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TMR JAN 15.GLB Log A\_ENGINEERING BOREHOLE LOG W LITHOLOGY FG6184 - BOREHOLES.GPJ <<DrawingFile>> Datgel CPT Tool glNt Add-In 04/03/2015 10:50

## ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014

BOREHOLE No	BH116
SHEET	_1_ of _3_
REFERENCE No	12062

PROJECT				Geotechnical Investigation - Stage 1						
				overpass Abutment A; CH: 5572m;				ORDINATES 72097		
				SURFACE R.L. <u>12.46m</u> PLUNGE _						
JOB No				HEIGHT DATUM <u>AHD</u> BEARING _			DATE COMPLETED 1/10/14	4 DRILLER	Saxon Drilling	L
R.L. (m)	AUGER CASING WASH BORING CORE DRILLING		SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	INTACT DEFECT SPACING (mm) 01 UH AVERT DEFECT SPACING (mm) 01 UH AVER DEFECT SPACING (mm) 01 UH AVER DEFECT SPACING (mm) 01 UH AVER DEFECT SPACING (mm) 01 UH	ADDITIONAL AND TEST RESI		SAMPLES TESTS
		1120 70		Clayey SILT (ALLUVIUM)						-
- - <sub>0.50</sub> 11.96 - - - -				Dark brown, moist, soft.  Low plasticity.  Silty CLAY (ALLUVIUM)  Dark brown, orange mottled grey, moist, mainly stiff to very stiff.  High plasticity.		(CL)				
- - - - - -			Α	Trace fine grained sand.			#		4,5,6 N=11	SPT - - - -
-2 - - - - - - - - -			В			(CH)			3,4,7 N=11	SPT :
-3 - - - - - - -			С				+ + + + + + + + + + + + + + + + + + +		4,8,11 N=19	SPT -
-4 - - - - - - - - - - - - - - - - - -	<u>-</u>		D	Clayey SAND (ALLUVIUM) Brown, moist, medium dense.			<u> </u>		5,7,10 N=17	SPT =
- -5 - - - - - -			Е	Fine to medium grained.		(SC)			5,7,5 N=12	SPT :
- 6.46 			F	Sandy CLAY (ALLUVIUM) Brown mottled orange, moist, stiff. High plasticity. Fine grained sand.		(CH)			3,6,7 N=13	SPT -
-7      			G	Silty CLAY (ALLUVIUM) Dark grey, moist, stiff to very stiff. High plasticity.					5,7,11 N=18	SPT -
- 8   			Н			(CH)			3,5,8 N=13	SPT =
-9   			J						4,5,9 N=14	SPT -
		nple faile	<u>d al</u> o	ng existing defect surface.					LOGGED BY MS	



TMR JAN 15.GLB Log A\_ENGINEERING BOREHOLE LOG W LITHOLOGY FG6184 - BOREHOLES.GPJ <<DrawingFile>> Datgel CPT Tool glNt Add-In 04/03/2015 10:50

# **ENGINEERING**BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014

BOREHOLE No \_\_BH116 \_\_

SHEET \_\_2\_ of \_\_3\_\_

REFERENCE No \_\_12062 \_\_\_

	oad Geotechnical Investigation - Stage 1 wy Overpass Abutment A; CH: 5572m;		. — — — — — — — — — . INATES 720979.2 E; 7657925.1 N
PROJECT No_FG6184	SURFACE R.L12.46m_ PLUNGE HEIGHT DATUMAHD BEARING	DATE STARTED 30/9/14	GRID DATUM <u>GDA 94 /MGA Zone 55</u>
R.L. (m) RQD (1)% (1)% (1)% (1)% (1)% (1)% (1)% (1)%	MATERIAL  DESCRIPTION  WWW	INTACT SPACING (mm)  ORAPHIC LOG GRAPHIC L	ADDITIONAL DATA  AND  TEST RESULTS  AMBLE 82 82 82 82 82 82 82 82 82 82 82 82 82
10 2.46 < O S O REC %	K (Cont'd) Becoming mainly grey, yellow and pale brown.		4,5,7 N=12 SPT -
	L L	(CH)	6,9,11 N=20 SPT =
	M 12.00m: Trace fine grained sand.		6,11,12 N=23
-13 	Clayey SAND (ALLUVIUM) Yellow-brown, moist to dry, dense. Mainly fine to medium grained.	(SC)	10,11,23 N=34
-14 -1420 -1.74	P Silty CLAY (RESIDUAL) Pale brown, orange mottled grey, moist, very stiff.		8,10,13 N=23
- -15 - - - - - -	High plasticity.		11,10,13 N=23
- -16	R		6,10,13 N=23
	S 17.00m: Becoming hard.	(CH)	9,15,19 N=34 SPT =
	T 18.00m: Becoming very stiff.		8,14,15 N=29 SPT =
- - 19 - - - - - - - -	19.00m: Colour change to pale grey. Trace fine grained sand.		6,8,10 N=18 SPT
REMARKS # Sample failed	d along existing defect surface.		LOGGED BY MS



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## ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014

BOREHOLE No	BH116
SHEET	_3_ of _3_
REFERENCE No	12062

PROJECT	<u>Mack</u>	ay Ring F	Road_	Geotechnical Investigation - Stage 1						
LOCATION	<u>Peak</u>	Downs H	<u>lwy</u> C	Overpass Abutment A; CH: 5572m;				CO	ORDINATES 720979.2 E; 7657925	<u>.1 N</u>
PROJECT No	<u>FG61</u>	184		SURFACE R.L. <u>12.46m</u> PLUNGE _			DATE STARTED	30/9/	14 GRID DATUM <u>GDA 94 /MG</u>	A Zone 5
JOB No				HEIGHT DATUM <u>AHD</u> BEARING _			DATE COMPLETED	1/10/	14 DRILLER <u>Saxon Drilling</u>	<u>g</u>
R.L. (m) HL 430 20 -7.54	AUGEK CASING WASH BORING CORE DRILLING		SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	INTACT DEFECT STRENGTH SPACING (mm)	– EW GRAPHIC LOG	ADDITIONAL DATA  AND  TEST RESULTS	SAMPLES
-			V	Clayey SAND (RESIDUAL) Pale grey, moist to dry, medium dense. Fine to medium grained.		(SC			8,11,13 N=24	SPT =
-21.00 -8.54			W	Sandy CLAY (RESIDUAL) Pale grey, moist, very stiff. Low plasticity. Fine grained sand.		(CL	)		6,13,15 N=28	SPT =
-9.54 - - - - - -			X	GRANODIORITE (Kgwu) XW: Recovered as brown-grey, dry, very dense Clayey SAND. Fine to medium grained.	+ + + + + + + + + + + + + + + + + + + +	XW	,		19,30/130	SPT :
-23 -23.20 -10.74			Y		[+]					SPT
		(40) 100 (13)		GRANODIORITE  MW: Pale grey, brown, medium grained, massive, low to medium strength.  Some XW zones, EL strength. Highly fractured in parts.  Defects:  - Js; 30° (2/m); Pl/Ro, OP, Cly Vr;  - Js; 50°-60° (4/m); Pl/Ro, OP, Cly Vr;  - Js; 70°-80° (3/m); Pl/Ro, OP, Cly Vr;	+ - + + +	MW XW XW XW XW			Is(50) = 0.35MPa Is(50) = 0.21MPa  23.59m-23.65m: XW zone, EL strength.  23.80m-23.93m: XW zone, EL strength.  24.10m-24.18m: XW zone, EL strength.	A (23.25m)- D (23.30m)-
- - - - - - - - - - - - - - - - - - -		(13)			+	MV	,		Is(50) = 0.19MPa	-
- - - - - - - - - - - - - - - - - - -		100 (7)		26.28m: Becoming medium to high strength.	+ + + + + + + + + + + + + + + + + + +	XW			Is(50) = 0.06MPa; #  26.20m-26.28m: Is(50) = 0.15MPa  XW zone, EL strength.	A (26.10m)
-28		100 (18)			-	MW	,		Is(50) = 0.73MPa; # Is(50) = 1.02MPa	D (27.23m). A (27.28m)-
-28.35 -15.89 		100		MICRODIORITE (Kgwu) SW: Grey-black, fine to medium grained, massive, very high strength. Highly fractured. Defects: - Js; 40° (2/m); PI/Ro, OP, Fe St; - Js; 50° (5/m); PI/Ro, OP, Fe St; - Js; 70°-80° (6/m); PI/Ro, OP, Fe St;	+ + + + + + + + + + + + + + + + + + + +	SW			Is(50) = 3.38MPa Is(50) = 3.78MPa	A <sub>(28.63m)</sub> _ D <sub>(28.80m)</sub> _
-				Borehole terminated at 29.2m			1:::::::			
REMARKS	<u># Sa</u> r	mple faile	 ed alc	ong existing defect surface.					LOGGED BY MS	

DEPARTMENT OF TRANSPORT & MAIN ROADS Geotechnical Branch 35 Butterfield Street, HERSTON Qld 4006 Phone 07 3066 3336



Project Name	Mackay – Ring Road		
Project No	FG6184	Date	01/10/14
Borehole No	BH 116	TMR H No	12062
Location	Peak Downs Hwy Overpass	Start Depth (m)	23.2
Detail	Abutment A	Finish Depth (m)	29.2
Chainage	5572	Submitted By	J. Lopez
Remarks			
O 100	280 NAST PARTS PAR	500 600	and a second sec
0 100	200 300 400	300 600	700
	SCALE 1:5		