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GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **BH237**

Sheet 1 of 4

REFERENCE No **H12246**

PROJECT Mackay Ring Road

LOCATION Pioneer River Bridge, Pier 12 (LHS) COORDINATES 721327.6 E; 7660421.3 N

PROJECT No FG6184 SURFACE RL 3.39m PLUNGE 90° DATE STARTED 02/11/2015 GRID DATUM GDA 94 / MGA Z55

JOB No 242/10G/906 HEIGHT DATUM A.H.D. BEARING ° DATE COMPLETED 04/11/2015 DRILLER Saxon 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					SAND trace silt (Fill) Orange grey, dry to moist, very loose to loose. Fine to medium grained gravel, rounded grains.						
2											
3											
4				A		(SP)					2, 1, 1 N=2 SPT
5				B							1, 2 N=2 SPT
6				C							1, 2, 5 N=7 SPT
7	-3.11			D	Silty SAND trace gravel (Alluvium) Pale grey, moist to wet, medium dense. Fine to medium grained sand, fine to medium grained gravel, rounded grains.						15, 10, 10 N=20 SPT
8				E	8.00m: gravel content decreasing.	(SM)					7, 8, 8 N=16 SPT
9	-5.91			F	8.50m: trace clay: becomes mottled orange grey and pale grey.						7, 6, 9 N=15 SPT
	-6.61				CLAY trace sand (Alluvium) Pale grey, moist, stiff to very stiff. Fine grained sand, low to medium	(CI)					

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REMARKS: Kgwu = Wundaru Granodiorite

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BOREHOLE No **BH237**

Sheet 2 of 4

REFERENCE No **H12246**

PROJECT	Mackay Ring Road				
LOCATION	Pioneer River Bridge, Pier 12 (LHS)			COORDINATES 721327.6 E; 7660421.3 N	
PROJECT No	FG6184	SURFACE RL	3.39m	PLUNGE	90°
				DATE STARTED	02/11/2015
				GRID DATUM	GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM	A.H.D.	BEARING	°
				DATE COMPLETED	04/11/2015
				DRILLER	Saxon 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 _VL _EL	EC _VC _C _M _W _VW _EW			
				G	plasticity. CLAY trace sand (Alluvium) (Cont'd) becomes mottled orange brown and pale grey, very stiff.		(CI)				8, 12, 15 N=27	SPT
11	-8.11			H	11.00m: becomes hard. Trace organic material. Sand content increasing.							10, 16, 19 N=35
12				I	Sandy CLAY trace gravel (Residual) Mottled pale grey and orange brown, moist, hard. Fine to medium grained sand, fine grained gravel, angular grains, medium plasticity.	(CI)					12, 19, 26 N=45	SPT
13	-9.31			J	Clayey SAND (Residual) Mottled pale grey and orange brown, moist, very dense. Fine to coarse grained sand, medium plasticity.	(SC)					17, 28, 30/140	SPT
14	-10.31			K	Sandy Silty CLAY trace gravel (Residual) Mottled pale grey and orange brown, moist, hard.		(CL)				10, 14, 23 N=37	SPT
15				L	Medium to coarse grained sand, fine grained gravel, angular grains, low plasticity. Calcite throughout.							13, 19, 23 N=42
16	-12.76			M	Clayey Silty SAND (Residual) Orange brown and grey, dry to moist, very dense.	(SM)					19, 30, 30/120	SPT
17	-13.61			N	GRANODIORITE (Kgwu) XW: Recovered as orange brown and grey, moist, hard, gravelly silty clay trace sand. Fine to medium grained sand, fine to medium		XW				25, 30/115	SPT
18				O	grained gravel, angular grains, low to medium plasticity.							16, 27, 30/130
19	-16.61			P	19.00m: clay content decreasing.						30/80 hb	SPT

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BOREHOLE No **BH237**

Sheet 3 of 4

REFERENCE No **H12246**

PROJECT	Mackay Ring Road				
LOCATION	Pioneer River Bridge, Pier 12 (LHS)			COORDINATES 721327.6 E; 7660421.3 N	
PROJECT No	FG6184	SURFACE RL	3.39m	PLUNGE	90°
				DATE STARTED	02/11/2015
				GRID DATUM	GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM	A.H.D.	BEARING	°
				DATE COMPLETED	04/11/2015
				DRILLER	Saxon 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 L	VH H	H M	M J	J VI	EL	EC L	VC C	C M	M W			VW EW
21	-17.61			Q	GRANODIORITE (Kgwu) HW: Orange brown and grey, medium to coarse grained, massive, extremely low to very low strength.	+	XW											30/70 hb	SPT	
22				R	MICRODIORITE (Kgwu) HW: Grey, fine grained, massive, very low strength.	+	XW											30/25 hb	SPT	
23	-19.61			S	22.00m: clay content increasing.	+	XW											18, 30/10 hb	SPT	
24	-21.17			(0)	MICRODIORITE (Kgwu) MW: Grey, fine to medium grained, massive, high to very high strength. Some calcite veinlets. Js: 5° to 15°; (8/m); Pl/Sm; OP; some Cly Vr, Fe St; Js: 30° to 60°; (4/m); Pl/Sm; Cly Ct and Fe St; Js: 80° to 90°; (2/m); Pl/Sm; TI; Fe St;	+	MW		H									23.04m-23.29m: HFZ: some Cly infill;		
25	-21.83			100		+	SW		H-VH									Is(50)=1.00 MPa	I (23.56m)	
26				(65)		+	SW		H-VH									Is(50)=2.70 MPa	D (24.00m)	
27	-23.82			(0)		+	SW											Is(50)=4.30 MPa	I (24.50m)	
28	-24.11			100		+	XW													
29	-25.71			(0)	GRANODIORITE (Kgwu) XW: Recovered as brown and grey, moist, very dense, clayey sandy gravel. Medium grained gravel. GRANODIORITE (Kgwu) MW: Pink grey, medium to coarse grained, porphyritic, generally medium to high strength. Some calcite veins at 70°. Js: 5° to 15°; Pl-Un/Ro; OP; Sinf or Cn, Fe St; Microdiorite (SW) From 26.34m: Js: 5° to 20°; (5/m); Pl-Un/Ro; OP; Fe St and Sinf; Js: 30° to 50°; (3/m); Pl-Un/Ro; OP; Fe St and Sinf; MICRODIORITE (Kgwu) SW: Dark grey, fine grained, massive, high strength. Js: 5° to 15°; (5/m); Pl/Sm; TI; some CA Vr; GRANODIORITE (Kgwu) SW: Grey and dark grey, medium to coarse grained, porphyritic, very	+	MW												25.22m-25.35m: HFZ: Sinf; 25.35m-25.50m: HW zone; 25.64m-25.69m: HW BZ;	
30				37		+	HW											Is(50)=1.10 MPa	A (25.87m)	
31				100		+	MW													
32				(32)		+	SW													
33				(0)		+	SW													
34				100		+	HW											Is(50)=0.52 MPa	A (26.55m)	
35				(0)		+	MW													
36				(0)		+	MW													
37				100		+	MW													
38				(69)		+	MW													
39				(0)		+	SW											Is(50)=3.50 MPa	D (27.93m)	
40				70		+	SW													
41				(18)		+	SW											Is(50)=7.80 MPa	I (28.66m)	
42						+	SW											29.00m: Contact: 60°; Pl/Sm; 29.32m-29.50m: CORE LOSS 29.88m-30.14m: HFZ;		

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FOR GEOTECHNICAL TERMS AND
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BOREHOLE No **BH237**

Sheet 4 of 4

REFERENCE No **H12246**

PROJECT	Mackay Ring Road
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LOCATION	Pioneer River Bridge, Pier 12 (LHS)
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COORDINATES 721327.6 E; 7660421.3 N

PROJECT No	FG6184
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SURFACE RL 3.39m

PLUNGE 90°

DATE STARTED 02/11/2015

GRID DATUM GDA 94 / MGA Z55

JOB No 242/10G/906

HEIGHT DATUM A.H.D.

BEARING °

DATE COMPLETED 04/11/2015

DRILLER Saxon Drilling

REMARKS: Kgwu = Wundaru Granodiorite

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CORE PHOTO LOG

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Project Name	Mackay – Ring Road (Stage 2)		
Project No.	FG6184	Date	04/11/15
Borehole No.	BH 237	TMR H No.	H12246
Location	Pioneer River Bridge	Start Depth (m)	23.00
Detail	Pier 12, LHS	Finish Depth (m)	34.20
Chainage		Submitted By	M.Ensor
Remarks			

A photograph showing four horizontal sections of a soil core sample, each held in a white foam tray. The core is dark grey/black and shows some internal cracking. Handwritten labels on the core sections indicate depths: "32.0", "33.0", "33.50", and "34.20".

A horizontal scale bar with markings from 0 to 700 in increments of 100. Below the bar, the text "SCALE 1:5" is printed.