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**Queensland
Government**

**GEOTECHNICAL
BOREHOLE LOG**

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

BOREHOLE No **BH230**

Sheet 1 of 3

REFERENCE No **H12239**

PROJECT	Mackay Ring Road		
LOCATION	Pioneer River Bridge, Pier 9 (RHS)	COORDINATES	721331.8 E; 7660314.8 N
PROJECT No	FG6184	SURFACE RL	3.45m
		PLUNGE	90°
		DATE STARTED	26/10/2015
		GRID DATUM	GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM	A.H.D.
		BEARING	°
		DATE COMPLETED	27/10/2015
		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
0					Silty SAND trace gravel (Fill) Pale orange grey, moist to wet, loose to medium dense. Fine to coarse grained sand, fine to coarse grained gravel, rounded grains.								
1													
2													
3													
4	-0.05			A	Silty SAND (Alluvium) Grey, wet, loose. Fine to medium grained sand.	(SM)					4, 3, 3 N=6 SPT		
5				B	5.40m: becomes medium dense. Medium to coarse grained sand.						1, 4, 16 N=20 SPT		
6	-2.25			C	Silty SAND trace gravel trace clay (Alluvium) Pale grey, wet, medium dense. Fine to medium grained sand, fine to medium grained gravel, angular grains.						4, 10, 13 N=23 SPT		
7				D		(SM)					7, 8, 9 N=17 SPT		
8				E							7, 10, 12 N=22 SPT		
9	-6.05			F							8, 13, 13 N=26 SPT		
10	-6.55				Sandy CLAY (Alluvium)	(CL)							

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REMARKS: Kgwu = Wundaru Granodiorite

LOGGED BY	REVIEWED BY
C.Boyes	S.Foley



Queensland Government

GEOTECHNICAL BOREHOLE LOG

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BOREHOLE No **BH230**

Sheet 2 of 3

REFERENCE No **H12239**

PROJECT	Mackay Ring Road		
LOCATION	Pioneer River Bridge, Pier 9 (RHS)	COORDINATES 721331.8 E; 7660314.8 N	
PROJECT No	FG6184	SURFACE RL 3.45m	PLUNGE 90°
			DATE STARTED 26/10/2015
			GRID DATUM GDA 94 / MGA 255
JOB No	242/10G/906	HEIGHT DATUM A.H.D.	BEARING °
			DATE COMPLETED 27/10/2015
			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	VI	EL	EC	VC	C				M	W	VW	EW		
11	-8.05			G	Sandy CLAY (Alluvium) (Cont'd) Pale grey mottled brown, moist, hard. Fine grained sand, low plasticity.	(CL)																		8, 13, 19 N=32	SPT	
				H																				9, 10, 11 N=21	SPT	
12				I	CLAY trace sand (Alluvium) Pale green grey, moist, stiff. Fine to medium grained sand, medium plasticity.	(CI)																		3, 6, 9 N=15	SPT	
13				J	Gravelly Sandy CLAY (Residual) Pale white grey, moist, soft. Fine to medium grained gravel, angular grains, high plasticity.	(CH)																		5, 2, 2 N=4	SPT	
14	-10.70			K	14.0m: Becoming very dense. GRANODIORITE (Kgwu) XW: Recovered as grey, moist, very dense, silty sand trace clay. Fine to medium grained sand.	XW																		9, 26, 27 N=53	SPT	
15	-11.35			L	MICRODIORITE (Kgwu) XW: Recovered as green grey, moist, very dense, clayey sandy gravel. Fine to medium grained gravel, angular grains, medium to high plasticity.	XW																		19, 20, 30/90 hb	SPT	
16				M																				30/70 hb	SPT	
17	-13.25			N	GRANODIORITE (Kgwu) XW: Recovered as grey, moist, very dense, silty sand trace clay. Fine to coarse grained sand.	XW																		30/80 hb	SPT	
18	-14.75																							18.00m: No sample recovery		
19	-15.09		(11)		GRANODIORITE (Kgwu) HW: Grey and dark grey, medium to coarse grained, medium strength. GRANODIORITE (Kgwu) SW: Grey and dark grey, medium to coarse grained, porphyritic, very high strength. Js: 5° to 15°; (5/m); Pl/Sm; OP; Cn or Sinf;	HW																		18.49m-18.53m: HW zone	D (18.45m)	
						MW																		Is(50)=0.75 MPa Is(50)=2.40 MPa	I (18.76m)	
						SW																		19.12m-19.33m: BZ;	Is(50)=1.30 MPa	A (19.14m)
	-16.55		(40)																					Is(50)=4.30 MPa	D (19.64m)	
																								Is(50)=3.60 MPa	A (19.90m)	

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REMARKS: Kgwu = Wundaru Granodiorite

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C.Boyes	S.Foley



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BOREHOLE No **BH230**

Sheet 3 of 3

REFERENCE No **H12239**

PROJECT Mackay Ring Road
 LOCATION Pioneer River Bridge, Pier 9 (RHS) COORDINATES 721331.8 E; 7660314.8 N
 PROJECT No FG6184 SURFACE RL 3.45m PLUNGE 90° DATE STARTED 26/10/2015 GRID DATUM GDA 94 / MGA Z55
 JOB No 242/10G/906 HEIGHT DATUM A.H.D. BEARING ° DATE COMPLETED 27/10/2015 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
								INTACT STRENGTH													
								EH	VH	H	M	J	VI	EL	EC	VC	C	M			
20.86			100 (69)		Js: 60° to 80°; (4/m); Pl-Un/Ro; OP; CA Vr or Cn, some Sinf; GRANODIORITE (Kgwu) SW: (Cont'd)	+		VH C											20.48m-20.51m: HW CZ;	Is(50)=5.70 MPa	D (20.86m)
22.08					21.16m: Defects become: Js: 5° to 20°; (<2/m); Pl/Sm; OP; Cn;	+	SW	VH M												UCS=57.20 MPa E=46.7 GPa ν= 0.15 Is(50)=8.50 MPa Is(50)=4.70 MPa Is(50)=13.00 MPa	(22.08m) A (22.20m) D (22.30m) A (22.66m)
22.95	-20.25		100		22.95 to 23.10m: MICRODIORITE (SW): Grey, fine grained, massive, high strength. Fractured. Upper contact: 60°; Un/Ro; Lower contact: 40°; Un/Ro; 22.95m: Defects become: Js: 5° to 15°; (~10/m); Pl-Un/Sm; OP; Cn; Js: 50° to 60°; (~3/m); Pl-Un/Sm; CA Vr or Cn; Borehole completed at 23.70m	+		H VH VC C VC											22.95m-23.00m: BZ; 23.10m-23.28m: BZ		

REMARKS: Kgwu = Wundaru Granodiorite

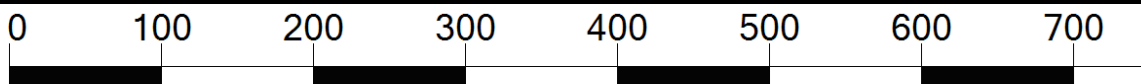
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C.Boyes	S.Foley

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	27/10/15
Borehole No.	BH 230	TMR H No.	H12239
Location	Pioneer River Bridge	Start Depth (m)	18.20
Detail	Pier 9, RHS	Finish Depth (m)	23.70
Chainage		Submitted By	M.Ensor
Remarks			



SCALE 1:5