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## GEOTECHNICAL BOREHOLE LOG

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

BH235

Sheet 1 of 3

BOREHOLE No

REFERENCE No

H12244

PROJECT Mackay Ring Road														
LOCAT	ION	P	ion	eer Rive	er B	ridge, Pier 11 (CL)					C	COORDINATES 721332.3 E; 7660384.4 N		
PROJECT No			G61	184		SURFACE RL 3.55m	PLU	NGE	90°	DATE STARTED 09/11/2015		GRID DATUM GDA 94 / MGA		/IGA Z55
JOB No		2	42/	/10G/90	)6	HEIGHT DATUM A.H.D.	BEAF		o 	DATE COMPLE	TED 11/11/2015	DRILLER C	airns Drill	ing
DEPTH (m)	R.L. (m)	AUGER CASING	VASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	ГІТНОГОСҮ	USCS WEATHERING	INTACT STRENGTH 프루고르道	DEFECT SPACING	,	ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
					A B C	SAND trace gravel (Fill) Brown, moist, very loose to loose. Fine to coarse grained sand. <u>1.00m: becomes</u> medium dense. <u>3.00m: becomes</u> very loose. <u>4.00m: becomes</u> wet, loose.		(SP)					3, 6, 10 N=16 5, 10, 11 N=21 , 1, 1 N=2	SPT SPT
- - - - - - - - - -	-1.45					Silty SAND (Alluvium)		(SM)		-			2, 4, 4 N=8 3, 4, 4 N=8 3, 4, 5	SPT SPT
- - - - - - 6 -	-1.95				G	Brown, wet, loose. Fine to coarse grained sand. Gravelly SAND (Alluvium) Brown, wet, loose to medium dense. Fine to coarse grained sand, fine grained gravel		(SP)		· - - - - - - - -			N=9 4, 5, 5 N=10 5, 3, 9	SPT SPT
- - - - - 7	-2.95				I	grained gravel. Silty SAND trace gravel (Alluvium) Grey brown, wet, medium dense. Fine to medium grained sand, low	××××××××××××××××××××××××××××××××××××××			- 			N=12 9, 12, 14 N=26	SPT
- ´ - -					J	plasticity.	x x x x x			- - - -			10, 11, 13 N=24	SPT
- - - 8 -					K	Becoming dense		(SM)		- - - -			3, 10, 11 N=21 13, 16, 17	SPT
- - - - - - - - - - - - - - - - - - -	-5.45				M	Becoming medium dense.	x x x x x			- - - - - -			13, 10, 17 N=33 10, 14, 12 N=26	SPT
- - - -						CLAY trace sand (Alluvium) Brown grey, moist, very stiff. Medium to high plasticity.		(CH)		- - - -			6, 9, 14 N=23	SPT
-	-6.45				0		Ē			-			2, 9, 16 N=25	SPT
						Continued on next sheet								
R	REMARKS: Kgwu = Wundaru Granodiorite											LOGGED BY		WED BY
TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI										T.Goosey	S.F	oley		

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	Queensland	GEOTECHN BOREHOLE
$(\mathcal{D})$	Government	FOR GEOTECHNICAL TEF SYMBOLS REFER FORM F:GEO
PROJECT	Mackay Ring Road	
LOCATION	Pioneer River Bridge, Pier 11 (CL)	

# IICAL LOG

RMS AND OT 017/8-2014

FINAL 18/03/2016

BH235

Sheet 2 of 3

BOREHOLE No

REFERENCE No

H12244

1 11052		_		, ,	, 									
LOCAT	ION	N Pioneer River Bridge, Pier 11 (CL) COORDINATES 721332.3 E; 7660384.4 N												
PROJE	TNo	F	G62	184		SURFACE RL 3.55m	PH	INGE 9	0°	DATE STAF	RTED 09/11/2015	GRID DATUM	GDA 94 / I	MGA 755
		-						-						
JOB No	)		42/	'10G/9C	10	HEIGHT DATUM A.H.D.	BEAI	RING _		DATE COMPLI	ETED 11/11/2015	DRILLER	Cairns Dril	ling
DEPTH (m)	R.L. (m)	NUGER	WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	ПТНОГОGY	USCS WEATHERING	INTACT STRENGTH 프루프프르카			ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
-	-6.65	A D			_	CLAY trace sand (Alluvium)		(CH)	-	_				
-	-6.95				Ρ	(Cont'd) Gravelly Sandy CLAY (Alluvium)		(CH)	-	-			11, 19, 25 N=44	SPT
	0.00	1			Q	Brown grey, moist, hard. Medium to	_		-					ODT
-		Ш			Q	high plasticity.		(01)	-	_			9, 19, 21 N=40	SPT
11 		Ш			R	Sandy CLAY trace gravel (Alluvium) Dark grey to grey, moist, hard.		(CH)		_			0 10 21	SPT
-	-7.95					Fine to medium grained sand,			-				9, 19, 21 N=40	
-					s	medium to high plasticity. Sandy CLAY trace gravel (Residual)				-			12, 20, 26	SPT
- - - 12		Ш			-	Pale grey, moist, hard.			-	-			N=46	
- 12		Ш			т	Fine to coarse grained sand, low plasticity.		(CL)	-	_			12, 18, 27	SPT
-		Ш						(01)		-			N=45	-
-		Ш							-	-				-
- 13	-9.45								-	-				-
-		Ш			υ	GRANODIORITE (Kgwu	÷+		-				14, 27, 30	SPT
-		Ш			_	, XW: Recovered as brown grey	÷+			_			N=57	-
_		Ш				mottled white, moist, hard, clay trace sand. Low plasticity.	·++			-				-
- - 14		Ш				liace salid. Low plasticity.	·*+			-				-
_		Ш			V		+++		-	_			8, 20, 30/120	SPT
_		Ш					++			-				-
-		Ш					÷.+		-	-				-
- 15							÷+			-				-
-					w		÷+		-	_			12, 20, 23 N=43	SPT
-							÷+	xw		-			14-45	
-							÷		-	-				-
16					~		÷+			-				
_					X		+++		-	_			26, 26, 30/70	SPT
-							+++		-	-				-
_							++			-				-
- 17					Υ		++			-				SPT
							++		-	_			30/130	-
							+++							
_	-14.45						+++		-	_				-
- 18	11.10	11			Ζ	GRANODIORITE (Kgwu	++			-				SPT
						) XW/i Decovered as brown grow	++		-	_			30/130	-
-						XW: Recovered as brown grey mottled white, moist, very dense,	+++		-	_				-
-						clayey sand trace gravel. Fine to	+++		-	-				-
— 19 _					AA	coarse grained sand, low plasticity.	+++	xw	-					SPT
-							+++		-	-			30/70	-
							++			-				
-	-16.45						++		-					-
				•	-	Continued on next sheet					•			·
RE	MAR	KS	:	<gwu =<="" td=""><td>= W</td><td>/undaru Granodiorite</td><td></td><td></td><td></td><td></td><td></td><td>LOGGED BY</td><td>REVIE</td><td>EWED BY</td></gwu>	= W	/undaru Granodiorite						LOGGED BY	REVIE	EWED BY
											-	T.Goosey	S	Foley
						TMR G	EOTECI	HNICAL BO	DREHOLE LOG - CREATED \	VITH HOLEBASE SI			J. 5.	

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## GEOTECHNICAL BOREHOLE LOG

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

BH235

Sheet 3 of 3

BOREHOLE No

REFERENCE No

H12244

PROJE	ст	N	Mackay Ring Road											
LOCAT	ION	Ρ	ione	eer Rive	er Bi	ridge, Pier 11 (CL)					C	OORDINATES 72133	2.3 E; 76603	84.4 N
PROJE	CT No	F	G61	.84		SURFACE RL 3.55m	PLU	NGE S	00°	DATE STAF	RTED 09/11/2015	GRID DATU	м GDA 94 / I	MGA Z55
JOB No	)	2	42/	10G/90	6	HEIGHT DATUM A.H.D.	BEAF			DATE COMPLI	TED 11/11/2015	DRILL	<sub>ER</sub> Cairns Dril	ling
DEPTH (m)	R.L. (m)	UGER	WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH 표준구주구			ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
_		CA	s o		AB	GRANODIORITE (Kgwu	+ +						30/120	SPT
- 21	-17.45					) XW: Recovered as grey mottled white, moist, hard, sandy clay. Fine to medium grained sand, low glasticity. GRANODIORITE (Kgwu	+ + + + + + + + + +	xw					26, 30/150	SPT
- 22	-18.75					) XW: Recovered as grey mottled white, moist, very dense, clayey sand. Fine to coarse grained sand, low plasticity.	+ + + + + + + + + + + +	xw					30/50	
- - - - - - - - - - - - - - - - - - -	-19.63			(46)		MICRODIORITE (Kgwu ) MW: Grey, fine to medium grained, massive, high strength. Js: 15° to 20°; (6/m); PI/Ro; TI-OP;	+ + + + + + + + + +	MW	н	c vc c			ls(50)=2.20 MPa ls(50)=2.50 MPa	D (22.50m) A (22.55m) - - - -
				100 (57)		Fe St; Is: 80° to 85°; (1/m); PI-St/Ro; OP; Fe St; GRANODIORITE (Kgwu			н	c			Is(50)=2.40 MPa Is(50)=2.50 MPa	D (23.30m) A (23.35m) - - -
24 						) MW: Pale red and pale grey, coarse grained, porphyritic, medium to high strength. Js: 10° to 20°; (6-8/m); Pl/Ro; TI; Fe St; Js: 35° to 45°; (1-2/m); Pl/Ro; TI-OP;	<pre> +</pre>	MW	н	c			Is(50)=1.20 MPa UCS=21.00 MPa E=4.8 GPa v= 0.02	D (24.15m) 
  26 				100 (0) 100 (40)		Fe St;	• + + + + + + + + + + + + + + + + + + +		H				Is(50)=0.45 MPa	A (25.25m)_ - - - - - - - - - - - - - - - - - - -
27	-23.27			<u>100</u> (0)		GRANODIORITE HW: Brown and pale grey, coarse grained, porphyritic, very low to low strength. Highly fractured with clay and sand	• + + + + • + + • + + • + +	XW HW XW HW MW	H	M EC- EC-	26.82m-26.93m: XW 27.02m-27.10m: XW 27.30m: MW zone		ls(50)=1.70 MPa	 D (26.60m)    
- - - - - - - - - - - - - - -	-24.45			100		27.90 to 28.00m: MICRODIORITE (SW): Blue grey, fine grained, massive, very high strength/ Borehole completed at 28.00m	+	SW					ls(50)=6.70 MPa	A (27.94m) 
- 29 - 29 														- - - - - - - - - - - - - - - - - - -
RE	EMAR	KS:	k	(gwu =	= W	'undaru Granodiorite						LOGGED BY	REVIE	EWED BY
												T.Goosey	S.	Foley
	TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI													

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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 No.     F 66184     Date     11/11/15       Borehole No.     BH 235     TMR H No.     H12244       Location     Pioneer River Bridge     Start Depth (m)     22.30       Detail     Pier 11, centreline     Finish Depth (m)     28.00       Chainage     Submitted By     M.Ensor       Remarks     Start Depth (m)     28.00	Duelo et Nue et	Mackey Ding Dood (Stars S)		
Borehole No.   BH 235   TMR H No.   H12244     Location   Pioneer River Bridge   Start Depth (m)   22.30     Detail   Pier 11, centreline   Finish Depth (m)   28.00     Chainage   Submitted By   M.Ensor     Remarks   Start Depth (m)   28.00     Image:   Submitted By   M.Ensor     Remarks   Start Depth (m)   28.00     Image:   Start Depth (m)   28.00     Image:   Submitted By   M.Ensor     Remarks   Start Depth (m)   28.00     Image:   Start Depth (m)   29.00     Image:   Start Depth (m)   29.00     Image:   Start Depth (m)   20.00     Image:   Start Depth (m)   20.			Data	11/11/15
Location   Pioneer River Bridge   Start Depth (m)   22.30     Detail   Pier 11, centreline   Finish Depth (m)   28.00     Chainage   Submitted By   M.Ensor     Remarks   Submitted By   M.Ensor				
Detail   Pier 11, centreline   Finish Depth (m)   28.00     Chainage   Submitted By   M.Ensor     Remarks   Box (m)   Box (m)   Box (m)     Detail   Depth (m)   28.00   Box (m)   Box (m)     Detail   Depth (m)   Submitted By   M.Ensor     Remarks   Box (m)   Box (m)   Box (m)   Box (m)     Detail   Depth (m)   Submitted By   M.Ensor     Box (m)   Box (m)   Box (m)   Box (m)   Box (m)     Box (m)   Box (m)   Box (m)   Box (m)   Box (m)     Depth (m)   Eo(H)   C.B.S.O.m   Box (m)   Box (m)     Depth (m)   200   300   400   500   600   700				
Chainage Remarks     Submitted By     M.Ensor       Image Remarks     Image Remarks     Image Remarks     Image Remarks       Image Remarks     Image Remarks				
		Pier 11, centreline		
			Submitted By	WI.Ensor
			And I	
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