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Queensland Government

ENGINEERING **BOREHOLE LOG**

BOREHOLE No	BH120
SHEET	<u>1</u> of <u>4</u>
REFERENCE No	12066

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

PRC	JECT	Mac	kay Ring I	Road	Geotechnical Investigation - Stage 1								
LOC	ATION	<u>Peak</u>	<u>Downs</u> H	<u>lwy</u> (Overpass Abutment B; CH: 5647m;				COO	RDINATES	720966	.1 E; 7658002	.9 <u>N</u>
PRC	JECT N	o <u>FG6</u>	184		SURFACE R.L. <u>12.84m</u> PLUNGE _			DATE STARTE	ED <u>7/10/1</u> 4		DATUM	<u>GDA 94 /MG</u>	<u>A Zone 5</u> 5
JOB	No							DATE COMPLET	ED <u>8/10/1</u> 4	Ŀ Dŀ	RILLER	<u>Saxon</u> Drilling	9
DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING COBE BORING	CORE	SAMPLE	MATERIAL DESCRIPTION	ГІТНОГОСУ	USC WEATHERING	INTACT DEFE STRENGTH SPAC (mn サチェミンゴロンのミ	ING 501 DIHA		TIONAL I AND T RESUI		SAMPLES TESTS
 	12.34			A	Silty CLAY (TOPSOIL) Dark brown, moist to dry, stiff. High plasticity. Silty CLAY (ALLUVIUM) Orange-brown mottled pale grey, moist, stiff. High plasticity.		(CH)		· · · · · · · · · · · · · · · · · · ·			4,4,7 N=11	SPT _

	Sity CLAY (ALLOVIUM) Drange-brown mottled pale grey, moist, stiff. High plasticity.	(CH)	4,4,7 N=11 SPT 4,4,5 N=9 SPT
			4,4,8 N=12 SPT
	Silty Clayey SAND (ALLUVIUM) Pale orange-brown, moist, medium dense. Fine grained.	(SC)	5,7,12 N=19 SPT
	Silty CLAY (ALLUVIUM) Pale brown and grey, moist, stiff to very stiff. High plasticity.		3,4,5 N=9 SPT
			4,5,6 N=11 SPT
		(CH)	5,7,11 N=18 SPT
			4,5,9 N=14 SPT
0501 51			3,6,9 N=15 SPT
REMARKS Kgwu - Wundaru Gra	anodiorite;		LOGGED BY ME



ENGINEERING BOREHOLE LOG

BOREHOLE No	BH120
SHEET	<u>2</u> of <u>4</u>
REFERENCE No	12066

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

PROJECT	Mackay Ring Road	Geotechnical Investigation - Stage	<u> </u>									
LOCATION	Peak Downs Hwy C	Overpass Abutment B; CH: 5647m;						COOR	DINATES 720	0966.1 E; 7658002	<u>.9 N</u>	
PROJECT No	<u>FG6184</u>	SURFACE R.L. <u>12.84m</u>	PLUNGE			DATE S	TARTED _7	10/14	GRID DATU	JM <u>GDA 94 /MG</u>	<u>A Zone 55</u>	5
JOB No		HEIGHT DATUM <u>AHD</u>	BEARING			DATE CON	PLETED 8	10/14	_ DRILL	ER <u>Saxon Drillin</u>	9	
(m)	RQD ()% ()%	MATERIAL		GΥ	RING	INTACT STRENGTH	DEFECT SPACING (mm)	SOL	ADDITION			

(m) T			RILLIN	() /0		MATERIAL	g	HERING	OTTLEN	0111	(mm)	DO1:	AND	0
DEPTH (m)		кQ		CORE	SAMPLE	DESCRIPTION	ГІТНОГОСУ				~~ >>	GRAPHIC LOG		SAMPLES TESTS
10	2.84	AUG	COF	CORE REC %	SAN		Ë	USC	╽┙╧┰ᢄ╻	- 	00 ⊎>0≥≥≥≥ш	GR4	TEST RESULTS	SAMPLI TESTS
-					к	Silty CLAY (ALLUVIUM) (Cont'd)		(CH		· · · -			3,8,8 N=16	SPT
-	2.14													-
<u>- 10.70</u> - - 11	2.14					Sandy Clayey SILT (ALLUVIUM) Pale brown and grey, moist, stiff to very								
					L	stiff. Low plasticity. Fine grained sand.							4,5,6 N=11	SPT -
Ē														
- 12								(ML						-
- - -					Μ								4,7,10 N=17	SPT
-	0.04													
- - - 13	0.04					Silty CLAY (ALLUVIUM) Pale grey and brown, moist, stiff to very				÷ :			+	-
Ł					N	Pale grey and brown, moist, stiff to very stiff. High plasticity.							6,9,13 N=22	SPT
/2015 10						r light plasticity.					-			
														-
INt Add					Р			(CH					5,7,9 N=16	SPT -
7 Tool g											-			
< <drawingfiles> Datgel CPT Tool gIN1 Add-in 04.03/2015 10:50 01 01 01 02 02 02 02 02 02 02 02 02 02 02 02 02</drawingfiles>														
JFile>> [Q								5,6,7 N=13	SPT -
U. 15.70	-2.86										-			-
[*] Γd9:s − 16						Silty Clayey SAND (ALLUVIUM) Pale orange-brown and grey, moist, medium dense.								
					R	Fine to medium grained sand.		(SC					8,11,9 N=20	SPT _
16 10 10 10 10 10 10 10 10 10 10						Trace fine gravel.					-			
800 99 99 - - - - - - - - - - - - - -	-3.96					Silty CLAY (ALLUVIUM)								-
					s	Pale grey and brown, moist, very stiff. High plasticity.							9,12,13 N=25	SPT -
TIMR JAN 15.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY 1														-
07 - - - - - - - - - - - - - - - - - - -														
BORE					т								8,12,16 N=28	SPT -
								(CH						
B Log					U								8,13,15 N=28	SPT -
N 15.GL														
AL TMT J														
	REMARK	sK	<u>gwu</u>	- Wunda	aru G	ranodiorite;							LOGGED BY	
		#	San	nple faile	<u>d</u> alo	ng existing defect surface.			·				. ME	



PROJECT

ENGINEERING BOREHOLE LOG

BOREHOLE No	BH120
SHEET	<u>3</u> of <u>4</u>
REFERENCE No	12066

LOGGED BY

ME

COORDINATES 720966.1 E; 7658002.9 N

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

Mackay Ring Road Geotechnical Investigation - Stage 1

LOCATION Peak Downs Hwy Overpass Abutment B; CH: 5647m; _____

PRC	JECT N	o <u>FG6</u>	<u>184</u>		SURFACE R.L. <u>12.84m</u> PLUNGE			DATE STARTED _7/10/14_	GRID DATUM <u>GDA 94 /MGA</u>	<u>Zone 55</u>
JOB	No				HEIGHT DATUM <u>AHD</u> BEARING _			DATE COMPLETED 8/10/14	DRILLER Saxon Drilling	
DEPTH (m)	R.L. (m) -7.16	AUGER CASING WASH BORING CORF DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	ГІТНОГОСУ	USC WEATHERING	INTACT DEFECT STRENGTH SPACING (mm) UHATE STRENGTH SPACING (mm) UHATE STRENGTH SPACING (mm) UHATE STRENGTH SPACING (mm) UHATE STRENGTH SPACING (mm) UHATE STRENGTH SPACING (mm) UHATE STRENGTH SPACING (mm) UHATE STRENGTH SPACING (mm) UHATE STRENGTH SPACING (mm) UHATE	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
- - - - -				V	Silty CLAY (ALLUVIUM) (Cont'd)				7,12,15 N=27	SPT
- 21	-8.96			w			(CH)		6,8,10 N=18	SPT -
21.80 	-0.90			×	Sandy Silty CLAY (RESIDUAL) Pale grey, moist, stiff. Low plasticity. Fine grained sand.		(CL)		6,6,8 N=14	SPT -
23.50	-10.66	-		Y	Silty Clayey SAND (RESIDUAL)				hw,hw,8 N=8	SPT -
				z	Pale gray, moist, medium dense to dense. Fine grained.				10,16,17 N=33	SPT -
25				AA			(SC)		9,10,18 N=28	SPT
- - 26 - - - - - - - - - - - - - - - - - - -	-13.96			АВ	26.50m: Becoming medium grained sand.				6,7,16 N=23	SPT -
- 27				AC	GRANODIORTIE (Kgwu) HW: Brown, medium to coarse grained, extremely low to very low strength.	+ + + + + + + + + + + + + + + + + + + +			15,22,30 N=52	SPT
- 28				AD			нw		20,30/120	SPT
				AE					30/85 hb	-
- 30						+				-

REMARKS Kgwu - Wundaru Granodiorite; # Sample failed along existing defect surface.



ENGINEERING BOREHOLE LOG

BOREHOLE No	BH120
SHEET	<u>4</u> of <u>4</u>
REFERENCE No	12066

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

PROJECT	Mackay Ring Road	<u>Geotechnical Investig</u>	<u>ation - Stage</u>	1	 						
LOCATION	Peak Downs Hwy Ov	verpass Abutment B;	<u>CH: 5647m;</u>		 		COO	RDINATES	720966	6.1 E; 7658002	<u>9 N</u>
PROJECT NO	o_F <u>G6184</u>	SURFACE R.L.	<u>12.84m</u>	PLUNGE _	 DATE S	STARTED _	<u>7/10/14</u>	GRID [DATUM	<u>GDA 94 /MG/</u>	<u>A Zone 5</u> 5
JOB No		HEIGHT DATUM	<u>_AHD</u>	BEARING	 DATE COM	IPLETED _	<u>8/10/14</u>	DF	RILLER	Saxon Drilling	L
R.L. (m)	RQD ()%				INTACT STRENGTH	DEFECT SPACING	g	ADDI	FIONAL	DATA	

Ê	(m)	SNIS	()%		MATERIAL	≻		DN NG	STRENGTH	SPAC (m	CING m)	90	ADDITIONAL DATA	
DEPTH (m)		R VG H BORING	5	ш	DESCRIPTION	LOG		HER		(,	HIC I	AND	LES 6
	-17.16	ASIN ASIN VASH	COR			ГІТНОГОСУ	USC	EAT FH	STRENGTH	ບວ ພ>ບ	2888 2888	GRAPHIC LOG	TEST RESULTS	SAMPLES TESTS
30	-17.16		REC	ം ഗ _AE	GRANODIORTIE (Kgwu)	+		5			<u> </u>	U	30/80	orr SPT
					HW: (Cont'd)		-			-			hb	
F						+								-
E						+	1							-
-31					-		Н	\mathbf{N}					30/100	ODT -
-				AC		+				-			hb	SPT
E						+								
							-			-				
32,00	-19.16					+				-				
- 32			(100)	MICRODIORITE (Kgwu)	+					: : :		ls(50) = 1.98MPa ls(50) = 1.93MPa	D (32.05m)
-			100		SW: Grey, medium grained, massive, high to very high strength.	+	-							. (32.1011)
F		- 1	100 (87)		Frequent thin calcite veins throughout	-'- +	1							-
E					(<20mm). Defects:		1						ls(50) = 1.03MPa; #	
- 33					- Js; 0°-30° (2/m); Pl/Ro, OP; - Js; 30°-60° (<1/m); Pl/Ro, OP;	[+]							ls(50) = 0.83MPa; #	A (32.90m)
					- JS, 30 -00 (<1/11), FI/R0, OF,	[+]								
		_				+	-						ls(50) = 4.56MPa	A (22 50-1)
						+ +	-		- - -		· · ·		ls(50) = 6.67MPa	D (33.64m)
- 34			100		-	 +	-							-
E			(98)				SV	V			· · ·		ls(50) = 0.41MPa; #	D (34.23m)
						+	1							-
						[+]					· · ·			
- 35						+	-					_	- 34.90m-35.10m: J; 70°, CA;	
						+	-				· · ·	\sim	ls(50) = 1.28MPa; #	
						+ 	-		- - -				ls(50) = 4.53MPa	D (35.23m)
Ē									- - -					
						+	1							
- 36	-23.41	_	100			[+]								-
-36.25	-23.41		100		Borehole terminated at 36.25m.			+						
- -										-				-
Ē														
-37									::::: :	-				-
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- 38														-
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- 39										-				
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-34 -35 -36 -36 -37 -37 -38 -38 -38 -38 -38 -38 -38 -38 -38 -38														
			 _ \\/!!!"	daru	 Granodiorite;		1					1	LOGGED BY	<u> </u>
Ч													ME	
		<u># 3d</u>	inple la		ong existing defect surface.						· — —			

CORE PHOTO LOG

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



Department of Transport and Main Roads

Project Name	Mackay – Ring Road			
Project No	FG6184		Date	08/10/14
Borehole No	BH 120		TMR H No	12066
Location	Peak Downs Highway Overpa	ISS	Start Depth (m)	32.0
Detail	Abutment B		Finish Depth (m)	36.25
Chainage	5647		Submitted By	M.Ensor
Remarks	and a second sec		34.0	
We want			Service Se	
0 100	200 300	400	500 600	700

1:5

SCALE