Queensland Government
Department of Main Roads

ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH024
SHEET 1 of 2
REFERENCE No H10575

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION
LOCATION Cut 11 COORDINATES 486109.3 E; 7080870.5 N
PROJECT No FG5825 SURFACE R.L. 162.32m PLUNGE ____ DATE STARTED 15/7/09 GRID DATUM MGA94
JOB No 128/10A/901 HEIGHT DATUM AHD BEARING ____ DATE COMPLETED 15/7/09 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 (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	162.32				**Clayey SILT** Mottled red and brown, moist, firm. Organics throughout.		(ML)					2,2,3 N=5		SPT
1	160.82			A										
				B	**PHYLLITE (HW):** Generally exhibits the engineering properties of brown to slightly red, dry, hard, clayey silt.		HW					3,15,26 N=41		SPT
2	160.32		(28)		**PHYLLITE (MW):** Grey to slightly green, fine grained, foliated. Foliation is indistinct and disturbed. Defects are generally close to medium spaced. Defect sets dip at 10, 45 and 70°. Defect surfaces are typically clay infilled or iron stained. Occasional clay seams up to 100mm thick.									
3												Is(50) = 0.21MPa Is(50) = 0.42MPa		o x
			100 (7)				MW					Clay seam		
4												Clay seam Is(50) = 0.43MPa Is(50) = 0.56MPa		o x
5	157.28		100 (22)		**RHYOLITE (MW):** White to mottled orange, fine to medium grained, flow banded. Defects are generally close to medium spaced. Defect sets dip at 10, 45 and 70°. Defect surfaces are typically clay infilled or iron stained. Occasional clayey weathered bands. **Detailed defect descriptions are shown on Form GEOT533/8 attached.**							Zone of prominent clayey weathered bands Is(50) = 0.07MPa Is(50) = 0.09MPa		x o
6							MW					Is(50) = 1.34MPa		o
7			100 (14)									Prominent vertical defect with thick clay infilling Is(50) = 0.80MPa		x
8	154.45				**PHYLLITE (MW):** Grey to slightly green, fine grained, foliated. Foliation is indistinct and disturbed. Defects are generally medium spaced. Defect sets dip at 10, 45 and 70°. Defect surfaces are typically clay infilled or iron stained.							Is(50) = 0.11MPa Is(50) = 0.07MPa		o x
9			100 (49)				MW							
10												Is(50) = 0.33MPa		x

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 10:30

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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH024
SHEET 2 of 2
REFERENCE No H10575

PROJECT BRUCE HIGHWAY (COOROY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION
LOCATION Cut 11 COORDINATES 486109.3 E; 7080870.5 N
PROJECT No FG5825 SURFACE R.L. 162.32m PLUNGE DATE STARTED 15/7/09 GRID DATUM MGA94
JOB No 128/10A/901 HEIGHT DATUM AHD BEARING DATE COMPLETED 15/7/09 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 (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	152.32				**PHYLLITE (MW):** (Cont'd)		MW				Is(50) = 0.32MPa		o
	152.08				**RHYOLITE (MW):** (As above.)		MW						
	151.92				**PHYLLITE (MW - SW):** Grey to slightly green, fine grained, foliated.						Is(50) = 0.31MPa		o
11					Foliation is distinct and dips at ~30°.						Is(50) = 0.33MPa		x
					Defects are generally medium spaced.						Is(50) = 0.12MPa		x
					Prominent defect set dips parallel to foliation with another set at 70°.						Is(50) = 0.18MPa		o
12			100 (56)		Defect surfaces are typically clean or thinly clay infilled.		MW-SW						
					Detailed defect descriptions are shown on Form GEOT533/8 attached.						Is(50) = 0.33MPa		o
13											Is(50) = 0.45MPa		x
	148.66		100										
					Borehole terminated at 13.66m								
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 10:30

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

Borehole No: **BH24**

Start Depth: 2.00m
Finish Depth: 13.66m
Project No: FG5825
H No: 10575

0 100 200 300 400 500 600mm

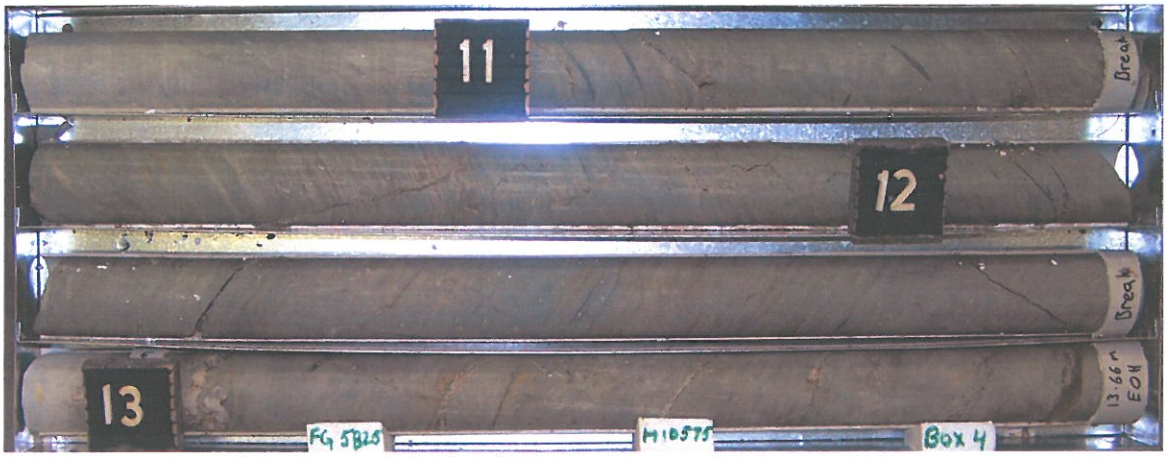
SCALE 1:5

F:GEOT043/1

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

Borehole No: **BH24**

Start Depth: 2.00m
Finish Depth: 13.66m
Project No: FG5825
H No: 10575



0 100 200 300 400 500 600mm

SCALE 1:5

F:GEOT043/1

GEOTECHNICAL BRANCH LABORATORY
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Queensland Government
Department of Main Roads

DEFECT DESCRIPTIONS OF ENGINEERING BORELOGS

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

BOREHOLE NO.:	BH24
SHEET:	1 of 2
REFERENCE NO.:	H10575

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

LOCATION: Cut 11

PROJECT NO.: FG5825 **SURFACE R.L.:** 162.31 **DRILLER:** R & D Drilling

JOB NO.: 128/10A/901 **DATUM:** MGA94 **DATE DRILLED:** 15/07/09

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
2.0 – 2.2	J	90	Pl	SR	O	FeSt	
2.2	J	10	Pl	SR	O	FeSt	
2.13 - 2.28	J	85	Pl	SR	O	FeSt	
2.25	FP	35	Pl	S	O	W	Cl
2.3 – 2.33	J	40	St	SR	O		Cl
2.36 – 3.44	Sz	35	Pl		C		
2.9 – 3.7	Sz	Disturbed foliations					
3.4 – 3.5	WS						
3.6 - 3.9	Cz	75			Cl up to 4mm	W	Cl & brecciated
4.1 – 4.3	Bz	Foliation Partings					
4.33 – 4.52	FP	70 – 80	Cu	S	C		Cl rootlets polished
4.53 – 6.0	Fr	70 – 90	Ir	R	C		Cl
4.6 – 4.8	FP	40	Pl		C		
4.8 – 4.95	Fr	80	Cu	R	O		Cn
5.05	B	0	Pl				
5.05 – 5.6	Bz	Typically 0					
5.6 – 6.1	Sz	Brecciated some secondary fractures					
6.5 – 6.6	Fr	90 – 40			C		QZ

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.

BOREHOLE NO.:	BH24
SHEET:	2 of 2
REFERENCE NO.:	H10575

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
6.6 – 7.0	Bz	0-35	Pl	SR	O	FeSt	
7.05 – 7.25	Bz	85	Cu		C		QZ/Vein
7.0 – 7.57	Sz	25	Pl	SM	O		Trace Cl
7.95	B	0-5	Un		C	W	
8.0 – 9.9	Fractured and disturbed / kinked foliatons						
8.56 – 8.6	J	45	Pl		C	Cl	
8.93 – 8.99	J	45	Pl	R	O	FeSt	Trace Cl
9.33 – 9.34	WS	0	Pl	SR	O (10mm)	Trace FeSt	Cl
9.65 – 9.8	F	70	Ir		C	Smn	
10.26	B	0	Pl	SR	O		Trace Cl
10.51	B	0	Pl	SR	C		
10.55 – 13.4	FP	35-60	Pl	SR	O	Cn	
11.54 – 11.7	J	70	Ir		C	Trace FeSt	
12.02	WS	20	Pl		C		Cl
13.09	QZ Vein -		IR				
13.16 – 13.2	J	85	Pl	SR	O	FeSt	
13.24 – 13.27	QZ Vein	45	Pl		C		
13.49 – 13.52	QZ Vein	30	Pl		C		
13.58- 13.6	QZ Vein	40	Pl		C		