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Retrieved from the Queensland Geotechnical Database http://qgd.org.au/

J	2000	2				nsland	BORE	HC	JLE	: LOG			SHEET		_ <u>1_</u> of	_4
ţ	<u>y</u> R	Ţ	(Gov	e	rnment	FOR GEOTE SYMBOLS REFER						REFEREN	ICE No	1208	34
RO	JECT	Мас	cka	y Ring F	Road	Geotechnical Investigation	n - Stage 1									
OC.	ATION					ge Pier 1; CH: 9090m;							ORDINATES	72148	9.3 E; 766140	05.8 N
RO	JECT No	<u> </u>	<u>318</u>	4		SURFACE R.L.	<u>.50m</u> PLUNGE			DATE S	TARTED 4	/ <u>11/1</u>	4 GRID	DATUM	<u>GDA 94 /M</u>	<u>GA Zo</u> r
OB	No		·			HEIGHT DATUM	AHD BEARING			DATE COM	PLETED 6	/ <u>11/1</u>	<u> 4</u> [DRILLER	<u>Saxon</u> Drilli	ng
	R.L. (m)	0	Ω	RQD ()%						INTACT STRENGTH	DEFECT SPACING			ITIONAL	ΠΔΤΔ	
DEPTH (m)	()	R VG H BORING	RILLIN	() /0		MA	ATERIAL	ß	THERING	ontenom	(mm)	CLOG	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	AND	Branc	S
	6.50	IGER SING ASH B	<u>DRE D</u>	CORE	SAMPLE	DES	CRIPTION	ГІТНОГОGY	EATHE	HHHRICH HHHRICH HHHRICH HHHRICH HHHRICH HH		GRAPHIC LOG	TE	ST RESU	ILTS	SAMPLES
0	6.50	₹2≷	ы П	REC %	S₽	Clayey SILT (TOPSO	Ш.)	<u>, 1,</u>				5				S
	0.00					Dark brown, moist, so Low plasticity. Some	oft.	1/ · · ·	(ML)							
50	6.00					SILT with sand (ALL	UVIUM)									_
1						Brown, moist, very sti Low plasticity. Fine gr	ff. ained sand.									
					А				(ML)						7,12,1	
0	4.90														N=2	
	1.00					Silty SAND (ALLUVIU Brown, moist, loose to	JM)					$\uparrow\uparrow$				
						Fine grained sand.									0.0	
					В										2,3, N=	
									(SM)							
					С										4,4,	
															N=1	0
	2.60															
0	2.00					SAND with silt (ALLL						\uparrow				
					D	Brown, moist, medium Fine to coarse graine	d sand.								4,8,1 N=1	
					Е	5.00m: Becoming ma grained sand.	inly medium to coarse								4,7,1 N=1	
						3			(SP- SM)						11-1	•
															2,5,	
					F										2,5, N=1	
	-0.50					6.70m: Trace medium					L	$\downarrow \downarrow$				\bot
					G	Silty SAND (ALLUVIL Dark grey and brown									14,20,30/12	0 51
						dense. Fine grained sand.	,			· · · · · · · · · ·						
									(SM)							
						7.90m: Becoming me Trace fine gravel.	dium grained sand.								0 1 2 1	
,	-1.90				Н										9,12,1 N=2	
						Silty CLAY (RESIDUA Grey mottled orange-										
						stiff. Medium plasticity. Tra										
					J	grained sand.			(CI)						4,7,1 N=1	
															N=1	-
0								V.								

ENGINEERING

BOREHOLE No

___BH139__

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

-Fr		2	0	lue	e	nsland	BORE	HC)LE	E LOG	ì		SHEET	- 110		
1		Ţ	G	iov	e	nment	FOR GEOTE(BOLS REFER						REFERENC	E No	<u>12084</u>	
PRC	JECT	Mack	<u>kay </u>	<u>Ring R</u>	oad	Geotechnical Investigation - Stage 1										
													ORDINATES			
						SURFACE R.L. <u>6.50m</u>										
JOB	NO					HEIGHT DATUM <u>AHD</u> I	BEARING			DATE COM			<u>14</u> DF	VILLER	Saxon Drilling	1
Ē	R.L. (m)	UN UN	F (RQD)%					U	INTACT STRENGTH	DEFEC SPACIN	т IG g	ADDIT	FIONAL	DATA	
DEPTH (m)		G BORING DRILING			щ	MATERIAL		-0GY	TERIN		(mm)	HIC LC		AND		ES
当 10	-3.50	ニフエぃ	01. – E	ORE	SAMPLE	DESCRIPTION		ГІТНОГОGY	USC WEATI			EW 5 GRAPHIC LOG	TES	T RESU	LTS	SAMPLES TESTS
10 - -	-3.50				ĸ	Silty CLAY (RESIDUAL)					+ + + + + + + + + + + + + + + + + + + +				6,10,11	SPT
-					IX.	(Cont'd)			(CI)	· · · · · · · ·	+ : : : : : + : : : : : :	· ·			N=21	JF I
10.80	-4.30										+					
- 11						GRANODIORITE (Kgwu) XW: Recovered as grey-brown,	mottled	+			+	· ·			11 15 10	
					L	pink, moist, dense to mainly ver Clayey SAND. Fine to coarse g	y dense rained sand.	+				· · ·			11,15,16 N=31	SPT
								+		· · · · · · · ·		· · ·				
- 12								+	1		±	· · ·				
					М	12.00m: Becoming very dense.		 +	1			· · ·			17,25,30/120	SPT
								 +		· · · · · · · · · · · · · · · · · · ·	+	· · ·				
												· ·				
13					N			+ 	+	· · · · · · · · ·		· ·			25,30,30/90	SPT
								+			‡	· ·			-,	
								+			‡::::::	· ·				
14					Р			+			‡:::::::::::::::::::::::::::::::::::::	· ·			23,30/80	SPT
								+				· ·				
								 +			+	· ·				
15		Ц			_						∔ :::::	· ·				
					Q			+ 							25,30/100	SPT
								+ 	XW		∔ :::::: +::::::::::::::::::::::::::::::					
								+								
16					R	16.00m: Colour change to brow white.	n, pink and	+		· · · · · · · ·	Ŧ				27,30/90	SPT
								+		· · · · · · ·	T					
								 +			Ŧ					
17					S			 +			Ŧ				30/120	SPT
								- ' -			Ŧ					
								+ 	-		Ŧ					
18					Т			+			Ŧ				30/130	SPT
								+			Ŧ				00,100	
								+			ŧ.					
10								 +			<u>+</u>					
19					U	19.00m: Colour change to grey, pink.	, brown and	 +			f: · · · ·	· ·			30/90	SPT
											<u></u>	· ·				
								+ 			∃ ::::::	· ·				
20 F	REMARK	s Kawi	u - V	Wunda	iru G	ranodiorite;		<u> </u>			L				LOGGED BY	<u> </u>
'						ng existing defect surface.									MS	

ENGINEERING

BOREHOLE No

___<u>BH139</u>__

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ENGINEERING BOREHOLE LOG

BOREHOLE No	BH139
SHEET	<u>3</u> of <u>4</u>
REFERENCE No	12084

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

PROJECT	OJECT Mackay Ring Road Geotechnical Investigation - Stage 1														
LOCATION	OCATION <u>Fursden Creek Bridge Pier 1; CH: 9090m;</u>														
PROJECT No	p_F <u>G6184</u>		SURFACE R.L.	<u>6.50m_</u>	PLUNGE _			DATE S	TARTED _4	/ <u>11/14</u>	GRID D	ATUM	GDA 94 /MG/	<u>A Zone 55</u>	5
JOB No			HEIGHT DATUM	<u>AHD</u>	BEARING			DATE COM	IPLETED 6	/11/14	DF	RILLER	Saxon Drilling	L	
(m)	BND SNIC SNIC			MATERIAL		~	UN N	INTACT STRENGTH	DEFECT SPACING (mm)	00	ADDIT	IONAL I	DATA		

Ê	(m)	DNG NG	()%		MATERIAL		ŋ	STRENGTH	SPACING	g	ADDITIONAL DATA	
E H		R IG I BORING DRILLING			MATERIAL	λgc	THERING		(mm)	CLO	AND	S
DEPTH (m)	-13.50	AUGER CASING MASH B CORE D	CORE REC %	SAMPLE	DESCRIPTION	LITHOLOGY		ਜ਼ੑੑੑਸ਼ਸ਼ਸ਼ਗ਼ਖ਼ਜ਼	ບບ ພ>ບ≥≥>⊔	GRAPHIC LOG	TEST RESULTS	SAMPLES TESTS
- 20	-13.50		1120 /0	V	GRANODIORITE (Kgwu)	+	- -			-	30/100	SPT
÷					XW: (Cont'd)							-
-						+						-
F								 				-
-21									<u> </u>		20/00	
				W		+					30/60	
t I												-
F						+		· · · · · · · -				-
F						+						-
-22				x							30/70	SPT
E						+						
Εl							VAN	: : : : : <u>-</u>				-
						+	XW					-
- L						+						-
-23				Y							30/110	SPT _
- 12						+						-
15 10												-
03/20						+		· · · · · · · ·				-
) 24						+						-
-ppy				Z							30/110	SPT_
alk						+						_
0 <u>1</u>												-
						+						-
D - 25 - 25 25:10	-18.60			AA.		+					30/70	- SPT -
FG6184 - BOREHOLES.GPJ << DrawingFile>>> Datgel CPT Tool gINt Add-in 04/03/2015 10:51	10.00		(61)		GRANODIORITE (Kgwu)	+						-
- I I					MW: Pale grey to grey, fine to coarse		мw				ls(50) = 0.14MPa; #	A (25.40m)
E 1	10.00		100		grained, massive, low strength.	+					— 25.53m: J; 45°, PI/Ro, TI, Cly Vr;	-
V 25.80	-19.30		(0)		MICRODIORITE (Kgwu)	+					25.80m: Contact at 50°, PI/Sm, TI, Cly Vr;	-
Si - 26					MW: Brown, fine grained, massive,	+						_
<u>s</u> t					medium strength. Calcite veins throughout. Brecciated in	[+]						-
					parts.	+	MW				□- 26.33m-26.40m: Clay seam. Is(50) = 0.07MPa; # - 26.50m-26.70m: HW brecciated zone.	D (26.50m)
184			100			+				_	26.50m-26.70m: HW brecciated zone.	-
	-20.50		(20)			+					27.00m: Contact @ 50°, Pl/Sm, FL,	-
je zr					GRANODIORITE (Kgwu)	+					Cly;	
Ê					MW: Pale grey to grey, fine to coarse grained, massive, low to high strength.	<u> </u>					ls(50) = 1.30MPa	D (27.33m)
 ≥					Defects:	+	MW				UCS=6.14MPa	
<u> </u>					- Js; 50°-60° (2/m); PI/Ro, TI, Cly Vr, some CA:	+						
HOH 28-10	-21.60				- Js; 80° (1/m); PI/Ro, TI, Cly Vr, some CA;							-
			100		GRANODIORITE (Kgwu)	+						-
			(60)		HW: Pale grey to grey, fine to coarse	+ +						-
₩E					grained, massive, very low strength. Defects:	+	ΗW					-
	00 50				- Js; 75° (1/m); Pl/Ro, Cly Vr;	+						
^Ⅲ [29,08 ∀ 29	-22.50				GRANODIORITE (Kgwu)	+						A (29.03m)_
- <u>آک</u>					SW: Pale grey to dark grey, fine to coarse	-					ls(50) = 8.48MPa	U _(29.08m) -
1-1-1-2					grained, massive, very high strength. Defects:	+	SW					-
			100		- Js; 0°-15° (1/m); Pl/Ro, TI, Cn, minor CA;	F , 1						-
TMR.Jan 15.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY			(84)		- Js; 60°-70° (2/m); Pl/Ro, Tl, Cn, minor CA;	+						
	REMARK	S Kgwu	- Wund	aru G							LOGGED BY	
					and the second standard second s						MS	
		<u></u> 0al			ng existing defect surface.						· L	



Mackay Ring Road Geotechnical Investigation - Stage 1

PROJECT

ENGINEERING BOREHOLE LOG

BOREHOLE No	<u>BH139</u>
SHEET	<u>4</u> of <u>4</u>
REFERENCE No	12084

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

PROLET No_FG154	LOCA	ATION	<u>Furse</u>	den Cree	<u>k Bri</u> c	lge Pier 1; CH: 9090m;				·	СС	ORDINATES 721489.3 E; 7661405	<u>.8 N</u>
R.L. (m) QQ USSEQ USSEQ USSEQ () % RAD USSEQUE USSEQUE () % MATERIAL DESCRIPTION NATERIAL DESCRIPTION NATERIAL USSEQUE USSEQUE USSEQUE USSEQUE () % DEFECT SPACING (mm) O US USSEQUE USSEQ	PRO	JECT N	o <u>FG61</u>	84		SURFACE R.L. <u>6.50m</u> PLUNGE			DATE S	TARTED 4	/ <u>11/</u>	14GRID DATUM <u>GDA 94_/MG</u>	<u>A Zone 55</u>
Image: marked bit with the second of the	JOB	No				HEIGHT DATUM <u>AHD</u> BEARING _			DATE COM	IPLETED 6	/ <u>11/</u>	14 DRILLER Saxon Drilling	<u>g</u>
SW: (Contrd) + + - <t< td=""><td>05 DEPTH (m)</td><td>R.L. (m) -23.50</td><td>AUGER CASING WASH BORING CORF DRILLING</td><td>RQD ()% CORE REC%</td><td>SAMPLE</td><td>DESCRIPTION</td><td>- ГІТНОГОĞҮ</td><td>USC WEATHERING</td><td>INTACT STRENGTH</td><td></td><td>GRAPHIC LOG</td><td>ADDITIONAL DATA AND TEST RESULTS</td><td>SAMPLES TESTS</td></t<>	05 DEPTH (m)	R.L. (m) -23.50	AUGER CASING WASH BORING CORF DRILLING	RQD ()% CORE REC%	SAMPLE	DESCRIPTION	- ГІТНОГОĞҮ	USC WEATHERING	INTACT STRENGTH		GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
Borehole terminated at 31.1m						SW: (Cont'd)	- '. + - '.					ls(50) = 18.20MPa	D (30.42m) A (30.48m)
		-24.60				Borehole terminated at 31.1m						⇒ 31.00m-31.03m: HW seam and CA;	

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

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 No FG6184 Date 06/11/14 Borehole No BH139 TMR H No 12084 Location Fursden Creek Bridge Start Depth (m) 25.1 Detail Pier 1 Start Depth (m) 31.1 Chainage 9090m Submitted By J. Lopez Remarks Image: Start Depth (m) 10.0 25.1 Detail Pier 1 Start Depth (m) 31.1 Chainage 9090m Submitted By J. Lopez Remarks Image: Start Depth (m) 10.0 26.1 Image: Start Depth (m) 10.0 20.0 30.0 40.0 50.0 60.0 70.0 SCALE 1:5 Image: Start Depth (m) 1:5 Image: Start Depth (m) Image: Start Depth (Project Name	Mackay – Ring Road			
Borehole No BH139 TMR H No 12084 Location Fursden Creek Bridge Start Depth (m) 25.1 Detail Pier 1 Finish Depth (m) 31.1 Chainage 9090m Submitted By J. Lopez Remarks Submitted By J. Lopez				Date	06/11/14
Location Fursden Creek Bridge Start Depth (m) 25.1 Detail Pier 1 Finish Depth (m) 31.1 Chainage 9090m Submitted By J. Lopez Remarks Submitted By J. Lopez					
Detail Pier 1 Finish Depth (m) 31.1 Chainage 9090m Submitted By J. Lopez Remarks Submitted By J. Lopez		Fursden Creek Bridge		Start Depth (m)	
Chainage 9090m Submitted By J. Lopez Remarks J. Lopez J. Lopez J. Lopez	Detail				31.1
	Chainage	9090m			
SCALE 1:5	Line Line Line Line Line Line Line Line		BHI39		
SCALE 1:5					
		S	CALE 1:5		