Queensland Government
Department of Main Roads

ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH018
SHEET 1 of 2
REFERENCE No H10579

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION
LOCATION Cut 10 COORDINATES 486802.4 E; 7080871.3 N
PROJECT No FG5825 SURFACE R.L. 132.71m PLUNGE DATE STARTED 21/7/09 GRID DATUM MGA94
JOB No 128/10A/901 HEIGHT DATUM AHD BEARING DATE COMPLETED 21/7/09 DRILLER Geodrill

DEPTH (m)	R.L. (m)	AUGER / CASING / CORE DRILLING	RQD ( )% CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (mm) (20 60 200 600 2000)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
0	132.71				**Silty CLAY (RESIDUALI)** Mottled red and grey, moist, firm to very stiff.									
				A	Crumbly texture from iron staining.							1,2,2 N=4		SPT
1														
				B			(CI)					2,4,5 N=9		SPT
2														
				C	2.5m: Becoming very stiff with depth.							5,7,12 N=19		SPT
3														
	129.21			D	**PHYLLITE (HW):** Mottled red, fine grained, foliated.							12,19,30 N=49		SPT
4			(0)		Foliations dip at <10°.							Broken core		
			100		Defects are generally very closely spaced.							Clay seam and quartz veins.		
			(0)		Prominent defect set parallel to foliation.									
5					Defect surfaces are typically clay infilled.							Crushed zone		
			100		Occasional quartz inclusions; clay seams up to 70mm.			HW				Quartz vein Clay seam Clay seam		
			(0)											
6					**Detailed defect descriptions are shown on Form GEOT533/8 attached.**							Clay seam		
			100									Clay seam and broken quartz veins		
	126.01		(0)											
			100		**ANDESITE (MW):** Dark grey, fine grained, hard, heavily altered.									
7			(0)		Heavily jointed, small vesicles throughout.							Is(50) = 0.32MPa		o
					Defects are generally very closely to closely spaced, irregular and iron stained.							Is(50) = 0.48MPa		o
8			100		Corestone development throughout.									
			(0)					MW				Is(50) = 0.60MPa		o
					Detailed defect descriptions are shown on Form GEOT533/8 attached.							Is(50) = 0.85MPa		x
9														
			100									Quartz gravels, possible fall in		
10			(0)											

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

LOGGED BY JA

QLD_DMR_LIB_01.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY FG5825 BRUCE HWY COOROY-CURRA SECTION A BHS.GPJ DWG935012.GDW Datgel CPT Tool gINt Add-In 12/05/2010 10:29

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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH018
SHEET 2 of 2
REFERENCE No H10579

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION
LOCATION Cut 10 COORDINATES 486802.4 E; 7080871.3 N
PROJECT No FG5825 SURFACE R.L. 132.71m PLUNGE ____ DATE STARTED 21/7/09 GRID DATUM MGA94
JOB No 128/10A/901 HEIGHT DATUM AHD BEARING ____ DATE COMPLETED 21/7/09 DRILLER Geodrill

DEPTH (m)	R.L. (m)	AUGER / CASING / CORE DRILLING	RQD ( )% / CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (mm) (20 60 200 600 2000)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
10	122.71				**ANDESITE (MW):** (Cont'd) 10.8m: Shallow dipping, clean contact.			MW				Is(50) = 0.70MPa Clay seam Clay seam		o
	121.91				**PHYLLITE (MW):** Brown to slightly green, fine grained, foliated.			MW						
11	121.51		100 (0)		**PHYLLITE (HW):** Light brown to slighlty green, fine grained, clay seams throughout.			HW				Quartz vein		
	120.91		100 (0)		**PHYLLITE (MW):** Green to brown, fine grained,foliated. Foliations dip at 20°. Defects are generally closely spaced. Prominent defect set parallel to foliation			MW				Clay seam **Detailed defect descriptions are shown on Form GEOT533/8 attached.** Is(50) = 0.35MPa		o
12	119.71		100		Defect surfaces are typically iron stained. Borehole terminated at 13m							Clay seam		
13														
14														
15														
16														
17														
18														
19														
20														

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

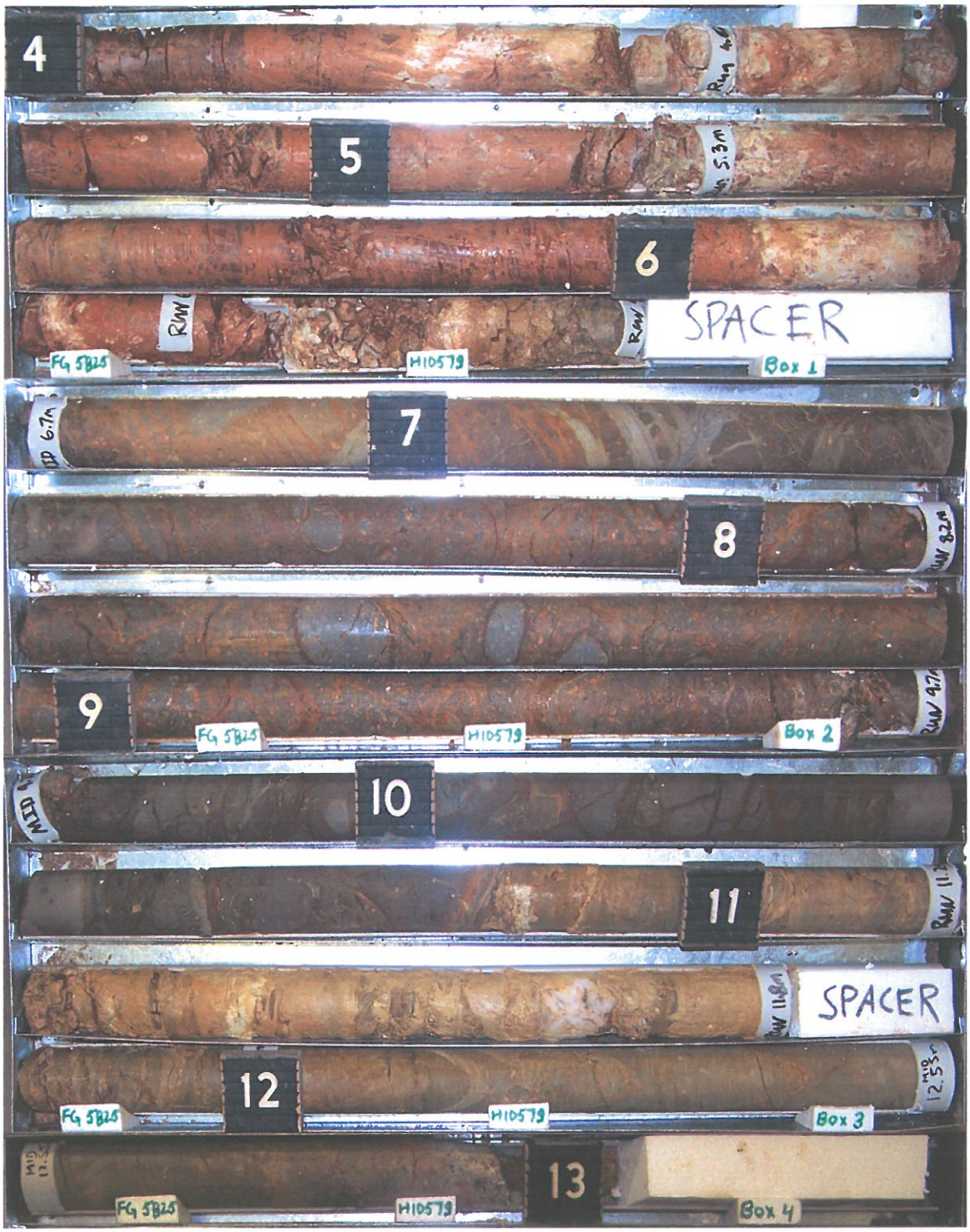
LOGGED BY JA

QLD_DMR_LIB_01.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY FG5825 BRUCE HWY COOROY-CURRA SECTION A BHS.GPJ DWG95012.GDW Datgel CPT Tool gINt Add-In 12/05/2010 10:29

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

Borehole No: **BH18**

Start Depth: 4.00m
Finish Depth: 13.00m
Project No: FG5825
H No: 10579



0 100 200 300 400 500 600mm

SCALE 1:5

F:GEOT043/1

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DEFECT DESCRIPTIONS OF ENGINEERING BORELOGS

[CHARACTERISATION OF DEFECTS ARE IN ACCORDANCE WITH ISRM SUGGESTED METHODS (1981)]

BOREHOLE NO.:	BH18
SHEET:	1 of 3
REFERENCE NO.:	H10579

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

LOCATION: Cut 10

PROJECT NO.:	FG5825	**SURFACE R.L.:**	132.7	**DRILLER:**	GeoDrill
JOB NO.:	120/10A/901	**DATUM:**	MGA94	**DATE DRILLED:**	21/07/09

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
4.13	J	10°	Pl	S	O	FeSt	
4.17	J	10°	Pl	S	O	FeSt	
4.24	J	10°	Pl	S	O	FeSt	
4.71	J	10°	Pl	S	O		Cl
4.75	J	10°	Pl	S	O	FeSt	
4.81	J	10°	Pl	S	O	FeSt	
5.87	J	10°	Pl	S	O	FeSt	
5.97	J	10°	Pl	S	O	FeSt	
6.39	J	10°	Pl	S	O	FeSt	
6.73	J	10°	Pl	S	O	FeSt	
6.76	J	10°	Pl	S	O	FeSt	
6.78	J	10°	Ir	SR	O	FeSt	
6.84	J	60°	Pl		C		
6.9	J	60°	Pl		C		
6.98	J	60°	Pl		C		
7.11	J	20°	Pl		C	FeSt	
7.12	J	20°	Pl		C	FeSt	
7.13	J	20°	Pl		C	FeSt	

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

ROUGHNESS		WALL ALTERATIONS		TYPE		OTHER	
R	Rough	FeSt	Iron Stained	J, Js	Joint, Joints	Cl	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	Sl	Sand Infill
PLANARITY		**APERTURE**		CLV	Cleavage	QZ	Quartz
Pl	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.

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BOREHOLE NO.:	BH18
SHEET:	2 of 3
REFERENCE NO.:	H10579

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
7.16	J	20°	Pl		C	FeSt	
7.25	J	20°	Pl		C	FeSt	
7.3	J	20°	Pl		C	FeSt	
7.35	J	20°	Pl		C	FeSt	
7.36	J	20°	Pl		C	FeSt	
7.41	J	30°	Pl		C	FeSt	
7.48	J	45°	Pl		C	FeSt	
7.55	J	30°	Pl		C	FeSt	
7.58	J	10°	Pl	SR	O	FeSt	
7.61	J	30°	Pl		C	FeSt	
7.66	J	20°	Pl		C	FeSt	
7.74	J	70°	Pl		C	FeSt	
7.81	J	20°	Pl		C	FeSt	
7.83	J	20°	Pl		C	FeSt	
7.9	J	10°	Pl	SR	O	FeSt	
8.01	J	60°	Pl		C	FeSt	
8.11	J	10°	Pl	R	O	FeSt	
8.16	J	10°	Ir	R	O	FeSt	
8.2	J	10°	Pl	SR	O	FeSt	
8.22	J	20°	Pl	SR	O	FeSt	
8.24	J	45°	Pl	SR	O	FeSt	
8.3	J	50°	Pl		C	FeSt	
8.35	J	10°	Pl	SR	O	FeSt	
8.39	J	30°	Pl		C	FeSt	
8.46	J	30°	Pl	SR	O	FeSt	
8.49	J	10°	Ir	R	O	FeSt	
8.51	J	30°	Pl		C	FeSt	
8.62	J	20°	Pl	SR	O	FeSt	
8.7	J	10°	Ir		C	FeSt	
8.73	J	50°	Pl		C	FeSt	
8.81	J	20°	Pl	SR	O	FeSt	
8.85	J	20°	Pl		C	FeSt	
8.97	J	60°	Pl		C	FeSt	
9.04	J	30°	Pl		C	FeSt	
9.12	J	40°	Pl		C	FeSt	
9.17	J	30°	Pl		C	FeSt	
9.24	J	50°	Pl		C	FeSt	
9.3	J	45°	Pl		C	FeSt	
9.37	J	45°	Pl		C	FeSt	
9.46	J	10°	Ir	R	O		Cl
9.52	J	20°	Pl		C		Cl
9.55	J	20°	Pl	SR	O	FeSt	
9.65	J	30°	Pl	R	O	FeSt	
9.75	J	30°	Pl		C	FeSt	
9.82	J	30°	Pl		C	FeSt	
9.89	J	30°	Pl		C	FeSt	
9.9	J	20°	Pl	SR	O	FeSt	
9.92	J	10°	Un	SR	O	FeSt	
9.93	J	20°	Pl	SR	O	FeSt	
10.1	J	40°	Ir	SR	O	FeSt	
10.19	J	20°	Pl		C	FeSt	
10.26	J	10°	Pl		C	FeSt	
10.28	J	20°	Pl		C	FeSt	
10.3	J	20°	Pl		C	FeSt	
10.36	J	10°	Pl		C	FeSt	
10.4	J	10°	Pl	SR	O		Cl
10.45	J	10°	Pl	SR	O	FeSt	

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BOREHOLE NO.:	BH18
SHEET:	3 of 3
REFERENCE NO.:	H10579

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
10.5	J	10°	Ir		C	FeSt	
10.71	J	60°	Pl		C	FeSt	
10.9	J	10°	Pl	S	O		Cl
11.06	J	45°	Pl		C		Cl
11.29	J	10°	Pl	S	O		Cl
11.46	J	10°	Pl	S	O		Cl
11.93	J	30°	Pl		C		Cl
11.95	J	20°	Pl		C		Cl
12.09	J	10°	Pl		C	FeSt	
12.24	J	20°	Pl		C	FeSt	
12.38	J	20°	Pl	S	O	FeSt	
12.58	J	20°	Pl	S	O	FeSt	
12.64	J	20°	Pl	S	O	FeSt	
12.75	J	10°	Pl	S	O	FeSt	
12.8	J	10°	Pl	S	O	FeSt	
12.96	J	30°	Pl	S	O	FeSt	
13	J	30°	Pl	S	O	FeSt	