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## 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 (COORDY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION										
										MGA94	
JOB No									R & D Drilling		
R.L.	R.L. (D) RQD			MATERIAL DESCRIPTION			INTACT DEFECT SPACING (mm)	П	ADDITIONAL DATA		
DEPT			MPLE			STHE	TT 00000		TEST RESUL	_TS	SAMPLES
0 162.32	REC %	SA	0.007	⊒ ⊔тно∟осу	S N	00000 W<-SI<	9			SA	
				Clayey SILT Mottled red and brown, moist, firm.			-				
[			A	Organics throughout.		(ML)	Ī		2,2,3 N=5		SPT
							<u>+</u> + +			11-5	-
160.82			В	PHYLLITE (HW): Generally exhibits the engineering	<b>₩</b>	HW				3,15,26 N=41	SPT :
160.32		(28)		properties of brown to slightly red, dry, hard, clayey silt.	~~ ~~						-
				PHYLLITE (MW): Grey to slightly green, fine grained, foliated.	<b>***</b>						-
-				Foliation is indistinct and disturbed.	~ ~ ~				le/F	50) = 0.21MPa	0 -
-3				Defects are generally close to medium spaced.	<b>***</b>					50) = 0.42MPa	x -
Ë		100		Defect sets dip at 10, 45 and 70°.	<b>***</b>	MW			☐– Clay seam		=
		(1)		Defect surfaces are typically clay infilled or iron stained.	<b>***</b>				☐ Clay seam		
-4				Occasional clay seams up to 100mm thick.	<b>***</b>					50) = 0.43MPa 50) = 0.56MPa	o d
E					<b>***</b>					,	4
457.00					$\stackrel{\sim}{\sim}$						1
_5 157.28		100 (22)		RHYOLITE (MW): White to mottled orange, fine to medium	V\				7		-
-				grained, flow banded.	\ \ \ \				Zone of Is(5	50) = 0.07MPa 50) = 0.09MPa	x -
-6				Defects are generally close to medium spaced.	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				weathered bands		-
-				Defect sets dip at 10, 45 and 70°.	\ \ \						
				Defect surfaces are typically clay infilled or iron stained.	\ \ \ \	MW			ls(5	50) = 1.34MPa	0 -
-7		100		Occasional clayey weathered bands.	\ \ \ \				Prominent vertical s(5	50) = 0.80MPa	x =
		(14)		Detailed defect descriptions are shown on Form GEOT533/8 attached.	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				clay infilling		
-					$\langle \vee \rangle$						-
- 8 154.45				PHYLLITE (MW): Grey to slightly green, fine grained, foliated.	$\overset{\star\star}{\sim}$					50) = 0.11MPa	0
				Foliation is indistinct and disturbed.	<b>***</b>				ls(5	50) = 0.07MPa	X
[-				Defects are generally medium spaced.	<b>**</b>						-
9		100		Defect sets dip at 10, 45 and 70°.	<b>***</b>	MW					-
-		(49)		Defect surfaces are typically clay infilled or iron stained.	<b>***</b>						1
E					<b>***</b>				2 2 20 to 100		-
10					<u>~</u>	1			Is(50) = 0.33MPa x		
REMARK	S <u>Detai</u>	<u>iea detec</u>	t de	scriptions are shown on Form GEOT533/8 attache	d.				-   '	JA	



## ENGINEERING BOREHOLE LOG

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

BOREHOLE No \_\_\_\_BH024\_\_\_\_

SHEET \_\_2\_\_ of \_\_2\_\_

H10575\_

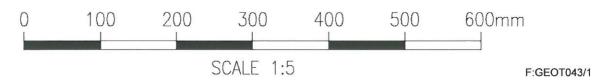
REFERENCE No

BRUCE HIGHWAY (COORDY - CURRA) SECTION A GEOTECHNICAL INVESTIGATION **PROJECT** COORDINATES 486109.3 E; 7080870.5 N LOCATION Cut 11\_ DATE STARTED \_15/7/09\_\_ GRID DATUM MGA94 SURFACE R.L. \_ 162.32m PLUNGE \_ \_ \_ \_ PROJECT No FG5825 DATE COMPLETED 15/7/09 HEIGHT DATUM \_AHD \_\_ BEARING \_\_\_\_\_ DRILLER R & D Drilling JOB No 128/10A/901 RQD INTACT DEFECT R.L. ADDITIONAL DATA STRENGTH SPACING (m) ()% (m) MATERIAL LITHOLOGY AND DEPTH SAMPLES DESCRIPTION SAMPL CORE **TEST RESULTS** REC % 10 152.32 Is(50) = 0.32MPaPHYLLITE (MW): (Cont'd) MW 152.08 RHYOLITE (MW): MW 151.92 (As above.) PHYLLITE (MW - SW): Is(50) = 0.31MPa Is(50) = 0.33MPa Grey to slightly green, fine grained, foliated. Foliation is distinct and dips at ~30°. Is(50) = 0.12MPa Is(50) = 0.18MPa Defects are generally medium spaced. Datgel CPT Tool gINt Add-In 12/05/2010 10:30 Prominent defect set dips parallel to foliation with another set at 70°. MW 100 Defect surfaces are typically clean or thinly (56) clay infilled. Detailed defect descriptions are shown on Is(50) = 0.33MPa Is(50) = 0.45MPa Form GEOT533/8 attached. DWG95012.GDW 148.66 100 Borehole terminated at 13.66m COOROY-CURRA SECTION A BHS.GPJ FG5825 BRUCE HWY LIB\_01.GLB Log A\_ENGINEERING BOREHOLE LOG W LITHOLOGY DMR REMARKS Detailed defect descriptions are shown on Form GEOT533/8 attached. LOGGED BY JA

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

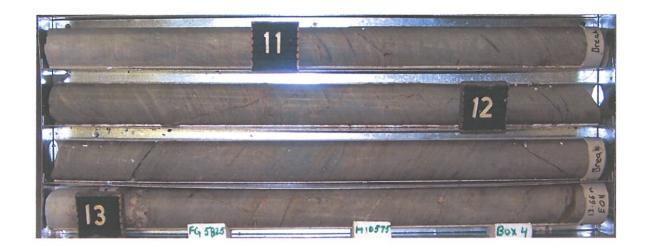


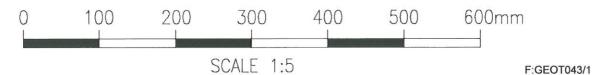


Bruce Highway Upgrade (Cooroy - Curra) Section A Project:

Borehole No: BH24 2.00m Start Depth: Finish Depth: Project No: 13.66m FG5825

H No: 10575





#### **GEOTECHNICAL BRANCH LABORATORY**

Materials Services - Brisbane 35 Butterfield Street, HERSTON Q 4006 Phone: (07) 3115 3035 Fax: (07) 3115 3011



# 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	PI	SR	0	FeSt						
2.2	J	10	PI	SR	0	FeSt						
2.13 - 2.28	J	85	PI	SR	0	FeSt						
2.25	FP	35	PI	S	0	W	CI					
2.3 – 2.33	J	40	St	SR	0		CI					
2.36 – 3.44	Sz	35	PI		С							
2.9 – 3.7	Sz		Disturbed foliations									
3.4 – 3.5	WS											
3.6 - 3.9	Cz	75			CI up to 4mm	W	CI & brecciated					
4.1 – 4.3	Bz			Foliation (	Partings							
4.33 – 4.52	FP	70 – 80	Cu	S	С		CI rootlets polished					
4.53 – 6.0	Fr	70 – 90	lr	R	С		CI					
4.6 – 4.8	FP	40	PI		С							
4.8 – 4.95	Fr	80	Cu	R	0		Cn					
5.05	В	0	PI									
5.05 – 5.6	Bz	Typically 0										
5.6 – 6.1	Sz	Brecciated some secondary fractures										
6.5 – 6.6	Fr	90 – 40			С		QZ					

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	В	Bedding	CLy	Clayey
S	Smooth	Smn	Secondary Mineralisation	BP	Bedding Parting	Со	Coal Seam
SL	Slickensided	Cn	Clean	FP	Foliation Parting	Carb	Carbonaceous'
РО	Polished	MnSt	Manganese Stained	LP	Lamination Parting	SI	Sand Infill
	PLANARITY		APERTURE	CLV	Cleavage	QZ	Quartz
PI	Planar	С	Closed	Fr	Fracture	CA	Calcite
St	Stepped	0	Open	SZ	Sheared Zone	Chl	Chlorite
Un	Undulating	F	Filled	CZ	Crushed Zone	ln	Incipient
Cu	Curved	T	Tight	BZ	Broken Zone	Int	Intersecting
lr	Irregular			HFZ	Highly Fractured Zone	Lam (s)	Lamination (s)
10.501001				WS	Weathered Seam	Di	Drilling Induced
				Vn	Vein	Н	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	PI	SR	0	FeSt	
7.05 – 7.25	Bz	85	Cu		С		QZ/Vein
7.0 – 7.57	Sz	25	Pl	SM	0		Trace CI
7.95	В	0-5	Un		С	W	
8.0 – 9.9			Fractured	and disturbed / kinked	foliatons		
8.56 – 8.6	J	45	PI		С	CI	
8.93 – 8.99	J	45	PI	R	0	FeSt	Trace CI
9.33 – 9.34	WS	0	PI	SR	O (10mm)	Trace FeSt	CI
9.65 – 9.8	F	70	lr		С	Smn	
10.26	В	0	Pl	SR	0		Trace CI
10.51	В	0	PI	SR	С		
10.55 – 13.4	FP	35-60	PI	SR	0	Cn	
11.54 – 11.7	J	70	Ir		С	Trace FeSt	
12.02	ws	20	PI		С		CI
13.09	QZ Vein -		IR				
13.16 – 13.2	J	85	PI	SR	0	FeSt	
13.24 – 13.27	QZ Vein	45	PI		С		
13.49 – 13.52	QZ Vein	30 、	PI		С		***************************************
13.58- 13.6	QZ Vein	40	PI		С		