)	VSt					

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319813.6, N: 6868189.8 (MGA94 Zone 56)

SURFACE ELEVATION : 317.54 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3071 - 1 Depth Range: 0.00 - 3.20 m



310-03-TP3071 - 2 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319813.6, N: 6868189.8 (MGA94 Zone 56)

SURFACE ELEVATION : 317.54 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3071 - 3 Depth Range: 0.00 - 3.20 m



310-03-TP3071 - 4 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319813.6, N: 6868189.8 (MGA94 Zone 56)

SURFACE ELEVATION : 317.54 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE



310-03-TP3071 - 5 Depth Range: 0.00 - 3.20 m

POSITION : E: 320007.4, N: 6869737.3 (MGA94 Zone 56)

SURFACE ELEVATION : 317.85 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS :

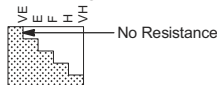
EXCAVATION INFORMATION					MATERIAL																		
VE E F H		GROUND WATER LEVELS		SAMPLES & FIELD TESTS		ELEVATION (RL) DEPTH (M)		GRAPHIC LOG		CLASSIFICATION SYMBOL		MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components		MOISTURE CONDITION		CONSISTENCY RELATIVE DENSITY		DCP Blows/100mm 5 10 15 20		POCKET PENETRO- METER 100 200 300 400 kPa		STRUCTURE & Other Observations	
Not Observed		D-D00000		0.0				SC		TOPSOIL: Silty SAND: fine to medium grained, trace roots (<10mm)		D		M		VD						TOPSOIL	
		0.20m		0.30m						ALLUVIAL SOIL													
		0.40m		317.3						Clayey silty SAND: fine to medium grained, grey brown mottled white, low to medium plasticity, with calcareous inclusions (10-20%)												ALLUVIAL SOIL	
		U-U00040		0.5						Below 0.60m with fine to medium sub-rounded to sub-angular gravel													
		0.60m		316.8																			
		B-B00060		1.0																			
		0.70m		316.3																			
		0.80m		1.5						Below 1.50m trace fine to medium sub-rounded to sub-angular gravel, grey brown													
		1.60m		315.8																			
		B-B00160		2.0																			
1.70m		315.3		2.30m		SAND trace silt: fine grained, pale brown								ALLUVIAL SOIL									
		2.50m		314.8		SP		3.00m															
		B-B00250		2.5																		Hole Terminated at 3.00 m Target depth Testpit reinstated to surface	
		2.70m		3.0																			
				314.3																			
				3.5																			

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320007.4, N: 6869737.3 (MGA94 Zone 56)

SURFACE ELEVATION : 317.85 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS :



310-03-TP3072 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3072 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320007.4, N: 6869737.3 (MGA94 Zone 56)

SURFACE ELEVATION : 317.85 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS :



310-03-TP3072 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3072 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320007.4, N: 6869737.3 (MGA94 Zone 56)

SURFACE ELEVATION : 317.85 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS :



310-03-TP3072 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 320144.6, N: 6870831.0 (MGA94 Zone 56)

SURFACE ELEVATION : 319.57 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS :

EXCAVATION INFORMATION							MATERIAL							
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa	STRUCTURE & Other Observations	
Not Observed			D-D00000	0.0			TOPSOIL: Silty SAND trace clay: fine to medium grained, black, trace roots (<10mm)						TOPSOIL	
			0.20m											
			0.30m											ALLUVIAL SOIL
			0.50m	319.1	CI	Sandy CLAY: medium plasticity, brown mottled grey and black, fine to medium grained sand	M (<PL)	VSt						
			B-B00050	0.5		Clayey silty SAND: fine to medium grained, dark orange brown mottled grey, low to medium plasticity clay						X 0.50: PP Samp >600 kPa		
			0.70m											
			1.0m	318.6	SC									
			1.10m			Silty SAND: fine to medium grained, grey and orange brown								
			1.40m	318.1										
			B-B00140	1.5										
1.60m														

PHOTOGRAPHS
NOTES

METHOD	PENETRATION	SAMPLES & FIELD TESTS	CLASSIFICATION SYMBOLS & SOIL DESCRIPTION	CONSISTENCY/ RELATIVE DENSITY
N Natural Exposure		U - Undisturbed Sample	Based on Unified Classification System	VS - Very Soft
X Existing Excavation		D - Disturbed Sample		S - Soft
BH Backhoe Bucket		B - Bulk Disturbed Sample		F - Firm
B Bulldozer Blade		MC - Moisture Content	MOISTURE D - Dry M - Moist W - Wet M > PL- Moisture Content > Plastic Limit M ~ PL- Moisture Content = Plastic Limit M < PL- Moisture Content < Plastic Limit	St - Stiff
R Ripper		PP - Pocket Penetrometer (UCS kPa)		VSt - Very Stiff
		VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)		H - Hard
				VL - Very Loose
				L - Loose
				MD - Medium Dense
				D - Dense
				VD - Very Dense

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 320144.6, N: 6870831.0 (MGA94 Zone 56)

SURFACE ELEVATION : 319.57 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS :



310-03-TP3073 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3073 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320144.6, N: 6870831.0 (MGA94 Zone 56)

SURFACE ELEVATION : 319.57 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS :



310-03-TP3073 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3073 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320144.6, N: 6870831.0 (MGA94 Zone 56)

SURFACE ELEVATION : 319.57 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS :



310-03-TP3073 - 5 Depth Range: 0.00 - 3.00 m



310-03-TP3073 - 6 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 320297.0, N: 6872071.5 (MGA94 Zone 56)

SURFACE ELEVATION : 318.56 (AHD)

EQUIPMENT TYPE : Backhoe

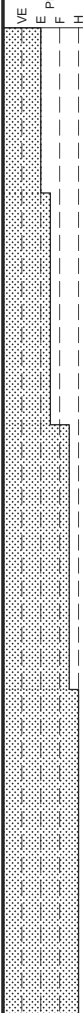
METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.40 m LONG 1.20 m WIDE

EXCAVATION INFORMATION					MATERIAL										
VE E F H	GROUND WATER LEVELS				SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER kPa 100 200 300 400	STRUCTURE & Other Observations
	Not Observed				D-D00000	0.0			TOPSOIL: Clayey silty SAND trace gravel: fine to medium grained, grey brown, low to medium plasticity, fine to coarse sub-angular to angular gravel, trace roots (<10mm)						TOPSOIL
						0.20m		SC	Clayey silty SAND trace gravel: fine to medium grained, brown, low to medium plasticity clay, fine to coarse sub-angular to angular gravel						ALLUVIAL SOIL
						0.40m									
					0.50m	318.1		SP	SAND with clay and silt trace gravel: fine to medium grained, grey brown mottled white, fine to medium sub-angular to sub-rounded gravel with calcareous inclusions		D				
					B-B00050	0.60m			SAND trace clay and gravel: fine to coarse grained, brow, fine to medium sub-angular to sub-rounded gravel						
					0.70m										
						1.0		SP							
						1.5									
					1.60m	317.6			Clayey SAND trace gravel: fine to coarse, high plastic clay, fine to medium gravel.	M					
					B-B00160	1.80m					VD				
					2.0		SC								
					2.20m			SAND with clay and silt: fine to medium grained, dark grey							
					2.5		SP								
					2.70m			Silty Clayey SAND trace gravel: fine to coarse sand, grey and brown, fine to medium sub rounded to sub angular gravel, low plasticity.							
				2.80m	316.1		SC								
				B-B00280	3.00m	315.6									
					3.5			Hole Terminated at 3.00 m Target depth Testpit reinstated to surface							
					4.0										

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320297.0, N: 6872071.5 (MGA94 Zone 56)

SURFACE ELEVATION : 318.56 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.40 m LONG 1.20 m WIDE



310-03-TP3074 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3074 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320297.0, N: 6872071.5 (MGA94 Zone 56)

SURFACE ELEVATION : 318.56 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.40 m LONG 1.20 m WIDE



310-03-TP3074 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3074 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320297.0, N: 6872071.5 (MGA94 Zone 56)

SURFACE ELEVATION : 318.56 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 30/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.40 m LONG 1.20 m WIDE



310-03-TP3074 - 5 Depth Range: 0.00 - 3.00 m



310-03-TP3074 - 6 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 320014.1, N: 6872621.4 (MGA94 Zone 56)

SURFACE ELEVATION : 319.18 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : V.C

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE

EXCAVATION INFORMATION					MATERIAL									
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER kPa 100 200 300 400	STRUCTURE & Other Observations
Not Observed			D-D00000	0.0			TOPSOIL: Silty SAND trace gravel: fine to medium grained, brown, fine to coarse sub-rounded gravel, trace rootlets (<2mm)							TOPSOIL
			0.20m			0.20m		SAND: fine to medium grained, pale brown	M to W	MD				ALLUVIAL SOIL
			318.7		SP	0.50m								
			0.5				Clayey silty SAND: fine to medium grained, orange brown mottled grey, low to medium plasticity clay							
			0.70m											
			B-B00070											
			0.90m											
			318.2		SC									
			1.0											
			317.7											
1.5														
1.60m														
B-B00160														
1.80m									M	VD				
317.2														
2.0								Gravelly SAND with silt and clay: fine to medium grained, grey and brown, sub-rounded to sub-angular gravel						
								Below 2.10m grey mottled orange brown, trace gravel						
316.7														
2.5														
316.2														
2.70m														
B-B00270														
2.90m														
3.0														
315.7														
3.5														

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL- Moisture Content > Plastic Limit
M ~ PL- Moisture Content = Plastic Limit
M < PL- Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

CLIENT : ARTC Inland Rail PROJECT : Inland Rail - B2G - Border to Gowrie
LOCATION : N4 - Whetstone Greenfield Corridor

FILE / JOB NO : B21003
SHEET : 2 OF 4

POSITION : E: 320014.1, N: 6872621.4 (MGA94 Zone 56)	SURFACE ELEVATION : 319.18 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 31/08/2021	LOGGED BY : V.C	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE		



310-03-TP3075 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3075 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

EXCAVATION - GEOLOGICAL LOG

PIT NO : 310-03-TP3075

CLIENT : ARTC Inland Rail PROJECT : Inland Rail - B2G - Border to Gowrie
LOCATION : N4 - Whetstone Greenfield Corridor

FILE / JOB NO : B21003
SHEET : 3 OF 4

POSITION : E: 320014.1, N: 6872621.4 (MGA94 Zone 56)	SURFACE ELEVATION : 319.18 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 31/08/2021	LOGGED BY : V.C	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE		



310-03-TP3075 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3075 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

EXCAVATION - GEOLOGICAL LOG

PIT NO : 310-03-TP3075

CLIENT : ARTC Inland Rail PROJECT : Inland Rail - B2G - Border to Gowrie
LOCATION : N4 - Whetstone Greenfield Corridor

FILE / JOB NO : B21003
SHEET : 4 OF 4

POSITION : E: 320014.1, N: 6872621.4 (MGA94 Zone 56)	SURFACE ELEVATION : 319.18 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 31/08/2021	LOGGED BY : V.C	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.60 m LONG 1.40 m WIDE		



310-03-TP3075 - 5 Depth Range: 0.00 - 3.00 m

POSITION : E: 319541.5, N: 6873566.4 (MGA94 Zone 56)

SURFACE ELEVATION : 327.17 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : V.C

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.30 m WIDE

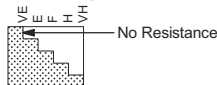
EXCAVATION INFORMATION					MATERIAL									
VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETROMETER KPa 100 200 300 400	STRUCTURE & Other Observations
Not Observed			D-D00000	0.0		SM	TOPSOIL: Silty SAND trace gravel and cobbles: fine to medium grained, pale grey brown, fine to coarse sub-rounded gravel, sub-angular cobbles (<150mm) trace rootlets (<2mm)	D to M	D to VD			TOPSOIL		
			0.20m	0.30m			Silty SAND trace gravel: fine to medium grained, pale brown, fine to medium sub-rounded to sub-angular gravel						VD	D
			0.5	0.50m	SAND with silt and clay trace gravel: fine to medium grained, orange brown mottled grey, fine to medium sub-angular gravel	M	VD							
			0.70m	B-B00070	0.90m					326.2	1.0	Below 1.10m red brown	VD	
			1.50m	B-B00150	1.70m	325.7	1.5	Below 2.00m orange brown and grey	VD					
			2.80m	B-B00280	3.00m	324.2	3.0					Clayey silty SAND: fine to medium grained, grey and orange brown, low to medium plasticity clay	D to M	
			3.20m			323.7	3.5	Hole Terminated at 3.20 m Target depth Testpit reinstated to surface						

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

CLIENT : ARTC Inland Rail PROJECT : Inland Rail - B2G - Border to Gowrie
LOCATION : N4 - Whetstone Greenfield Corridor

FILE / JOB NO : B21003
SHEET : 2 OF 4

POSITION : E: 319541.5, N: 6873566.4 (MGA94 Zone 56)	SURFACE ELEVATION : 327.17 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 31/08/2021	LOGGED BY : V.C	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.50 m LONG 1.30 m WIDE		



310-03-TP3076 - 1 Depth Range: 0.00 - 3.20 m



310-03-TP3076 - 2 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

EXCAVATION - GEOLOGICAL LOG

PIT NO : 310-03-TP3076

CLIENT : ARTC Inland Rail PROJECT : Inland Rail - B2G - Border to Gowrie
LOCATION : N4 - Whetstone Greenfield Corridor

FILE / JOB NO : B21003
SHEET : 3 OF 4

POSITION : E: 319541.5, N: 6873566.4 (MGA94 Zone 56)	SURFACE ELEVATION : 327.17 (AHD)
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket
DATE EXCAVATED : 31/08/2021	LOGGED BY : V.C
EXCAVATION DIMENSIONS : 4.50 m LONG 1.30 m WIDE	CHECKED BY : J.Boyle



310-03-TP3076 - 3 Depth Range: 0.00 - 3.20 m



310-03-TP3076 - 4 Depth Range: 0.00 - 3.20 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

CLIENT : ARTC Inland Rail PROJECT : Inland Rail - B2G - Border to Gowrie
LOCATION : N4 - Whetstone Greenfield Corridor

FILE / JOB NO : B21003
SHEET : 4 OF 4

POSITION : E: 319541.5, N: 6873566.4 (MGA94 Zone 56)	SURFACE ELEVATION : 327.17 (AHD)	
EQUIPMENT TYPE : Backhoe	METHOD : 600mm Toothed Bucket	
DATE EXCAVATED : 31/08/2021	LOGGED BY : V.C	CHECKED BY : J.Boyle
EXCAVATION DIMENSIONS : 4.50 m LONG 1.30 m WIDE		



310-03-TP3076 - 5 Depth Range: 0.00 - 3.20 m

POSITION : E: 319359.4, N: 6874145.7 (MGA94 Zone 56)

SURFACE ELEVATION : 331.40 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.60 m WIDE

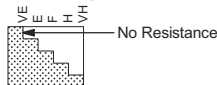
EXCAVATION INFORMATION				MATERIAL															
				MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components										MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
GROUND WATER LEVELS				SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL												
Not Observed				D00000	0.0			0.10m	TOPSOIL: Silty SAND trace gravel: fine to medium grained, pale grey brown, fine to coarse sub-rounded gravel, trace rootlets (<2mm)								TOPSOIL		
				0.20m														ALLUVIAL SOIL	
					330.9		SM												
				0.5															
					0.50m														
							SP												
				0.70m															
				B00070			MH												
				0.90m															
					330.4														
					1.0			0.90m	SAND with silt and clay: fine to medium grained, brown mottled grey										
					329.9		SP		Below 1.20m red brown, trace silt and clay										
				1.60m					Below 1.40m weakly cemented										
				B00160															
				1.80m															
					329.4			1.90m	SAND: fine to medium grained, grey and orange brown, cemented										
				2.30m			SP												
				B00230															
				2.50m															
					328.9			2.50m	Hole Terminated at 2.50 m Refusal - Very Slow Progress Testpit reinstated to surface										
					328.4														
					327.9														

PHOTOGRAPHS
NOTES

METHOD

N Natural Exposure
X Existing Excavation
BH Backhoe Bucket
B Bulldozer Blade
R Ripper

PENETRATION



WATER



SAMPLES & FIELD TESTS

U - Undisturbed Sample
D - Disturbed Sample
B - Bulk Disturbed Sample
MC - Moisture Content
PP - Pocket Penetrometer (UCS kPa)
VS - Vane Shear; P-Peak,
R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

D - Dry
M - Moist
W - Wet
M > PL - Moisture Content > Plastic Limit
M ~ PL - Moisture Content = Plastic Limit
M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

VS - Very Soft
S - Soft
F - Firm
St - Stiff
VSt - Very Stiff
H - Hard
VL - Very Loose
L - Loose
MD - Medium Dense
D - Dense
VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319359.4, N: 6874145.7 (MGA94 Zone 56)

SURFACE ELEVATION : 331.40 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.60 m WIDE



310-03-TP3077 - 1 Depth Range: 0.00 - 2.50 m



310-03-TP3077 - 2 Depth Range: 0.00 - 2.50 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319359.4, N: 6874145.7 (MGA94 Zone 56)

SURFACE ELEVATION : 331.40 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.60 m WIDE



310-03-TP3077 - 3 Depth Range: 0.00 - 2.50 m



310-03-TP3077 - 4 Depth Range: 0.00 - 2.50 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 319359.4, N: 6874145.7 (MGA94 Zone 56)

SURFACE ELEVATION : 331.40 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 31/08/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.50 m LONG 1.60 m WIDE



310-03-TP3077 - 5 Depth Range: 0.00 - 2.50 m

POSITION : E: 318910.4, N: 6875724.1 (MGA94 Zone 56)

SURFACE ELEVATION : 325.35 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.50 m WIDE

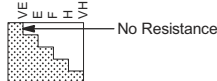
EXCAVATION INFORMATION					MATERIAL									
PENETRATION VE E F H			GROUND WATER LEVELS	SAMPLES & FIELD TESTS	ELEVATION (RL) DEPTH (M)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MATERIAL DESCRIPTION Soil Type, Colour, Plasticity or Particle Characteristic Secondary and Minor Components	MOISTURE CONDITION	CONSISTENCY	RELATIVE DENSITY	DCP Blows/100mm 5 10 15 20	POCKET PENETRO- METER kPa 100 200 300 400	STRUCTURE & Other Observations
Not Observed			D00000	0.0			TOPSOIL: Silty SAND: fine to medium grained, pale brown, trace roots (<10mm)							TOPSOIL
			0.20m				Silty SAND: fine to medium grained, pale brown							ALLUVIAL SOIL
			324.8	0.5		SM			M	D				
			0.80m				Sandy SILT: low plasticity, brown to grey fine to coarse sand.							
			B00080	324.3	1.0		ML	Sandy silty CLAY: medium to high plasticity, grey, fine to medium grained sand						
			1.60m	323.8	1.5		CI-CH		M (<PL)	VSt				
			B00160	323.3	2.0		SC	Clayey silty SAND: fine to medium grained, grey brown, low plasticity.						
			1.80m						M	VD				
			2.70m	322.8	2.5		CL-CI	Sandy silty CLAY: low to medium plasticity, grey mottled orange brown, fine to medium grained sand						
			B00270	322.3	2.90m		SM	Silty SAND: fine to medium grained, grey brown		M (<PL)	H			
	3.0	3.00m				M	VD							
							Hole Terminated at 3.00 m Target depth Testpit reinstated to surface							
				321.8	3.5									

PHOTOGRAPHS
NOTES

METHOD

- N Natural Exposure
- X Existing Excavation
- BH Backhoe Bucket
- B Bulldozer Blade
- R Ripper

PENETRATION



WATER

10 Oct., 73 Water
Level on Date shown
water inflow
water outflow

SAMPLES & FIELD TESTS

- U - Undisturbed Sample
- D - Disturbed Sample
- B - Bulk Disturbed Sample
- MC - Moisture Content
- PP - Pocket Penetrometer (UCS kPa)
- VS - Vane Shear; P-Peak, R-Remoulded (uncorrected kPa)

CLASSIFICATION SYMBOLS &
SOIL DESCRIPTION
Based on Unified
Classification System

MOISTURE

- D - Dry
- M - Moist
- W - Wet
- M > PL - Moisture Content > Plastic Limit
- M ~ PL - Moisture Content = Plastic Limit
- M < PL - Moisture Content < Plastic Limit

CONSISTENCY/
RELATIVE DENSITY

- VS - Very Soft
- S - Soft
- F - Firm
- St - Stiff
- VSt - Very Stiff
- H - Hard
- VL - Very Loose
- L - Loose
- MD - Medium Dense
- D - Dense
- VD - Very Dense

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 318910.4, N: 6875724.1 (MGA94 Zone 56)

SURFACE ELEVATION : 325.35 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.50 m WIDE



310-03-TP3078 - 1 Depth Range: 0.00 - 3.00 m



310-03-TP3078 - 2 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech

POSITION : E: 318910.4, N: 6875724.1 (MGA94 Zone 56)

SURFACE ELEVATION : 325.35 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.50 m WIDE



310-03-TP3078 - 3 Depth Range: 0.00 - 3.00 m



310-03-TP3078 - 4 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for details of abbreviations & basis of descriptions.

Macquarie Geotech

POSITION : E: 318910.4, N: 6875724.1 (MGA94 Zone 56)

SURFACE ELEVATION : 325.35 (AHD)

EQUIPMENT TYPE : Backhoe

METHOD : 600mm Toothed Bucket

DATE EXCAVATED : 01/09/2021

LOGGED BY : V.Chandrasena

CHECKED BY : J.Boyle

EXCAVATION DIMENSIONS : 4.80 m LONG 1.50 m WIDE



310-03-TP3078 - 5 Depth Range: 0.00 - 3.00 m



310-03-TP3078 - 6 Depth Range: 0.00 - 3.00 m

See Explanatory Notes for
details of abbreviations
& basis of descriptions.

Macquarie Geotech