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**Queensland
Government**

Department of
Main Roads

ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND
SYMBOLS REFER FORM F:GEOT 017/5-2009

BOREHOLE No BH061

SHEET 1 of 2

REFERENCE No H10625

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION

LOCATION Cut 25 COORDINATES 481204.7 E; 7080898.9 N

PROJECT No FG5825 SURFACE R.L. 109.88m PLUNGE DATE STARTED 1/9/09 GRID DATUM MGA94

JOB No 128/10A/901 HEIGHT DATUM AHD BEARING DATE COMPLETED 1/9/09 DRILLER R & D Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD () %	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0	109.88					Gravelly SILT Mottled brown, dry.	MLG					Driller's records only	
109.38					A	PHYLLITE (XW) Generally exhibits engineering properties of mottled brown, dry, gravelly clayey SILT.	XW					8,10,14 N=24	SPT
108.38					B	PHYLLITE (HW) Generally exhibits engineering properties of mottled brown, dry to moist, hard gravelly SILT and gravelly CLAY. Becoming low strength rock in parts.	HW					30/120,30/100 N>50	SPT
					C	Quartz seams throughout.						30/80 N>50	SPT
106.88			(0)			Brecciated / sheared zones throughout.							
			(0)			PHYLLITE (MW) Pale brown, fine grained.							
			100	(0)		Strongly foliated, typically dipping at 40°-45°. Some kinking in foliation.							
			74	(0)		Defects generally medium spaced. Defects typically dipping with foliation and are open or closed. Defect planes are typically clay infilled or iron stained.							
			85	(0)		Prominent clayey brecciated zones in parts.							
			100	(10)									
			100	(17)		Detailed defect descriptions are shown on form GEOT 533/8 attached.							
			100	(42)									
			100	(11)		8.80-9.20m High strength band.							
10						(See over)							

REMARKS Detailed defect descriptions are shown on Form GEOT533/8 attached.

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ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/5-2009

BOREHOLE No BH061

SHEET 2 of 2

REFERENCE No H10625

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION

LOCATION Cut 25 COORDINATES 481204.7 E; 7080898.9 N

PROJECT No FG5825 SURFACE R.L. 109.88m PLUNGE DATE STARTED 1/9/09 GRID DATUM MGA94

JOB No 128/10A/901 HEIGHT DATUM AHD BEARING DATE COMPLETED 1/9/09 DRILLER R & D Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH							DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS		
									EH	VH	H	M	J	V	EL					20	60
10	99.88					PHYLLITE (MW) (Cont'd)	MW											Shear / brecciated zone with crushed quartz seam	Is(50) = 0.43MPa x		
11			100 (0)																	Shear / brecciated zone	
12			93 (0)																		
13	96.55		100 (0)																		Shear / brecciated zone with quartz and clay seams
13.33			100			Borehole terminated at 13.33m															
14																					
15																					
16																					
17																					
18																					
19																					
20																					

REMARKS Detailed defect descriptions are shown on Form GEOT533/8 attached.

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Project: Bruce Highway Upgrade (Cooroy – Curra) Section A

Borehole No: **BH61**

Start Depth: 3.00m

Finish Depth: 13.33m

Project No: FG5825

H No: 10625



SCALE 1:5

F:GEO043/1

Project: **Bruce Highway Upgrade (Cooroy – Curra) Section A**

Borehole No: **BH61**

Start Depth: 3.00m

Finish Depth: 13.33m

Project No: FG5825

H No: 10625



SCALE 1:5

F:GEOT043/1

DEFECT DESCRIPTIONS OF ENGINEERING BORELOGS

[CHARACTERISATION OF DEFECTS ARE IN ACCORDANCE WITH
GEOTECHNICAL TERMS AND SYMBOLS - FORM : GEOT 017/5 - 2009

BOREHOLE NO.: BH61
SHEET: 1 of 3
REFERENCE NO.: H10625

PROJECT: Bruce Highway (Cooroy – Curra) Section A Geotechnical Investigation

LOCATION: Cut 25

PROJECT NO.: FG5825 **SURFACE R.L.:** 109.9 **DRILLER:** R & D Drilling

JOB NO.: 128/10A/901 **DATUM:** AHD **DATE DRILLED:** 01/09/09

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
3.04	PI	80	PI	-	C	Ci	120mm layer
3.12	PI	65	PI	-	C	Ci	gravelly
3.12-3.51	Ws	-	-	-	-	-	Clay seam and crushed quartz
3.51	Jt	60	PI	-	C	Ci	
3.57	Jt	10	Un	S	O	Ci	
3.61-4.07	Ws	-	-	-	-	-	Gravelly clay
4.2-4.57	Ws	-	-	-	-	-	Gravelly clay
4.41	Jt	10	PI	-	C	Ci	5mm thick
4.5	Jt	70	PI	-	C	Ci	100mm thick
4.56	Jt	20	PI	S	O	Ci	
4.65	Jt	40	PI	S	O	Ci/FeSt	
4.84	Jt	40	PI	S	O	Ci	
4.99	Jt	30	PI	S	O	Ci	
5.03	Jt	20	PI	S	O	MnSt	
5.06	Jt	50	PI	-	C	Ci	
5.12	Jt	40	PI	S	O	Cn	
5.2	Jt	40	PI	-	C	Ci	
5.2	Jt	55	PI	S	O	Ci	

Abbreviations (as per F: GEOT 017/5 - 2009)

ROUGHNESS		WALL ALTERATIONS		TYPE		OTHER	
R	Rough	FeSt	Iron Stained	J, Js	Joint, Joints	Ci	Clay Infill
Sr	Slightly Rough	W	Weathered	B	Bedding	CLy	Clayey
S	Smooth	Smn	Secondary Mineralisation	BP	Bedding Parting	Co	Coal Seam
SL	Slickensided	Cn	Clean	FP	Foliation Parting	Carb	Carbonaceous
PO	Polished	MnSt	Manganese Stained	LP	Lamination Parting	SI	Sand Infill
PLANARITY		APERTURE		CLV	Cleavage	QZ	Quartz
PI	Planar	C	Closed	Fr	Fracture	CA	Calcite
St	Stepped	O	Open	SZ	Sheared Zone	Chl	Chlorite
Un	Undulating	F	Filled	CZ	Crushed Zone	In	Incipient
Cu	Curved	T	Tight	BZ	Broken Zone	Int	Intersecting
Ir	Irregular			HFZ	Highly Fractured Zone	Lam (s)	Lamination (s)
				WS	Weathered Seam	Di	Drilling Induced
				Vn	Vein	H	Horizontal
						V	Vertical

NOTE: This sheet should be read in conjunction with appropriate Engineering Borelog. Defect angles were measured with respect to horizontal plane.

BOREHOLE NO.:	BH61
SHEET:	2 of 3
REFERENCE NO.:	H10625

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
5.24	Jt	35	Pl	S	O	FeSt	
5.32	Jt	20	Pl	-	C	Ci	5mm thick
5.39	Jt	30	Pl	S	O	Cn	
5.49	Jt	50	Pl	S	O	Ci	
5.49	Jt	40	Pl	-	C	Ci	
5.53	Jt	60	Pl	S	O	Ci	
5.5	Jt	40	Pl	S	O	Ci	
5.61	Jt	50	Pl	-	C	Ci	60mm thick
5.65	Jt	70	Pl	-	C	Ci	100mm thick
5.77	Jt	40	Pl	-	C	Ci	
5.86	Jt	70	lr	S	O	MnSt	
6.0	Jt	45	Pl	S	O	MnSt	
6.15	Jt	20	Pl	S	O	MnSt	
6.18	Jt	10	lr	S	O	MnSt	
6.26	Jt	75	Pl	S	O	Ci	
6.33	Jt x 2	40/90	Pl		O/C	Ci	150mm long (90)
6.49	Jt	40	Pl	S	O	MnSt	
6.52	Jt	30	Pl	-	C	Ci	
6.7	Jt	40	Pl	S	O	MnSt	
6.73	Jt	55	Pl	-	C	Ci	
6.77	Jt	65	Pl	S	O	MnSt	
6.86 – 6.9	Ws	-	-	-	-	-	Clayey gravel
6.9	Jt	80	Pl	S	O	Ci	
7.04	Jt	70	Pl	Sr	O	Ci	
7.07-7.12	Ws	-	-	-	-	-	Gravelly clay
7.15	Jt	50	Pl	-	C	Ci	
7.18	Jt	10	Pl	S	O	Ci	
7.19	Jt	65	lr	-	C	Ci	
7.25	Jt	20	Pl	S	O	Ci	
7.31	Jt	10	Pl	-	C	Ci	
7.7	Jt	30	lr	R	O	MnSt	
7.77	Jt	30	Pl	-	C	Ci	
7.85	Jt	30	lr	R	O	MnSt	
8.05	Jt	30	Pl	S	O	MnSt	
8.10	Jt	25	Pl	S	O	MnSt	
8.1	Jt	80	Cn	Sr	C	Ci	150mm thick
8.18	Jt	20	Pl	S	O	Ci	
8.36	Jt	50	Pl	-	C	MnSt	
8.38	Jt	40	Pl	S	O	MnSt	
8.5	Jt	40	Pl	S	O	Ci	
8.53	Jt	30	Pl	R	O	Ci/MnSt	
8.63	Jt	10	Un	R	O	Ci/MnSt	
9.03	Jt	40	Pl	Sr	O	MnSt	
9.16	Jt	40	Pl	-	C	MnSt	
9.29	Jt	65	Pl	S	O	MnSt	
9.4	Jt	40	lr	Sr	O	MnSt	
9.56	Jt	20	lr	S	O	MnSt	
9.62	Jt	50	Pl	-	C	Ci	
9.68	Jt	10	Pl	-	C	Ci	5mm thick
9.7	Jt	10	Pl	S	O	Ci/MnSt	
9.74	Jt	20	Pl	S	O	MnSt	
9.78	Jt	30	Pl	S	O	MnSt	
9.82	Jt	30	Pl	S	O	MnSt	
9.87	Jt	20	Pl	-	C	Ci	5mm thick
10.05	Jt	40	Pl	S	O	MnSt	
10.10	Jt	40	Pl	-	C	Ci	

BOREHOLE NO.:	BH61
SHEET:	3 of 3
REFERENCE NO.:	H10625

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
10.5	Jt	90	Cu	-	C	Cl	
10.16	Jt	10	Pl	-	C	Cl	
10.23	Jt	10	Pl	Sr	O	FeSt	
10.3	Jt	45	Pl	S	O	Cl/FeSt	
10.33-10.41	QZ	90	lr	-	-	-	Crushed
10.5	Jt	70	Pl	-	C	Cl	
10.5-10.62	Ws						
10.91-10.98	QZ	40	lr				
11.33	Jt	10	lr	R	O	FeSt	
11.38	Jt	20	lr	R	O	FeSt/MnSt	
11.46	Jt	40	Pl	-	C	Cl	
11.55-11.66	Cz						Quartz gravels
11.77	Jt	10	Pl	-	C	MnSt	
11.83	Jt	50	Pl	-	C	Cl	
11.91-11.95	Ws	-	-	-	-	-	Gravelly clay
11.98	Jt	20	Pl	S	O	Cl	
12.06-12.08	Ws						Clay seam
12.13	Jt	10	Pl	-	C	Cl	5mm thick
12.18	Jt	20	Pl	O	C	Cl	10mm thick
12.23	Jt	20	Pl	S	O	Cl	
12.36	Jt	10	lr	-	C	Cl	
12.46	Jt	10	lr	-	C	Cl	
12.54	Jt	30	Pl	-	C	Cl	
12.6	Jt	40	Pl	-	C	Cl	
12.7	Jt	10	Pl	-	C	Cl	
12.74-12.8	QZ						Crushed
12.82-12.95	Ws						Gravelly Clay
13.02	Jt	40	Pl	-	C	Cl	
13.04	Jt	10	Pl	-	C	Cl	18mm thick
12.2-13.22	QZ	10					Crushed zone
13.22-13.33	Ws						Broken zone of gravelly clay