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GEOTECHNICAL BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014 FINAL 18/03/2016

BH261

Sheet 1 of 4

BOREHOLE No

REFERENCE No

H12270

Mackay Ring Road PROJECT COORDINATES 721364.5 E; 7660683.0 N Pioneer River Bridge, Abutment B (LHS) I OCATION FG6184 SURFACE RL 9.39m plunge 90° DATE STARTED 01/07/2015 GRID DATUM GDA 94 / MGA Z55 PROJECT No 242/10G/906 DRILLER Saxon Drilling HEIGHT DATUM A.H.D. DATE COMPLETED 03/07/2015 JOB No BEARING USCS WEATHERING ADDITIONAL DATA AND TEST RESULTS RQD ()% INTACT DEFECT SPACING SAMPLES TESTS Ē LITHOLOGY Щ STRENGTH RI DEPTH SAMP MATERIAL DESCRIPTION (m) CORE REC % CORET ᄪᆞᆃᅚॾᆡᆃᆆᅝᅇᇬᅆᆂᇂᆃᄚ Sandy SILT (Topsoil) Dark brown, moist, firm. (ML)8.79 Silty SAND (Alluvium) Brown, dry to moist, medium dense. Fine grained sand. SPT 3.6.7 N=13 (SM) 2 в SPT 8, 9, 7 N=16 2.40m: becomes dry 3 С SPT 6.09 6, 8, 14 N=22 Gravelly SAND (Alluvium) Brown, moist, medium dense. Fine to medium grained sand, fine to coarse grained gravel, subrounded to angular grains. (SW) D SPT 5, 9, 10 N=19 4.39 5 Sandy GRAVEL (Alluvium) Е SPT 12, 17, 18 N=35 Brown, medium dense to dense. Medium to coarse grained sand, medium to coarse grained gravel, subrounded to subangular grains. 6 SPT E 21, 18, 10 N=28 (GP) 7 7.00m: coarse grained gravel band. Very dense SPT G 20, 30, 26 N=56 8 н 8.15 to 8.30m: clayey sand lens. SPT 8, 3, 13 N=16 0.39 GRAVEL trace sand (Alluvium) SPT 14, 17, 16 Dark grey, wet, medium dense to N=33 dense. Medium to coarse grained °, (GP) sand, medium to coarse grained gravel, angular to subangular. -0.6 Continued on next sheet REMARKS: Kgwu = Wundaru Granodiorite LOGGED BY **REVIEWED BY** C.Boyes S.Foley TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

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GEOTECHNICAL BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014 FINAL 18/03/2016

BH261

Sheet 2 of 4

BOREHOLE No

REFERENCE No

H12270

PROJE	СТ	Ν	Лас	kay Ring	g Ro	ad								
LOCAT	ION	P	ion	eer Rive	er B	ridge, Abutment B (LHS)					C	OORDINATES 721364.5	E; 766068	33.0 N
PROJE	CT No	F	G61	L84		SURFACE RL 9.39m								
JOB No	D	2	42/	10G/90	6	HEIGHT DATUM A.H.D.	BEAF	RING_		DATE COMPL	ETED 03/07/2015	DRILLER	Saxon Drill	ing
DEPTH (m)	R.L. (m)	AUGER CASING	WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION		USCS WEATHERING	INTACT STRENGTH 표근구구구, 구, 구, 권, 권			ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
- - - - - - - - - - - - - - - - - - -					J	GRAVEL trace sand (Alluvium) (Cont'd) 10.45m: becomes coarse grained gravel, with coarse grained sand and fine grained gravel.		(GP)					11, 10, 9 N=19	SPT
-	-1.91					Silty Clayey SAND (Alluvium) Mottled orange brown and pale grey, moist, medium dense. Fine grained sand, medium		(SC)		-			28, 22, 9 N=31	SPT
- 12 	-3.06				L	plasticity. Sandy CLAY (Alluvium) Mottled orange and pale grey,		5 5 5 1					12, 11, 11 N=22	SPT
- 13 	-4.31					moist, stiff. Fine grained sand.		(CI)		- - - - - - -			3, 3, 5 N=8	SPT
- - - - - -					N	Clayey SAND (Alluvium) Pale grey mottled orange, moist, medium dense. Fine grained sand.		-					9, 7, 6 N=13	SPT
- - - - - - - - - - - - - - - - - - -					0			(SC)					10, 12, 15 N=27	SPT
- 16 	-7.01					GRANODIORITE (Kgwu) XW: Recovered as speckled dark		- - - -					11, 8, 9 N=17	SPT
- - - - - -						grey, orange and pale grey, moist, dense to very dense, silty sand trace clay. Fine to coarse grained sand.	++ ++ ++ ++						19, 21, 30 N=51	SPT
- 18 					R	18.00m: clay content decreasing.	+ + + + + + + + + + +	xw					26, 20, 28 N=48	SPT
- 19 	10.04				S	18.80m: dry clay band	+ + + + + + + + + + + + + + + + + + +					:	19, 23, 30/115	SPT
	-10.61			I	I	Continued on next sheet	.	1	J		1			
RI	EMAR	KS:	k	(gwu =	= W	/undaru Granodiorite						LOGGED BY	REVIE	WED BY
												C.Boyes	S.I	Foley
_						TMR G	EOTECH	HNICAL B	DREHOLE LOG - CREATED \	/ITH HOLEBASE SI				

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The second secon	Government	FOR GEOTECHNICAL TERMS AN SYMBOLS REFER FORM F:GEOT 017/3
PROJECT	Mackay Ring Road	
LOCATION	Pioneer River Bridge, Abutment B (LHS)	

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ND /8-2014

FINAL 18/03/2016

BH261

Sheet 3 of 4

BOREHOLE No

REFERENCE No

H12270

PROJECT	IVIAC	каў кіп	g nu	du								
LOCATION	Pion	eer Riv	er Bi	ridge, Abutment B (LHS)						COORDINATES 72136	4.5 E; 76606	83.0 N
PROJECT No	FG61	L84		SURFACE RL 9.39m	PLU	INGE 9	0°	DATE STA	RTED 01/07/2015	GRID DATU	M GDA 94 / 1	MGA Z55
JOB No	242/	10G/90)6	HEIGHT DATUM A.H.D.	BEAF	RING °		DATE COMPL	ETED 03/07/2015	DRILLI	R Saxon Drill	ing
DEPTH (m) B.T. (m) (m) MUGER	CASING WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	ГІТНОГОСУ	USCS WEATHERING	INTACT STRENGTH 표근구, 파, 주, 그, 주, 쿄			ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
44 (m) 21	CUSING CORE DRIV	CORE REC % (87) (87) (100) (100) (73) 100 (76)	T U V	GRANODIORITE (Kgwu) HW: Speckled grey, orange and dark grey, coarse grained, massive, very low strength GRANODIORITE (Kgwu) SW: Speckled dark grey, pale grey and pink, coarse grained, massive,, very high strength S: 5° to 20°; (<1/m); PI/Ro-Sm; OP; some Sinf; S: 5° to 70°; (~2/m); PI/Sm; TI-OP; CA VN; 22.95 to 23.44m: MICRODIORITE (SW): dark grey, fine grained, massive, very high strength. Calcite veining throughout <1mm thick. MICRODIORITE (Kgwu) SW: Grey, fine to medium grained, massive, hight to very high strength, some calcite veining <1mm thick JS: 40° to 60°; (<3/m); PI/Sm; OP or CD; come CA VN; JS: 0° to 5°; (2/m); PI/Ro; CD; 26.60 to 27.00m: GRANODIORITE (SW) speckled dark grey, pale grey and pink, coarse grained, massive, very high strength.		WW WW			22.95m: Contact: 5 ⁺ , 23.44m: Contact J: 7 ⇒ 23.73m-23.75m: J: (; OP; Sinf; 26.60m: Contact: 45 26.60m-27.00m: GR (SW) 26.92m-27.15m: 02 (*30mm); 27.90m: Contact: 70 VV) 27.52m-27.58m: 82;	Un/Ro; 0°; PI/Sm; <3); 15°; PI/Ro; *; PI/Sm; ANODIORITE VN: Un/Sm; *; PI/Sm; CA	30, 30/90 28, 20/105 11, 30/85 15(50)=5.80 MPa 15(50)=2.60 MPa 15(50)=11.00 MPa 15(50)=11.00 MPa 15(50)=1.70 MPa 15(50)=7.80 MPa 15(50)=7.80 MPa 15(50)=2.70 MPa	SPT SPT (23.69m) A (24.11m) A (25.23m) A (25.23m)
- 28 - 28 - 28 		100 (83) 100 (93)		GRANODIORITE (Kgwu) SW: Speckled dark grey, pale grey and pink, coarse grained, massive, very high strength Js: 40° to 70°; (<3/m); PI/Sm-Ro; CD; some CA VN; 29.47m: becomes green, grey and pink. Fine to medium grained.	. + _ + _ + _ + _ + _ + _ + _ + _ + _ +	sw	VH		28.93m: DI;		Is(50)=9.90 MPa Is(50)=8.20 MPa Is(50)=6.30 MPa Is(50)=4.50 MPa	A (28.31m) D (28.50m) A (29.41m) D (29.53m)
20.61				·	+++			м	some Sinf;	dod through		
				Continued on next sheet					30.00m-30.13m: hea with QZ VNs;	ared through		
REMARK	S: k	kgwu :	= W	'undaru Granodiorite						LOGGED BY	REVIE	WED BY
										C.Boyes	S.	Foley
				TMR GE	OTECH	HNICAL BO	DREHOLE LOG - CREATED V	VITH HOLEBASE SI			I	-

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			Qu	e	ensland			BO	REHO	LE	LOG			Sheet	t 4 of 4	
1 C	S.		G0	Ve	ernment		SY		GEOTECHNIC REFER FORM		RMS AND DT 017/8-2014		REFEREN	ICE No	H	12270
PROJECT		Mac	kay Ring	g Ro	ad											
LOCATION		Pion	eer Rive	er Bi	ridge, Abutment B (LHS)								COORDINATES	721364.5	5 E; 76606	83.0 N
PROJECT N	0	FG6	184		SURFACE RL 9.3	39m	PLU	JNGE 9	0°		DATE STA	RTED 01/07/201	15 GR	ID DATUM	GDA 94 / I	MGA Z55
JOB No		242/	′10G/90)6	HEIGHT DATUM A.I	H.D.	BEA	RING			DATE COMPL	ETED 03/07/201	.5	DRILLER	Saxon Dril	ling
			RQD					U					ADDITIONAL D	ATA		
R. DEPTH (m)	.L. n)	CASING WASH BORING CORE DRILLING		SAMPLE	MATERIAL DESCRIF	TION	LITHOLOGY	USCS WEATHERING	INTACT STRENGT	гн	DEFECT SPACING		AND TEST RESUL			SAMPLES TESTS
B	AIGER	CASING WASHE CORE L	CORE REC %				Ľ	WE	≞'≥'±'≲'⁻';	≠¦⊟	u u v v v z z z z z z z z z z z z z z z					0
					GRANODIORITE (Kgwu) SW: (Cont'd)		++	1								-
-					30.13m: becomes coars Js: 0° to 10°; (1/m); PI/R	e grained. to; OP; Cn;	÷	-			w					
			100				L.			-	c					-
- 31 -			(100)		31.21 to 31.60m: MICR(++				м	31.21m: Contact:	J; 40°; Pl/Sm-Ro;	lsi Is(5	(50)=5.90 MPa 50)=12.00 MPa	A (31.05m)_ D (31.10m) ⁻
					(SW): dark grey, fine gra massive, very high strer	ained,	÷+	sw	VH	-		CD;				
					<u> </u>	U ²	++	-				31.60m: Contact:	UII-IF;			
— 32 -					32.00m: No more defect	ts.	ŀ,	ł							(50)=6.40 MPa 50)=10.00 MPa	A (32.05m)_ D (32.15m) ⁻
			100 (100)				++	-			w					
			(100)				÷	-								-
33 -23	.71		100		Borehole completed at	33.10m	•••	-			_			Is	(50)=8.80 MPa	A (33.05m)_
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			svu -	- vv		-							LOGGI C.Bo			Foley
						TMR	GEOTEC	HNICAL BO	DREHOLE LOG - CRE	ATED W	ITH HOLEBASE SI			ycs	J.	, orcy

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	03/07/15
Borehole No.	BH 261	TMR H No.	H12270
Location	Pioneer River Bridge	Start Depth (m)	22.70
Detail	Abutment B, RHS	Finish Depth (m)	33.10
Chainage		Submitted By	M.Ensor
Remarks			
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DEPARTMENT OF TRANSPORT AND MAIN ROADS Geotechnical Section 35 Butterfield Street, Herston Qld 4006 Phone 07 3066 3336



Project Name	Mackay – Ring F	Road (Stage	2)		
Project No.	FG6184	(1.1.5)	,	Date	02/07/15
Borehole No.	BH 261			TMR H No.	H12270
Location	Pioneer River Bri	dae		Start Depth (m)	22.70
Detail	Abutment B, RHS			Finish Depth (m)	33.10
Chainage	7 abdiment B, Trite	,		Submitted By	M.Ensor
Remarks				Oublinited By	W.Ensor
	6184				B0X4 -
		32.4	BHZ61		
25	and the second				27
- FR					33.
0 100) 200	300	400	500 600	700
		SCAL	E 1:5		

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