

APPENDIX 5-A — PIPELINE OBSERVATIONS

FEATURES OBSERVED ALONG THE PROPOSED PIPELINE ROUTE BETWEEN GLEBE WEIR AND THE WANDOAN COAL PROJECT MINE SITE

Observations made along the proposed pipeline route from the Glebe Weir storage in Cockatoo Creek just upstream of its junction with the Dawson River to the Wandoan Coal Project (note descriptions of vegetation are not by a botanist)

Location or Pipeline Segment and Traverse (Figure ##)	Way Point and UTM Position Zones	Easting	Northing	Topography, Vegetation, Geology and Soils	Notes on Route and Adjacent Land
Pump Station Approximate location of pumping station on Cockatoo Creek	56J	201850	7179980	- Sandy levee with crest approximately 3 m above current Glebe Weir impoundment FSL. - Cleared except for strip approximately 50 m wide from the levee crest to current FSL - Forest red gum, river red gum and coolibah dominant with occasional carbeen and rough-barked apple and tea tree close to current FSL - Geological unit: Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits - Brown and grey dermosols with deep-surfaced sodosols likely in some areas	- Landholder advises that the low flow channel of Cockatoo Creek is immediately below the steep bank from the levee to the current FSL - Landholder advises that soil material from the levee backslope was used as fill when Glebe Weir was constructed and comments suggest that some of this material was dispersible Plates Pipeline 1, 2
Segment 1 Pumping station to approximate boundary of Cockatoo Creek / Dawson River alluvium at approximately 1.3 km	56J to 56J ¹	201850 to 203000	7179980 to 7177900	- Level plains for approximately 0.9 km then gently undulating plains - Predominantly cleared - Very scattered patches of coolibah and / or poplar box - Geological unit: Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits - Brown and grey dermosols with deep-surfaced sodosols likely in some areas for first approximately 0.9 km then grey and black vertosols	- Broad flood-out channels at approximately 0.3 km and 1.2 km into segment - Route goes around centre pivot irrigation layout - Landholder requests that access road to pumping station follows his access to close to the yards then roughly follows pipeline, on higher ground where possible, to pumping station and that public access be prevented Plate Pipeline 3
Segment 2 Approximate boundary of Cockatoo Creek / Dawson River alluvium to north-east of yards on Lot 14 CP FT1 at approximately 4.3 km	56J to 56J	203000 to 205400	7179000 to 7177500	- Gently undulating plains for approximately 0.8 km then gently undulating rises to north-east of yards - Predominantly cleared - Scattered patches of coolibah and / or poplar box for first 0.8 km then occasional clumps of brigalow vine thicket and belah - Geological unit: Je₁ (Jurassic Evergreen Formation) — Pale grey to greenish grey, flaggy, fine to medium-grained, micaceous, labile to sub-labile sandstone; pale green or khaki mudstone; minor white siltstone, shale, coal - Grey and black vertosols likely for approximately 0.8 km then yellow and grey sodosols and grey and brown dermosols and vertosols	- Drainage line identified at approximately 1.4 km into segment - Bore at 56J 204753E 7178318N north of route and pipeline will need to go under pipes from bore - Route goes through a number of small paddocks or large holding yards near yards on Lot 14 CP FT1

Location or Pipeline Segment and Traverse (Figure ##)	Way Point and UTM Position Zones	Easting	Northing	Topography, Vegetation, Geology and Soils	Notes on Route and Adjacent Land
Segment 3 North-east of yards on Lot 14 CP FT1 to boundary with Lot 3 CP FT733	56J to 56J	205400 208900	7177500 7175300	- Gently undulating rises to undulating rises - Cleared except for narrow strips along drainage lines and some fence lines - Coolibah and / or poplar box along drainage lines with brigalow vine thicket along fence lines and along ridge crests - Geological unit: Je₁ (Jurassic Evergreen Formation) — Pale grey to greenish grey, flaggy, fine to medium-grained, micaceous, labile to sub-labile sandstone; pale green or khaki mudstone; minor white siltstone, shale, coal - Yellow and grey sodosols and grey and brown dermosols and vertosols	- Drainage lines identified at approximately 1, 1.6, 2.5, 2.9 and 3.6 km into segment - May be outcrops or shallow occurrences of ironstone on some of the higher ridges and sandstone on slopes and ridges but this should be rippable with heavy machinery - Route crosses a number of drainage lines generally flowing north or north-east
Segment 4 Boundary between Lot 14 CP FT1 and Lot 3 CP FT733 to intersection of Nathan Road and Taroom — Cracow Road	56J to P1 56J	209900 212690	7175300 7173010	- Gently undulating rises in north-west to gently undulating plain in south-east - Cleared except for very scattered brigalow vine thicket regrowth in centre 0.8 km and scattered poplar box and brigalow in south-east 0.6 km - Geological units: Je₁ (Jurassic Evergreen Formation) — Pale grey to greenish grey, flaggy, fine to medium-grained, micaceous, labile to sub-labile sandstone; pale green or khaki mudstone; minor white siltstone, shale, coal for approximately 3.8 km then Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits - Yellow and grey sodosols with some grey and brown dermosols and vertosols for first 1 km then grey and brown dermosols and vertosols with some yellow and grey sodosols	- Minor drainage lines identified at approximately 0.2, 0.9, 1.2, 2.4, 3, and 3.3 km into segment - First 1.2 km runs parallel to and about 0.2 km south-west of a drainage line - Last 0.6 km crosses and runs in the vicinity of Price Creek and it is recommended that route be adjusted to keep pipeline to west of Price Creek Plate Pipeline 4
Segment 5 Start of Road Traverse 1 (Intersection of Nathan Road and Taroom — Cracow Road to intersection of Nathan Road and road to Eidsvold via Deearne) To approximately 1.7 km south	P1 56J past P2 56J to 56J	212690 212740 212700	7173010 7171439 7171300	- Gently undulating plain for first 0.9 km then gently undulating rises in south - Road reserve cleared except for scattered clumps of poplar box with occasional brigalow and vine scrub species - Paddock to east completely cleared - Geological units: Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits for first approximately 0.8 km then Je₁ (Jurassic Evergreen Formation) — Pale grey to greenish grey, flaggy, fine to medium-grained, micaceous, labile to sub-labile sandstone; pale green or khaki mudstone; minor white siltstone, shale, coal for approximately 0.4 km then Je₀ (Jurassic Evergreen Formation) — Yellowish brown to brown, oolitic or pelletal ironstone, sublabile sandstone, siltstone, mudstone - Grey and brown dermosols and vertosols with some yellow and grey sodosols	- Minor drainage line identified running west to east at the southern end of segment - Overland runoff flow will generally be west to east towards Price Creek - Floods from Price Creek may be flowing south to north along the pipeline - Price Creek within a few metres east of the road reserve in at least two locations <i>Telstra underground cable in road reserve on western side</i> Plate Pipeline 5
Segment 6 Road Traverse 1 Approximately 1.7 south to approximately 5 km south	56J past P3 56J to P4 56J	212700 213010 213070	7171300 7100195 7168030	- Gently undulating rises for first 0.6 km then undulating low hills - Road reserve cleared except for some brigalow and occasional poplar box for first 1.6 km - Paddock to east completely cleared except for occasional brigalow and poplar box between 0.4 and 1 km - Geological units: Je₀ (Jurassic Evergreen Formation) — Yellowish brown to brown, oolitic or pelletal ironstone, sublabile sandstone, siltstone, mudstone for approximately 0.8 km then Je₂ (Jurassic Evergreen Formation) — Mudstone, siltstone and fine-grained labile to sublabile	- Drainage lines identified approximately 0.4 1.1, 1.7 and 2 km, into segment but all but the first are minor - Access track to yards about 0.5 km east of road at about 0.6 km - Access track to workings, possibly ironstone quarry about 0.8 km to east of road at about 1.4 km <i>Telstra underground cable in road reserve on western side</i>

Location or Pipeline Segment and Traverse (Figure ##)	Way Point and UTM Position Zones	Easting	Northing	Topography, Vegetation, Geology and Soils	Notes on Route and Adjacent Land
				- sandstone - Dark, brown and grey vertosols with occasional dermosols	Plate Pipeline 6
Segment 7 Road Traverse 1 Approximately 5 km south to approximately 6.2 km south	P4 56J past P5 56J to 56J	213070 213050 213000	7168030 7167250 7166800	- Undulating low hills to rolling low hills - Road reserve cleared except for occasional narrow leaved bottle trees on hill crest - Paddock to east has patch of vine thicket with narrow-leaved bottle tree, ooline, wilga, whitewood, occasional eucalypts and very occasional brigalow — cleared strip approximately 30 m wide between vine thicket and road reserve fence - Geological unit: Je₂ (Jurassic Evergreen Formation) — Mudstone, siltstone and fine-grained labile to sublabile sandstone - Dark, brown and grey vertosols with occasional dermosols and sodosols	- Old road runs to the east of the vine thicket which is less than 0.2 m wide (east to west) and less than 0.6 km long - Telstra underground cable in road reserve on western side Plate Pipeline 7
Segment 8 Road Traverse 1 Approximately 6.2 km south to approximately 6.8 km south	56J past P6 56J to P7 56J	213000 213210 213290	716680 7166460 7166220	- Undulating rises - Road reserve cleared except for brigalow regrowth between approximately 0.2 km and 0.4 km and brigalow regrowth with some poplar box for last 0.3 km. - Paddock to east cleared except for brigalow regrowth and some poplar box for last 0.3 km - Geological unit: Je₀ (Jurassic Evergreen Formation) — Yellowish brown to brown, oolitic or pelletal ironstone, sublabile sandstone, siltstone, mudstone - Dark, brown and grey vertosols with occasional dermosols	- Ironstone and sandstone in small quarry and cutting in road reserve at southern end but should be rippable with heavy machinery - Proposed rail corridor adjoins road reserve from the end of this Segment - Telstra underground cable in road reserve on western side Plates Pipeline 8, 9,10
Segment 9 Road Traverse 1 Approximately 6.8 km south to approximately 8.1 km south	P7 56J past P8 J56 to 56J	213290 213580 213600	7166220 7165430 7165000	- Road reserve gently undulating plain - Paddocks to east gently undulating rises and undulating rises for first 0.6 km, then undulating plain from 0.6 km to 0.9 km and undulating rises from 0.9 km to 1.2 km - Road reserve poplar box with occasional brigalow for first 0.2 km then cleared with occasional poplar box and brigalow - Paddocks to east poplar box to scattered poplar box with occasional brigalow for first 0.2 km then poplar box and brigalow from 0.2 km to 0.6 km then cleared with occasional poplar box and forest red gum along drainage line - Geological units: Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits for first 0.2 km then Je₀ (Jurassic Evergreen Formation) — Yellowish brown to brown, oolitic or pelletal ironstone, sublabile sandstone, siltstone, mudstone from 0.2 km to 0.6 km then Qa (paddocks to east have Je₀ from 0.9 km to 1.3 km) - Grey, brown and dark vertosols with occasional dermosols and sodosols (paddock to east similar)	- Drainage lines identified approximately 0.1 and 0.8 (Pigeon Creek) km into segment - Farm access tracks to left and right of road at approximately 0.8 km - Telstra underground cable in road reserve on western side Plates Pipeline 11,12

Location or Pipeline Segment and Traverse (Figure ##)	Way Point and UTM Position Zones	Easting	Northing	Topography, Vegetation, Geology and Soils	Notes on Route and Adjacent Land
Segment 10 Road traverse 1 Approximately 8.1 km south to approximately 12.8 km south	56 past P9 56J past P10 56J past P11 56J past P12 56J to 56J	213600 213670 213660 213700 213730 213500	7165000 7163750 7162220 7161400 7160780 7160300	- Road reserve undulating rises for first 1.6 km then undulating low hills from 1.6 km to 2.8 km then undulating rises from 2.8 km to 4.7 km - Paddocks to east undulating rises for first 1.6 km then rolling to steep low hills from 1.6 km to 3.2 km (flat-topped ridge with scarps) then undulating rises from 3.2 km to 4.7 km - Road reserve scattered patches of brigalow, poplar box or brigalow and poplar box regrowth - Paddocks to east cleared except for poplar box generally associated with drainage lines, occasional brigalow regrowth and a small patch, apparently of vine thicket or grigalow vine thicket at about 2.2 km - Geological units: Je₀ (Jurassic Evergreen Formation) — Yellowish brown to brown, oolitic or pelletal ironstone, sublabilite sandstone, siltstone, mudstone for first 0.5 km then Je₂ (Jurassic Evergreen Formation) — Mudstone, siltstone and fine-grained labile to sublabilite sandstone from 0.5 km to 3.2 km then Je₀ to 4.7 km (paddock to east similar) - Brown, dark and grey vertosols with occasional dermosols and sodosols (paddocks to east similar)	- General linear photo pattern extending several kilometres west-north-west and east-south-east may indicate fault or fold axis at 56J 213500E 7160300N - Well defined drainage lines at approximately 1.3, 3.3 and 3.7 km into segment and minor drainage lines identified at 1.7, 2.4 and 2.7 km into segment - Access track to Yoorrooga homestead approximately 0.4 km west of road at approximately 0.6 km - Access track to property 5488 approximately 0.9 km east of road at approximately 4.2 km - Telstra underground cable in road reserve on western side - Telstra underground cable crosses road to property 5488 at approximately 4.2 km Plates Pipeline 13 ,14, 15
Segment 11 Road Traverse 1 Approximately 12.8 km south to 13.8 km south	56J past P13 56J 56J	213500 213770 213700	7160300 7159710 7159400	- Road reserve and paddocks to east gently undulating plain - Road reserve scattered poplar box and brigalow regrowth - Paddocks to east cleared except for occasional poplar box along drainage lines - Geological unit: Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits (Paddocks to east similar) - Brown, dark and grey vertosols with occasional sodosols (paddocks to east similar)	- Well defined drainage lines at approximately 0.2 and 0.6 km into segment - Old fence about 20 m from road, present fence about 3 m from road (insufficient room for pipeline on east of road will cross to west and run west side to Cr) from approximately 0.6 km into segment - Telstra underground cable in road reserve on western side Plate Pipeline 16
Segment 12 Road Traverse 1 Approximately 13.8 km south to approximately 15.4 km south and intersection of Nathan Road and road to Eidsvold via Deearne (End of Road Traverse 1)	56J past P14 56J past P15 56J past P16 56J to P17 56J	213700 213820 213900 214070 214140	7159400 7159200 7158820 7158070 7157850	- Road reserve and paddocks to east gently undulating plain to gently undulating rises - Road reserve scattered poplar box - Paddocks to east little disturbed poplar box community with wilga, false sandalwood, small-leaved bauhinia, and occasional belah (probably vine thicket or brigalow vine thicket from 0.01 km to 0.35 km and 0.05 km from road) — little disturbed community appears to form a right angle triangle with hypotenuse approximately 1.6 km along road reserve and short side running north-east for approximately 0.6 km - Geological unit: Je₀ (Jurassic Evergreen Formation) — Yellowish brown to brown, oolitic or pelletal ironstone, sublabilite sandstone, siltstone, mudstone (paddocks to east similar) - Brown sodosols, vertosols and dermosols (paddocks to east similar)	- Old fence about 20 m from road in some parts - Present fence about 2 m from road on eastern side to about 1.4 km into segment but sufficient room for pipeline in road reserve to west of road - Unnamed gravel road to east approximately 1.4 km into segment - Segment ends on bitumen road to east - Telstra underground cable in road reserve on western side Plates Pipeline 17, 18, 19

Location or Pipeline Segment and Traverse (Figure ##)	Way Point and UTM Position Zones	Easting	Northing	Topography, Vegetation, Geology and Soils	Notes on Route and Adjacent Land
Segment 13 Road Traverse 2 (Intersection of Nathan Road and road to Eidsvold via Deearne to intersection of Nathan Road and Leichhardt Highway) To approximately 0.4 km south	P17 56J past P18 to P19	214140 214070 213950	7157850 7157640 7157430	- Road reserve and adjacent paddocks gently undulating plain - Road reserve poplar box and poplar box regrowth - Paddocks adjacent poplar box regrowth with clump from about 0.2 km to 0.3 km - Geological unit: Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits (Paddocks to east similar) - Brown sodosols and brown and grey vertosols and dermosols	- Flood-out channels from Cockatoo Creek at 0.2 km and 0.3 km - Road reserve sufficiently wide for pipeline on east and very wide (possibly a camping and water reserve) on west - May be a former road alignment west of the present road - Access track to property at about 0.3 km - Telstra underground cable in road reserve on western side Plate Pipeline 20
Cockatoo Creek Road Traverse 2 Approximately 0.4 km	P19 56J	213950	7157430	- Incised stream channel approximately 5 m deep and 40 m wide at top of banks in road reserve and upstream to east (upstream to east similar) - Forest red gum, poplar box and occasional narrow leaved ironbark and rough parked apple (upstream to east similar) - Geological unit: Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits (upstream to east similar) - Brown dermosols and sodosols	- Single lane concrete bridge approximately level with top of banks - May be possible to strap pipeline to bridge - Remains of wooden bridge abutments upstream - Dozed crossing downstream, probably for Telstra cable Plates Pipeline 21, 22, 23
Segment 14 Road Traverse 2 Approximately 0.4 km south to approximately 2.8 km south	P19 56J past P20 56J past P21 56J past P22 56J to 56J	213950 213500 213100 213020 212800	7157430 7156720 7156330 7156050 7155300	- Road reserve gently undulating plain with Mayne Creek parallel drainage line to east entering reserve in some locations - Paddocks to east similar for at least 0.2 km but Cockatoo Creek meanders to within 0.08 km of road, Mayne Creek drainage line parallels the road reserve for most of the segment and there are rolling low hills within 0.25 km of the road in some locations - Road reserve poplar box with occasional forest red gum and rough-barked apple - Paddocks to east generally cleared but occasional poplar box - Geological units: Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits (paddocks to east similar except that hills are Je₂ (Jurassic Evergreen Formation) — Mudstone, siltstone and fine-grained labile to sublabile sandstone) - Brown vertosols and brown, yellow and grey sodosols	- Two water holes in road reserve approximately 1.4 km into segment where floodway crosses road and drainage line impinges on road reserve - Intersection with Cockatoo Road to Taroom entering from west approximately 1.7 km into segment - Telstra underground cable in road reserve on western side Plates Pipeline 24, 25, 26
Segment 15 Road Traverse 2 Approximately 2.8 km south to approximately 11.9 km south	56J past P23 56J past P2456J past P25 56J	212800 212830 212870 212810	7155300 7154690 7153920 7153290	- Road reserve gently undulating plain to gently undulating rises but runs along foot of rolling low hills to west and parallels Mayne Creek drainage line to east - Paddock to east gently undulating plain associated with Mayne Creek drainage line, which is incised in some places, for 0.1 km to 0.3 km the east then rolling low hills - Road reserve timber density variable and, where silver-leaved ironbark occurs, it appears to be on sandstone areas: - Poplar box for approximately 1.4 km into segment	- Drainage lines from west to east cross the road reserve at a number of locations including: - Approximately 0.5 km into segment - Approximately 2 km into segment - Approximately 2.8 km into segment - Approximately 3.9 km into segment - Approximately 5 km into segment

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	past P26 56J	212220	7152010	o Poplar box and carbeen from approximately 1.4 km into segment to approximately 1.9 km into segment	o Approximately 5.8 km into segment
	past P27 56J	212010	7151330	o Poplar box with occasional forest red gum along minor drainage line crossing road approximately 2.0 km into segment	o Approximately 7.7 km into segment
	past P28 56J	211790	7150890	o Poplar box from approximately 2.0 km into segment to approximately 3.4 km into segment but substantial areas cleared	o Approximately 8.4 km into segment
	past P29 56J	211360	7149920	o Poplar box and forest red gum along drainage line with some brigalow to west of road reserve approximately 3.5 km into segment	• Sandstone outcrop on ridge to west of road and along the road in small cuttings in a number of locations
	past P30 56J	211140	7149410	o Scattered narrow-leaved ironbark approximately 3.8 km into segment	• Borrow ditches and gullies parallel with the road occur in the road reserve to the east in a number of locations
	past P31 56J	211030	7149260	o Poplar box and a eucalypt similar to forest red gum on drainage line crossing road approximately 3.9 km into segment	• Road is crossed by a fence line with a grid approximately 8.7 km into segment
	past P32 56J	210930	7149150	o Poplar box with some wilga from approximately 4 km into segment to approximately 4.3 km into segment	• Property to east of road has entrances at approximately 2.1 km and 2.6 km into segment
	past P33 56J	210600	7148530	o Narrow-leaved ironbark from approximately 4.3 km into segment to approximately 4.6 km into segment	• Property access to west of road at approximately 5.9 km into segment
	past P34 56J	210612	7147890	o White cypress with some ironbark on ridge from approximately 4.6 km into segment to drainage line approximately 5 km into segment	• Pipelines cross the road reserve approximately 6.4 km and 6.7 km into segment
	to P35 56J	210230	7147120	o Poplar box with some wilga and false sandalwood from approximately 5 km into segment to approximately 6.6 km into segment	• Two bores within approximately 0.2 km east of road reserve at approximately 6.4 km into segment
				o Poplar box and forest red gum generally along Mayne Creek line from approximately 6.6 km into segment to approximately 7.3 km into segment	• Power transformer in wide eastern part of road reserve approximately 6.5 km into segment and additional pole approximately 0.15 km south
				o Silver leaved ironbark, poplar box and a eucalypt similar to Dawson gum from approximately 7.3 km into segment to approximately 8.0 km into segment	• Paddock access track to east approximately 6.5 km into segment
				o Poplar box, forest red gum and occasional narrow leaved ironbark from approximately 8.0 km into segment to 8.2 km into segment	• Telstra underground cable appears to be in road reserve on western side for most of segment but is in paddock to west in some locations such as approximately 6.4 km into segment
				o Poplar box and narrow-leaved ironbark from approximately 8.2 km into segment to approximately 8.9 km into segment	• Plates Pipeline 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38
				o Poplar box and blue gum from 8.9 km into segment to end of segment	
				• Paddocks to east generally cleared or with natural communities very substantially thinned out but denser clumps of timber were observed within approximately 0.3 km of the road reserve:	
				o Approximately 0.9 km into segment	
				o Approximately 1.8 km into segment	
				o Approximately 2.2 km into segment	
				o Approximately 4.7 km into segment	
				o Approximately 6.4 km into segment	
				• Geological units: Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits generally confined to gently undulating plain with Jh (Jurassic Hutton Formation) — Pale brown to white, or pale grey, poorly sorted, medium-grained,	

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				feldspathic sublabe sandstone (at base) and fine-grained, well sorted, quartzose sandstone (at top); commonly friable; minor dark grey carbonaceous siltstone, mudstone, rare pebble conglomerate (on gently undulating rises and rolling low hills) (paddocks to east similar) Brown, yellow and grey sodosols with occasional vertosols — soils on gently undulating rises and rolling low hills are frequently shallow to sandstone (paddocks to east similar)	
Segment 16 Road Traverse 2 Approximately 11.9 km south to approximately 17.2 km south	P35 56J past P36 56J past P37 56J past P38 56J past P39 56J to P40 56J	210230 210080 209570 209030 208810 208080	7147120 7146750 7145880 7144760 7143810 7142170	- Road reserve undulating low hills to rolling low hills with plateau surface for approximately 0.7 km centred on 56J 208810E 7143810N - Paddock to east rolling low hills to steep low hills with plateau surface for approximately 0.5 km around 56J 208880E 7143810N - Road reserve generally timbered with: - Poplar box with wilga and occasional narrow-leaved ironbark for approximately 0.5 km into segment - Brigalow regrowth and little-disturbed brigalow from approximately 0.5 km into segment to approximately 1.1 km into segment - Poplar box with occasional brigalow from approximately 1.1 km into segment to approximately 1.4 km into segment - Narrow-leaved ironbark with occasional white cypress from approximately 1.4 km into segment to approximately 1.9 km into segment - Poplar box, brigalow and occasional beefwood from approximately 1.9 km into segment to approximately 2.5 km into segment - Narrow-leaved ironbark from approximately 2.5 km into segment to 2.9 km into segment - Brigalow, Dawson gum and brigalow with narrow-leaved ironbark from approximately 2.9 km into segment to approximately 3.6 km into segment - Narrow-leaved ironbark from approximately 3.6 km into segment to approximately 4.0 km into segment - Brigalow and Dawson gum down slope from approximately 4.0 km into segment to approximately 4.6 km into segment - Poplar box and silver-leaved ironbark from approximately 4.6 km into segment to end of segment where poplar box and forest red gum are associated with a drainage line - Paddocks to east: - Extensively cleared for approximately 1.2 km into segment - Similar vegetation to road reserve as strip from 0.2 km to 0.6 km wide from approximately 1.2 km into segment to 2.8 km into segment - Extensively cleared from approximately 2.8 km into segment to 3.5 km into segment - Similar vegetation to road reserve from approximately 3.5 km into segment to approximately 4.4 km into segment but more disturbed - Extensively cleared from 4.4 km into segment to end of segment	- Road reserve in segment generally follows ridge crests but drainage lines were identified crossing reserve at: - Approximately 0.3 km into segment (west to east) - Approximately 3.6 km into segment (west to east) - Approximately 4.6 km into segment (east to west) - End of segment (east to west) - Paddocks to east within approximately 0.4 km of road reserve are characterised by a series of spurs and valleys running off approximately west to east - Width of road reserve is variable and there may be insufficient room for pipeline in the reserve to the east of the road in a few locations - Farm dam in paddock to east immediately adjacent to road reserve approximately 0.3 km into segment - Farm dam perched above gully in paddock to east immediately adjacent to road reserve approximately 2.8 km into segment - Erosion gullies occur parallel with the road in the road reserve in some locations - Sandstone is shallow but apparently rippable through much of the segment - Road crossed by fence line with grid approximately 3.5 km into segment, also road junctions to east and west at this location - Telstra in-ground junction box on western side of road approximately 0.5 km into segment - Telstra underground cable appears to be in road reserve on western side for most of segment Plates Pipeline 39, 40, 41, 42, 43, 44

Location or Pipeline Segment and Traverse (Figure ##)	Way Point and UTM Position Zones	Easting	Northing	Topography, Vegetation, Geology and Soils	Notes on Route and Adjacent Land
				- Geological unit: Jh (Jurassic Hutton Formation) — Pale brown to white, or pale grey, poorly sorted, medium-grained, feldspathic sublabile sandstone (at base) and fine-grained, well sorted, quartzose sandstone (at top); commonly friable; minor dark grey carbonaceous siltstone, mudstone, rare pebble conglomerate (paddocks to east similar) - Brown sodosols, yellow and grey and chromosols with occasional tenosols and dermosols, often shallow to sandstone (Paddocks to east similar)	
Segment 17 Road Traverse 2 Approximately 17.2 km south to approximately 21.3 km south	P40 56J past P41 56J past P42 56J past P43 56J to P44 56J	208080 207850 207180 207190 206870	7142170 7141910 7140010 7139150 7138470	- Road reserve gently undulating rises to undulating rises along valley of, and in close proximity to, Romeo Creek with creek west of road for approximately first 1.9 km then east of road - Paddocks to west Undulating rises to rolling low hills - Road reserve generally lightly timbered with: - Silver-leaved ironbark and some poplar box to approximately 1.2 km into segment - Poplar box and some carbeen and kurrajong from approximately 1.2 km into segment to approximately 1.7 km into segment - Silver-leaved ironbark with some whit cypress from approximately 1.7 km into segment to approximately 2.3 km into segment - Poplar box, with some wilga and silver-leaved ironbark from approximately 1.7 km into segment to approximately 3.8 km into segment - Some rusty gum approximately 3.8 km into segment - Forest red gum, rough-barked apple and occasional poplar box from approximately 3.8 km into segment to Bungaban Creek (end of segment) - Paddocks to east cleared except for vegetation along drainage lines and regrowth, generally of low density - Geological unit: Jh (Jurassic Hutton Formation) — Pale brown to white, or pale grey, poorly sorted, medium-grained, feldspathic sublabile sandstone (at base) and fine-grained, well sorted, quartzose sandstone (at top); commonly friable; minor dark grey carbonaceous siltstone, mudstone, rare pebble conglomerate to approximately 3.8 km into segment then Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits (paddocks to east similar) - Brown, red and occasionally yellow chromosols and sodosols (paddocks to east similar)	- Road reserve in segment generally follows Romeo Creek valley so unmapped occurrences of alluvium are likely - Drainage lines were identified crossing road reserve at: - Approximately 0.3 km into segment (east to west) - Approximately 0.8 km into segment (east to west) - Approximately 1.7 km into segment (west to east)(Romeo Creek) - Approximately 2.4 km into segment(west to east) - Approximately 2.9 km into segment (west to east) - Bungaban Creek close (approximately 0.05 km) to road to east for last 0.2 km of segment - Paddocks to east of road reserve generally characterised by hills, spurs and gullies sloping to west - Erosion gullies in the road reserve parallel with the road are common to approximately 1.3 km into segment - Sandstone within 1 m of soil surface in a number of locations - Property entrances at approximately 0.8 km and 3.2 km into segment - Farm access track to east approximately 1.5 km into segment - Feedlot approximately 0.25 km east of road reserve approximately 3.0 km into segment - Homestead approximately 0.25 km east of road reserve approximately 3.2 km into segment - Telstra underground cable appears to be in road reserve on western side for most of segment Plates Pipeline 45, 46, 47

Location or Pipeline Segment and Traverse (Figure ##)	Way Point and UTM Position Zones	Easting	Northing	Topography, Vegetation, Geology and Soils	Notes on Route and Adjacent Land
Bungaban Creek Road Traverse 2 Approximately 21.3 km south	P44 56J	206870	7138470	- Incised channel approximately 3 m below terrace on right bank and 5 m below top of left bank upstream of road where there appears to be a narrow, thin, veneer of alluvium over sandstone — right bank is unstable and severely eroded and dissected downstream of road - Upstream area to east similar but stream meanders and flood-out channel on northern side form approximately 0.1 km east of road - Mature forest red gum and rough-barked apple in and adjacent to the stream (upstream area similar) - Geological units: Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits with Jh (Jurassic Hutton Formation) — Pale brown to white, or pale grey, poorly sorted, medium-grained, feldspathic sublabile sandstone (at base) and fine-grained, well sorted, quartzose sandstone (at top); commonly friable; minor dark grey carbonaceous siltstone, mudstone, rare pebble conglomerate, apparently outcropping at some locations in channel and on left bank - Brown dermosols, tenosols and chromosols (upstream to east similar)	- Road crossing is by way of concrete causeway - May be room for pipeline to east of road between road, major trees and ridge but may be necessary to further excavate cutting on eastern side and good erosion protection would be required <i>Telstra underground cable appears to be in road reserve on western side</i> Plates Pipeline 48, 49, 50, 51, 52
Segment 18 Road Traverse 2 Approximately 21.3 km south to approximately 23.5 km south	P44 56J to P45	206870 206260	7138470 7136600	- Road reserve gently undulating rises running parallel with and within 0.1 km of minor drainage line - Paddocks to east undulating low hills crossing a series of spurs and valleys running from south-east to north-west - Road reserve silver-leaved ironbark and poplar box with occasional white cypress, wilga and false sandalwood with forest red gum associated with drainage lines - Paddocks to east cleared except for occasional individual trees and thin stands of forest red gum along drainage lines - Geological unit: Jh (Jurassic Hutton Formation) — Pale brown to white, or pale grey, poorly sorted, medium-grained, feldspathic sublabile sandstone (at base) and fine-grained, well sorted, quartzose sandstone (at top); commonly friable; minor dark grey carbonaceous siltstone, mudstone, rare pebble conglomerate with minor (unmapped) occurrences of Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits along drainage lines (paddocks to east similar but Qa unlikely) - Brown, yellow and grey chromosols and sodosols, some with deep, sandy surface horizons (paddocks to east similar)	- Drainage line identified crossing road reserve approximately 1.3 km into segment <i>Telstra underground cable appears to be in road reserve on western side throughout segment</i> Plates Pipeline 53, 54
Segment 19 Road Traverse 2 Approximately 23.5 km south to approximately 27.8 km south	P45 56J past P46 56J past P47 56J	206260 206000 203830	7136600 7135950 7133610	- Road reserve gently undulating rises to undulating rises - Paddocks to east undulating rises - Road reserve: - Brigalow and occasional Dawson gum to approximately 3.5 km into segment (often sparse on eastern side of road)	- Drainage lines cross road approximately 0.5 km, 1.2 km and 1.7 km into segment - Soils are often shallow over sandstone - May be a former road alignment west then east of the present road approximately 0.4km to approximately 0.8 km into this

Location or Pipeline Segment and Traverse (Figure ##)	Way Point and UTM Position Zones	Easting	Northing	Topography, Vegetation, Geology and Soils	Notes on Route and Adjacent Land
	to P48 56J	203600	7133340	- o Brigalow and occasional Dawson gum and poplar box from approximately 3.5 km into segment to 3.9 km into segment - o Poplar box, brigalow and false sandalwood with occasional white cypress from 3.9 km into segment to Bullock Creek (end of segment) • Paddocks to east generally cleared except for occasional brigalow regrowth and little-disturbed poplar box and silver-leaved ironbark for last 0.3 km approaching Bullock Creek • Geological unit: Ji (Jurassic Injune Creek Group) — Sandstone, siltstone, mudstone, coal, conglomerate (paddocks to east similar) • Brown, grey and dark vertosols with brown, grey and yellow chromosols and sodosols associated with poplar box communities (paddocks to east similar)	- segment • Fenced road reserve narrow on eastern side just south of property entry approximately 0.7 km into segment • Dam in paddock to east approximately 2.9 km into segment • Property entry to west approximately 3.1 km into segment • <i>Telstra underground cable appears to be in road reserve on western side</i> • Plate Pipeline 55
Bullock Creek Road Traverse 2 Approximately 27.8 km south	P48 56J	203600	7133340	• Road reserve channel approximately 40 m wide immediately east of road incised approximately 3 m below adjacent landscape but narrower and deeper channel to west • Paddock to east has narrower and deeper channel with some meanders, generally cut into sandstone • Road reserve forest red gum, poplar box and silver-leaved ironbark (paddocks to east similar) • Geological unit: Ji (Jurassic Injune Creek Group) — Sandstone, siltstone, mudstone, coal, conglomerate (paddocks to east similar but isolated occurrences of Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits likely) • Shallow brown, yellow and grey chromosols and sodosols (paddocks to east similar)	• Road crossing is by way of concrete causeway • Appears to be former road route to east of present road and this may provide a suitable alignment for pipeline • <i>Telstra underground cable appears to be in road reserve on western side</i> • Plates Pipeline 56, 57
Segment 20 Road Traverse 2 Approximately 27.8 km south to approximately 42.7 km south	P48 56J past P49 56J past P50 56J past P51 56J past P52 55J past P53 55J to P54 55J	203600 203290 202200 200910 798780 798430 798390	7133340 7132990 7130890 7128490 7123010 7120750 7119980	• Road reserve gently undulating rises and occasionally undulating low hills • Paddocks to east gently undulating rises and undulating low hills • Road reserve - o Poplar box and silver-leaved ironbark to approximately 0.5 km into segment - o Brigalow with occasional poplar box, belah, wilga and false sandalwood from approximately 0.5 km into segment to approximately 2.9 km into segment - o Poplar box with occasional brigalow and false sandalwood from approximately 2.9 km into segment to approximately 3.1 km into segment (drainage line) - o Brigalow with occasional poplar box, belah, wilga and false sandalwood from approximately 3.1 km into segment to approximately 10.3 km into segment - o Poplar box with occasional brigalow and false sandalwood from approximately 10.2 km into segment to approximately 10.8 km into segment (drainage line) - o Brigalow with occasional poplar box, belah, wilga, Dawson gum and false sandalwood from approximately 10.8 km into segment to approximately 14.0 km into segment - o Poplar box with occasional belah, brigalow and false sandalwood from approximately 14.0 km into segment to Roche Creek (end of segment)	• Drainage lines were identified crossing road reserve at: - o Approximately 0.5 km into segment (east to west) - o Approximately 3.2 km into segment (Stakeyard Creek, east to west) - o Approximately 6.2 km into segment (west to east) - o Approximately 8.5 km into segment (west to east) - o Approximately 8.9 km into segment (west to east, flows parallel to road approximately 0.08 km to 0.3 km east to next crossing) - o Approximately 10.1 km into segment (east to west) - o Approximately 10.5 km into segment (east to west) - o Approximately 11.8 km into segment (east to west) - o Approximately 12.4 km into segment (east to west) - o Approximately 13.1 km into segment (west to east) - o Approximately 13.6 km into segment (west to east) • Paddocks to east within 0.3 km of road reserve have a similar

Location or Pipeline Segment and Traverse (Figure ##)	Way Point and UTM Position Zones	Easting	Northing	Topography, Vegetation, Geology and Soils	Notes on Route and Adjacent Land
				- Paddocks to east cleared except for: - o Poplar box and silver-leaved ironbark to approximately 0.5 km into segment - o Vegetation similar to that in the adjacent road reserve along some drainage lines and fence lines - o Very limited regrowth - Geological unit: Ji (Jurassic Injune Creek Group) — Sandstone, siltstone, mudstone, coal, conglomerate but isolated occurrences of Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits likely (paddocks to east similar) - Principally brown, dark and grey vertosols with some dermosols and chromosols and sodosols (chromosols and sodosols usually associated with silver-leaved ironbark) (paddocks to east similar)	number of drainage lines but there is more tendency for drainage to parallel road reserve • Crossroad at 0.5 km into segment • May be former road alignment west of present road approximately 2.6 km into segment • Property access approximately 2.6 km into segment (homestead approximately 0.2 km east of road) • Property access approximately 5.6 km into segment (homestead approximately 0.2 km east of road) • Property access to east approximately 9.0 km into segment • Property access to east approximately 12.0 km into segment • May be former road alignment east of present road from approximately 12.0 km into segment to approximately 12.6 km into segment • Property access approximately 14.2 km into segment • Power line crossing road reserve (transformer pole in reserve to west of road, pole in reserve to east) approximately 14.2 km into segment • Road reserve east of road is narrow in some locations • <i>Telstra underground cable appears to be in road reserve on western side up to approximately 7 km into segment then on eastern side for remainder of segment</i> • Plates Pipeline 58, 59, 60, 61
Roche Creek Segment 21 Road Traverse 2 Approximately 42.7 km south to approximately 43.5 km south	P54 55J To 55J	798390 798400	7119980 7119300	• Gently undulating plain with incised channels of Roche Creek at north and south approximately 1.5 m deep and 8 m wide (paddocks to east similar) • Poplar box and belah with scattered wilga and false sandalwood and forest red gum along channels in wide road reserve • Paddocks to east cleared except for vegetation along stream channels and very limited regrowth • Geological unit: Ji (Jurassic Injune Creek Group) — Sandstone, siltstone, mudstone, coal, conglomerate but likely to be principally Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits likely (paddocks to east similar) • Grey and brown vertosols (paddocks to east similar)	• Wide road reserve to east of road apparently associated with former road route • Northern stream channel has scoured out west (downstream) of box culvert indicating culvert is too small — southern channel and culvert are similar • Apparently stable crossing point for pipeline on northern channel just east of road • <i>Telstra underground cable appears to be in road reserve on eastern side</i> • Plates Pipeline 62, 63, 64

Location or Pipeline Segment and Traverse (Figure ##)	Way Point and UTM Position Zones	Easting	Northing	Topography, Vegetation, Geology and Soils	Notes on Route and Adjacent Land
Segment 22 Road Traverse 2 Approximately 43.5 km south to approximately 50.7 km south	55J past P55 55J past P56 55J past P57 55J to 55J	798400 798170 797820 796200 793700	7119300 7118610 7117360 7115720 7113800	- Road reserve gently undulating rises and occasionally undulating low hills - Paddocks to east gently undulating rises and undulating low hills - Road reserve extensively cleared but regrowth and remnants are: - Brigalow and occasional belah and whitewood to approximately 4.1 km into segment - Brigalow and occasional narrow-leaved bottle trees from approximately 4.1 km into segment to approximately 4.5 km into segment - Brigalow with occasional belah, wilga and false sandalwood from approximately 4.5 km into segment to approximately 6.8 km into segment - Poplar box and brigalow from approximately 6.8 km into segment to end of segment - Paddocks to east almost completely cleared except for occasional brigalow regrowth along fences and contour banks - Geological unit: Ji (Jurassic Injune Creek Group) — Sandstone, siltstone, mudstone, coal, conglomerate (paddocks to east similar) - Brown, grey and dark vertosols with small amounts of stone and pebble in some areas with some chromosols and sodosols (paddocks to east similar)	- Drainage lines were identified crossing road reserve at: - Approximately 2.8 km into segment (east to west) - Approximately 5.3 km into segment (east to west) - Paddocks to east similar drainage - Property access to east with cattle loading race discharging onto road reserve approximately 0.7 km into segment - May be former road alignment east of present road approximately 1.6 km into segment - May be former road alignment west of present road approximately 3.7 km into segment - Two power lines and transformer in the road reserve approximately 2.0 km into segment with Single Wire Earth Return (SWER) line extending down road reserve to approximately 4.3 km into segment - Telecommunications tower approximately 70 m east of road reserve and property entry to east of road at approximately 4.3 km into segment (SWER line ends here) <i>Telstra underground cable appears to be in road reserve to east up to approximately 4.3 km into segment, then to west</i> Plates Pipeline 65, 66, 67, 68, 69
Segment 23 Road Traverse 2 Approximately 50.7 km south to approximately 51.8 km south (end of route at Leichhardt Highway)	55J to 56J	793700 792900	7113800 7113230	- Road reserve gently undulating plain (paddocks to east similar) - Road reserve extensively cleared except for: - Forest red gum and poplar box along drainage lines - Occasional poplar box remnants - Little-disturbed poplar box, belah, wilga, false sandalwood and whitewood from approximately 0.8 km into segment to end of segment - Paddocks to east similar vegetation and clearing to road reserve - Geological unit: Qa (Quaternary alluvium) — Clay, mud, silt, sand, gravel; mainly stream-channel and floodplain deposits likely (paddocks to east similar) - Brown, yellow and grey sodosols and chromosols with occasional brown or grey vertosols	- Drainage line crosses road reserve and paddocks to east at start of segment (east to west, may be an anabranch of Juandah Creek) - Cattle yards to east of road reserve approximately 0.2 km into segment - Extensive reserve from approximately 0.8 km into segment to end of segment <i>Telstra underground cable appears to be in road reserve to west for most of segment but cables are marked to east and west approximately 0.5 km into segment</i> Plates Pipeline 70, 71, 72

Note 1. Grid references in italics were taken from 1:100,000 topographic maps printed in 1972, other grid references were taken by Global Positioning System

PIPELINE ROUTE PLATES



Plate Pipeline 1. Narrow uncleared strip along Cockatoo Creek in the vicinity of pumping station site with cleared levee backslope



Plate Pipeline 2. Cockatoo Creek from levee crest in the vicinity of pumping station site looking down steep bank rising more than 3 m from Glebe Weir current FSL



Plate Pipeline 3. View from approximate location of pumping station on Cockatoo Creek levee north-east along pipeline route in Segment 1



Plate Pipeline 4. Pipeline route east of boundary between Lot 14 CP FT1 and Lot 3 CP FT733 in Segment 4 running parallel to lightly timbered drainage line in middle distance



Plate Pipeline 5. Pipeline route in Segment 5 showing poplar box, occasional brigalow and vine scrub species and clay soils (56J 212690E 7173010N)



Plate Pipeline 6. Pipeline route in Segment 6 showing occasional brigalow and poplar box in paddock on left in the distance (56J 212740E 7171440N)



Plate Pipeline 7. Pipeline route in Segment 7 showing occasional narrow-leaved bottle trees in the road reserve, cleared strip in paddock and patch of vine thicket (56J 213070E 7168030N)



Plate Pipeline 8. View down slope into pipeline Segment 8 showing brigalow regrowth in road reserve and cleared paddock to east (56J 213050E 7167250N)



Plate Pipeline 9. Pipeline Segment 8 showing brigalow regrowth with poplar box at southern end (56J 213210E 7166460N)



Plate Pipeline 10. Ironstone in small quarry / cutting at the southern end of Segment 8 (56J 213290E 7166220N)



Plate Pipeline 11. First drainage line in Segment 9 showing poplar box and brigalow and in foreground and occasional poplar box in middle distance (56J 213290E 7166220N)



Plate Pipeline 12. Centre portion of Segment 9 showing occasional poplar box in road reserve and clearing and rising ground in the paddock to the east (56J 213580E 7165430N)



Plate Pipeline 13. Drainage line at approximately 1.2 km into Segment 10 showing vegetation along drainage line and rising ground behind in paddock to the east (56J 213670E 7163750N)



Plate Pipeline 14. Brislow regrowth in road reserve with cleared paddock to east (extreme left) in Segment 10 (56J 213660E 7162220N)



Plate Pipeline 15. Poplar box regrowth in road reserve with more scattered regrowth in paddock to east in Segment 10 (56J 213700E 7161400N)



Plate Pipeline 16. Poplar box regrowth adjacent to road in Segment 11 with post from old fence near second tree from left and present fence in foreground (56J 213770E 7159710N)



Plate Pipeline 17. Little-disturbed poplar box community to east of fenced road reserve in Segment 12 with fence approximately 2 m from road (56J 213820E 7159200N)



Plate Pipeline 18. Road and road reserve in Segment 12 showing fence close to the road and little-disturbed poplar box community to east and wider reserve with scattered poplar box to west (56J 213900E 7158820N)



Plate Pipeline 19. Unnamed road to ease in Segment 12 showing continuation of little-disturbed poplar box community to east and scattered poplar box to west (56J 214070E 7158070N)



Plate Pipeline 20. Wide road reserve in Segment 13 with poplar box (fence post to right of second tree from left) and poplar box regrowth in paddock to east (56J 214070E 7157640N)



Plate Pipeline 21. Cockatoo Creek looking upstream (east) from bridge showing channel shape and vegetation (56J 213950E 7157430N)



Plate Pipeline 22. Cockatoo Creek looking downstream (west) from bridge showing dozed crossing (56J 213950E 7157430N)



Plate Pipeline 23. Left bank of Cockatoo Creek looking downstream showing nature of bridge and bridge railings (56J 213950E 7157430N)



Plate Pipeline 24. Road reserve just south of Cockatoo Creek in Segment 14 showing poplar box and occasional forest red gum and standing dead timber and vegetation on creek meander in paddock to east (56J 213800E 7157200N)



Plate Pipeline 25. Waterhole in road reserve in Segment 14 where floodway crosses road and drainage line in paddock to east impinges on road reserve, poplar box trunks in road reserve and standing dead timber in paddock to east (56J 213100E 7156330N)



Plate Pipeline 26. Junction of Nathan road and Cockatoo Road to west in Segment 14 showing poplar box in road reserve and cleared paddock to the east (56J 213020E 7156050N)



Plate Pipeline 27. Poplar box in road reserve in Segment 15 with shallow cut with sandstone at approximately 0.9 m on western side — paddock to east almost completely cleared (56J 212830E 7154690N)



Plate Pipeline 28. Poplar box and carbeen in road reserve in Segment 15 with relatively narrow margin to east with paddock to east extensively cleared — Sandstone outcrop on rise in extreme right (56J 212870E 7153920N)



Plate Pipeline 29. Property entry with scattered poplar box and narrow-leaved ironbark in wide road reserve in Segment 15 and clump of eucalypts in paddock to east (56J 212800E 7153290N)



Plate Pipeline 30. Poplar box and forest red gum in drainage line with concrete floodway in road reserve in Segment 15 — paddock to east extensively cleared and brigalow to west of road in background (56J 212220E 7152010N)



Plate Pipeline 31. Poplar box with occasional narrow leaved ironbark in road reserve in foreground with wilga in background in Segment 15 — paddock to east extensively cleared (56J 212010 7151330N)



Plate Pipeline 32. White cypress and silver-leaved ironbark on a sandstone rise with deep sandy soils in Segment 15 — borrow ditch between scattered trees in foreground and denser community in background



Plate Pipeline 33. Poplar box with dense stand of wilga in road reserve in Segment 15 (paddock to east noted as cleared) (56J 211300E 7149800N)



Plate Pipeline 34. Pole-mounted power transformer in wide road reserve in Segment 15 (56J 311030E 7149260N)



Plate Pipeline 35. Buried pipeline carrying farm supplies across road reserve with poplar box, blue gum and occasional narrow-leaved ironbark in road reserve in Segment 15 and Mayne Creek with little-disturbed timber in paddock to east (56J 210930E 7149530N)



Plate Pipeline 36. Silver-leaved ironbark in road reserve in Segment 15 with unidentified eucalypt, possibly Dawson gum, in paddock to east — depression in paddock appears to be channel of Mayne Creek (56J 210600E 7148530N)



Plate Pipeline 37. Forest red gum, poplar box and silver-leaved ironbark in sandy drainage line crossing road reserve in Segment 15 (56J 210610E 7147890N)



Plate Pipeline 38. Deep gully immediately adjacent to road in wide road reserve in Segment 15 with poplar box and narrow leaved ironbark — paddock to east of road reserve is cleared (56J 210230E 7147120N)



Plate Pipeline 39. Dam in paddock to east immediately adjacent to road reserve in Segment 16 — Poplar box and wilga vegetation (56J 210080E 7146750N)



Plate Pipeline 40. Narrow-leaved ironbark with occasional brigalow and poplar box — gully parallel to road just visible in front of shrubs in middle ground in Segment 16 (56J 209570E 7145880N)



Plate Pipeline 41. Shallow texture contrast soil (chromosol or sodosol) over sandstone carrying narrow-leaved ironbark in Segment 16 (56J 209030E 7144760N)



Plate Plate 42. Brigalow (principally regrowth) and Dawson gum on a shallow texture contrast soil (chromosol or sodosol) over sandstone in Segment 16 (56J 208800E 7144500N)



Plate Pipeline 43. Brigalow adjacent to junction of road to east in Segment 16 (56J 208810E 7143810N)



Plate Pipeline 44. Very shallow texture contrast soil over sandstone in cutting running down slope in Segment 16 (56J 208500E 7143400N)



Plate Pipeline 45. Poplar box and wilga in road reserve in Segment 17 (56J 207850 E 7141910N)



Plate Pipeline 46. Gully crossing road with scattered poplar box in road reserve in Segment 17 and generally cleared paddock to east(56J 207180E 7139150N)



Plate Pipeline 47. Entry to property and associated feedlot with poplar box in road reserve in Segment 17 and cleared paddock to east (56J 207180E 7139150N)



Plate Pipeline 48. Road causeway at Bungaban Creek showing forest red gum and rough-barked apple and narrow gap between large forest red gums and road (56J 206870E 7138470N)



Plate Pipeline 49. Bungaban Creek just upstream of causeway showing rock at water's edge in shadow and upstream and elevated left bank (56J 206870E 7138470N)



Plate Pipeline 50. Elevated left bank of Bungaban Creek showing sandstone outcrop in centre just below grass line on horizon (56J 206870E 7138470N)



Plate Pipeline 51. Right bank on Bungaban Creek downstream of road crossing showing terrace level and eroded, unstable area (56J 206870E 7138470N)



Plate Pipeline 52. Cutting on left bank on southern side of Bungaban Creek showing sandstone sloping down from right to left and overlain by alluvium (56J 206870E 7138470N)



Plate Pipeline 53. Silver-leaved ironbark in road reserve just south of Bungaban Creek in Segment 18 showing deep-surfaced chromosol overlying sandstone (56J 206870E 7138470N)



Plate Pipeline 54. Poplar box with some false sandalwood and wilga in road reserve in Segment 18 with cleared paddock to east (56J 206260E 7136600N)



Plate Pipeline 55. Property entry showing narrow section of road reserve, brigalow regrowth with some Dawson gum in road reserve in Segment 19 and scattered regrowth in paddock to east (56J 206000E 7135950N)



Plate Pipeline 56. Bullock Creek east from road reserve showing forest red gum and silver-leaved ironbark and shallow brown chromosol or sodosol over sandstone (56J 203600E 7133340N)



Plate Pipeline 57. Bullock Creek showing broad, relatively shallow channel east of road, concrete causeway and forest red gum and silver-leaved ironbark (56J 203600E 7133340N)



Plate Pipeline 58. Road junction south of Bullock Creek showing poplar box and silver-leaved ironbark in road reserve in Segment 20 and cleared paddock to east (56J 203290E 7132990N)



Plate Pipeline 59. Narrow road reserve to east in Segment 20 with grassed gully between road and fence — looking towards poplar box and silver-leaved ironbark along Stakeyard Creek (56J 202200E 7130890N)



Plate Pipeline 60. Brigalow, principally regrowth, in road reserve in Segment 20 and as a thin strip along the fence line in paddocks to east with most of paddocks cleared (56J 200910E 71248490N)



Plate Pipeline 61. Cleared paddock to east with poplar box, false sandalwood and occasional belah in road reserve in Segment 20 with power pole east of road and transformer poles to west (55J 798430E 7120750N)



Plate Pipeline 62. Northern channel of Roche Creek in Segment 21 showing forest red gum and poplar box and apparently stable crossing point for pipeline (55J 798390E 7119980N)



Plate Pipeline 63. Roche Creek in Segment 21 west of box culvert on northern channel showing scouring and bank erosion (55J 798390E 7119980N)



Plate Pipeline 64. Alluvial plain between two channels of Roche Creek in Segment 21 showing poplar box and poplar box and belah in background (55J 798390E 7119900N)



Plate Pipeline 65. Cattle loading race discharging onto road reserve adjacent to property entry in Segment 22 with paddocks to east almost completely cleared (55J 798170E 7118610N)



Plate Pipeline 66. Small amounts of brigalow regrowth and brigalow in road reserve in Segment 22 and adjacent paddocks almost completely cleared (55J 798170E 7118610N)



Plate Pipeline 67. Power lines crossing road reserve in Segment 22 with line poles and transformer pole in road reserve (55J 797820E 7117360N)



Plare Pipeline 68. Mail box at property entry and telecommunications tower to east of road reserve in Segment 22 (55J 796200E 7115720N)



Plate Pipeline 69. Narrow leaved bottle tree and brigalow at southern end of SWER line adjacent to telecommunications tower in Segment 22 (55J 796200E 7115720N)



Plate Pipeline 70. Almost completely cleared road reserve with occasional poplar, extensively cleared paddock to east and Telstra underground cable to east of road in Segment 23 (55J 793400E 7113400N)

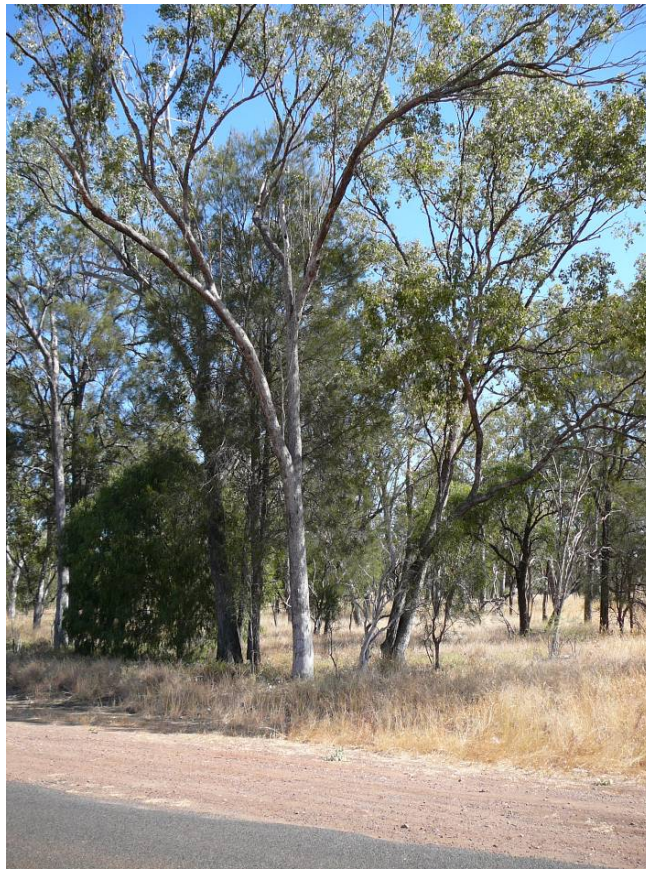


Plate Pipeline 71. Poplar box and belah on alluvial plain in extensive reserve at southern end of pipeline route in Segment 23 (55J 792900E 7113230N)



Plate Pipeline 72. Forest red gum and wilga adjacent to Juandah Creek just west of Leichhardt Highway at end of pipeline route in Segment 23 (55J 792900E 7113230N)