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			E al	")u	e	ensland							BOREHOLE No
	()		45	Ċ	0	Ve	ernment		SY	FOR	GEOTECHNICAL TE REFER FORM F:GE	ERMS AND		REFERENCE No
PROJE	CT	_	Ma	ckay	Ring	g Ro	ad							
LOCAT	ΓΙΟΝ	_	Pio	neer	Rive	er B	ridge, Pier 12 (CL)						C	OORDINATES 7213
PROJECT No		FG6184					SURFACE RL 3.41m		plunge 90°		90°	DATE STARTED 04/11/20		GRID DAT
JOB N	0	-	242	/100	5/90)6	HEIGHT DATUM	A.H.D.	BEA	RING_		DATE COMPLE	TED 06/11/2015	DRIL
DEPTH (m)	R.L. (m)	AUGER	VASH BORING		QD) % DRE IC %	SAMPLE	MATERIAL DES	CRIPTION	ГІТНОГОGY	USCS WEATHERING	INTACT STRENGTH 표天고독고, 커쿄		,	ADDITIONAL DATA AND TEST RESULTS
							SAND trace silt and g Brown, dry, very loos Fine to coarse graine River bund.	e to loose. d sand.		****				

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BH238 OLE No

Sheet 1 of 3

H12247

721337.2 E; 7660419.3 N RID DATUM GDA 94 / MGA Z55 DRILLER Cairns Drilling DATA SAMPLES TESTS TS SPT 2.3.4 N=7 SPT 2, 2, 2 (SP) 3 3.00m: gravel content increasing. С SPT 2, 3, 3 N=6 4 4.00m: becomes wet. D SPT 1, 2, 2 N= Е SPT 3, 3, 3 N=F - 5 F SPT -1.89 3, 3, 3 N=6 Gravelly SAND trace clay and silt (Alluvium) G SPT Brown and grey, wet, loose. 1.2.3 N=5 Fine to coarse grained sand, fine to 6 medium grained gravel. Н SPT 6, 4, 2 (SP) N=6 SPT 3, 3, 8 N=11 7 Becoming medium dense. 7.10m-7.30m: Sandy GRAVEL lens. SPT -3.89 .1 Grey brown, wet, medium dense. 6, 9, 10 Silty SAND trace gravel (Alluvium) N=19 Pale brown grey, moist, medium K SPT dense. 12, 13, 15 N=28 Fine to medium grained sand, low 8 plasticity. (SM) SPT L. 8, 14, 15 N=29 8.50m: clay and gravel content Μ increasing. SPT 6, 11, 17 N=28 -5.59 9 CLAY trace sand (Alluvium) Ν SPT 5, 9, 13 Pale grey, moist, very stiff. N=22 Medium to high plasticity. (CH) 9.40m: becomes brown. 0 SPT 7, 13, 7 N=20 9.50m: becomes grey mottled brown 6.59 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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										_		FINAL 1	8/03/2016
A TAKE							GE	OTECHN	IICAL	BOREHOLE No BH238		H238	
😤 🖉 Queensland					BOREHOLE LOG						Sheet		
ł		G)V	ernment			FOR	GEOTECHNICAL TE REFER FORM F:GE	RMS AND		REFERENCE No		12247
PROJECT		Mackay Rir	ng Ro	bad									
LOCATION	4	Pioneer Riv	/er E	Bridge, Pier 12 (CL)						(COORDINATES 721337.2	E; 766042	L9.3 N
PROJECT	No	FG6184		SURFACE RL 3	.41m	PLU	NGE S	0°	DATE STAF	RTED 04/11/2015	GRID DATUM	GDA 94 / N	/IGA Z55
JOB No		242/10G/9	06	height datum A		BFAF	RING °		DATE COMPLE	TED 06/11/2015		Cairns Dril	ling
							-						
	R.L. (m)	CORE CASING WASH BORING CORE DAN CORE CORE CORE CORE CORE CORE CORE CORE	SAMPLE	MATERIAL DESCR	IPTION	ГІТНОГОСУ	USCS WEATHERING	INTACT STRENGTH 표,독,ᆂ,ᆂ,ᆗᆏᇳ	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
	7.09		Ρ	Sandy CLAY (Alluvium) Grey brown mottled da moist, hard. Fine to me			(CI)					8, 14, 23 N=37	SPT
			Q	sand, low to medium p Clayey SAND (Alluvium	lasticity.	_	(SC)		-			18, 30/120	SPT
	7.59 3.09		R	Brown, wet, very dense medium grained sand, medium plasticity.	e. Fine to low to	×	(CI)					10, 17, 27 N=44	SPT
			s	Silty CLAY trace sand (A Grey mottled dark grey	and brown,	×	(CI)					13, 30/140	SPT
- 12{ - -	3.59		т	moist, hard. Fine to me sand, medium plasticit Silty CLAY trace sand (F	y. Residual)	+++					1	1, 25, 30/100	SPT
- - - - 13				Grey mottled dark grey white, moist, hard. Me plasticity. GRANODIORITE (Kgwu	dium	+ + + + + +	xw						-
-			U) XW: Recovered as grey mottled dark grey and moist, hard, gravelly sa	brown,	++++++++++++++++++++++++++++++++++++++						12, 20, 30 N=50	SPT
14 <mark>-1</mark>	0.59		v	GRANODIORITE (Kgwu)		+++++++++++++++++++++++++++++++++++++++		- - - - -				12, 19, 23 N=42	SPT
				XW: Recovered as pale mottled white, moist, H clay. Fine to coarse gra low plasticity.	nard, sandy	+ + + + + + + +							-
- - - - -			W			+ + + + + +		- - - - -				11, 18, 27 N=45	SPT
- - 16 - -			x			+++++++++++++++++++++++++++++++++++++++	xw					9, 19, 30/130	SPT
- - - 17			Y			+ + + + + + +			-			20 (1 10	SPT
-						+++++++++++++++++++++++++++++++++++++++						30/140	
- 18 - - - - - -			Z			• + • + • + • + • +						30/120	SPT
- - 19 - -	5.59		A۸	GRANODIORITE (Kgwu)		+ + + + + + + + + +		- - - - -	- - - - -			30/50	
- - - 	6.59			HW: Grey and brown, r coarse grained, massiv strength.		• • •	нw						
				Continued on nex	t sheet			·					
REN	1ARK	S: Kgwu	= V	Vundaru Granodiori	te						LOGGED BY	REVIE	WED BY
											T.Goosey	S.I	Foley
					TMR GE	OTECH	INICAL B	DREHOLE LOG - CREATED \	VITH HOLEBASE SI				

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							_		FINAL 1	8/03/2016
				GE	OTECHNI	CAL		BOREHOLE No	В	H238
		eensland		BO	REHOLE	LOG	_	Sheet 3 of 3		
1 Set	ي Gov	vernment	SI		GEOTECHNICAL TERN REFER FORM F:GEOT			REFERENCE No	H	12247
PROJECT	Mackay Ring	Road	L							
LOCATION	Pioneer River	r Bridge, Pier 12 (CL)					(COORDINATES 721337.2	E; 76604	19.3 N
PROJECT No	FG6184	SURFACE RL 3.4	lm pl	UNGE 9	90°	DATE STAR	RTED 04/11/2015	GRID DATUM GDA 94 / MGA Z55		
JOB No 242/10G/906 HEIGHT DATUM A.H.D.				BEARING DATE COMPLETED 06/11/20				5 DRILLER Cairns Drilling		
_	RQD		>	ŋ	INTACT	DEFECT		ADDITIONAL DATA		
(W) R.L. (M) DEDTH (W)	MODERA MARING CORE DRILLING CORE DRILLING CORE DRILLING SCORE DRILLING CORE DRILLING CORE DRILLING	버 MATERIAL DESCRIPT	ИЦНОГОСУ	USCS WEATHERING		SPACING		AND TEST RESULTS		SAMPLES TESTS
-		GRANODIORITE (Kgwu	+	-					30/60	SPT
-) HW: (Cont'd)		•	<u> </u>					-
-				•						
21 		AC	÷	+ +	=	-			28, 30/90	SPT
-			+	•					,,	-
-			+	•	±					-
- 22 -		AD	+	нw		-			30/70	SPT
-			+	•]	<u> </u>					-
-			+	•	<u> </u>					-
- 23		AE:		+ +		-			30/60	SPT
-			+	•]	<u> </u>					
-			+	•						-
-20.84			+	•		-			30/40	SPT
-	(45)	GRANODIORITE (Kgwu)	+	• sw	VH	с	24.35m-24.43m: BZ;	Is(5	0)=9.90 MPa	A (24.45m)
-21.39		SW: Grey mottled dark gr grained, porphyritic, very	ey, coarse	1		м	24.85m-25.25m: CA	UCS	=113.00 MPa	(24.70m) _
- 25	100 (70)	strength. GRANODIORITE (Kgwu	/[+	+	MH VC			Ic/D	0)=1.90 MPa	I (25.30m)
-	(70)) MW: Orange grey, coarse	grained.	• ^{MW}	H-VH MH E	с		15(-	0j-1.50 Wira	" (25.30m) _
-		porphyritic, medium to h strength.		•	н			IS(⁴	0)=0.41 MPa	 D (25.95m)
26 -22.67		Js: 5° to 15°; (5/m); Pl/Ro and some Sinf;	; OP; Fe St 🕇	+				Is(5	0)=0.73 MPa	A (25.99m)
		Js: 25° to 35°; (5/m); Pl/R	o; OP; Fe	•]		СМ		ls(5	0)=5.50 MPa	_ D (26.55m)_
		St and some Sinf; Js: 70° to 80°; (3-4/m); Pl	/Ro; OP; Fe +	•	VH					-
- 27		\$ <u>t and some Sinf;</u> GRANODIORITE (Kgwu	[+]	sw						
) SW: Grey mottled dark gr	ey, coarse	•]			27.60m-27.68m: BZ:	Is(F	0)=5.80 MPa 0)=5.20 MPa	D (27.40m) A (27.46m)_
		grained, porphyritic, very strength.	high +	•	VH	c				-
- 28 	100	Js: 5° to 15°; (3-4/m); Pl/f some Fe St;	Ro; TI; 🛛 🕇	•						
	(90)	Js: 20° to 30°; (<2/m); Pl/ some Fe St;	Ro; TI;	•		w		UC	S=97.70 MPa	(28.50m) —
- 29		Js: 50° to 60°; (<1/m); Pl/ \$t;	Ro; TI; Fe 🕇	•				ls(50)=11.00 MPa	D (28.86m)_
		s: 80° to 85°; (<1/m); Pl-	St/Ro; TI;	• SW •	VH	м		ls(50)=11.00 MPa	 A (29.25m)
		Fe St; 28.94 to 29.22m: DOLER Dark grey, fine grained, n		•						
26.39	100	very high strength. Borehole completed at 2	····/	•	+					
סרגאאסי	/C. Va	Mundary Cranadiarit-						100000		
REIVIARI	.s. ngwu =	Wundaru Granodiorite						LOGGED BY		WED BY Foley
			TMR GEOTE	CHNICAL BO	OREHOLE LOG - CREATED WITH	H HOLEBASE SI		T.Goosey	ے <u> </u>	

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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 Name Project No.	FG6184	Date	06/11/15
Borehole No.	BH 238	TMR H No.	H12247
Location	Pioneer River Bridge	Start Depth (m)	24.25
Detail	Pier 12, centreline	Finish Depth (m)	29.80
Chainage		Submitted By	M.Ensor
Remarks		Sublinited By	WI.E11301
	F 45184		
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