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**Queensland
Government**

**GEOTECHNICAL
BOREHOLE LOG**

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

BOREHOLE No **BH222**

Sheet 1 of 3

REFERENCE No **H12231**

PROJECT	Mackay Ring Road		
LOCATION	Pioneer River Bridge, Pier 7 (LHS)	COORDINATES 721302.0 E; 7660247.6 N	
PROJECT No	FG6184	SURFACE RL 7.83m	PLUNGE 90°
			DATE STARTED 11/09/2015
			GRID DATUM GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM A.H.D.	BEARING °
			DATE COMPLETED 12/09/2015
			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
1				A	Silty SAND (Alluvium) Brown, moist, loose. Fine grained sand.	(SM)					3, 2, 3 N=5	SPT	
2				B	2.00 to 2.45m: zones of brown, moist, firm, sandy clay.						2, 2, 3 N=5	SPT	
3	4.53			C	SAND with gravel (Alluvium) Pale brown, dry, loose to medium dense.						4, 5, 4 N=9	SPT	
4				D	Fine to coarse grained sand, fine to coarse grained gravel, subrounded to rounded grains.						2, 5, 3 N=8	SPT	
5				E	4.50m: trace cobbles <75mm, rounded, granite. 5.15m: becomes medium dense.	(SP)					3, 7, 7 N=14	SPT	
6	1.83			F	Gravelly SAND (Alluvium) Dark grey and brown, wet, loose.						4, 2, 5 N=7	SPT	
7				G	Medium to coarse grained sand, fine grained gravel, subrounded grains. 6.50m: Trace fine grained gravel, angular grains. Becomes medium dense.	(SP)					2, 4, 6 N=10	SPT	
8				H							7, 7, 7 N=14	SPT	
9	-0.57			I	Silty SAND trace gravel (Alluvium) Pale brown, wet, medium dense. Fine to medium grained sand, fine grained gravel, subrounded grains.	(SM)					12, 7, 9 N=16	SPT	
	-2.17				9.50m: becomes gravelly silty sand.								

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REMARKS: Kgwu = Wundaru Granodiorite

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C.Boyes	S.Foley



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**GEOTECHNICAL
BOREHOLE LOG**

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BOREHOLE No **BH222**

Sheet 2 of 3

REFERENCE No **H12231**

PROJECT	Mackay Ring Road				
LOCATION	Pioneer River Bridge, Pier 7 (LHS)			COORDINATES 721302.0 E; 7660247.6 N	
PROJECT No	FG6184	SURFACE RL	7.83m	PLUNGE	90°
				DATE STARTED	11/09/2015
				GRID DATUM	GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM	A.H.D.	BEARING	°
				DATE COMPLETED	12/09/2015
				DRILLER	Saxon 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
-2.47				J	Gravelly SAND (Alluvium) Dark grey and brown, wet, medium dense.	(SP)					13, 12, 12 N=24	SPT	
11				K	Medium to coarse grained sand, fine to medium grained gravel, angular grains. Silty Clayey SAND (Alluvium) Pale grey, moist, medium dense. Fine grained sand.						7, 12, 13 N=25	SPT	
12				L	12.00m: clay content increasing	(SM)					9, 13, 16 N=29	SPT	
13				M	13.00m: becomes fine to medium grained sand.						11, 13, 15 N=28	SPT	
14	-6.47			N	Sandy CLAY (Alluvium) Pale grey mottled orange brown, moist, very stiff.						6, 11, 16 N=27	SPT	
15				O	Fine to medium grained sand, low to medium plasticity. 15.00m: Sand content decreasing	(CI)					11, 10, 13 N=23	SPT	
16					16.00m: becomes very dense.					16.00m: No sample recovered		hb	
17	-8.97		(30)		MICRODIORITE (Kgwu) SW: Grey, fine grained, massive, very high strength. Js: 5° to 15°; (<4/m); Pl-Un/Sm; OP; Cn or Fe St, come Cly Vr;	SW	VH	C		16.89m-16.92m: BZ; 15°, Pl/Sm, Cly	Is(50)=5.10 MPa	D (17.10m)	
18			100 (84)		Js: 40° to 60°; (<3/m); Pl/Sm-Ro; OP-TI; Fe St;	XW		C		17.19m-17.27m: SZ; 30°, Pl/Sm, Cly, angular clasts;	Is(50)=0.72 MPa	A (17.44m)	
19						SW	VH	C		17.49m-17.89m: SZ; XW Cly, brecciated, small angular rock fragments	Is(50)=0.54 MPa	D (17.95m)	
								C		17.62m-17.70m: HW CA VN	Is(50)=0.48 MPa	A (18.53m)	
			100 (50)			SW	VH	C			Is(50)=5.60 MPa	D (18.88m)	
						XW		C		19.40m-19.72m: SZ; 30°, Pl/Sm, XW zone, Cly, brecciated;			
	-12.17					SW		C			Is(50)=4.00 MPa	A (19.80m)	

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REMARKS: Kgwu = Wundaru Granodiorite

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GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **BH222**

Sheet 3 of 3

REFERENCE No **H12231**

PROJECT	Mackay Ring Road				
LOCATION	Pioneer River Bridge, Pier 7 (LHS)			COORDINATES 721302.0 E; 7660247.6 N	
PROJECT No	FG6184	SURFACE RL	7.83m	PLUNGE	90°
				DATE STARTED	11/09/2015
				GRID DATUM	GDA 94 / MGA 255
JOB No	242/10G/906	HEIGHT DATUM	A.H.D.	BEARING	°
				DATE COMPLETED	12/09/2015
				DRILLER	Saxon 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	H	M	J	V	VI	EU	EC	VC	C	M	W	VW	EW												
20.15			100 (95)			MICRODIORITE (Kgwu) SW: (Cont'd)		SW	VH																						UCS=98.60 MPa	(20.15m)			
21.00								MW	H					VC																	20.40m-20.44m: S2; 5°, Un/Sm, brecciated, Cly FL, angular dolerite fragments; 20.60m-20.67m: HFZ; 20.67m-20.69m: S2; 20°, Pl/Sm, Cly, brecciated;	D (21.00m) A (21.14m)			
22.20						From 21.50m: defects become... Js: 5° to 15°; (<2/m); Pl-Un/Sm; OP; Cn or Fe St, some CA Vr <1mm; Js: 40° to 60°; (<1/m); Pl/Sm; OP-CD; Fe St or CA Vr <2mm;																										21.68m-21.98m: VN; 75°, Un-St/Sm, CD, Cn; 22.50m-22.51m: XW Cly zone	Is(50)=5.60 MPa Is(50)=8.70 MPa	A (22.20m)	
23.28																																	Is(50)=7.30 MPa	A (23.28m)	
23.36																																	Is(50)=11.00 MPa Is(50)=2.50 MPa	D (23.28m) A (23.36m)	
24.19			100 (90)					SW	VH																								UCS=135.00 MPa	(24.19m)	
24.64																																	Is(50)=15.00 MPa	D (24.64m)	
25.72																																	25.05m: J; 70°, Pl/Sm, OP, CA Vr <1mm;	Is(50)=11.00 MPa Is(50)=9.30 MPa	A (25.72m) D (25.80m)
26.70	-18.42																																26.20m-26.21m: HFZ 26.25m: Contact; 20°, Un/Sm, CD; 26.30m-26.33m: XW zone; 5°, Pl/Sm;	Is(50)=8.20 MPa	A (26.70m)
26.95	-19.12		100			GRANODIORITE (Kgwu) SW: Grey, dark grey and pink, medium to coarse grained, porphyritic, very high strength. Js: 5° to 15°; (<5/m); Pl-Un/Sm; OP; Cn or Fe St; Borehole completed at 26.95m		SW																											

REMARKS: Kgwu = Wundaru Granodiorite

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CORE PHOTO LOG

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



Project Name	Mackay – Ring Road (Stage 2)		
Project No.	FG6184	Date	12/09/15
Borehole No.	BH 222	TMR H No.	H12231
Location	Pioneer River Bridge	Start Depth (m)	16.80
Detail	Pier 7, LHS	Finish Depth (m)	26.95
Chainage		Submitted By	M.Ensor
Remarks			

0 100 200 300 400 500 600 700

SCALE 1:5

CORE PHOTO LOG

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



Project Name	Mackay – Ring Road (Stage 2)		
Project No.	FG6184	Date	12/09/15
Borehole No.	BH 222	TMR H No.	H12231
Location	Pioneer River Bridge	Start Depth (m)	16.80
Detail	Pier 7, LHS	Finish Depth (m)	26.95
Chainage		Submitted By	M.Ensor
Remarks			



SCALE 1:5