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GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **BH240**

Sheet 1 of 4

REFERENCE No **H12249**

PROJECT Mackay Ring Road

LOCATION Pioneer River Bridge, Pier 13 (LHS) COORDINATES 721333.6 E; 7660456.4 N

PROJECT No FG6184 SURFACE RL 3.83m PLUNGE 90° DATE STARTED 05/12/2015 GRID DATUM GDA 94 / MGA Z55

JOB No 242/10G/906 HEIGHT DATUM A.H.D. BEARING ° DATE COMPLETED 07/12/2015 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					SAND (Fill) Brown, moist, loose. Fine to coarse grained; trace silt; trace gravel.						
2											
3				A		(SW)					3, 3, 3 N=6 SPT
4				B							2, 2, 3 N=5 SPT
5				C							3, 3, 4 N=7 SPT
6	-2.17			D	Clayey Silty SAND (Alluvium) Grey brown, wet, loose. Fine to coarse sand; trace gravel.						2, 3, 3 N=6 SPT
7				E							5, 4, 4 N=8 SPT
8				F	8.0m: Becoming medium dense.	(SM)					4, 7, 9 N=16 SPT
9				G							7, 10, 11 N=21 SPT
-6.17											

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REMARKS: Kgwu = Wundaru Granodiorite

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BOREHOLE No **BH240**

Sheet 2 of 4

REFERENCE No **H12249**

PROJECT Mackay Ring Road

LOCATION Pioneer River Bridge, Pier 13 (LHS) COORDINATES 721333.6 E; 7660456.4 N

PROJECT No FG6184 SURFACE RL 3.83m PLUNGE 90° DATE STARTED 05/12/2015 GRID DATUM GDA 94 / MGA Z55

JOB No 242/10G/906 HEIGHT DATUM A.H.D. BEARING ° DATE COMPLETED 07/12/2015 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
				H	Sandy CLAY (Alluvium) Grey brown, moist, very stiff. Low to medium plasticity; fine to medium grained sand.					7, 10, 14 N=24	SPT
11				I		(CI)				7, 10, 17 N=27	SPT
12	-8.17			J	Gravelly Sandy CLAY (Residual) Pale grey, moist, very stiff. Low plasticity; fine to coarse grained sand; relict rock fabric evident.					7, 8, 7 N=15	SPT
13				K	13.0m: Becoming hard.					8, 18, 20 N=38	SPT
14				L	14.0m: Becoming very stiff.	(CL)				12, 12, 17 N=29	SPT
15				M	15.0m: Becoming hard.					19, 30/50mm	SPT
16	-12.17			N	Clayey Silty SAND (Residual) Brown, moist, very dense. Fine to medium grained sand; trace gravel.					26, 30/110mm	SPT
17				O						30/60mm	SPT
18				P		(SM)				30/70mm	SPT
19				Q						30/120mm	SPT
	-16.17										

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BOREHOLE No **BH240**

Sheet 3 of 4

REFERENCE No **H12249**

PROJECT	Mackay Ring Road				
LOCATION	Pioneer River Bridge, Pier 13 (LHS)			COORDINATES 721333.6 E; 7660456.4 N	
PROJECT No	FG6184	SURFACE RL	3.83m	PLUNGE	90°
				DATE STARTED	05/12/2015
				GRID DATUM	GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM	A.H.D.	BEARING	°
				DATE COMPLETED	07/12/2015
				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 _W _VW _EW										
				R	Silty Clayey SAND (Residual) Brown grey, moist, very dense. Fine to coarse grained sand; trace gravel; relict rock fabric evident.											30/90mm	SPT		
21				S			(SC)									30/100mm	SPT		
22				T												30/50mm	SPT		
-18.57																			
			(50)		MICRODIORITE (Kgwu) SW: Blue grey, fine grained, massive, high to very high strength. - Js: 5°-10° (1/m) Pl/Sm, TI, Fe St - Js: 20°-30° (4/m) Pl/Sm, TI, Fe St - Js: 60°-70° (2/m) Pl/Sm, OP, Fe St, some CA		SW								22.40m-22.45m: Granite Clast	Is(50)=3.60 MPa Is(50)=7.90 MPa	A (22.50m) D (22.90m)		
-19.87			100																
			(0)		GRANODIORITE (Kgwu) MW: Brown pale grey, coarse grained, porphyritic, medium to high strength. - Js: 5°-10° (7/m) Pl/Ro, OP, Fe St, Slnf		MW								23.75m-23.81m: BZ	Is(50)=0.16 MPa Is(50)=0.18 MPa	D (23.85m) A (23.95m)		
24			100												24.40m-24.50m: BZ				
25			(0)		- Js: 50°-60° (3/m) Pl/Ro, OP, Fe St, Slnf												Is(50)=0.55 MPa	D (25.07m)	
			100		- Js: 70°-80° (1-2/m) Pl/Ro, OP, Fe St, Slnf		HW								25.40m-25.60m: HW, very low strength, BZ				
-21.92			(74)				MW										UCS=20.00 MPa	(25.86m)	
26					GRANODIORITE (Kgwu) SW: Pale grey, coarse grained, porphyritic, high to very high strength. - Js: 5°-10° (5/m) Pl/Ro, TI, Fe St		SW										Is(50)=1.10 MPa Is(50)=1.30 MPa	A (26.46m) D (26.56m)	
-22.90																			
27					MICRODIORITE (Kgwu) SW: Blue grey, fine grained, massive, high to very high strength. - Js: 5°-15° (4/m) Pl/Ro, TI, Fe St - Js: 40°-50° (1-2/m) Pl/Ro, TI, Fe St		SW								27.34m: J:20°,Pl/Ro,OP,FeSt,Slnf	Is(50)=3.40 MPa	A (27.52m)		
			100																
28			(62)				SW												
							HW								28.50m-28.56m: BZ/CZ				
29																	Is(50)=3.10 MPa Is(50)=8.10 MPa	A (28.71m) D (28.81m)	
			100				SW												
-26.17			(92)														Is(50)=7.00 MPa	D (29.80m)	

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FOR GEOTECHNICAL TERMS AND
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BOREHOLE No **BH240**

Sheet 4 of 4

REFERENCE No **H12249**

PROJECT	Mackay Ring Road
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LOCATION	Pioneer River Bridge, Pier 13 (LHS)
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COORDINATES 721333.6 E; 7660456.4 N

PROJECT No	FG6184	SURFACE RL 3.83m	PLUNGE 90°	DATE STARTED 05/12/2015	GRID DATUM GDA 94 / MGA Z55
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JOB No 242/10G/906 HEIGHT DATUM A.H.D. BEARING ° DATE COMPLETED 07/12/2015 DRILLER Cairns 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	07/12/15
Borehole No.	BH 240	TMR H No.	H12249
Location	Pioneer River Bridge	Start Depth (m)	22.40
Detail	Pier 13, LHS	Finish Depth (m)	32.40
Chainage		Submitted By	M.Ensor
Remarks			

A photograph showing two cylindrical core samples. The top sample is dark grey and has labels 'GG184' and 'M.R.R.' with depth markings '31.4m' and '32.0m'. The bottom sample is lighter grey and has labels 'BH240' and 'BOX4' with a depth marking '31.0m'.

A horizontal scale bar with markings every 100 units from 0 to 700.

SCALE 1:5