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Queensland Government

GEOTECHNICAL BOREHOLE LOG

FINAL 17/03/2016

BOREHOLE No BH215

Sheet 1 of 4

J.			GO	V	ernment	SY		GEOTECHNICAL TERN REFER FORM F:GEOT			REFERENCE No	H1	12224
PROJECT		Ma	ckay Ring	g Ro	pad								
LOCATION	DCATION Pioneer River Bridge, Pier 4 (RHS) COORDINATES 721306.1 E; 7660142.8 N												
PROJECT N	0	FG	5184		SURFACE RL 6.53m	PLU	INGE 9	0°	DATE STAR	RTED 25/08/2015	GRID DATUM G	5DA 94 / N	ЛGA Z55
JOB No		242	2/10G/90	6	HEIGHT DATUM A.H.D.	BEA	RING_		DATE COMPLE	TED 26/08/2015	DRILLER C	airns Drill	ling
DEPTH (m)		CASING WASH BORING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
6.2	28			В	Silty SAND (Topsoil) Dark brown, moist, very loose to loose. Organics and rootlets. Silty SAND (Alluvium) Dark brown, dry to moist, loose. Organics. Fine to medium grained sand. SAND trace silt (Alluvium) Pale brown, dry, loose. Fine grained sand. Silty SAND (Alluvium)		(SM)					3, 4, 4 N=8 3, 4, 4 N=8	SPT
- 4 4 				D	Dark brown, wet, very loose to loose. Fine to medium grained sand. 5.00m: becomes brown grey. Trace organics, muscovite flakes	X	(SM)		-			2, 2, 2 N=4	SPT SPT SPT
- 6 0.9				F	SAND trace clay and gravel (Alluvium) Orange brown, wet, medium dense Fine to coarse grained sand.	2.	(SP)		-	7.00m-7.45m: No sa recovered	mple	4, 6, 6 N=12	SPT SPT
- 8 -1.				Н	8.00 to 8.05m: fine to medium grained gravel lens. Silty SAND trace gravel (Alluvium) Pale grey brown, wet, dense. Fine to medium grained sand.		(SM)		-	9.00m-9.45m: No sa recovered	mple	6, 14, 18 N=32	SPT SPT
					Continued on next sheet							T	
REM.	ARK:	S:	Kgwu =	- W	/undaru Granodiorite						LOGGED BY	REVIE	WED BY
											T.Goosey	S.I	Foley
					73.40	CEOTES		DELIGIE LOS CREATES					

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GEOTECHNICAL BOREHOLE LOG

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FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014 H12224 REFERENCE No Mackay Ring Road PROJECT Pioneer River Bridge, Pier 4 (RHS) COORDINATES 721306.1 E; 7660142.8 N LOCATION DATE STARTED 25/08/2015 FG6184 SURFACE RL 6.53m PLUNGE 90° GRID DATUM GDA 94 / MGA Z55 PROJECT No 242/10G/906 DRILLER Cairns Drilling HEIGHT DATUM A.H.D. DATE COMPLETED 26/08/2015 JOB No BEARING ADDITIONAL DATA AND TEST RESULTS USCS WEATHERING INTACT DEFECT SPACING SAMPLES TESTS Ê LITHOLOGY STRENGTH RΙ DEPTH SAMP MATERIAL DESCRIPTION CORE REC % ᅾᆃᆠᆠᄝᅩᆛᅿᆑᆝᆔᇰᄓᄝᇰᆘ Silty Sandy CLAY (Alluvium) 5, 7, 10 Pale grey mottled brown, moist, stiff to very stiff. Fine grained sand, high plasticity. (CH) SPT 4, 7, 10 N=17 13 -6.57 SPT Silty SAND trace gravel (Alluvium) 14, 29/150 Pale grey, wet, very dense. Fine to medium grained sand. (SM) -7.47 MICRODIORITE (Kgwu 30/90 XW: Recovered as green grey, moist, very dense, clayey sandy gravel. Fine to medium grained gravel. 15 0 30/100 16 XW 30/70 18 -11.57 ⇒ 18.00m-18.04m: No sample (0) MICRODIORITE (Kgwu □ 18.30m-18.35m: BZ A (18.42m) HW: Brown grey, fine to medium HW grained, very low to low strength. Is(50)=0.26 MPa ¬ 18.85m-18.93m: BZ; Cly FL; XW Iron staining throughout, defects (0) are mainly clay and calcite filled. HW Js: 10° to 20°; (6-8/m); PI/Ro; TI; Cly FL and CA; Is(50)=0.81 MPa I (19.50m) Js: 40° to 50°; (3-4/m); PI/Ro; TI; Cly FL and CA; 19.85m-19.98m: CA VN; 45°, CA and Cly FL HW Continued on next sheet REMARKS: Kgwu = Wundaru Granodiorite **LOGGED BY REVIEWED BY** T.Goosey S.Foley TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

GEOTECHNICAL BOREHOLE LOG

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

FINAL 17/03/2016

BOREHOLE No BH215

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REFERENCE No H12224

Mackay Ring Road PROJECT Pioneer River Bridge, Pier 4 (RHS) COORDINATES 721306.1 E; 7660142.8 N LOCATION SURFACE RL 6.53m FG6184 PLUNGE 90° DATE STARTED 25/08/2015 GRID DATUM GDA 94 / MGA Z55 PROJECT No 242/10G/906 DRILLER Cairns Drilling HEIGHT DATUM A.H.D. DATE COMPLETED 26/08/2015 JOB No BEARING USCS WEATHERING ADDITIONAL DATA INTACT DEFECT SPACING SAMPLES TESTS Ê LITHOLOGY AND TEST RESULTS STRENGTH RΙ DEPTH SAMP MATERIAL DESCRIPTION (m) CORE REC % ᇁᆂᆂᆂᅬᅿᅿᆿᅵᇚᆼᄓॾᇂᇂᇕ √s: 85° to 90°; (2/m); Un/Ro; TI; Cly LM MW FL and CA; 20.30m-20.42m: XW seam, Cly FL; XW MICRODIORITE (Kgwu 100 MW 20.58m-20.68m: BZ; DI (0) Is(50)=0.14 MPa D (20.65m) MW MW: Brown grey, fine to medium 20.88m-21.02m: XW seam, Cly FL, XW MW grained, massive, medium strength. Js: 5° to 15°; (6-8/m); Pl/Ro; FL; Cly 21.22m-21.25m: Clay seam

□ 21.22m-21.25m: Clay seam and some CA, Fe St; Js: 20° to 30°; (3-4/m); PI/Ro; FL; Cly 21.49m-21.52m; Clay seam MW Vr, Fe St; Js: 40° to 50°; (2/m); PI/Ro; FL; Cly 22 -15.57 Vr or Fe St; 100 (31) Is(50)=1.50 MPa A (22.12m) MICRODIORITE (Kgwu Is(50)=2.40 MPa D (22.38m)-SW: Dark blue grey, fine to medium grained, massive, high to very high Is(50)=1.50 MPa A (22.82m) strength. Quartz and calcite veins 23.00m: Contact; 65°, Un/Ro, FL, 23 CA, Fe St; throughout. Js: 10° to 20°; (3/m); PI/Ro; TI; CA = 23.47m-23.50m: CZ; Gr Fl and Fe St; Js: 30° to 45°; (3/m); Pl/Ro; FL; CA (81) and Fe St; UCS=85.50 MPa (23.90m) E=65.4 GPa Js: 60° to 70°; (2/m); Un/Ro; FL; QZ, D (24.10m) Fe St; Is(50)=11.00 MPa 25 Is(50)=10.00 MPa D (25.16m)-М Is(50)=5.80 MPa A (25.28m) SW 25.44m-25.45m: Js: 40°; PI/Ro; FL; CA, Fe St, 10mm; 100 26 (71) Is(50)=5.70 MPa A (26.30m) vc-c 27 100 27.24m-27.29m: Clay seam D (27.40m) С Is(50)=0.23 MPa A (27.44m)-H-VH М Is(50)=3.10 MPa D (27.90m) 28 С H-VH С -22.27 Is(50)=3.00 MPa D (28.82m) GRANODIORITE (Kgwu SW С Is(50)=1.10 MPa A (28.95m) 129.10m-29.30m; HFZ; Clv and Sinf. HW HW zone - Js; 80° (x2); PI/Ro, FI, Sinf, Fe St SW: Pale red grey, coarse grained, 100 porphyritic, very high strength. (80) Js: 0° to 10°; (5/m); PI/Ro; OP; SW UCS=108.00 MPa (29.70m) -Js: 10° to 30°; (5/m); PI/Sm-Ro; OP; 30.00m-30.05m; DOLERITE (SW) Continued on next sheet REMARKS: Kgwu = Wundaru Granodiorite **LOGGED BY REVIEWED BY** T.Goosey S.Foley TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

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GEOTECHNICAL BOREHOLE LOG

FINAL 17/03/2016

BOREHOLE No BH215

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		1%.		GO	V	ernment		SY		GEOTECHNICAL REFER FORM F:	TERMS AND GEOT 017/8-2014		REFERENCE	No	H12224
PROJE	ECT .	N	Лас	kay Ring	g Ro	oad									
LOCAT	ΓΙΟΝ	Pioneer River Bridge, Pier 4 (RHS) COORDINATES 721306.1 E; 7660142.8 N													
PROJE	CT No	F	G61	184		SURFACE RL	6.53m	PLU	INGE S	90°	DATE ST	ARTED 25/08/201	5 GRID E	оатим <u>GDA 94</u>	/ MGA Z55
JOB N	0	2	242/	'10G/90)6	HEIGHT DATUM	A.H.D.	BEA	RING_		DATE COMP	PLETED 26/08/201	5 D	RILLER Cairns D	rilling
DEPTH (m)	R.L. (m)	AUGER CASING	WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESC	CRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	, A	ADDITIONAL DATA AND TEST RESULTS	\	SAMPLES TESTS
31 - 32 - 32 - 33 - 34 - 3 - 35 - 3 - 3 - 3 - 3 - 3 - 3 - 3 -	-24.47			100 (80)		Some Cly; GRANODIORITE (Kgw.) SW: (Cont'd) Js: 20° to 40°; (2/m); MICRODIORITE (Kgw.) SW: Blue grey, fine to grained, massive, ver strength. Js: 5° to 10°; (2-3/m); Js: 70° to 80°; (3/m); Borehole complete	PI/Sm; OP; u o medium y high : PI/Ro; TI; Cn; Un/Ro ;FL; CA;	* * * * * * * * * * * * * * * * * * *	sw	VH	VCC M M M M M M M M M	30.27m-30.32m: D 30.91m-30.97m: D 31.10m-31.33m: B	OLERITE (SW)	Is(50)=1.60 M Is(50)=15.00 M Is(50)=8.80 M Is(50)=9.40 M	Pa D (31.45m) A (31.58m) Pa A (32.12m)
R	EMAR	KS:		〈gwu =	= W	/undaru Granodio	rite						LOGGED	BY REV	IEWED BY
													T.Goose	<u> </u>	S.Foley
							TMR (SEOTEC	HNICAL B	OREHOLE LOG - CREAT	D WITH HOLEBASE SI		1		

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	26/08/15
Borehole No.	BH 215	TMR H No.	H12224
Location	Pioneer River Bridge	Start Depth (m)	18.10
Detail	Pier 4, RHS	Finish Depth (m)	32.60
Chainage		Submitted By	M.Ensor
Remarks			



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)		
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Detail	Pier 4, RHS	Finish Depth (m)	32.60
Chainage		Submitted By	M.Ensor
Remarks			•

