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GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **BH210**

Sheet 1 of 4

REFERENCE No **H12219**

PROJECT	Mackay Ring Road				
LOCATION	Pioneer River Bridge, Pier 3 (LHS)			COORDINATES 721281.9 E; 7660109.5 N	
PROJECT No	FG6184	SURFACE RL	6.15m	PLUNGE	90°
				DATE STARTED	24/08/2015
				GRID DATUM	GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM	A.H.D.	BEARING	°
				DATE COMPLETED	26/08/2015
				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	VH	H	M	J	VI	EL	EC	VC	C	M	W	VW	EW																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
1	5.85			A	Sandy SILT trace clay (Topsoil) Orange brown, dry, very stiff. Fine grained sand. Silty SAND trace clay (Alluvium) Pale brown, dry, medium dense. Fine grained sand, low plasticity.		(SM)																					7, 9, 10 N=19	SPT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		

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S.Foley



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BOREHOLE No **BH210**

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REFERENCE No **H12219**

PROJECT	Mackay Ring Road				
LOCATION	Pioneer River Bridge, Pier 3 (LHS)			COORDINATES 721281.9 E; 7660109.5 N	
PROJECT No	FG6184	SURFACE RL	6.15m	PLUNGE	90°
				DATE STARTED	24/08/2015
				GRID DATUM	GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM	A.H.D.	BEARING	°
				DATE COMPLETED	26/08/2015
				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
11				J	CLAY (Alluvium) (Cont'd) 10.00m: becomes pale grey mottled orange brown. Trace fine grained sand. Becoming very stiff.					6, 8, 11 N=19	SPT
				K	11.00m: trace carbonaceous material, sand content increasing.	(CH)				6, 7, 9 N=16	SPT
12				L	12.00m: becoming sandy clay.					5, 5, 8 N=13	SPT
13	-6.75			M	Silty SAND trace clay (Alluvium) Pale grey, wet, medium dense. fine to medium grained sand. 13.35m: becomes orange brown. Clay content increasing. Trace carbonaceous material.	(SM)				6, 12, 11 N=23	SPT
14	-8.05			N	4.14m: carbonaceous content increasing.					19, 30/80mm	SPT
15	-9.55			O	MICRODIORITE (Kgwu) XW: Recovered as pale green grey, moist, very dense, clayey gravel. Fine to medium grained gravel, angular grains.	XW				30/120mm	SPT
16	-10.85			P	GRANODIORITE (Kgwu) XW: Recovered as speckled pale grey, pale brown and dark grey, moist, very dense, clayey sand. Fine to medium grained sand.	XW				30/130mm	SPT
17	-12.45			Q	MICRODIORITE (Kgwu) XW: Recovered as green grey, moist, hard, gravelly clay. Low to medium plasticity, angular gravel of Dolerite, some sandy lenses.	XW				30/90mm	SPT
18				R						30/40mm hb	SPT
19	-13.35			(52)	MICRODIORITE (Kgwu) MW: Brown grey, fine to medium grained, massive, medium strength. Calcite veins throughout. Js: 5°-10°(<3/m); Pl-Un/Sm; OP; some CA Vr or Sinf	MW				18.71m-18.81m: BZ; 70°, Pl/Sm, some CA; 18.81m-19.15m: Highly fractured, weathered, calcite veins throughout	A (18.65m) Is(50)=0.56 MPa
			100			SW				Is(50)=2.40 MPa Is(50)=0.96 MPa	D (19.60m) A (19.67m)

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BOREHOLE No **BH210**

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REFERENCE No **H12219**

PROJECT	Mackay Ring Road				
LOCATION	Pioneer River Bridge, Pier 3 (LHS)			COORDINATES 721281.9 E; 7660109.5 N	
PROJECT No	FG6184	SURFACE RL	6.15m	PLUNGE	90°
				DATE STARTED	24/08/2015
				GRID DATUM	GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM	A.H.D.	BEARING	°
				DATE COMPLETED	26/08/2015
				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 _L _VH _H _M _J _VI _EL	EC _VC _C _M _W _VW _EW		
	-14.65		(60) 100 (29)		Js: 60°-80°(<2/m); Pl/Sm; OP; some CA Vr <1mm VN: 80° -90°; (4/m); Un; OP; CA FL <2mm MICRODIORITE (Kgwu)		SW	H	M	20.07m-20.08m: J; 15°, Pl-Un/Sm, OP, Sinf; 20.25m-20.26m: J; 15°, Un/Sm, OP, Sinf; 20.61m-20.82m: Jointed; 25°-85°, Pl/Sm, OP, Sinf;	Is(50)=1.80 MPa Is(50)=1.50 MPa A (20.35m) D (20.45m)
21			100 (18)		SW: Green grey, fine to medium grained, massive, medium strength. Calcite veinlets throughout. Js: 5° -15°; (<6/m); Pl-Un/Sm-Ro; OP; Cn or CA Vr, some Fe St Js: 60° -70°; (<3/m); Pl/Sm; OP; Fe St		SW	VH	C		Is(50)=6.10 MPa D (21.30m)
22			100 (0)		GRANODIORITE (Kgwu)		HW	MH	E C	21.50m: ~40% water loss 21.61m-21.72m: HW zone 21.61m: BZ; HFZ; HW to 22.62m 21.72m-22.30m: Microdiorite (HW): grey, fine grained, massive, medium to high strength. Broken and fractured throughout, some clay infill. 21.72m-21.77m: XW Cly zone	
	-16.45		100 (0)		MW: Speckled grey, dark grey and pink, medium grained, porphyritic, medium strength.		MW	LM			
23			100 (0)		SW: Speckled grey, dark grey and pink, medium grained, porphyritic, medium strength. Js: 5° -15°; (<6/m); Pl/Sm-Ro; OP; Cn or some Fe St Js: 50° -75°; (<4/m); Pl/Sm; OP; Cn or FeSt		SW	VH	VC		
			90 (0)	CORE LOSS							
24			0 (50)		GRANODIORITE (Kgwu)		SW		M		Is(50)=10.00 MPa Is(50)=16.00 MPa A (23.67m) D (23.77m)
					SW: Speckled grey, dark grey and pink, medium grained, porphyritic, very high strength.				VC-C		
	-18.73		100 (91)		Js: 20°-40°;(<6/m); Pl/Sm-Ro; OP; some Fe St Js: 5° -15° (<5/m); Pl/Sm; OP; Fe St, some Sinf Js: 70°(<1/m); Pl/Sm-Ro; OP; Cly Vr MICRODIORITE (Kgwu)				C		Is(50)=7.10 MPa A (24.70m)
25					SW: Green grey, fine to medium grained, massive, very high strength, calcite veins throughout <2mm, olivine altered. Js: 50° -60°(<3/m); Pl-Un/Ro; OP-CD; CA Vr <1mm; Js: 5° -15° (<5/m); Pl/Ro-Sm; OP-CD; CA Vr <2mm;			VH	M	24.88m: CN; 15°, Pl/Sm, OP; 25.00m-25.11m: HFZ	Is(50)=0.96 MPa D (25.60m)
26											UCS=20.00 MPa E=14.7 GPa (26.15m)
			100 (91)						CM		UCS=21.60 MPa Is(50)=1.60 MPa Is(50)=3.80 MPa (26.48m) A (26.60m) D (26.70m)
27							SW		C	27.50m-28.03m: BZ; highly fractured, HW zone, QZ VN	Is(50)=2.60 MPa A (27.66m)
28					From 28.08m: Js: 5° to 15°; (<2/m); Pl/Sm-Ro; OP; some CA Vr; Js: 50° to 60°; (<2/m); Pl/Sm; OP- CD; CA Vr;			MH	E C	28.08m: CN; 60°, QZ VN, Pl/Sm;	Is(50)=2.70 MPa Is(50)=12.00 MPa A (28.41m) D (28.53m)
29								H-VH			UCS=188.00 MPa (29.05m)
			100 (85)							29.78m-29.83m: Jointed zone	

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BOREHOLE No **BH210**

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REFERENCE No **H12219**

PROJECT Mackay Ring Road

LOCATION Pioneer River Bridge, Pier 3 (LHS) COORDINATES 721281.9 E; 7660109.5 N

PROJECT No FG6184 SURFACE RL 6.15m PLUNGE 90° DATE STARTED 24/08/2015 GRID DATUM GDA 94 / MGA Z55

JOB No 242/10G/906 HEIGHT DATUM A.H.D. BEARING ° DATE COMPLETED 26/08/2015 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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
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31	-26.69		100		From 30.07m: Quartz veins throughout <1mm thick. Js: 5° to 15°; (<2/m); Pl/Sm; Pl/Sm; OP, CA VN; Js: 50° to 70°; (<3/m); OP-CD; some CA and QZ VN;	+	SW																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													

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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



CORE PHOTO LOG

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

