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**Queensland
Government**

GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **BH235**

Sheet 1 of 3

REFERENCE No **H12244**

PROJECT	Mackay Ring Road				
LOCATION	Pioneer River Bridge, Pier 11 (CL)			COORDINATES 721332.3 E; 7660384.4 N	
PROJECT No	FG6184	SURFACE RL	3.55m	PLUNGE	90°
				DATE STARTED	09/11/2015
				GRID DATUM	GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM	A.H.D.	BEARING	°
				DATE COMPLETED	11/11/2015
				DRILLER	Cairns Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASHBORING CORE DRILLING	RQD (%) CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
1				A	SAND trace gravel (Fill) Brown, moist, very loose to loose. Fine to coarse grained sand. 1.00m: becomes medium dense.						3, 6, 10 N=16 SPT
2				B							5, 10, 11 N=21 SPT
3				C	3.00m: becomes very loose.						1, 1 N=2 SPT
4				D	4.00m: becomes wet, loose.						2, 4, 4 N=8 SPT
5	-1.45			E							3, 4, 4 N=8 SPT
	-1.95			F	Silty SAND (Alluvium) Brown, wet, loose. Fine to coarse grained sand.		(SM)				3, 4, 5 N=9 SPT
6				G	Gravelly SAND (Alluvium) Brown, wet, loose to medium dense.		(SP)				4, 5, 5 N=10 SPT
	-2.95			H	Fine to coarse grained sand, fine grained gravel.						5, 3, 9 N=12 SPT
7				I	Silty SAND trace gravel (Alluvium) Grey brown, wet, medium dense. Fine to medium grained sand, low plasticity.						9, 12, 14 N=26 SPT
				J							10, 11, 13 N=24 SPT
8				K			(SM)				3, 10, 11 N=21 SPT
				L	Becoming dense						13, 16, 17 N=33 SPT
				M	Becoming medium dense.						10, 14, 12 N=26 SPT
9	-5.45			N	CLAY trace sand (Alluvium) Brown grey, moist, very stiff. Medium to high plasticity.		(CH)				6, 9, 14 N=23 SPT
	-6.45			O							2, 9, 16 N=25 SPT

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REMARKS: Kgwu = Wundaru Granodiorite

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BOREHOLE No **BH235**

Sheet 2 of 3

REFERENCE No **H12244**

PROJECT	Mackay Ring Road				
LOCATION	Pioneer River Bridge, Pier 11 (CL)			COORDINATES 721332.3 E; 7660384.4 N	
PROJECT No	FG6184	SURFACE RL	3.55m	PLUNGE	90°
				DATE STARTED	09/11/2015
				GRID DATUM	GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM	A.H.D.	BEARING	°
				DATE COMPLETED	11/11/2015
				DRILLER	Cairns Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASHBORING CORE DRILLING	RQD (%) CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH							DEFECT SPACING							ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS					
								EH	VH	H	M	J	V	EL	EC	VC	C	M	W	VW	EW							
	-6.65			P	CLAY trace sand (Alluvium) (Cont'd)		(CH)																				11, 19, 25 N=44	SPT
	-6.95			Q	Gravelly Sandy CLAY (Alluvium) Brown grey, moist, hard. Medium to high plasticity.		(CH)																				9, 19, 21 N=40	SPT
11				R	Sandy CLAY trace gravel (Alluvium) Dark grey to grey, moist, hard. Fine to medium grained sand, medium to high plasticity.		(CH)																				9, 19, 21 N=40	SPT
	-7.95			S	Sandy CLAY trace gravel (Residual) Pale grey, moist, hard.																						12, 20, 26 N=46	SPT
12				T	Fine to coarse grained sand, low plasticity.		(CL)																				12, 18, 27 N=45	SPT
13	-9.45			U	GRANODIORITE (Kgwu) XW: Recovered as brown grey mottled white, moist, hard, clay trace sand. Low plasticity.																						14, 27, 30 N=57	SPT
14				V																							8, 20, 30/120	SPT
15				W																							12, 20, 23 N=43	SPT
16				X																							26, 26, 30/70	SPT
17				Y																							30/130	SPT
18	-14.45			Z	GRANODIORITE (Kgwu) XW: Recovered as brown grey mottled white, moist, very dense, clayey sand trace gravel. Fine to coarse grained sand, low plasticity.																						30/130	SPT
19				AA																							30/70	SPT
	-16.45																											

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REMARKS: Kgwu = Wundaru Granodiorite

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Sheet 3 of 3

REFERENCE No **H12244**

PROJECT	Mackay Ring Road				
LOCATION	Pioneer River Bridge, Pier 11 (CL)			COORDINATES 721332.3 E; 7660384.4 N	
PROJECT No	FG6184	SURFACE RL	3.55m	PLUNGE	90°
				DATE STARTED	09/11/2015
				GRID DATUM	GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM	A.H.D.	BEARING	°
				DATE COMPLETED	11/11/2015
				DRILLER	Cairns Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASHBORING CORE DRILLING	RQD (%) CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH					DEFECT SPACING					ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS	
								EH	VH	H	M	J	VI	EL	EC	VC	C			M
21	-17.45			AB	GRANODIORITE (Kgwu) XW: Recovered as grey mottled white, moist, hard, sandy clay. Fine to medium grained sand, low plasticity.	+	XW												30/120	SPT
22	-18.75			AC	GRANODIORITE (Kgwu) XW: Recovered as grey mottled white, moist, very dense, clayey sand. Fine to coarse grained sand, low plasticity.	+	XW												26, 30/150	SPT
23	-19.63			AD	(46) MICRODIORITE (Kgwu) MW: Grey, fine to medium grained, massive, high strength. Js: 15° to 20°; (6/m); Pl/Ro; TI-OP; Fe St; Js: 80° to 85°; (1/m); Pl-St/Ro; OP; Fe St;	+	MW												30/50 Is(50)=2.20 MPa Is(50)=2.50 MPa	D (22.50m) A (22.55m)
24				100 (57)	GRANODIORITE (Kgwu) MW: Pale red and pale grey, coarse grained, porphyritic, medium to high strength. Js: 10° to 20°; (6-8/m); Pl/Ro; TI; Fe St; Js: 35° to 45°; (1-2/m); Pl/Ro; TI-OP; Fe St;	+	MW												Is(50)=1.20 MPa	D (24.15m)
25				100 (0)		+													UCS=21.00 MPa E=4.8 GPa v= 0.02 Is(50)=0.45 MPa	(24.90m) A (25.25m)
26				100 (40)		+														
27	-23.27			100 (0)	GRANODIORITE HW: Brown and pale grey, coarse grained, porphyritic, very low to low strength. Highly fractured with clay and sand infill.	+	XW HW XW HW MW HW												Is(50)=1.70 MPa	D (26.60m)
28	-24.45			100	27.90 to 28.00m: MICRODIORITE (SW): Blue grey, fine grained, massive, very high strength. Borehole completed at 28.00m	+	SW												Is(50)=6.70 MPa	A (27.94m)
29																				

26.82m-26.93m: XW zone: Cly;
27.02m-27.10m: XW zone: Cly;
27.30m: MW zone

REMARKS: Kgwu = Wundaru Granodiorite

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CORE PHOTO LOG

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Geotechnical Section
35 Butterfield Street, Herston Qld 4006
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Project Name	Mackay – Ring Road (Stage 2)		
Project No.	FG6184	Date	11/11/15
Borehole No.	BH 235	TMR H No.	H12244
Location	Pioneer River Bridge	Start Depth (m)	22.30
Detail	Pier 11, centreline	Finish Depth (m)	28.00
Chainage		Submitted By	M.Ensor
Remarks			



SCALE 1:5