## **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

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

BH218

Sheet 1 of 4

BOREHOLE No

REFERENCE No

H12227

PROJE	СТ	N	1ac	kay Ring	g Ro	ad								
LOCAT	ION	Р	ion	eer Rive	er B	ridge, Pier 5 (RHS)						COORDINATES 721310.9	E; 766017	7.6 N
PROJE	CT No	F	FG6184			SURFACE RL 7.50m	plunge 90°		90°	DATE STARTED 30/08/2015		grid datum GDA 94 / MGA		/IGA Z55
JOB No	0	2	42/	10G/90	6	HEIGHT DATUM A.H.D.	BEAF	RING_		DATE COMPLE	ETED 31/08/2015	DRILLER S	axon Drill	ing
DEPTH (m)	R.L. (m)	AUGER CASING	WASH BURING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	ГІТНОГОGY	USCS WEATHERING	INTACT STRENGTH 표준고전			ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
	6.70	-				Silty CLAY (Topsoil) Dark brown, moist, firm. Trace rootlets.								
- 1 						Silty SAND (Alluvium) Brown, dry, very loose. Fine grained sand, trace rootlets.	x × x × x × x						1, 2, 1 N=3	SPT
2					в	2.00m: becoming fine to medium grained, loose.	XXXXXX	(SM)	- 				3, 2, 3 N=5	SPT
- - - - - - - -					С	3.00m: rootlets no longer evident, silt content decreasing	× × × × ×						1, 2, 2 N=4	SPT
- - - - - -	3.50					SAND (Alluvium) Grey, moist, loose. Fine to coarse grained sand, trace gravel <30mm, rounded, trace silt.	XXIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII						1, 3, 4 N=7	SPT
- - - - - - - -					E	Gravel content increasing, becoming subrounded to subangular, becoming, medium dense.							3, 9, 7 N=16	SPT
- 6 					F	6.00m: Gravelly lense		(SP)					6, 5, 8 N=13	SPT
- 7 - 7 					G	7.00m: becoming fine to medium grained sand							4, 4, 14 N=18	SPT
- 8	-1.20				Н	8.00m: gravel <40mm, subrounded to angular.					8.00m-8.45m: No sa recovered	mple	17, 13, 10 N=23	SPT
- 9 - 9 						Silty Clayey SAND (Alluvium) Pale grey, moist, medium dense. Fine grained sand, low plasticity fines.		(SC)					10, 9, 9 N=18	SPT
						Continued on next sheet								
RE	EMAR	KS:	k	(gwu =	= W	/undaru Granodiorite						LOGGED BY		WED BY
						Tkab z	EOTEC	INICAL P	DREHOLE LOG - CREATED V			C.Boyes	S.F	oley
· · · · · ·						TWIK	ICI	D	LILLIGEE 200 - CIERTED V					

(c) State of Queensland (Department of Transport and Main Roads) 2020, CC BY 4.0. Please note copyright and limitation of liability notices on attached cover page.

										_		FINAL 1	7/03/2016
***	國記	Nu _					GE	OTECHN	IICAL		BOREHOLE No	В	H218
) A				ensland			BC	REHOLE	LOG		Sheet	2 of 4	
No.		° Go		ernment		SYI		GEOTECHNICAL TE REFER FORM F:GE			REFERENCE No	н	12227
PROJECT	Ma	ackay Rin	g Ro	bad									
LOCATION	Pic	neer Riv	er B	ridge, Pier 5 (RHS)							COORDINATES 721310.9	E; 76601	77.6 N
PROJECT No	FG	6184		SURFACE RL 7.50m	_	PLU	NGE S	90°	DATE STA	RTED 30/08/2015	GRID DATUM	6DA 94 / I	MGA Z55
JOB No	24	2/10G/90	06	HEIGHT DATUM A.H.D.		BEAR	RING_		DATE COMPL	ETED 31/08/2015	DRILLER S	axon Dril	ling
		RQD					U				ADDITIONAL DATA		
(m) R.L. (m)	AUGER CASING WASH BORING	CORE DKIILING CORE REC %	SAMPLE	MATERIAL DESCRIPTION		гітногоду	USCS WEATHERING	INTACT STRENGTH 표근구구, 독, 독, 구, 국, 권	DEFECT SPACING		AND TEST RESULTS		SAMPLES TESTS
-			J	10.00m: becoming pale grey a orange-brown, clay content decreasing to trace clay	ind			-	 			7, 12, 14 N=26	
-3.10				Silty CLAY (Alluvium)									-
- - 11				Pale grey and orange-brown, I	moist,	×		-	-	11.00m-11.45m: No	sample		-
			к	hard. High plasticity, trace fine grain	ned	×			_	recovered	sample	16, 18, 23	
-				sand.		×_ ×_			-			N=41	-
-								-	-				-
12			L	12.00m: becoming very stiff		×			-	12.00m-12.45m: No recovered	o sample	7, 9, 13	SPT
-						×			-			N=22	
-						×		-					-
- 13			м			×_	(CH)						SPT
-						×			_			7, 9, 12 N=21	
-						×		-	-				
- 14				14.00 to 14.30m: Sandy CLAY		×_ ×_		-	-				
-			N	(Alluvium): Pale grey, moist, ve stiff. Fine to medium grained s Contains sand lenses.		×		-				10, 12, 10 N=22	
-						×			_				
- 15				15.00m: becoming Clayey SA	ND,	×		-	- -				-
-7.80	2		0	GRANODIORITE (Kgwu		+			-			9, 13, 30 N=43	
-				) XW: Recovered as Clayey SAN	D:	• + • +		-					-
- 16			Р	Grey and orange-brown, mois dense. Medium to coarse grai		÷+			-				
-				sand, low to medium plasticit		++		-				30/120	-
-						+ + + +	xw		-				
17			Q			+++							 
-						+++			_			30/40 hb	
-						++							
- - - 18						• + + • +			-	18.00m: No sample	recovered		-
-10.7	-	(0)		MICRODIORITE (Kgwu		++				= 18.34m-18.35m: SZ		hb	– – I (18.25m) –
_				) MW: Green-grey, fine to medi	ium	+ + + + +	мw	н	vc	brecciated, Cly FL; 18.39m-18.49m: HF	Z; 60°, PI/Ro,	0) 0	-
- - - 19				grained, massive, high strengt Fractured and sheared throug	:h.	+ +		н	vc	some Cly FL; 18.78m-18.81m: SZ brecciated, Cly FL;	; 5°, PI/Ro,	60)=0.56 MPa	
		90 (0)	LOSS	- Js; 5°-15° (<5/m); Pl/Sm-Ro,		+++++++++++++++++++++++++++++++++++++++			vc	- 10.20- 40.40	Is(5	60)=0.70 MPa	- - I (19.30m) -
-				CD, Fe St; - Js; 60°-75° (<2/m); Pl/Ro, OP	, Fe St	+++++++++++++++++++++++++++++++++++++++				19.36m-19.43m: BZ 19.54m-19.64m: SZ Cly FL;	; DI		
_				and CA Vr <1mm;		+ + +			vc	19.93m-20.10m: BZ	;		
				Continued on next sheet		_							
REMA	RKS:	Kgwu	= W	/undaru Granodiorite							LOGGED BY		EWED BY
											C.Boyes	S.	Foley

(c) State of Queensland (Department of Transport and Main Roads) 2020, CC BY 4.0. Please note copyright and limitation of liability notices on attached cover page.

									FINAL 1	7/03/2016
1	AC.			GE	OTECHN	IICAL		BOREHOLE No	В	H218
		ensland		BO	REHOLE	LOG		SI	neet 3 of 4	
13 g	🗶 Gove	ernment	SVI		GEOTECHNICAL TE REFER FORM F:GE			REFERENCE No	н	12227
	Mackay Ring Ro									
PROJECT								70101	0.0.5.70001	77 C N
LOCATION		ridge, Pier 5 (RHS)			01			COORDINATES 72131		
PROJECT No	FG6184	SURFACE RL 7.50m	_	NGE 9	<u> </u>		RTED 30/08/201		JM GDA 94 /	
JOB No	242/10G/906	HEIGHT DATUM A.H.D.	BEAF	RING		DATE COMPLI	ETED 31/08/201	5 DRILL	<sub>ER</sub> Saxon Dril	ling
DEPTH (m) (m)	ACCORE DATICING CORE DATICING CORE DATICING CORE REC % REC % CORE REC %	MATERIAL DESCRIPTION	гітногосу	USCS WEATHERING	INTACT STRENGTH 표근구프로그것쿄			ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
	100	- Js; 30°-45° (3/m); Pl/Ro, OP, F	Fe St; + +	MW	н	vc	20.13m-20.58m: SZ	Z; brecciated, Cly		-
	(53)	MICRODIORITE (Kgwu	+++++++++++++++++++++++++++++++++++++++	XW XW XW			boundaries; 5°, Pl/ 20.62m-20.65m: Si brecciated, Cly FL; 20.71m-20.73m: Si brecciated, Cly FL; 20.76m-20.92m: Si	Z; 5°, PI/Ro, Z; 5°, PI/Ro,	Is(50)=2.10 MPa	A (20.60m) 
- 22	<u>100</u> (100)	) SW: Grey, fine grained, massiv pyritic, very high strength. - Js; 5°-15° (<1/m); Un/Sm, OP	+ +	sw <del>MW</del>		M	sheared and brecci boundaries; 0°-10° 21.00m-21.04m: H → 21.68m-21.71m: H	, Pl/Sm, Cly FL; FZ; some Cly FL;	UCS=85.00 MPa Is(50)=8.50 MPa Is(50)=9.70 MPa	(21.30m) _ A (21.44m) D (21.55m) _ - -
- <u>-14.86</u>		GRANODIORITE SW: Grey speckled dark grey a pink, medium to coarse graine ⊉orphyritic, very high strength	ed, 井			w	22.36m: Boundary	; 70°, Pl/Sm, CD;	Is(50)=6.30 MPa	D (22.20m) 
	<u>100</u> (96)	Js; 5°-20° (<4/m); PI-Un/Sm, / CD; Cn or Fe St; 22.95 to 23.01m: Microdiorite (SW): grey, fine grained, massi very high strength. Contact; 70°, Un/Sm, CD;	OP- ++ ++			СМ			Is(50)=9.50 MPa Is(50)=8.80 MPa	D (23.25m) A (23.37m) 
24		Contact, 70, 01/Sin, CD,	++						Is(50)=8.00 MPa Is(50)=8.20 MPa	D (23.96m <del>)</del> A (24.07m) <sup>_</sup>
- <u>-17.04</u> 25	<u>100</u> (95)	MICRODIORITE (Kgwu ) SW: Grey, fine grained, massiv very high strength. Calcite veir		SW		w	24.54m: Boundary CD;	; 60°, Pl-Un/Sm,	UCS=185.00 MPa	(24.30m) -       
-		throughout.	+		VH				Is(50)=5.40 MPa	A (25.24m)
- - - 26 -		<ul> <li>Js; 5°-20° (2/m); Un/Sm, OP, </li> <li>Fe St or Cn;</li> <li>25.82 to 26.34m: GRANODIOF (SW): Grey speckled dark grey pink, medium to coarse grained porphyritic, very high strength.</li> <li>Upper boundary; 70°, Un/Sm, 0</li> </ul>	RITE + + v and + + d, + +		vn	w			Is(50)=5.90 MPa Is(50)=9.60 MPa	D (25.53m) 
27	100 (92)	Lower boundary; 70°, Un/Sm, I CD	lrr, + + + + + + + + + + + + + + + +			м			ls(50)=11.00 MPa ls(50)=9.50 MPa	
28                                  	<u>100</u> (92)	GRANODIORITE (Kgwu )	+ + + + + + + + + + + +	sw					ls(50)=3.60 MPa	A (28.76m)-
- 29 21.80		SW: Pink, grey and dark grey, medium to coarse grained, porphyritic, very high strength -Js; 5°-20° (<3/m); Un/Sm, OP, Fe St or Cn; - Js; 60° (<2/m); Un-St/Sm, OP,	some ++++++++++++++++++++++++++++++++++++			VC-C СМ	29.30m: Contact; 7	'0°, PI/Sm, CD;	UCS=79.20 MPa ===61.4 GPa	
		Continued on next sheet							v= 0.084	
REMAR	KS: Kgwu = W	/undaru Granodiorite						LOGGED BY		EWED BY
			TMR GEOTEC	INICAL R	DREHOLE LOG - CREATED V	VITH HOLEBASE SI		C.Boyes	S.	Foley

(c) State of Queensland (Department of Transport and Main Roads) 2020, CC BY 4.0. Please note copyright and limitation of liability notices on attached cover page.

													FINAL 1	7/03/201
	1.97	ie.	20 10/00					GE	OTECHN	IICAL		BOREHOLE No	В	H218
			Qu	e	ensland			BC	REHOLE	LOG		She	et 4 of 4	
		E.	Go	Ve	ernment		SYI		GEOTECHNICAL TE REFER FORM F:GE			REFERENCE No	н	12227
PROJE	CT	Mac	kay Rin	g Ro										
LOCA	ION	Pion	eer Riv	er B	ridge, Pier 5 (RHS)							COORDINATES 721310	.9 E; 76601	77.6 N
PROJE	CT No	FG6	184		SURFACE RL 7.50m		PLU	NGE S	0°	DATE STAF	 rted 30/08/201	15 GRID DATUN	1 GDA 94 / I	MGA Z55
JOB N	0	242/	/10G/90	06	HEIGHT DATUM A.H.D.	_	BEAF	RING °		DATE COMPLI	ETED 31/08/202		Saxon Dril	
						_		_						
DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION		LITHOLOGY	USCS WEATHERING	INTACT STRENGTH			ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
		₹U≶U			Fe St or Cn;	/	+ +							
- - - - - - - - - - - - - - - - - - -	-23.84		100		MICRODIORITE (Kgwu ) SW: Grey, fine grained, massiv very high strength. - Js; 5°-20° (<3/m); PI-Un/Sm, G CD, some CA Vr; Borehole completed at 31.34m	OP or	+++++++++++++++++++++++++++++++++++++++	SW		W M			ls(50)=8.90 MPa ls(50)=9.60 MPa	D (30.76m A (30.80m
- - - - - - 32														
-										-				
- - 33 - -														
-														
- 34 - -														
- - - - 35														
- - -														
- - - 36										- - - -				
- - - -														
37 														
-										-				
- - 38 -														
-										-				
										- - - -				

REMARKS: Kgwu = Wundaru Granodiorite	LOGGED BY	REVIEWED BY
	C.Boyes	S.Foley
TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI		

### 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 Ro	oad (Stage 2)			
Project No.	FG6184	(***)	Date		31/08/15
Borehole No.	BH 218		TMR H No.		H12227
Location	Pioneer River Brid	ge	Start Depth	(m)	18.20
Detail	Pier 5, RHS	-	Finish Depth		31.34
Chainage			Submitted B		M.Ensor
Remarks					
F46184	MRR	BHZIB			BOX1
START LORE 18.20		1 1 1 1 1 1	A CONTRACT		BUAT
12 9 00	674		A des	n altria interio	
Contraction of the second					
a start a start	14.00	LOSS	A Startes		A MA
				¥ 1 ,	The start of
1 AT	AL PER		N NB SWANN		
LASS			AT me line	1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 - 1990 -	namples of the
( The second		ALCHARD THE REAL			
	V Pier	1 19 V Ster	A PARA	5.00	
2			A State of the sta		
FAID	184	5+1218		BOY	(2
				10 million	
					the state of the s
Contra	1			Contraction of the local state	
len -	10.12 11.01	a man and a second		The state	
				A	
	and the second	S. S.			all the second
Lon Son S	1 A A	A Section of the	A A A A A A A A A A A A A A A A A A A	1	Contractor
in the second	I and the second		Contraction of the	10 m	
FAbIBA		BH218		80x	3
Constant Const		H2		A TPO	The Destandant
A second					
N A E	The Part of the Pa				The second live is
Martin La	No. 1				
Nor 13	AND				Harris .
6-01	E THE LINE	the second pre-			Sec. A.A.
1 · · · ·		A CONTRACT	And the second second		
AF E					
					C
Citim .			provide the particular states of the		
0 100	200	300 400	500	600	700
		SCALE 1:5			

Page 1 GEOT043/2 (c) State of Queensland (Department of Transport and Main Roads) 2020, CC BY 4.0. Please note copyright and limitation of liability notices on attached cover page.

### CORE PHOTO LOG

DEPARTMENT OF TRANSPORT AND MAIN ROADS Geotechnical Section 35 Butterfield Street, Herston Qld 4006 Phone 07 3066 3336



Drojoot Nome	Mackay – Ring Road (Stage 2)		
Project Name	FG6184	Date	31/08/15
Project No. Borehole No.	BH 218	TMR H No.	H12227
Location			18.20
	Pioneer River Bridge	Start Depth (m)	
Detail	Pier 5, RHS	Finish Depth (m)	31.34
Chainage Remarks		Submitted By	M.Ensor
		\$H218	Sox 4
		1 <b>7</b> 5	
		r.	ny galan lak galap
			and the second s
		0232	A CO
Constant and the			
		The second second second	
	A STATE AND A STAT	2,0	1 and a
1			
A Company of the second			*
FUDIBY		5H218	- BOX 5
Contraction in	The second second		
Carl Star	ALL SALES		
10		- 1 3 1000	100 /7
A Participant		tr	and the same hours
	5	EGH	
0 100	200 200	400 500 000	700
0 100	200 300	400 500 600	700
	SCALE	1:5	

Page 2 GEOT043/2 (c) State of Queensland (Department of Transport and Main Roads) 2020, CC BY 4.0. Please note copyright and limitation of liability notices on attached cover page.