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ENGINEERING BOREHOLE LOG

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

BOREHOLE No <u>BH019</u>

SHEET _1_ of _2_

REFERENCE No <u>H10584</u>

	JECT				AY (COOROY - CURRA) SECTION A GEOTI					COORDINATES 486637.0 E; 7080857.6 N
	ATION		<u>ankmen</u> 825	1600	SURFACE R.L					COMPANY SECRET PRODUCTION OF STATE OF S
					HEIGHT DATUM _AHD BEARING					
JOB	NO	_120/_	104/301		_ HEIGHT DATUM _AHD BEARING			DATE COIVII LETEL	_241	709 BRILLER GEOGRAFI
DEPTH (m)	R.L. (m)	R R R BORING (a) W (b) W (c) W		SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	THERING	INTACT DEFECT STRENGTH SPACING (mm)		ADDITIONAL DATA AND TEST RESULTS RESULTS
0	119.30	AUG CASI WAS COR	CORE REC %	SAM		틸	WEA	#####################################	GRA	TEST RESULTS SAMM TESTS
-	119.10				Sandy CLAY (TOPSOIL) Brown, moist, firm.		(CL)	1		
				TE LIE	Gravelly Sandy CLAY (ALLUVIAL) Pale grey to red, moist, firm to stiff.			+		2,3,1
				Α	Fine to medium quartz gravels throughout.			‡		2,3,1 N=4 SPT
-1 -								Ī		22/07/09
-								+		225
				В				‡		2,3,5 N=8 SPT
-2 -								Ŧ		
-					2.5m: Becoming heavily iron stained and			+		24044
				С	very stiff.		(CL)	‡		8,10,11 N=21 SPT
-3 -										
		- 8						<u> </u>		
				D	3.8m: Increase in quartz fragments.			1		8,12,15 N=27 SPT
-4					Medium to coarse gravels.			+		
-				2000				‡		
-				E	4.5m: Becoming mostly pale grey with slight mottled orange iron staining.			Ī		14,10,12 N=22 SPT
-5								‡		
E	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)	<u> </u>		
<u>-</u>	112.80				Hard quartz layer at 6.5m.	Щ		+		30/150
				G	SILTSTONE (HW): Generally exhibits the engineering	×××		‡		N>50 SPT
-7 -					properties of pale grey to light brown, moist, clayey silt.	×××		+		
					Occasional coarse grained sand, fine	× ×		<u> </u>		
-				Н	gravels and quartz bands.	************	HW	‡		18,30/140 N>50 SPT
-8						× × × × × × × × ×		+		
-						× × × ×		Ī		
	110.50			J		×××				21,30/145 N>50 SPT
9			(45)		SILTSTONE (MW): Pale orange to brown, fine grained,	XXX				Is(50) = 0.06MPa x
						X X X X	MW			
			100 (66)			× × × × × × × × × × × × × × × × × × ×				Is(50) = 0.13MPa x
10						× ×				Is(50) = 0.13MPa o
F	REMARK	s								LOGGED BY
										-



ENGINEERING BOREHOLE LOG

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

BOREHOLE No _____BH019 ____

SHEET ____2 __ of ___2 ___

REFERENCE NO _____H10584 ____

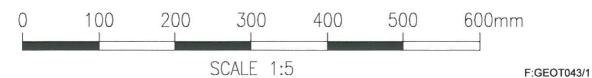
	JECT ATION		ICE HIG		AY (COOROY - CURRA) SECTION A GEOT				<u>GATION</u>		486637.0 E; 7080857.6	— — - 6 N
					SURFACE R.L119.30m PLUNGE				TARTED			
JOB					HEIGHT DATUM _AHD BEARING _						RILLER Geodrill	
DЕРТН (m)		UGER ASING VASH BORING ORE DRILLING	CORE	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	FIONAL DATA AND T RESULTS	SAMPLES
10	109.30	4020	REC %	S	SILTSTONE (MW): (Cont'd)	x :	Ĵ			0		ω F
	108.72		100 (35)		PHYLLITE (MW - SW): Dark grey, fine grained, foliated. Foliations dip at ~10°.	××××>>>>>>	MW				ls(50) = 0.14MPa	x
12					Defects are generally close to medium spaced. Defect sets dip at 20 and 40°.	\} \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	MW- SW					
-	106.40		70 (22) 100		Defect surfaces are typically clean.	}					ls(50) = 0.19MPa	x
-12 -13 -14 -15 -16 -17 -18					Borehole terminated at 12.9m							
	EMARKS	S									LOGGED BY JA	

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

Borehole No: BH19 Start Depth: Finish Depth: Project No: 8.80m 12.9m FG5825

H No: 10584





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.:
 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	0		Cn
9.17	J	35	Pl	S	0		Cn
9.29	J	50	PI	SR	С		Cn
9.85	J	50	PI	S	С		CI, 2mm
10.06	J	15-20	Un	S	С	FeSt	
10.68	J	55	PI	R	С		Crushed rock in defect
10.78	J	25	Un	R	С		Cn
11.31	J	25	Un	SR	С		Cn
11.39	J	20	Un	SR	С		Cn
11.46	J	50	PI		С		
11.55	J	35	PI	S	С		Cn
11.62	J	35	Un		С		
11.66	J	40	Un		С		
12.43	J	25	PI	S	С		
12.61	J	55	PI		С		lu _s
40.000		**************************************					

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		
	81			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.