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ENGINEERING BOREHOLE LOG

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

BOREHOLE No ____BH069___

SHEET ___1__ of __2__

REFERENCE NO ____H10640___

	JECT ATION	BRU Cut 2			AY (COOROY - CURRA) SECTION A GEOT	<u>ECH</u>	<u>NIC</u>	L INVESTI	<u>GATION</u>		OORDINATES 481735.2 E; 7080736.	. — — — . .5 N
					SURFACE R.L. 115.50m PLUNGE							
JOB					HEIGHT DATUM _AHD _ BEARING _							
DEPTH (m)	R.L. (m)	UGER ASING ASH BORING ORE DRILLING	CORE	SAMPLE	MATERIAL DESCRIPTION	ГТНОГОСУ	SC ÆATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES
0	115.50	₹0 ≥ 0	REC %	Ŋ	Gravelly SILT (Topsoil)	HT N) 5	-	-	9		ω ⊢
					Pale grey.						— Driller's log only	1
-	114.85			A	PHYLLITE (HW)	<u> </u>					12,24,30/100 N>50	
- -1 -					Generally exhibits the engineering properties of light brown, dry, very dense, gravelly silt.	******		-			N250	-
E		L		200000		***	HW		_		Non-cohesive 21,30/80	
				В		***		1111	-		N>50	
-2	113.50	4	(19)		PHYLLITE (MW/SW)	***			-		L-(50) - 0 70MD-	1 1
					Pale brown with occasional dark grey interbeds.	***			-		Is(50) = 0.73MPa Is(50) = 0.61MPa	1 1
-					Foliations typically dipping at 55-60°.	***			-		Is(50) = 1.52MPa	x -
-3					Defects generally medium to widely	***			-		☐ Clay seam	-
-					spaced.	***					Is(50) = 0.78MPa	0
-			(35)		Defect sets dip with foliation and at 10°, 70° and 90°. Defect planes thingly clay	***					ls(50) = 1.10MPa	x -
-					coated or iron stained.	***]
-4						***					Is(50) = 1.07MPa Is(50) = 1.10MPa	o -
-						***						=
-			100			***]
-5			(32)			***					Is(50) = 0.66MPa	
						***					Is(50) = 0.17MPa	X
-						***						-
			100			***	MW-]
-6 -			(17)			***	SW				Is(50) = 1.08MPa Is(50) = 2.42MPa	o -

-						***						
-7					Detailed defect descriptions shown on	***					Is(50) = 4.07MPa	x -
-			100		Form GEOT 533/8 attached.	***					Is(50) = 1.57MPa	0]
Ē			(55)			***]
-8						***					Is(50) = 1.05MPa	
-						***					Is(50) = 2.20MPa	X
-						***						_
-			100			***					Is(50) = 1.44MPa]
-9 -			(41)			***					Is(50) = 2.32MPa	0 - x -
E						***] =
Ė						***						3
10		. Dota	lod defe		(See over)	hod	1				LOGGED BY	
F	REMARKS Detailed defect descriptions are shown on Form GEOT533/8 attached.									- JA		



ENGINEERING BOREHOLE LOG

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

BOREHOLE No _____BH069___

SHEET ___2__ of __2__

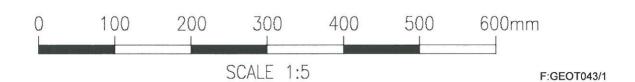
REFERENCE NO ____H10640___

PROJECT			HW/	AY (COOROY - CURRA) SECTION A GEOTE	CHI	VIC.	AL INVEST	<u>riga</u>	TION			
	Cut 23			SURFACE R.L. <u>115.50m</u> PLUNGE					- PTED		OORDINATES <u>481735.2 E; 7080736.5</u> 0/09 GRID DATUM <u>MGA94</u>	<u> </u>
				HEIGHT DATUM AHD BEARING								
	750/1		_	TEIGHT BATTOM _XIIB BB WING						1-20		
R.L. (m)	SNG	RQD ()%		MATERIAL		0	INTACT STRENGTH	I SF	PACING	စ္က	ADDITIONAL DATA	
DEPTH (m)	R 1G BORING DRILLING		щ	MATERIAL	.0GY	FRIN	STRENGTH		(mm)	GRAPHIC LOG	AND	ES
	ASIN ASIN ASH ORE	CORE	SAMPLE	DESCRIPTION	LITHOLOGY	SC	ᇁᆂᅩᄝᄀᆨ	22 匠	2888	RAP	TEST RESULTS	SAMPLES
10 105.50	40×0	REC %	S	PHYLLITE (MW/SW)	₹	⊃ S		0 80		0	Is(50) = 3.43MPa	ν F
		100		(Cont'd)	***						Is(50) = 0.87MPa	0
		(22)			\approx							-
					\approx							=
[1]					***				L,		Is(50) = 1.76MPa Is(50) = 0.58MPa	x =
					\approx						19(30) = 0.301WF a	
				From 11.50-13.0 Some bands of clayey broken phyllite	\bowtie							=
12		100		present.	***						Is(50) = 2.33MPa	x -
		(13)			\approx						Is(50) = 0.79MPa	0]
					\approx							
E					***	MW-]
-13					\approx	SW						=
-					\bowtie						Is(50) = 2.12MPa Is(50) = 0.79MPa	x -
-	H	100 (52)			***				L			=
-		(/			\bowtie							=
-14				Detailed defect descriptions shown on	\bowtie						Is(50) = 1.08MPa	0 -
E				Form GEOT 533/8 attached.	***						Is(50) = 0.54MPa	×
-					\approx							=
		100			\bowtie							=
15		(18)			***						Is(50) = 1.61MPa	0 -
					\approx			-	J		ls(50) = 2.10MPa	×
99.80		100		D 11111111111111111	\approx				1			
16				Borehole terminated at 15.7m				Ī				3
E							1 G	Ī				1
-								‡				_
							0.31	Ŧ				1
-17							1 11 11 11	ŧ			50	
-								‡				=
F								Ŧ				
								‡				1
-18	-18							‡				4
[Ī				1
								Ŧ				=
								‡				=
- 19 -								Ŧ				=
								1				
							4 1841	‡				=
20				20 - 1 - 10 - 10 - 10 - 10 - 10 - 10 - 1				f				
REMARKS	<u>Detaile</u>	ed defec	t de	scriptions are shown on Form GEOT533/8 attach	ed.						LOGGED BY	
											JA	

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

Borehole No: BH69
Start Depth: 2.00m
Finish Depth: 15.70m
Project No: FG5825
H No: 10640





Project: <u>Bruce Highway Upgrade (Cooroy - Curra) Section A</u>

Borehole No: BH69
Start Depth: 2.00m
Finish Depth: 15.70m
Project No: FG5825
H No: 10640





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 ISRM SUGGESTED METHODS (1981)]

 BOREHOLE NO.:
 BH69

 SHEET:
 1 of 2

 REFERENCE NO.:
 H10640

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

LOCATION: Cut 23

PROJECT NO.: FG5825 SURFACE R.L.: 115.5 DRILLER: R & D Drilling

JOB NO.: 128/10A/901 DATUM: AHD DATE DRILLED: 12/10/09

DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER
2.23	J	80	PI	S	0		Cn
2.43	J	55	PI	ie .	С		CI,1mm
3.00	Clay Seam	55	PI		С		20mm Wide
3.19	J	45	PI	R	С		
3.58	J	45	PI	S	С		Clay Veneer
3.80	J	40	St		С		Rehealed
3.94	J	70	PI		С		Rehealed
4.02	J	20	St	R	С	FeSt	
4.07	J	60	PI	S	С	Cn	
4.15	J	50	St	SR	С	FeSt,MnSt	
4.29	J	45	St	S	С		Cn
4.39	J	75	Un	S	С	FeSt	
4.59	J	50	PI	S	С	FeSt	
4.65	Fr	60	lr		С		
4.79	J	80	lr	S	С	FeSt	
4.88	J	30	lr		С		CI,3mm
4.96	J	45	PI		С		CI, 3mm
5.19	J	40	PI	S	С		Cn

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	Co	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	In	Incipient
Cu	Curved	Т	Tight	BZ	Broken Zone	Int	Intersecting
lr	Irregular			HFZ	Highly Fractured Zone	Lam (s)	Lamination (s)
				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.:
 BH69

 SHEET:
 2 of 2

 REFERENCE NO.:
 H10640

						National Control	H1U64U	
DEPTH	DEFECT TYPE	DIP°	PLANARITY	ROUGHNESS	APERTURE	WALL ALTERATION	OTHER	
5.25	J	60	PI	R	С	FeSt,MnSt	Cl, 1mm	
5.30	J	50	PI		С		Cl, 1mm	
5.46	J	80	Un		С		CI, 1-2mm	
6.00	J	65	PI	S	С		Cn	
6.19	J	75	PI	R	FeSt, W			
6.70	J	20	Pl	SR	С	FeSt		
6.74	J	85	PI	R			CI,1mm	
6.90	J	80	Un	R		FeSt,W	Cl, 2mm	
7.31	J	35	PI	R	С	FeSt,MnSt		
7.37	J	75	PI	S		FeSt	Clay Veneer	
7.44	J	70	PI	S	С	FeSt	Clay Veneer	
7.51	J	50	PI	S	С	FeSt	Clay veneer	
7.74	Clay seam	50	PI		С		10mm Wide	
7.81	J	80	Un	SR	С	FeSt		
8.92	J	50	PI	SR	С	W		
9.25	J	20	PI	SR	С	W		
9.55		40	PI	R	С	FeSt		
9.63	J	75	PI	SR	С	FeSt		
9.73	J,	45	PI	SR	С	W		
9.97	J	50	PI	S	С	W		
10.20	J	35	PI	S	С	FeSt		
10.36	J	50	PI	SR	С	FeSt,W		
10.62	J	85	Un	S	С	FeSt,W	CI,1mm	
10.77	J	30	PI	S	С	FeSt	CI,1mm	
10.84	J	10	St	R	С	FeSt	CI,1mm	
11.20	J	70	Un	SR	С	FeSt	CI,1mm	
11.53	Fr	75	PI	SR	С	FeSt	Clay veneer	
11.86	J	50	PI	S	С	FeSt		
12.39	Clay Seam	80	PI		С			
12.47	J	30	Un	R	С			
12.55	J	55	Un	SR	С		Clay &Crushed Rock infill 4mm	
12.62	BZ/ Clay seam	20	PI		С			
12.62-13.15	J	90	PI		С		Rehealed	
12.66	J	80	St	S	С	W,FeSt		
12.82	J	50	Un	R	С	W		
14.31	J	50	PI	SR	С	0.22		
14.67	J	50	PI		С	16570 8092	CI,2mm	
14.89	J	50	PI	SR	С	FeSt,W		
14.93	J	40	PI	SR	С	FeSt,W		
15.14	J	50	PI	S	С		Clay Veneer	
15.36	J	60	PI	S	С		CI, 1mm	
15.41-15.50	BZ							