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ENGINEERING BOREHOLE LOG

BOREHOLE No	BH137
SHEET	<u>1</u> of <u>4</u>
REFERENCE No	12082

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

PF	PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1													
LC	LOCATION _Fursden Creek Bridge Abutment A; CH: 9056m; COORDINATES _721483.8 E; 7661372.2 N													
PF	PROJECT No FG6184 SURFACE R.L7.63m PLUNGE DATE STARTED _3/11/14 GRID DATUM _GDA 94 /MGA Zone 55													
JOB No HEIGHT DATUM _AHD BEARING DATE COMPLETED _4/11/14 DRILLER _Saxon Drilling										L				
DEDTH (m)		AUGER CASING		RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	ГІТНОГОСУ	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DAT AND TEST RESULTS		SAMPLES TESTS
						Sandy Silty CLAY (TOPSOIL) Brown, moist, soft. Low plasticity. Some plant roots.	<u></u> 1/	(CL						-
- - - - - - - -					A	Silty SAND (ALLUVIUM) Brown, moist, loose. Fine grained sand.							4,3,4 N=7	SPT
+							다니는	·	- · · · · · · -					

			4,3,4 N=7 SPT
-2	в	(SM)	3,2,3 N=5 SPT
-3 -3 			3,3,4 N=7
PT Tool gNt Add-in 04/03/2	SAND with silt (ALLUVIUM) Brown, moist to wet, loose. Fine to medium grained sand. Some coarse grained sand.		3,4,6 N=10 SPT
SchawingFiles> Datagel C	E	(SP- SM) 	2,3,4 N=7
6 	F		2,2,2 N=4 SPT
THR.JMN 15.GLB Log A ENGINEERING BOREHOLE LOG WLITHOLOGY FG6164 - BOREHOLE S. 6PJ	Gravelly SAND (ALLUVIUM) Brown, wet, medium dense. Medium to coarse grained sand. Fine to medium, subrounded to subangular gravel. Trace silt.		6,8,12 N=20 SPT
71 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	н	(SP)	16,9,15 N=24 SPT
MR JAN 15.01B Log A_EN	J 9.00m: Becoming dense to very dense.		11,23,30/140 SPT
REMARKS Kgw	ıu - Wundaru Granodiorite;		LOGGED BY MS/JA

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ENGINEERING BOREHOLE LOG

BOREHOLE No	BH137
SHEET	<u>_2of4_</u> _
REFERENCE No	12082

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

PROJECT	Mackay Ring R	oad (<u>Geotechnical Investic</u>	gation - Stage	1	 								
LOCATION	Fursden Creek	Bridg	<u>e Abutment A; CH: 9</u>	9056m;		 		·	CO	ORDINATES	721483	3.8 E; 7661372.	<u>2 N</u>	
PROJECT N	lo <u>FG6184</u>		SURFACE R.L.	7.63m	PLUNGE _	 	DATE S	TARTED	<u>3/11/1</u>	I <u>4</u> GRID	DATUM	<u>GDA 94 /MG/</u>	<u>A Zone 55</u>	;
JOB No			HEIGHT DATUM	_AHD	BEARING	 	DATE CON	IPLETED	<u>4/11/1</u>	1 <u>4</u> C	RILLER	Saxon Drilling	L	
R.L. (m)	B S NITI NITI			MATERIAI			INTACT STRENGTH	DEFECT SPACING	90	ADD	ITIONAL	DATA		

Unit Unit <th< th=""><th>Ê</th><th>(m)</th><th></th><th>()%</th><th></th><th>MATERIAL</th><th></th><th>ģ</th><th>STRENGTH</th><th>SPACING</th><th>bC</th><th>ADDITIONAL DATA</th><th></th></th<>	Ê	(m)		()%		MATERIAL		ģ	STRENGTH	SPACING	bC	ADDITIONAL DATA	
Image: Server by SAND (ALLUYIUM) 122.1.18 SPT 11 L 122.1.18 SPT 11 L 142.0.24 SPT 142.0.25 SPT 142.0.24 SPT 142.0.24 SPT 142.0.24 SPT 142.0.25 SPT 142.0.24 142.0.24 142.0.25 SPT 142.0.24 142.0.24 142.0.25 SPT 142.0.24 142.0.24 142.0.24 SPT 144.0.24 142.0.24	Η		DRIL DRIL		ш		0G			(mm)		AND	ß
Image: Server by SAND (ALLUYIUM) 122.1.18 SPT 11 L 122.1.18 SPT 11 L 142.0.24 SPT 142.0.25 SPT 142.0.24 SPT 142.0.24 SPT 142.0.24 SPT 142.0.25 SPT 142.0.24 142.0.24 142.0.25 SPT 142.0.24 142.0.24 142.0.25 SPT 142.0.24 142.0.24 142.0.24 SPT 144.0.24 142.0.24	DEP		SINCER SIN SIN SINTE SIN SIN SIN SINTE SIN SIN SINTE SIN SIN SINTE SIN S	CORE	MPL	DESCRIPTION	HOL	S TH	프프		N N	TEST RESULTS	MPL
Image: Server by SAND (ALLUYIUM) 122.1.18 SPT 11 L 122.1.18 SPT 11 L 142.0.24 SPT 142.0.25 SPT 142.0.24 SPT 142.0.24 SPT 142.0.24 SPT 142.0.25 SPT 142.0.24 142.0.24 142.0.25 SPT 142.0.24 142.0.24 142.0.25 SPT 142.0.24 142.0.24 142.0.24 SPT 144.0.24 142.0.24	10	-2.37	R82S	REC %	SA		5	SIB	┉ᠵᠴ᠌ᡓᠴᠵᡅ		,	; · · · · · · · · · · · · · · · · · · ·	SA TE
1 1	F				к	Gravelly SAND (ALLUVIUM)				+ : : : : : :		12,21,18	SPT -
13 5.37 Image: Same series of the serie	F									Ŧ::::::		N=39	
13 5.37 Image: Same series of the serie	ΕI									Ē			
13 5.37 Image: Same series of the serie										<u>_</u>			-
12 1	- 11									±:::::::::::::::::::::::::::::::::::::		14.00.04	-
12 1	F				L					+	•	N=44	SPT _
149 -5.37 M 1 20.25.27 SPT 149 -5.37 N SRANODIORITE (Kgwu) + + 9.29.3070 SPT 140 P + 4 30.30/100 SPT -	F							(SP)	· · · · · · · · · · · · · · · · · · ·	+:::::	- - -		-
149 -5.37 M 1 20.25.27 SPT 149 -5.37 N SRANODIORITE (Kgwu) + + 9.29.3070 SPT 140 P + 4 30.30/100 SPT -	El									Ī	•		
149 -5.37 M 1 20.25.27 SPT 149 -5.37 N SRANODIORITE (Kgwu) + + 9.29.3070 SPT 140 P + 4 30.30/100 SPT -	- 12									±	- - -		-
114 -5.37 Image: Signed control of the second context in the second con	+				м					± : : : : : :	• •	20,25,27	SPT -
Image: Construction of the second	F									‡::::::	- -	N=52	-
Image: Construction of the second	FI								· · · · · · · ·	Ŧ			-
Image: Construction of the second	El	E 97								I			-
10 NW: Recovered as dark grey, brown and white, moist, wry dense Clayey SAND. + 11 P + 15 P + 16 R + 18 R + 19 No. S 10 P + 11 S + 12 P + 13 Q + 14 P + 15 Q + 16 R + 17 S + 18 R + 19 Number of classes S 19 Number of classes + 10 P + 11 S + 12 S + 13 Number of classes S 14 S S 15 NUmber of classes S 16 R + 17 S + 18 N S 19 S	13,09	-5.37				GRANODIORITE (Kgwu)	+			+	:		-
Image: Prine to coarse grained sand. + + 30.30/100 SPT Image: Prine to coarse grained sand. + + 30.30/100 SPT Image: Prine to coarse grained sand. + + 30.30/100 SPT Image: Prine to coarse grained sand. + + 30.30/100 SPT Image: Prine to coarse grained sand. + + 30.30/100 SPT Image: Prine to coarse grained sand. + + - - Image: Prine to coarse grained sand. + + - - - Image: Prine to coarse grained sand. + + - <td></td> <td></td> <td></td> <td></td> <td>N</td> <td>XW: Recovered as dark grey, brown and</td> <td></td> <td></td> <td></td> <td>†</td> <td></td> <td>9,29,30/70</td> <td>SPT -</td>					N	XW: Recovered as dark grey, brown and				†		9,29,30/70	SPT -
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY						Fine to coarse grained sand.	+			<u>+</u> ::::::	•		-
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY	12/20					5				Ŧ			-
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY	5- 5-14								· · · · · · · · · · · · · · · · · · ·	+			
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY					Р		+			± · · · · · ·		30,30/100	SPT -
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY										+ : : : : : :	•		-
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY							- ' -			Ŧ	•		
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY							+			+	•		-
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY	SH 15				Q				· · · · · · · ·	+	•	30/120	SPT -
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY							+			Ŧ::::::	• • •		-
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY							+			<u>+</u> ::::::	•		
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY	<u> </u>									+			-
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY	15 						+			+:::::			
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY					R		+			+	- -	26,30/100	SPT _
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY								×\//		<u> </u>			-
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY							+			± : : : : :			-
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY										‡:::::			
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY					S		- ' -			Ŧ	:	30/110	SPT .
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY	i j						+			Ŧ			
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY										+			
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY										+			
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY							+			‡::::::		30/90	SPT -
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY										<u> </u>			-
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY							+		· · · · · · ·	£:::::			
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY							+			± : : : : : :			
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY										‡::::::			
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY	≼'† 19 8				U		+			T : : : : :		30/90	SPT
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY	<u> </u>									<u> </u>			
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY	120.0						- ' -		· · · · · · · · · · · · · · · · · · ·	†			
REMARKS Kgwu - Wundaru Granodiorite; LOGGED BY							+			‡::::::			
NOUA										<u>† · · · · · ·</u>			
# Sample failed along existing defect surface MS/JA	R	REMARK										-	
			<u># San</u>	nple faile	d alo	ng existing defect surface.						WI5/JA	

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Mackay Ring Road Geotechnical Investigation - Stage 1

PROJECT

ENGINEERING **BOREHOLE LOG**

BOREHOLE No	BH137
SHEET	<u>3</u> of <u>4</u>
REFERENCE No	12082

LOGGED BY

MS/JA

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

LOC	ATION	<u>Fursd</u>	en Creel	<u>Brid</u>	lge Abutment A; CH: 9056m;				СС	ORDINATES 721483.8 E; 7661372	.2 <u>N</u>
PRO	JECT N	D_F <u>G618</u>	<u>84</u>		SURFACE R.L. <u>7.63m</u> PLUNGE			DATE STARTED	<u>3/11/</u>	14 GRID DATUM <u></u>	<u>A Zone 55</u>
JOB	No				HEIGHT DATUM <u>AHD</u> BEARING .			DATE COMPLETED	<u>4/11/</u>	DRILLER Saxon Drilling	L
05 DEPTH (m)	R.L. (m) -12.37	AUGER CASING WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	ГІТНОГОСУ	USC WEATHERING	INTACT DEFECT STRENGTH SPACING (mm)	EW GRAPHIC LOG		SAMPLES TESTS
E				V	GRANODIORITE (Kgwu) XW: (Cont'd)	+		<u> </u>		30/100	<u></u>
- - - - - - - 21						+ 				20/02	- - - - -
				W		+	XW			30/60	SPT
- - - - - - - - - - 22			(0)	_X_		+ + 				30/90	- - - - - - - - -
Ē			(0)	\boxtimes		+ 					-
Ē			47 (0)			+ 	xw				-
-22.94 	-15.31		100 (60)		GRANODIORITE (Kgwu)	+			+	+	-
2015 10:51			100 (84)		HW: Brown, grey and white, fine to coarse grained, massive, mainly very low strength. Defects: - Js; 15°-30° (2/m); PI/Ro, TI-CD:	 + 	HW			□ 23.43m-23.50m: BZ; DI?	
n 04/03			100		- Js; 75°-85° (1/m); Pl/Ro, TI-CD:	+ 				q _u =93kPa;	UCS -
Tool gINt Add-I			(0) 100 (0) 100			+ - +	xw				
S Datgel CPT			(80) 100 (85)			+ + +					-
<<01rswingFile>> Datgel CPT Tool gN1 Add-in 0403/2015 10:51						- '- + 	HW				
g[100 (0) 100			+ +				– 25.85m-26.10m: BZ; DI?	
FG6184 - BOR			(27)			+	мw нw	╡┊┊┊ <mark>┊┍╼╡</mark> ╢┇┊┊┊┆			
, 127 - 27 - 10 - 10	10 74					+ -	MW				
н <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u> <u>1</u>	-19.74		100		GRANODIORITE (Kgwu) SW: Grey to pale grey and pink, fine to coarse grained, massive, very high	+ + +					
28 ING BOREHOL			()		strength. Defects: - Js; 10°-30° (1/m); PI/Ro, TI, Cn; - Js; 40°-60° (1/m); PI/Ro, TI, Cn;	 + 				ls(50) = 7.01MPa ls(50) = 5.49MPa UCS=96.4MPa	D _(27.94m) A _(27.98m)
AN 15 GLB LO3 A ENGINEERING BOREHOLE LOG W LITHOLOGY FG6184 - BOREHOLES (100			+ + +	SW			ls(50) = 8.61MPa ls(50) = 12.84MPa	A (28.85m)- D (28.90m)
JAN 15.GLB			(100)			 + 				ls(50) = 6.32MPa; # ls(50) = 8.81MPa	A (29.52m)_ D (29.58m)-

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

NH 30

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ENGINEERING BOREHOLE LOG

BOREHOLE No	BH137
SHEET	<u>4</u> of <u>4</u>
REFERENCE No	12082

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

PROJECT	Mackay Ring	Road	Geotechnical Investigation - Stage 1								· <u> </u>
LOCATION	Fursden Cree	ek Brig	lge Abutment A; CH: 9056m;					COORI	DINATES 72148	3.8 E; 7661372	<u>.2 N</u>
PROJECT N	lo_F <u>G6184</u>		SURFACE R.L			DATE S	TARTED	3/11/14	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>4/11/14</u>	DRILLER	Saxon Drilling	<u>] </u>
(m) (m) HILABO	RQD RQCER VASHBRORING VASHBRORING VASHBRORING VASHBRORING VASHBRORING	1	MATERIAL DESCRIPTION	ітногоду	JSC VEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	EW BRAPHIC LOG	ADDITIONAL AND TEST RESU		SAMPLES ESTS

	DEP	-22.37	AUGER CASINC MASH I CORE I	CORE REC %	SAMPLI	DESCRIPTION	LITHOL	JSC VEATH	THE CONTRACT OF CO	TEST RESULTS	SAMPL
	30	-22.31		ILC //		GRANODIORITE (Kgwu) SW: (Cont'd)	+				-
	-						+				-
	-			100			 +				-
	- 31			(80)			 +				-
	-							SW			-
	-						+				-
	- 32						+			ls(50) = 8.45MPa ls(50) = 9.51MPa	D (31.87m) A (31.92m)
	-			100			+				-
	32.50	-24.87		100		Borehole terminated at 32.5m					
	-								<u> </u>		-
	- 33										-
015 10:5	-										
04/03/2	-										-
t Add-In	- 34										
ool gIN	-										-
I CPT T											-
> Datg	- 35 -										-
ingFile>	-										-
< <draw< td=""><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td></draw<>	-										-
S.GPJ	- 36										
SEHOLE	-										-
84 - BOI	-										_
/ FG61	- 37										-
HOLOG	-										-
W LITH	-										
DIE LOG											-
OREHC	- 38 - -										-
RING B	- -										-
NGINEE	-										
20 A_EI	- 39										
GLB L	-										
JAN 15											
TMR			- 1/	\\\/····		ranadiarita					
	R	EMARK				ranodiorite;				LOGGED BY MS/JA	
										L	

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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	04/11/14
Borehole No	BH137	TMR H No	12082
Location	Fursden Creek Bridge	Start Depth (m)	22.1
Detail	Abutment A	Finish Depth (m)	32.5
Chainage	9056m	Submitted By	J. Lopez
Remarks			



GEOT043/1

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