COPYRIGHT NOTICE

This geotechnical log and its associated data (the Document) is licensed by the Queensland Department of Transport and Main Roads under the <u>Creative Commons Attribution 4.0 Licence</u> (CC BY 4.0). When reusing the Document, in whole or in part, please attribute the Department as follows: "(c) State of Queensland (Department of Transport and Main Roads) 2020, licensed under the CC BY 4.0 Licence". This licence does not apply to the Queensland Government logo or trademarks.

LIMITATION OF LIABILITY

The CC BY 4.0 Licence contains a comprehensive Disclaimer of Warranties and Limitation of Liability. In addition, please note that this Document was prepared for Departmental use only. Reuse of the Document by anyone for any other purpose could result in error and/or loss. You should obtain professional advice before making decisions based on the contents of the Document.

When reproducing any part of this Document, you must also reproduce this limitation of liability notice in addition to the italicised attribution statement above.

Retrieved from the Queensland Geotechnical Database http://qgd.org.au/

GEOTECHNICAL BOREHOLE LOG

FINAL 17/03/2016

BOREHOLE No BH207

Sheet 1 of 5

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014 H12216 REFERENCE No Mackay Ring Road PROJECT COORDINATES 721296.6 E; 7660072.0 N Pioneer River Bridge, Pier 2 (LHS) LOCATION SURFACE RL 7.15m FG6184 PLUNGE 90° DATE STARTED 15/09/2015 GRID DATUM GDA 94 / MGA Z55 PROJECT No 242/10G/906 DRILLER Cairns Drilling HEIGHT DATUM A.H.D. DATE COMPLETED 21/09/2015 JOB No BEARING USCS WEATHERING ADDITIONAL DATA AND TEST RESULTS INTACT STRENGTH DEFECT SPACING SAMPLES TESTS Ê LITHOLOGY SAMPLE RΙ DEPTH MATERIAL DESCRIPTION (m) CORE REC % ᇁᆂᆂᆂᅬᅿᅿᆿᅟᅴᇜᇰᄓॾᇂᆘᇹᄪ Clayey SAND (Topsoil) (SC) Dark brown, dry, very loose to 6.75 Loose. Organics and rootlets. Sandy CLAY (Topsoil) (CI) Brown, dry, very soft. Organics and 6.15 Silty CLAY trace sand (Alluvium) SPT 4. 7. 11 Brown to dark brown, moist, very N=18 Fine grained sand, low to medium plasticity. SPT 9, 10, 15 (CI) С SPT 6, 10, 15 N=25 3.15 Silty SAND (Alluvium) SPT 16, 30/140 Pale grey, dry, very dense. Fine to medium grained sand. (SM) 2.15 Silty SAND (Alluvium) SPT Pale grey, wet, dense. Fine grained sand. 6.10 to 6.20m: becomes brown (SM) SPT orange. N=37 SPT -0.15 Sandy CLAY (Alluvium) N=42 Brown grey, moist, hard. Fine grained sand, low to medium SPT N=19 (CI) SPT N=23 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

FINAL 17/03/2016

BOREHOLE No BH207

Sheet 2 of 5

FOR GEOTECHNICAL TERMS AND H12216 REFERENCE No SYMBOLS REFER FORM F:GEOT 017/8-2014 Mackay Ring Road PROJECT COORDINATES 721296.6 E; 7660072.0 N Pioneer River Bridge, Pier 2 (LHS) LOCATION SURFACE RL 7.15m FG6184 PLUNGE 90° DATE STARTED 15/09/2015 GRID DATUM GDA 94 / MGA Z55 PROJECT No 242/10G/906 DRILLER Cairns Drilling HEIGHT DATUM A.H.D. DATE COMPLETED 21/09/2015 JOB No BEARING USCS WEATHERING ADDITIONAL DATA INTACT DEFECT SPACING SAMPLES TESTS Ê LITHOLOGY AND TEST RESULTS STRENGTH RΙ DEPTH SAMPI MATERIAL DESCRIPTION (m) CORE REC % ᇁᆂᆂᄫᅴᅿᆿᆸᇝᇰᄓᄫᇂᇂᇕ Silty CLAY (Alluvium) 5, 11, 14 Grey, moist, very stiff. Medium plasticity. 4, 10, 14 N=24 11.35 to 11.45m: Clayey SAND lens: Grey, moist, medium dense. (CI) SPT SPT 5, 8, 12 N=20 -6.85 Sandy CLAY (Alluvium) SPT 5, 7, 10 Grey, moist, very stiff. Fine to medium grained sand, low (CI) to medium plasticity. -7.85 Silty CLAY trace sand (Residual) 0 SPT 5, 10, 16 N=26 Pale grey and brown, moist, hard. Fine grained sand, medium (CI) plasticity. -8.85 Sandy CLAY trace gravel (Residual) 10, 22, 30/120 Pale brown, moist, hard. (CI) Fine to medium grained sand, fine <u>-9.4</u>5 grained gravel, medium plasticity. MICRODIORITE (Kgwu) XW: Recovered as brown and grey, SPT moist, hard, gravelly clay trace sand. 27, 30/80 Fine grained gravel, angular grains, medium plasticity. R SPT 15, 30/80 XW 19 S SPT 15, 30/60 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

FINAL 17/03/2016

BOREHOLE No BH207

Sheet 3 of 5

FOR GEOTECHNICAL TERMS AND H12216 REFERENCE No SYMBOLS REFER FORM F:GEOT 017/8-2014 Mackay Ring Road PROJECT Pioneer River Bridge, Pier 2 (LHS) COORDINATES 721296.6 E; 7660072.0 N LOCATION SURFACE RL 7.15m DATE STARTED 15/09/2015 FG6184 PLUNGE 90° GRID DATUM GDA 94 / MGA Z55 PROJECT No 242/10G/906 DRILLER Cairns Drilling HEIGHT DATUM A.H.D. DATE COMPLETED 21/09/2015 JOB No BEARING USCS WEATHERING ADDITIONAL DATA INTACT DEFECT SPACING SAMPLES TESTS Ê LITHOLOGY AND TEST RESULTS STRENGTH RΙ DEPTH SAMP MATERIAL DESCRIPTION CORE REC % ᇁᆂᆂᄫᅴᅿᆿᆸᇝᇰᄓᄫᇂᇂᇕ MICRODIORITE (Kgwu) 30/40 HW: Dark grey, fine grained, massive, very low strength. HW U 30/140 (47) Is(50)=0.41 MPa D (22.25m) 22.47m-23.15m: HW BZ; very low to low strength. 23 **(0)** (31) -16.00 MICRODIORITE (Kgwu) MW SW: Blue grey to grey, fine grained, massive, generally medium to high Js: 5° to 30°(7/m); PI/Sm; TI; Fe St Is(50)=1.90 MPa A (24.10m) Js: 30° to 50°(5/m); PI/Sm; TI; Fe St 24.17m-24.50m; HW BZ, Clv FL Js: 60° to 90°(2/m); PI/Sm; TI; Fe St LM HW 100 24.75m-25.05m: MICRODIORITE MW 25 Is(50)=2.70 MPa I (25.10m) -From 25.15m: Js: 5° to 15°; (2/m); PI/Ro; TI; Fe 100 St (83) Js: 60° to 75°; (3/m); PI/Ro; TI-FL; CA and Fe St. Very high strength 26 SW 26.21m-26.25m: J; 65°, PI/Ro, FL CA (30mm D (26.35m) Is(50)=5.90 MPa A (26.81m) 26.95m-27.23m: J; 80°, PI-Un/Ro, 27 100 TI-FL, CA, Fe St From 27.1m: Js: 5° to 15°(2/m); PI/Ro; TI; Fe St. Js: 20° to 30°(2/m); PI/Ro; TI; Fe Is(50)=6.40 MPa D (27.70m) 27.80m-28.20m; J; 80°, Pl, CD/FL SW Is(50)=6.10 MPa A (28.47m)-Is(50)=11.00 MPa D (28.55m) 28.75m-28.90m: HFZ; Cly Vr and CA MW (29.25m) UCS=86.70 MPa 29.45m-29.95m: Dark grey 100 (94) -22.80 Continued on next sheet REMARKS: Kgwu = Wundaru Granodiorite **LOGGED BY REVIEWED BY** S.Foley T.Goosey

TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

GEOTECHNICAL BOREHOLE LOG

FINAL 17/03/2016

BH207

Sheet 4 of 5

BOREHOLE No

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014 H12216 REFERENCE No Mackay Ring Road PROJECT Pioneer River Bridge, Pier 2 (LHS) COORDINATES 721296.6 E; 7660072.0 N LOCATION SURFACE RL 7.15m FG6184 PLUNGE 90° DATE STARTED 15/09/2015 GRID DATUM GDA 94 / MGA Z55 PROJECT No 242/10G/906 DRILLER Cairns Drilling HEIGHT DATUM A.H.D. DATE COMPLETED 21/09/2015 JOB No BEARING USCS WEATHERING ADDITIONAL DATA INTACT DEFECT SPACING SAMPLES TESTS Ê LITHOLOGY AND TEST RESULTS STRENGTH RΙ DEPTH SAMP MATERIAL DESCRIPTION CORE REC % ᇁᆂᆂᆂᆯᆜᆿᆒᇬᇬᇬᄛᇂᇂ GRANODIORITE (Kgwu) Is(50)=1.90 MPa Is(50)=7.10 MPa D (30.15m) SW: Pale grey, coarse grained, A (30.22m) porphyritic, very high strength. Js: 0° to 10° ;(2/m); PI/Ro-Sm; TI; Fe SW UCS=146.00 MPa (31.00m) -24.20 MW FAULT ZONE XW: Green grey, Granodiorite clasts XW throughout, extremely low strength. Recovered as sandy clay with gravel. HW 32.20m-32.30m: MW zone, high (0) 100 MW -25.25 strength GRANODIORITE (Kgwu) Is(50)=0.86 MPa Is(50)=1.30 MPa A (32.56m)-SW: Pale red grey, coarse grained, D (32.65m) porphyritic, very high strength. 32.93m-33.03m: Microdiorite band 33 Js: 5° to 10°; (1/m); PI/Ro; TI; Fe St; Js: 20° to 30°; (2/m); PI/Ro; TI; Fe St; Js: 60° to 70°; (<1/m); PI/Ro; TI; Fe Js: 80° to 90°; (<1/m); PI/Ro; TI; Fe Is(50)=3.00 MPa A (33.82m) A (34.77m)-35 Is(50)=5.00 MPa D (35.29m)-100 (64) 35.50m-35.75m: Microdiorite band 70°-75°, CA FL SW D (36.14m) Is(50)=4.50 MPa A (36.21m) 37 UCS=156.00 MPa (37.12m) _ С (58) Is(50)=3.30 MPa A (37.76m)-38.30m-38.65m: Multiple subvertical joints, HFZ D (38.77m)-Is(50)=7.00 MPa -31.85 39.00m: Contact; 70°-85°, Un/CD MICRODIORITE (Kgwu) SW: Blue grey, fine to medium A (39.39m)grained, massive, high to very high 39.60m-39.75m: Vn; 60°, PI/Ro, FL, strength. Calcite veins throughout. Js: 30° to 40°; (2/m); PI/Sm; FL; CA; Granite clasts and clay 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

FINAL 17/03/2016

BOREHOLE No BH207

Sheet 5 of 5

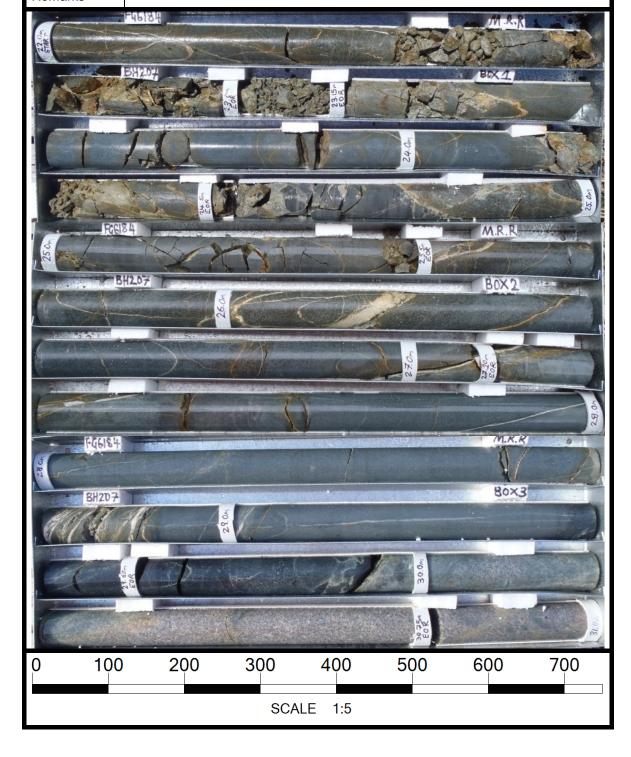
		Go	VE	ernment		SYI		GEOTECHNICAL TE REFER FORM F:GE			REFERENCE No		2216
PROJECT	– Macl	Mackay Ring Road											
OCATION Pioneer River Bridge, Pier 2 (LHS) COORDINATES 721296.6 E; 7660072.0 N										72.0 N			
PROJECT No						plunge 90°			DATE STARTED 15/09/2015				
IOB No				 1 A.H.D.	BEARING °			DATE COMPLETED 21/09/201				ling	
DEPTH (m)	CASING WASH BORING CORE DRILLING	RQD ()% CORE REC%		MATERIAL DES		- LITHOLOGY	USCS WEATHERING	INTACT STRENGTH 프	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
-33.20		100		Js: 50° to 70°; (3/m);		+++	SW		M				=
- 41 - 42 - 43 - 44 - 45 - 45 - 47 - 47 - 48 - 49				Borehole complete	ed at 40.35m								
								=					=
-													=
								_					
REMARKS: Kgwu = Wundaru Granodiorite							LOGGED BY	OGGED BY REVIEWED E					
											T.Goosey	S.F	oley
					71.40	050750					-		

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	15/09/15
Borehole No.	BH 207	TMR H No.	H12216
Location	Pioneer River Bridge	Start Depth (m)	22.00
Detail	Pier 2, LHS	Finish Depth (m)	40.35
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 - Rin	g Road (Stag	۵ 2۱			
Project Name Project No.	FG6184	ig Nuau (Jiag	t 2)	Date		02/07/15
Borehole No.	BH 207			TMR H N	0	H12216
Location	Pioneer River	Bridge		Start Dep		22.00
Detail	Pier 2, LHS	bridge		Finish De		40.35
Chainage	1 161 2, 1110			Submitted		M.Ensor
Remarks				Submitted	д Бу	IVI.LTI30I
1 (16)	4		A-1- 0-0-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	0.14860300300000000000000000000000000000000	Makak	*
8	W. Harrist Co.	7 24				Sun Die
m The second		1	*		1	The same
342	07	And the second of the			80×4	
9 00	William P	887.0	5 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		2 Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	
1	No. of Control of Control	- Dia L	S. S. S.		3"	
AND ASSESSED.						
				93.0		
A	T. Seesale .		Santaline Co.			DESCRIPTION OF THE PERSON OF T
THE RESERVE		MES. 19.3	第四百五			
	4618				IND. CO.	
34.0	The same	4				
		Marie Marie			Box5	
En a	207			All de la	3.60	
		35.0			185.	
Properties.	The second second	New State Control	41.00000	BECAUSE AND		ot so
	4	de		36.02	98	
			at a	m		
The state of the s	Topic entre					
The state of the s				M.R.K		
FOGI8	4			So W		
	TELEVINIE IN	1		37.		
BH2	7		Philipp water	AND CLAP HO	80×6	Mark All
	AND DESCRIPTION OF THE PARTY OF	0000				
CANAL CONTRACTOR		e e e e e e e e e e e e e e e e e e e				0.000
				3	FILE	
B. Osm				39.04	32	2 6
m			William Co.			
1	W Design	\times			1	
1	1			9	1	
· trium		The state of the s	KIND INC.	N. W.	STOREST AND A	SECTION AND ASSESSED.
) 100	200	300	400	500	600	700
		SCA	LE 1:5			

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	15/09/15
Borehole No.	BH 207	TMR H No.	H12216
Location	Pioneer River Bridge	Start Depth (m)	22.00
Detail	Pier 2, LHS	Finish Depth (m)	40.35
Chainage		Submitted By	M.Ensor
Remarks			
F46184	BH207	M.R.R	80×7

