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**Queensland  
Government**

**GEOTECHNICAL  
BOREHOLE LOG**

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

BOREHOLE No **BH231**

Sheet 1 of 4

REFERENCE No **H12240**

PROJECT	Mackay Ring Road		
LOCATION	Pioneer River Bridge, Pier 10 (LHS)	COORDINATES 721318.1 E; 7660351.7 N	
PROJECT No	FG6184	SURFACE RL 3.41m	PLUNGE 90°
			DATE STARTED 24/10/2015
			GRID DATUM GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM A.H.D.	BEARING °
			DATE COMPLETED 25/10/2015
			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
0					SAND trace gravel (Fill) Brown, moist, loose to medium dense. Fine to medium grained gravel, rounded grains.								
1				A	1.00m: becomes medium dense'						3, 7, 12 N=19		
2				B							5, 5, 5 N=10		
3				C	3.00m: becomes very loose to loose						1, 2, 2 N=4		
4	-0.59				3.50 to 4.00m: wood/log encountered					3.50m: Log/wood from river. No sample recovered.			
4				D	Gravelly SAND (Alluvium) Brown, wet, loose.		(SP)			4.00m-4.45m: No sample recovered	6, 5, 4 N=9		
5	-1.59			E	GRAVEL trace sand (Alluvium) Brown and grey, wet, medium dense. Fine to coarse grained gravel, subrounded to subangular grains.		(GP)				8, 9, 5 N=14		
6	-2.59			F	Silty SAND trace gravel (Alluvium) Brown, wet, loose to medium dense. Fine to coarse grained sand, fine to medium grained gravel, subrounded grains.		(SM)				6, 6, 4 N=10		
7	-3.59 -3.74 -3.89			G	Clayey SAND (Alluvium) Brown, wet, medium dense. CLAY (Alluvium) Dark grey, moist, very stiff. Medium to high plasticity.		(SC) (CH)				2, 10, 14 N=24		
8				H	Silty SAND (Alluvium) Pale grey brown, moist, medium dense. Fine grained sand.		(SM)				9, 13, 14 N=27		
9				I							8, 12, 13 N=25		
6.59													

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REMARKS: Kgwu = Wundaru Granodiorite

<b>LOGGED BY</b>	<b>REVIEWED BY</b>
T.Goosey	S.Foley



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BOREHOLE No **BH231**

Sheet 2 of 4

REFERENCE No **H12240**

PROJECT	Mackay Ring Road		
LOCATION	Pioneer River Bridge, Pier 10 (LHS)	COORDINATES 721318.1 E; 7660351.7 N	
PROJECT No	FG6184	SURFACE RL 3.41m	PLUNGE 90°
			DATE STARTED 24/10/2015
			GRID DATUM GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM A.H.D.	BEARING °
			DATE COMPLETED 25/10/2015
			DRILLER Cairns Drilling

DEPTH (m)	R.L. (m)	FAUGER 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
11				J	Sandy CLAY (Alluvium) Brown, moist, hard. Fine to medium grained sand, medium to high plasticity.	(CH)					9, 17, 25 N=42	SPT	
				K							9, 16, 18 N=34	SPT	
12	-8.59			L	Silty CLAY (Residual) Pale grey brown, moist, very stiff. Medium to high plasticity.	(CH)					7, 14, 8 N=22	SPT	
13	-9.59			M	GRANODIORITE XW: Recovered as pale grey brown, moist, very stiff, silty clay. Medium to high plasticity. 13.00m: becomes hard						8, 18, 24 N=42	SPT	
14				N		XW					12, 25, 30/100	SPT	
15	-11.59			O	GRANODIORITE (Kgwu) XW: Recovered as grey brown, moist, very dense clayey sand. Fine to medium grained sand.						20, 20, 30/140	SPT	
16				P							30/130	SPT	
17				Q							19, 30/110	SPT	
18				R							30/70	SPT	
19				S							30/50	SPT	
	-16.59												

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BOREHOLE No **BH231**

Sheet 3 of 4

REFERENCE No **H12240**

PROJECT	Mackay Ring Road				
LOCATION	Pioneer River Bridge, Pier 10 (LHS)		COORDINATES 721318.1 E; 7660351.7 N		
PROJECT No	FG6184	SURFACE RL 3.41m	PLUNGE 90°	DATE STARTED 24/10/2015	GRID DATUM GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM A.H.D.	BEARING °	DATE COMPLETED 25/10/2015	DRILLER Cairns Drilling

DEPTH (m)	R.L. (m)	FAUGER 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
21				T	GRANODIORITE (Kgwu) XW: (Cont'd)	+					30/140 hb	SPT	
22	-18.59		(28) 100 (0)		MICRODIORITE (Kgwu) SW: Blue grey, fine to medium grained, massive, high to very high strength. GRANODIORITE	+	SW	H-VH	C	22.08m-22.14m: B 22.23m: CA VN; 60°, PI, CD;	Is(50)=2.90 MPa	D (22.22m)	
23			53 (41)			+	MW	LM	EC-VC	22.85m-23.01m: BZ			
24						+	SW	H-VH	M		Is(50)=0.77 MPa Is(50)=4.40 MPa Is(50)=2.90 MPa	A (23.43m) D (23.67m) A (23.74m)	
25			100 (90)		From 25.53m: Js: 5° to 15°; (2-3/ m); PI-SuRo; TI; Fe St;	+	MW	H	VC	23.90m-24.90m: Granodiorite Vn's up to 40mm thick. 23.90m-24.25m: J; 85°, Un/Ro, OP, CA, Fe St 24.36m-24.46m: Clay seam, HW zone 24.46m-24.65m: J; 85°, PI/Ro, TI, Fe St;	Is(50)=5.00 MPa	D (24.53m)	
26						+	SW	H-VH	C		Is(50)=4.00 MPa	D (25.30m)	
27						+	HW	H	M	26.00m-26.09m: BZ; Cly FL;	Is(50)=0.53 MPa Is(50)=2.20 MPa	A (26.37m) D (26.45m)	
28	-24.79					+	SW	H	W		UCS=64.50 MPa	(26.94m)	
29	-26.01		100 (92)		GRANODIORITE (Kgwu) SW: Pale red and pale grey, coarse grained, porphyritic, very high strength. Minor alteration throughout. Js: 5° to 15°; (4/m); PI/Ro; TI; Fe St;	+	SW	VH	C		Is(50)=3.40 MPa	D (27.90m)	
					MICRODIORITE (Kgwu) SW: Green blue grey, fine to medium grained, massive, very high	+	SW		M		Is(50)=4.90 MPa Is(50)=2.20 MPa	D (28.59m) A (28.70m)	
						+			C		UCS=23.40 MPa	(29.00m)	

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REMARKS: Kgwu = Wundaru Granodiorite

LOGGED BY	REVIEWED BY
T.Goosey	S.Foley



# GEOTECHNICAL BOREHOLE LOG

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BOREHOLE No **BH231**

Sheet 4 of 4

REFERENCE No **H12240**

PROJECT	Mackay Ring Road		
LOCATION	Pioneer River Bridge, Pier 10 (LHS)	COORDINATES 721318.1 E; 7660351.7 N	
PROJECT No	FG6184	SURFACE RL 3.41m	PLUNGE 90°
			DATE STARTED 24/10/2015
			GRID DATUM GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM A.H.D.	BEARING °
			DATE COMPLETED 25/10/2015
			DRILLER Cairns Drilling

DEPTH (m)	R.L. (m)	TAUGER 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						EC				
												VH		H	M	L	VI	EL	VC	CC	MC	WC
31	-27.59		100		strength. Minor alteration and calcite veining throughout. Js: 15° to 25°; (2-3/m); Pl/Sm-Ro; TI; Fe St; Js: 50° to 60°; (<1/m); Pl/Sm; TI; Fe St; <i>Borehole completed at 31.00m</i>		SW	VH	M	M									30.80m-31.00m: Granodiorite band			Is(50)=8.00 MPa Is(50)=5.00 MPa A (30.43m) D (30.53m)
32																						
33																						
34																						
35																						
36																						
37																						
38																						
39																						

REMARKS: Kgwu = Wundaru Granodiorite	<b>LOGGED BY</b>	<b>REVIEWED BY</b>
	T.Goosey	S.Foley



**CORE PHOTO LOG**

DEPARTMENT OF TRANSPORT AND MAIN ROADS  
 Geotechnical Section  
 35 Butterfield Street, Herston Qld 4006  
 Phone 07 3066 3336



Project Name	<b>Mackay – Ring Road (Stage 2)</b>		
Project No.	FG6184	Date	25/10/15
Borehole No.	BH 231	TMR H No.	H12240
Location	Pioneer River Bridge	Start Depth (m)	22.00
Detail	Pier 10, LHS	Finish Depth (m)	31.00
Chainage		Submitted By	M.Ensor
Remarks			

