Queensland Government
Department of Main Roads

ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH019
SHEET 1 of 2
REFERENCE No H10584

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION
LOCATION Embankment 10 COORDINATES 486637.0 E; 7080857.6 N
PROJECT No FG5825 SURFACE R.L. 119.30m PLUNGE DATE STARTED 22/7/09 GRID DATUM MGA94
JOB No 128/10A/901 HEIGHT DATUM AHD BEARING DATE COMPLETED 22/7/09 DRILLER Geodrill

DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / 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	119.30				**Sandy CLAY (TOPSOIL)** Brown, moist, firm.		(CL)						
	119.10				**Gravelly Sandy CLAY (ALLUVIAL)** Pale grey to red, moist, firm to stiff.								
				A	Fine to medium quartz gravels throughout.							2,3,1 N=4	SPT
1												▼ 22/07/09	
				B								2,3,5 N=8	SPT
2													
				C	2.5m: Becoming heavily iron stained and very stiff.		(CL)					8,10,11 N=21	SPT
3													
				D	3.8m: Increase in quartz fragments. Medium to coarse gravels.							8,12,15 N=27	SPT
4													
				E	4.5m: Becoming mostly pale grey with slight mottled orange iron staining.							14,10,12 N=22	SPT
5													
	113.80												
				F	**Clayey SILT (RESIDUAL)** Pale grey to brown, moist, very stiff.							9,12,14 N=26	SPT
6					Rock fabric visible in parts, traces of organics.		(ML)						
	112.80			G	Hard quartz layer at 6.5m.							30/150 N>50	SPT
					SILTSTONE (HW): Generally exhibits the engineering properties of pale grey to light brown, moist, clayey silt.								
7				H	Occasional coarse grained sand, fine gravels and quartz bands.		HW					18,30/140 N>50	SPT
8													
				J								21,30/145 N>50	SPT
	110.50												
9			(45)		**SILTSTONE (MW):** Pale orange to brown, fine grained,		MW					Is(50) = 0.06MPa	x
			100 (66)									Is(50) = 0.13MPa Is(50) = 0.13MPa	x o
10													

REMARKS

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DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / 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	109.30				**SILTSTONE (MW):** (Cont'd)		MW							
	108.72		100 (35)		**PHYLLITE (MW - SW):** Dark grey, fine grained, foliated. Foliations dip at ~10°. Defects are generally close to medium spaced. Defect sets dip at 20 and 40°. Defect surfaces are typically clean.		MW-SW					Is(50) = 0.14MPa	x	
12	106.40		70 (22) 100									Is(50) = 0.19MPa	x	
13					Borehole terminated at 12.9m									

REMARKS

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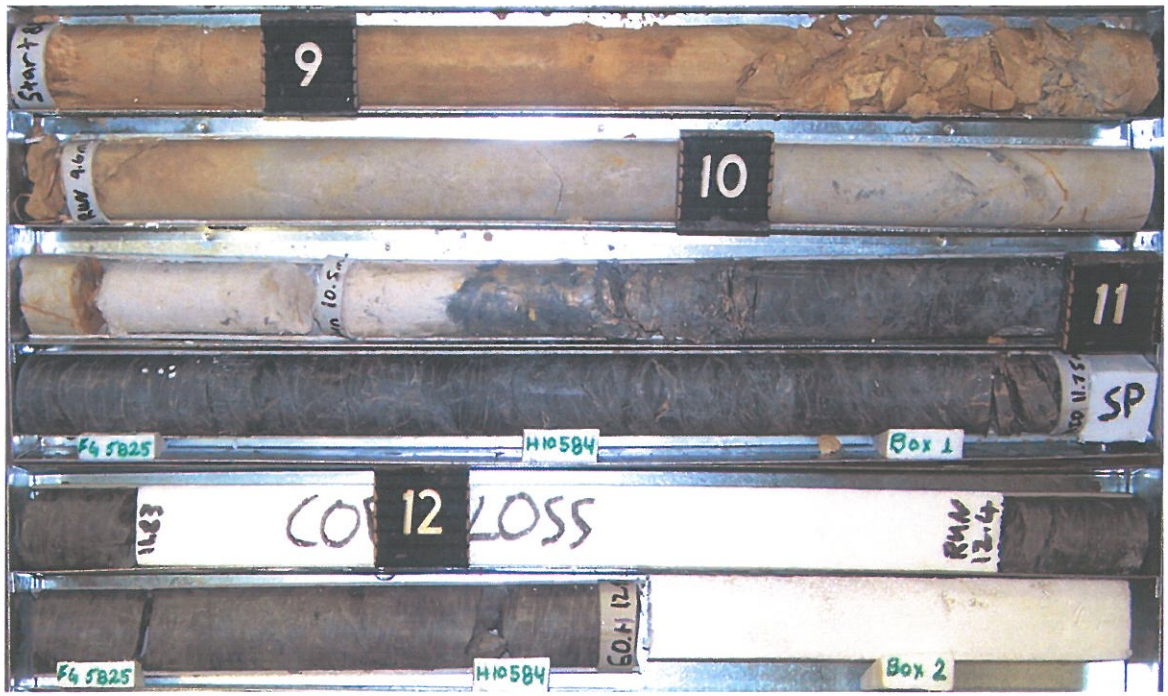
QLD_DMR_LIB_01.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY FG5825 BRUCE HWY COOROY-CURRA SECTION A BHS.GPJ DWG95012.GDW Datgel CPT Tool gINt Add-in 12/05/2010 10:29

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

Borehole No: **BH19**

Start Depth: 8.80m
Finish Depth: 12.9m
Project No: FG5825
H No: 10584



0 100 200 300 400 500 600mm

SCALE 1:5

F:GEOT043/1

GEOTECHNICAL BRANCH LABORATORY
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DEFECT DESCRIPTIONS OF ENGINEERING BORELOGS

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

BOREHOLE NO.:	BH 19
SHEET:	1 of 1
REFERENCE NO.:	H10584

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

LOCATION: Embankment 10

PROJECT NO.:	FG5825	**SURFACE R.L.:**	119.29	**DRILLER:**	Geodrill
JOB NO.:	128/10A/901	**DATUM:**	MGA94	**DATE DRILLED:**	22/07/09

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
8.93	J	35	Pl	S	O		Cn
9.17	J	35	Pl	S	O		Cn
9.29	J	50	Pl	SR	C		Cn
9.85	J	50	Pl	S	C		Cl, 2mm
10.06	J	15-20	Un	S	C	FeSt	
10.68	J	55	Pl	R	C		Crushed rock in defect
10.78	J	25	Un	R	C		Cn
11.31	J	25	Un	SR	C		Cn
11.39	J	20	Un	SR	C		Cn
11.46	J	50	Pl		C		
11.55	J	35	Pl	S	C		Cn
11.62	J	35	Un		C		
11.66	J	40	Un		C		
12.43	J	25	Pl	S	C		
12.61	J	55	Pl		C		In?

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.