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-Er			Qu	ıe	e	nsland	BORE	HC	DL	E	LOG			SHEE	T	<u>_</u>	3
1	<u>J</u>	T				rnment	FOR GEOTE SYMBOLS REFER								RENCE No	<u>1208</u>	
PRO	JECT	Mad	<u>ckay Rir</u>	<u>ng R</u> o	<u></u>	Geotechnical Investigation - St	age 1										
LOC	ATION					ge Abutment B; CH: 9194m;								ORDINA	TES 72150	2.5 E; 766150	9 <u>.2 N</u>
PRO	JECT No					SURFACE R.L. <u>8.64</u> m											
JOB	No					HEIGHT DATUM <u>AHD</u>	BEARING			D	ATE CON	IPLETED	<u>6/9/1</u>	4	DRILLER	ND Drilling I	Pty Ltd
	R.L.		RQI								INTACT	DEFEC	Г			DATA	
(m) T	(m)	G G BORING				MATER	IAL	5			IRENGIH	(mm)			ADDITIONAL	DATA	
DEPTH (m)					SAMPLE	DESCRIP	TION	ГІТНОГОGY	THE			~~~~	EW GRAPHIC LOG				SAMPLES TESTS
0	8.64			%	SAN			Ē	USC ME		TRENGTH	ш>о≥≥	11 8 8 8 8		TEST RESU	JLTS	SAN
0.30	8.34		'			Sandy CLAY (TOPSOIL) Dark brown, dry, soft.		<u>\\</u> 1/	(CI))			· · ·				
-						Medium plasticity. Fine to sand. Roots throughout.	medium grained						· · ·				-
Ē						Sandy CLAY (ALLUVIUM)											
-1					_	Black mottled orange, dry, Medium plasticity. Fine to											-
E					A	sand.							· · ·			3,4,6 N=10	
-										-			· · ·				-
1.90	6.74												· · ·				
-2					в	Clayey SAND (ALLUVIUM Brown mottled orange, mo) vist, medium									4,6,5	SPT -
E						dense. Fine to coarse grained.			(SC	;)						N=11	
-						U U					· · · · · · ·		· · ·				-
- 3-90	5.64				_					;			: : ·				-
					С	Sandy CLAY (ALLUVIUM) Brown mottled grey, moist	, very stiff.						· · ·		:	Su _(PP) =120kPa	; U50 -
						Medium plasticity. Fine to sand.	coarse grained										_
4									(CI))							
					D											3,8,9 N=17	
													· · ·				-
4.90	3.74									<u> </u>			: : ·				_]
5-5					Е	Silty CLAY (ALLUVIUM) Grey mottled orange, mois	t, stiff to very								:	Su _(PP) =110kPa	U50 -
					_	stiff. High plasticity. With fine to	medium grained									(11)	
- - -						sand.	C C			-							-
6					_				(CH				· · ·				
					F				(CH	'/ .						2,4,8 N=12	SPT
					_												-
													· · ·				-
7	1.44																-
					G	Sandy CLAY (ALLUVIUM) Grey mottled orange, mois			(CI))						Su _(PP) =70kPa	; U50 <u>-</u>
7.60	1.04					Medium plasticity. Fine to	coarse grained			+							-
1_ 1_ 28						isandCallering				-							
					н	Pale grey, moist, medium Fine to medium grained sa	dense.		1				- • • • • •			8,14,15 N=29	SPT -
				-		i i i i i i i i i i i i i i i i i i i			(SC	1			· ·			N=29	
													· ·				
1 - 9 <u>8</u> 0	-0.36					Sandy CLAY (ALLUVIUM)											
9.30	-0.66				J	Grey, moist, stiff. Medium plasticity. Fine to		K	(CI)	<u>'</u>						Su _(PP) =48kPa	; U50 -
						Silty SAND (ALLUVIUM)			(SM				· ·				
						Grey, wet, medium dense. Fine to medium grained sa							· · ·				
<u>ا بار ا</u> . F	REMARK	s <u>Kg</u> v	<u>vu - Wu</u>	ndar	u G	iranodiorite;		<u> </u>	·							LOGGED BY	
	-					ng existing defect surface.		_								EB/ND	

ENGINEERING

BOREHOLE No

___<u>BH145</u>__

STARE .

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Queensland Government

ENGINEERING BOREHOLE LOG

BOREHOLE No	BH145
SHEET	<u>2</u> of <u>3</u>
REFERENCE No	12086

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

PROJECT	Mackay Ring Ro	oad_	Geotechnical Investigation - Stage 1								
LOCATION	Fursden Creek	<u>Brid</u>	ge Abutment B; CH: 9194m;					СО	ORDINATES 721502.5 E; 76	61509.	<u>2 N</u>
PROJECT No	_ <u>FG6184</u>		SURFACE R.L. <u>8.64m</u> PLUNGE			DATE S	TARTED _5/	<u>/9/14</u>	4 GRID DATUM GDA 9	<u>94 /MG/</u>	<u>A Zone 58</u>
JOB No			HEIGHT DATUM <u>AHD</u> BEARING			DATE COM	PLETED _6/	<u>/9/1</u> 4	<u>4</u> DRILLER <u>ND Dr</u>	illing Pt	y Ltd
R.L. (m)	RQD 9NINC 9NINC 100 100 100 100 100 100 100 100 100 10	SAMPLE	MATERIAL	гітногоду	C ATHERING	INTACT STRENGTH ₩>±₽	DEFECT SPACING (mm)	APHIC LOG	ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
10 -1.36	BUSASS CORE CORE CORE REC %			E	US(▥⋝ェを」⋝ѿ	™>°0≥≥>≦ 	GR			SAI TES
10.20 -1.56 10.40 -1.76		к	Silty SAND (ALLUVIUM) (Cont'd) Clayey SAND (ALLUVIUM) Grey, moist, medium dense. Fine to coarse grained sand. Clayey SAND (RESIDUAL)		(SM) (SC) (SC)				9	, <u>12,12</u> N=24	SPT
- - 11 - 		L	Orange mottled grey and white, moist, medium dense. Fine to coarse grained.		(30)				9	,11,16 - N=2 7-	SPT
 <u>-3.36</u>			Sandy CLAY (RESIDUAL) Orange mottled grey-brown, moist, medium dense. High plasticity. Fine to coarse grained sand.		(CH)						
		M	MICRODIORITE (Kgwu) XW : White, grey and brown, medium grained, extremely low strength.		xw					30/20	<u>SPT</u>
- 13		N			~~~				33,5	30/120	SPT
1381 -5.17 1381 -5.17 14 14 15 15 16 16 17 18 18 18 18 18 19 19 19 19 10 10 10 10 10 10 10 10 10 10	$ \begin{array}{c} (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ 100 \\ (0) \\ (0) \\ 100 \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) \\ (0) $		MICRODIORITE (Kgwu) MW: Grey and brown, fine to medium grained, massive, low to medium strength. Broken throughout.		MW XW MW HXW HW HW HW HW MW]- 14.50m-14.60m: Clay seam.]- 15.65m-15.80m: Clay seam.]- 15.93m-16.07m: Clay seam.	-30/10-	SPT
		Q	GRANODIORITE (Kgwu) HW: Pink, white and grey, fine to coarse grained, massive, extremely low strength.		HW				23	,30/20	

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

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LOGGED BY EB/ND

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ENGINEERING BOREHOLE LOG

BOREHOLE No	BH145
SHEET	<u>3</u> of <u>3</u>
REFERENCE No	12086

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

PROJECT	Mackay Ring Road	d Geotechnical Investion	<u>gation - Stage</u>	1									
LOCATION	<u>Fursden Creek Bri</u>	dge Abutment B; CH: 9	9 <u>194m;</u>						COOF	RDINATES 721502	2.5 E; 7661509	.2 <u>N</u>	
PROJECT N	lo_F <u>G6184</u>	SURFACE R.L.	<u>8.64m</u>	PLUNGE _			DATE S	TARTED <u>5</u>	/ <u>9/14</u>	GRID DATUM	GDA 94 /MG	<u>A Zone 5</u>	5
JOB No		_ HEIGHT DATUM	_ <u>AHD</u>	BEARING _			DATE COM	PLETED 6	/ <u>9/14</u>	DRILLER	ND Drilling P	ty Ltd	
(m)	RQD ()%		MATERIAL		GY	RING	INTACT STRENGTH	DEFECT SPACING (mm)	C LOG		DATA	0	

E			BORI			MATERIAL) 9	HERIN	(mm)		AND	S
DEPTH (<u><u> </u></u>		CORE REC %	SAMPLE	DESCRIPTION	ГІТНОГОGY	JSC VEATH	THLSING SSSOCMTCLSISS SSSOCMTCLSISS	EW GRAPHIC LO	TEST RESULTS	SAMPLES
20 -	-11.36	405	>0	REC %	S	GRANODIORITE (Kgwu)	+					S S
						HW: (Cont'd)	- '-	-		•		
					R		+		│ : : : : : : : : : : : : : : : : : :		30/25	-SP
							 +					
21							L + -					
21							+		1			
					-\$		L+			•	30/10	SF
							+	HW				
22								-		•		
							+					
					—		+			•	30/20	SF
							ŀ'-					
23							+		: : : : : <u>=</u> : : : : : :			
								1				
										•		
3.65 -	-15.01		Ļ				+			<u>.</u>		
	45.00			(0) 100		GRANODIORITE (Kgwu) MW: Grey, black and pink, massive, fine	+	мw			— 23.80m: J; 10°, Un/Ro;	
24 -	-15.36			(100)		to coarse grained, medium strength.	+		┝╴╔╾┻╼╍┥┣┹┓╴╴╴	<u>+</u> + -	24.10m: J; 10°, Un/Ro, Sinf; IS(50) = 9.14MPa	D
				<u> 100 </u> (100)		Highly fractured throughout.	i				IS(50) = 4.56MPa; #	A (24
						GRANODIORITE (Kgwu) SW: Grey, black and pink, fine to coarse	+				UCS=106MPa	
				100 (100)		grained, massive, very high strength.	+	sw			24.70m: J; 10°, Un.Ro: (50) = 9.72MPa	D (24
25				(100)			- ' -			•	Is(50) = 7.05MPa	A (24
20							+			•		
- 25 <u>5.49</u>	-16.85							1		•		
						MICRODIORITE (Kgwu)	+					
						SW: Grey, fine grained, massive, very high strength.	+	-		• • •	ls(50) = 8.52MPa	A (25)
26						Occasional thin calcite veins.	+ + +	sw				
							- '- +			•		
	-18.02						 +					
.66 -	-10.02					GRANODIORITE (Kgwu)	+					1
27				100		SW: Grey, black and pink, fine to coarse						
				(100)		grained, massive, very high to extremely high strength.	+	0.44			ls(50) = 10.77MPa	D (27
						Defects:	+	SW			ls(50) = 8.75MPa	A (27
						- Js; 35° (1/m); Pl/Ro, TI, slight Fe St;						
7.90 -	-19.26						+					
28						MICRODIORITE (Kgwu) SW: Grey, fine grained, massive, very	+ +	1				
						high strength.	- '	1				
							+	sw				
							[+]]				
26 - 27 - 27 - 28 - 29 -				100			[+]				ls(50) = 6.52MPa ls(50) = 1.72MPa; #	A (28)
9.20 -	-20.56			100		Borehole terminated at 29.2m.	+					(28
<u>9.20</u> -						Dorenole lenninaleu dl 29.211						
										•		
30												
PEI	MARK	s Ko	gwu	- Wunda	aru G	ranodiorite;			·		LOGGED BY	·
	1/1/17/11/1/					ng existing defect surface.					EB/ND	

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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	06/09/14
Borehole No	BH145	TMR H No	12086
Location	Fursden Creek Bridge	Start Depth (m)	13.81
Detail	Abutment B	Finish Depth (m)	29.20
Chainage	9194m	Submitted By	DC
Remarks			
3.00		STIRKT 18-21	8
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		The second second	
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	Scale (mm)		
100	200 300 400 500 600	700 800	900 1000

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