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**Queensland
Government**

**GEOTECHNICAL
BOREHOLE LOG**

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

BOREHOLE No **BH216**

Sheet 1 of 4

REFERENCE No **H12225**

PROJECT	Mackay Ring Road		
LOCATION	Pioneer River Bridge, Pier 5 (LHS)	COORDINATES 721292.1 E; 7660178.6 N	
PROJECT No	FG6184	SURFACE RL 7.39m	PLUNGE 90°
			DATE STARTED 27/08/2015
			GRID DATUM GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM A.H.D.	BEARING °
			DATE COMPLETED 30/08/2015
			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
0 - 0.24	6.89			A	Silty CLAY trace sand (Topsoil) Dark brown, moist, firm. Fine grained sand.						1, 1, 2 N=3 SPT
0.24 - 1.60				B	Clayey SAND (Alluvium) Brown, moist, very loose to loose. Fine grained sand.	(SC)					2, 2, 3 N=5 SPT
1.60 - 3.89				C	1.60m: becomes interbedded with SAND (Alluvium): Grey brown, moist, loose. Fine to medium grained sand.						2, 1, 2 N=3 SPT
3.89 - 5.00				D	SAND (Alluvium) Pale brown, dry, very loose. Fine to medium grained sand.						2, 1, 2 N=3 SPT
5.00 - 6.00				E	5.00m: fine to coarse grained sand, trace fine to medium grained gravel, subrounded to angular grains. Becoming medium dense.	(SP)					5, 9, 10 N=19 SPT
6.00 - 6.80				F	6.00m: becomes fine to coarse grained sand. 6.00 to 6.15m: Fine to medium grained gravel band, subrounded to angular grains.						6, 6, 7 N=13 SPT
6.80 - 7.15				G	CLAY trace sand (Alluvium) Dark grey, wet, very soft. Fine grained sand, medium to high plasticity.	(CH)				6.80m-7.15m: Potential Acid Sulfate Soil	hw, 10, 14 N=24 SPT
7.15 - 9.00				H	Sandy GRAVEL (Alluvium) Orange brown and dark grey, wet, medium dense. Fine to coarse grained sand, fine to coarse grained gravel, subrounded to angular grains.	(GP)					7, 10, 17 N=27 SPT
9.00 - 9.23				I	9.00m: becomes gravelly sand						12, 9, 14 N=23 SPT
9.23 - 9.24											
9.24 - 9.25											
9.25 - 9.26											
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9.99 - 10.00											

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REMARKS: Kgwu = Wundaru Granodiorite

LOGGED BY	REVIEWED BY
C.Boyes	S.Foley



**Queensland
Government**

**GEOTECHNICAL
BOREHOLE LOG**

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

BOREHOLE No **BH216**

Sheet 2 of 4

REFERENCE No **H12225**

PROJECT	Mackay Ring Road		
LOCATION	Pioneer River Bridge, Pier 5 (LHS)	COORDINATES 721292.1 E; 7660178.6 N	
PROJECT No	FG6184	SURFACE RL 7.39m	PLUNGE 90°
			DATE STARTED 27/08/2015
			GRID DATUM GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM A.H.D.	BEARING °
			DATE COMPLETED 30/08/2015
			DRILLER Saxon Drilling

DEPTH (m)	R.L. (m)	FAUGER CASING WASHBORING CONE DRILLING	RQD (%) CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS		
												EH	VH
11	-3.71			J	Silty SAND with clay (Alluvium) Pale grey, moist, medium dense. Fine grained sand, medium plasticity.	(SM)					8, 7, 9 N=16	SPT	
12				K	11.00m: becomes pale grey. Trace fine grained gravel, subrounded to rounded grains. Sandy CLAY (Alluvium) Mottled orange brown and grey, moist, stiff.						7, 8, 11 N=19	SPT	
12				L	fine grained sand, high plasticity. 12.00m: becomes very stiff	(CH)					6, 8, 12 N=20	SPT	
13				M	13.00m: sand content increasing						6, 7, 8 N=15	SPT	
14	-6.41			N	Clayey SAND (Alluvium) Pale grey, moist, medium dense. Fine to medium grained sand, medium plasticity.	(SC)					12, 11, 12 N=23	SPT	
15	-7.11			O	Clayey SAND (Residual) Orange brown and grey, moist, very dense. Fine to coarse grained sand, trace gravel, angular grains.	(SC)					21, 30, 30/80	SPT	
16				P	MICRODIORITE (Kgwu) XW: Recovered as green grey, moist, very dense, clayey sand. Fine grained sand. Occasional white HW calcite veins.						21, 26, 30/110	SPT	
17				Q	16.00m: becomes orange brown and green grey. Fine to medium grained gravel, angular grains. Gravel content increasing.						30/130	SPT	
18				R		XW					30/90	SPT	
19				S							30/30 hb	SPT	

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GEOTECHNICAL BOREHOLE LOG

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BOREHOLE No **BH216**

Sheet 3 of 4

REFERENCE No **H12225**

PROJECT Mackay Ring Road
 LOCATION Pioneer River Bridge, Pier 5 (LHS) COORDINATES 721292.1 E; 7660178.6 N
 PROJECT No FG6184 SURFACE RL 7.39m PLUNGE 90° DATE STARTED 27/08/2015 GRID DATUM GDA 94 / MGA Z55
 JOB No 242/10G/906 HEIGHT DATUM A.H.D. BEARING ° DATE COMPLETED 30/08/2015 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	U			EL	EC	VC
-12.71					(13)	MICRODIORITE (Kgwu) MW: Green grey, fine to medium grained, massive, generally medium to high strength. Js: 5°(<4/m); PI/Ro; OP-CD; Cn or CA VN <4mm.	+	MW											30/20 hb	SPT
21				100	(15)	From 20.8m: Js: 5° to 15° (<10/m); PI/Sm-Ro; OP: Fe St or CA VN; Js: 70° to 80° (<4/m); PI-Un/Sm-Ro; OP-CD; Fe St or CA VN <2mm; Js: 30° to 45° (<2/m); PI/Sm-Ro; OP; Fe St	+	MW												
22				100	(33)		+	MW												
-15.59					(37)	MICRODIORITE (Kgwu) SW: Grey, fine grained, massive, very high strength. Subvertical irregular calcite veins <1mm throughout. Js: 5° to 15° (<3/m); PI/Sm-Ro; OP; Fe St and some Cly FL; Js: 30° to 45°; (2/m); PI/Sm; OP; Fe St or CA VN <2mm; Js: 60° to 90°; (<2/m); Un/Sm-Ro; OP or CD; CA VN <1mm, some Fe St; Contact: 70°; Un/Sm; CD;	+	SW												
23				100	(88)		+	SW												
24				100	(74)		+	SW												
25				100	(74)		+	SW												
26				100	(74)		+	SW												
26				100	(74)		+	SW												
-19.06				100	(80)	MICRODIORITE (Kgwu)	+	HW												
27				100	(0)	HW: Green grey, generally fine grained, low strength. Calcite veining, highly fractured zone.	+	MW												
28				75	(80)	MICRODIORITE (Kgwu)	+	MW												
28				100	(95)	MW: Grey, fine grained, generally medium to high strength. Calcite veining throughout. Js: 0° to 10°; (<10/m); PI/Ro; OP; Fe St, CA; Js: 50° to 60°; (<3/m); PI/Sm; TI;	+	SW												
29				100	(82)	MICRODIORITE (Kgwu) SW: Green grey, fine to medium grained, massive, very high strength, highly fractured in parts. Js: 5° to 15°; (<5/m); PI/Sm-Ro; OP;	+	SW												
-22.61							+	SW												

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REMARKS: Kgwu = Wundaru Granodiorite

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GEOTECHNICAL BOREHOLE LOG

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BOREHOLE No **BH216**

Sheet 4 of 4

REFERENCE No **H12225**

PROJECT Mackay Ring Road

LOCATION Pioneer River Bridge, Pier 5 (LHS) COORDINATES 721292.1 E; 7660178.6 N

PROJECT No FG6184 SURFACE RL 7.39m PLUNGE 90° DATE STARTED 27/08/2015 GRID DATUM GDA 94 / MGA Z55

JOB No 242/10G/906 HEIGHT DATUM A.H.D. BEARING ° DATE COMPLETED 30/08/2015 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	YH
			100 (83)		some Fe St; Js: 30° to 45°; (<2/m); Pl/Sm; OP; some CA VN <1mm; Js: 60° to 75°; (<2/m); Pl/Sm; OP-CD; some Fe St or CA VN; GRANODIORITE (Kgwu) SW: Grey speckled dark grey and pink, medium to coarse grained, porphyritic, very high strength. Js: 5° to 20°; (<3/m); Pl-Un/Sm; OP-Tl; Fe St; Js: 50° to 60°; (<1/m); Pl-Un/Sm-Ro; OP; Fe St or CA VN; Borehole completed at 31.65m	+	SW					30.30m-30.67m: VN; 80°, Pl/Sm, FL, CA <2mm Is(50)=0.04 MPa UCS=37.90 MPa	D (30.45m) (31.00m)
	-24.26		100			+							

REMARKS: Kgwu = Wundaru Granodiorite	LOGGED BY	REVIEWED BY
	C.Boyes	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	Mackay – Ring Road (Stage 2)		
Project No.	FG6184	Date	30/08/15
Borehole No.	BH 216	TMR H No.	H12225
Location	Pioneer River Bridge	Start Depth (m)	20.10
Detail	Pier 5, LHS	Finish Depth (m)	31.65
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	30/08/15
Borehole No.	BH 216	TMR H No.	H12225
Location	Pioneer River Bridge	Start Depth (m)	20.10
Detail	Pier 5, LHS	Finish Depth (m)	31.65
Chainage		Submitted By	M.Ensor
Remarks			



SCALE 1:5