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GEOTECHNICAL BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014 FINAL 17/03/2016

BH219

Sheet 1 of 4

BOREHOLE No

REFERENCE No

H12228

PROJE	СТ	Mackay Ring Road												
LOCAT	ION	F	Pion	eer Riv	er B	ridge, Pier 6 (LHS)						COORDINATES 721297.2	E; 766021	.3.6 N
PROJE	CT No	F	G6	184		SURFACE RL 7.74m	PLU	NGE S	90°	DATE STAF	RTED 01/09/2015	GRID DATUM	GDA 94 / N	/IGA Z55
JOB No	D	2	242/	′10G/9	06	HEIGHT DATUM A.H.D.	BEAR	RING_		DATE COMPLI	ETED 08/09/2015	15 DRILLER Cairns Drilling		ing
DEPTH (m)	R.L. (m)	AUGER CASING	WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	ПТНОГОGY	USCS WEATHERING	INTACT STRENGTH 표チェマップゴ			ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
- 1	5.74				A	Silty SAND (Alluvium) Dark brown, dry, very loose to loose. Fine grained sand. 1.00m: loose		(SM)					3, 4, 3 N=7	SPT
-	4.74				в	SAND (Alluvium) Brown, dry, loose. Fine grained sand, trace silt.		(SP)					4, 5, 4 N=9	SPT
- 3 · 	3.74				с	Clayey SAND (Alluvium) Dark brown, wet, loose. Fine grained sand, low plasticity clay.		(SC)					3, 3, 3 N=6	SPT
4	0.14				D	SAND (Alluvium) Pale brown, moist, medium dense. Fine to medium grained sand, trace silt.							4, 5, 7 N=12	SPT
- 5 					E	Becoming wet. Trace fine to medium gravel.							3, 5, 9 N=14	SPT
- 6 					F								8, 7, 8 N=15	SPT
- 7 					G	7.00m: becoming loose		(SP)					5, 4, 3 N=7	SPT
- 8 					н	8.00m: becoming medium dense, increasing grain size and gravel component					→ 9.00m-9.45m: Bould	ier at 9.05m.	7, 7, 7 N=14	SPT
	-2.26				1	9.05m: boulder/cobble					No Sample Recovere		13, 18, 17 N=35	SPT
RF	MAR	KZ		(gwii	= \\	Continued on next sheet /undaru Granodiorite						LOGGED BY	DE//IE	WED BY
	_111/~11		. 1	\5 WU	- • •							T.Goosey		oley
						TMR G	EOTECI	HNICAL B	OREHOLE LOG - CREATED V	VITH HOLEBASE SI				,

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							_		FINAL 1	7/03/2016
				GE	OTECHN	ICAL		BOREHOLE No	В	H219
		ensland		BC	REHOLE	LOG		Sheet 2 of 4		
13 St	Gov Gov	rernment	S		GEOTECHNICAL TER			REFERENCE No	H	12228
PROJECT	Mackay Ring F	Road								
LOCATION	Pioneer River	Bridge, Pier 6 (LHS)						COORDINATES 721297.2	E; 76602	13.6 N
PROJECT No	FG6184	SURFACE RL 7.74m	PI	UNGE	90°	DATE STAF	RTED 01/09/2015	GRID DATUM	GDA 94 / I	MGA Z55
JOB No	242/10G/906	HEIGHT DATUM A.H.D.	BE	ARING		DATE COMPLE	TED 08/09/2015	DRILLER	Cairns Dril	ling
	RQD			ŋ	INITA OT	DESECT		ADDITIONAL DATA		
(m) HL R.L. (m)	AMPIF AMPIF	MATERIAL DESCRIPTION	ГІТНОГОGY	USCS WEATHERING	INTACT STRENGTH 표근구구, 독, 그, 국, 교	DEFECT SPACING		AND TEST RESULTS		SAMPLES TESTS
- - - - - -		Silty SAND (Alluvium) Pale grey, wet, medium dense. Fine to medium grained sand, fines.		07/07/07/07/0		-			7, 9, 11 N=20	SPT
	,	<		(SM)		-			8, 11, 16 N=27	SPT
- 12 - 12				407-67-67-67-		-		U	9, 13, 16 N=29 CS=87.80 MPa	SPT (12.30m)
- 13 - 5.26	N	Silty CLAY (Alluvium) Grey-brown, moist, very stiff. Medium plasticity, trace fine g sand.	rained			-			6, 11, 14 N=25	SPT
		14.00m: becoming hard		(CI)		-			8, 13, 19 N=32	SPT
- 15 7.86	C	GRANODIORITE (Kgwu	×	· · · · ·		-			16, 18, 31 N=49	SPT
) XW: Recovered as Clayey SANE Brown-grey, moist, very dense to medium grained sand, low plasticity clay.	D: +	+		-			30/80 hb	
- 17 - 17 9.96	C	2	+ + + +	+ + +		-			25, 30/120 hb	SPT
-10.72	(12)	MICRODIORITE (Kgwu) SW: Blue-grey, fine to medium grained, massive, high strength	h.	+ + + +	VH	c	18.03m-18.08m: XW extremely low stren 18.45m-18.70m: J; 9	/ Clay seam, IS(gth.	50)=3.30 MPa 50)=2.30 MPa	A (17.74m) D (17.95m)
19 19		 Js; 5°-15° (7/m); Pl/Ro, FL, Cly GRANODIORITE (Kgwu MW: Pale grey mottled dark gr coarse grained, porphyritic, hig strength. 	rey, gh	+	H E E L C	c	EL, Sinf and Cly; 18.45m: Contact; 65 18.70m-18.72m: XW seam 19.10m-19.30m: XW seam, extremely low	°, Pl/Ro, CD; / sand and clay Is(5 / sand and clay	0)=11.00 MPa	 D (18.80m)
	100	- Js; 5°-10° (3/m); Pl-Un/Ro, Tl- Cly and Sinf, Fe St;	-FL, +	+		c		ls(50)=6.90 MPa	A (19.60m)
	(0)	Continued on next sheet	+		М		20.00m-20.10m: XW	/ BZ;		
REMAR	<pre>Kgwu = V</pre>	Wundaru Granodiorite						LOGGED BY	REV/I	WED BY
	0							T.Goosey		Foley
			TMR GEOTE	ECHNICAL B	OREHOLE LOG - CREATED WIT	TH HOLEBASE SI			J. J.	,

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					_		FINAL 17/	/03/2016
A A A A A A A A A A A A A A A A A A A	ÈC m		GE	OTECHNICAL		BOREHOLE No	BH2	219
		ensland	BC	REHOLE LOG		Sheet	3 of 4	
	GOV	ernment		GEOTECHNICAL TERMS AND REFER FORM F:GEOT 017/8-20	014	REFERENCE No	H12	228
PROJECT	Mackay Ring R	load						
LOCATION	Pioneer River I	Bridge, Pier 6 (LHS)				COORDINATES 721297.2	E; 7660213	8.6 N
PROJECT No	FG6184	SURFACE RL 7.74m	n PLUNGE	00° DAT	TE STARTED 01/09/2015	GRID DATUM	GDA 94 / MO	GA Z55
JOB No	242/10G/906	HEIGHT DATUM A.H.D	BEARING	DATE C	OMPLETED 08/09/2015	DRILLER	Cairns Drillin	ng
DEPTH (m) (m)	RQD SNILDE CORFE RUNCING CORFE RCC % REC %	MATERIAL DESCRIPTIO	LITHO	INTACT DEFEC STRENGTH SPACIN 표, 두, 그, 주, 쿄 입, 우, 아, 후, 종	NG	ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
-12.46		- Js; 20°-30° (2/m); Pl/Ro, T		E E VC	20.10m-20.20m: XV zone			-
21	 (100)	\$t; MICRODIORITE (Kgwu) HW: Blue-grey, fine to med grained, massive, high stree MICRODIORITE (Kgwu) SW: Blue-grey, fine to medi	ium		20.20m-20.40m: XV extremely low stree 20.40m-20.60m: HV low to low strength 20.55m-20.60m: Cla	ngth. N zone, very	50)=8.90 MPa 🛕	4 (20.85m)
- 22 - 22 		grained, massive, very high strength. - Js; 5°-10° (1/m); PI/Sm-Ro	+	w-w		Is(50)=8.20 MPa	 0 (22.10m)- 4 (22.17m)- (22.22m) - - -
- 23 - 15.84 	<u> </u>	GRANODIORITE (Kgwu) SW: Pale grey mottled pale	++++++++++++++++++++++++++++++++++++++	M		IS(50)=9.80 MPa	23.05m).
		black, coarse grained, porp very high strength. - Js; 5°-10° (1/m); PI/Ro, TI,	hyritic,	w				A (24.24m) D (24.37m)
- - - - - - - - - - - - - - - - - - -			+ 500 + + + + + + + +	VH	-	UC	E=58.6 GPa v= 0.058	(25.33m) (25.33m) (25.33m)
	<u>100</u> (100)	_	+ + + + + + + + + + + + + + + + + + +				50)=4.20 MPa A	A (26.07m) - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - -			+ + + + + +	w				D (27.30m) A (27.42m)
28 			• + sw • + • + • +		28.23m-28.35m: DC (SW); 60°, Un, CD;	is(Dlerite dyke	50)=3.90 MPa	D (28.10m)
29 	 (97)	MICRODIORITE (Kgwu) SW: Blue-grey, fine to medi grained, massive, porphyrit high strength. Continued on next shee	ium + + + sw tic, very + + +	м	29.37m: CONTACT; DYKE; PI, CD;	75° DOLERITE IS(50)=5.80 MPa 🛛 🗚	– A (29.28m) -
REMAR	KS: Kgwu = V	Nundaru Granodiorite				LOGGED BY	REVIEW	
						T.Goosey	S.Fc	
			TMR GEOTECHNICAL B	OREHOLE LOG - CREATED WITH HOLEBASE	SI			,

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										-		FINAL	17/03/2016	
		àc.				(GE	OTECHN	IICAL		BOREHOLE I	No	BH219	
			Qu	e	ensland	BOREHOLE LOG						Sheet 4 of 4		
	N.S.	×1°	Go	ve	ernment			GEOTECHNICAL TE REFER FORM F:GE			REFERENCE	No	112228	
PROJE	CT	Mac	kay Rin	g Ro	ad									
LOCAT	ION	Pion	eer Rive	er Bi	ridge, Pier 6 (LHS)						COORDINATES 721	.297.2 E; 7660	213.6 N	
PROJE	CT No	FG62	184		SURFACE RL 7.74m	PLUN	IGE 9	0°	DATE STAF	RTED 01/09/201	5 GRID D	ATUM GDA 94 /	MGA Z55	
JOB No)	242/	′10G/90	06	HEIGHT DATUM A.H.D.	BEARI	NG _		DATE COMPLI	ETED 08/09/201	5 DI	RILLER Cairns Dr	illing	
			RQD			~	ŋ	INTACT	DEFECT		ADDITIONAL DATA			
DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	лассе ИДНОГОСУ	USCS WEATHERING	STRENGTH	SPACING		AND TEST RESULTS		SAMPLES TESTS	
- - - - - - - - - - - - - - - - - - -	-23.32		100		Occasional calcite veins. - Js; 5°-15° (1/m); Pl/Sm, Tl, Cn;	+ + + + + + + + + + + +	SW		w		ontact: 60°. Pl.	is(50)=9.80 MP		
- 51	20.02				Borehole completed at 31.05m		300	-		CD, GRANITE		UCS=178.00 MP	(31.13m) _	
-								-	-				-	
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RE	MAR	KS: H	<gwu =<="" td=""><td>= W</td><td>/undaru Granodiorite</td><td></td><td></td><td></td><td></td><td></td><td>LOGGED</td><td>BY REV</td><td>IEWED BY</td></gwu>	= W	/undaru Granodiorite						LOGGED	BY REV	IEWED BY	
											T.Goose		5.Foley	
						TMR GEOTECHN	IICAL BC	REHOLE LOG - CREATED	VITH HOLEBASE SI			I		

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 R	oad (Stage	2)			
Project No.	FG6184	load (olage	<i>~</i>)	Date		08/09/15
Borehole No.	BH 219			TMR H No.		H12228
Location	Pioneer River Brid	dae		Start Depth		17.70
Detail	Pier 6, LHS			Finish Dept		31.05
Chainage				Submitted I		M.Ensor
Remarks					,	
	FG6184	- 11			M.R.R	hick to be
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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 Road (Stage 2)		
Project Name Project No.	FG6184	Date	08/09/15
Borehole No.	BH 219	TMR H No.	H12228
Location	Pioneer River Bridge	Start Depth (m)	17.70
Detail	Pier 6, LHS	Finish Depth (m)	31.05
		Submitted By	M.Ensor
Chainage Remarks		Submitted by	
	15184	M.R.R	
ZG-An	H219 H219 FT6/B 4 SH219	Box 4	
0 100	200 300 400 SCALE 1:5	500 600	700

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