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/

	Queensland Government
--	---------------------------------

GEOTECHNICAL BOREHOLE LOG

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

BH210

Sheet 1 of 4

BOREHOLE No

REFERENCE No

H12219

PROJE	СТ	١	Лас	kay Rin	g Ro	ad								
LOCAT	ION	F	Pion	eer Riv	er B	ridge, Pier 3 (LHS)					C	OORDINATES 721281.9	E; 766010)9.5 N
PROJE	CT No	F	G6	184		SURFACE RL 6.15m	PLU	INGE 9	0°	DATE STAF	RTED 24/08/2015	GRID DATUM	5DA 94 / N	/IGA Z55
JOB No	D	2	242/	/10G/9	06	HEIGHT DATUM A.H.D.	BEAR	RING_		DATE COMPLE	ETED 26/08/2015	DRILLER S	axon Drill	ing
DEPTH (m)	R.L. (m)	UGER	WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH 표구구구우ィ가 커리		,	ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
	4.05	-				Sandy SILT trace clay (Topsoil) Orange brown, dry, very stiff. Fine grained sand. Silty SAND trace clay (Alluvium) Pale brown, dry, medium dense. Fine grained sand, low plasticity.		(SM)					7, 9, 10 N=19	SPT
- · · · · · · · · · · · · · · · · · · ·	3.15					Sandy CLAY (Alluvium) Brown, moist, stiff to very stiff. Medium plasticity, trace carbonaceous material.		(CI)					6, 7, 8 N=15	SPT
- 3 - 	2.35					Clayey SAND (Alluvium) Brown, moist, medium dense. Fine grained sand.		(SC)					4, 6, 7 N=13	SPT
- 4 						SAND trace silt (Alluvium) Pale grey, moist, loose. Fine grained sand.			- 				1, 3, 5 N=8	SPT
- 5 					E	5.00m: Becomes dark grey, medium dense. Fine to medium grained sand, trace silt and fine grained gravel, rounded grains.		(SP)					5, 6, 6 N=12	SPT
- 6 	-0.65				F	6.00m: trace fine to medium grained gravel, subrounded grains.							5, 5, 9 N=14	SPT
- - - - - - -					G	Sandy CLAY trace gravel (Alluvium) Pale brown mottled grey, moist, very stiff. Fine to medium grained sand, fine to medium grained gravel, rounded grains, medium to high plasticity.		(CH)					7, 9, 13 N=22	
- 8 	-1.95				н	 <u>8.00m: becomes stiff.</u> CLAY (Alluvium) Pale grey mottled dark grey, moist, stiff. Medium to high plasticity, trace 							8, 5, 7 N=12	SPT
- 9 	-3.85				I	carbonaceous material.		(CH)					4, 4, 6 N=10	SPT
					•	Continued on next sheet							1	
RE	EMAR	KS										LOGGED BY		WED BY
												C.Boyes	S.I	Foley
						TMR G	EOTECH	HNICAL BO	DREHOLE LOG - CREATED \	VITH HOLEBASE SI				

							_		FINAL 1	7/03/2016
A THE	AC				GE	OTECHNICAL		BOREHOLE No	В	H210
			ensland		BO	REHOLE LOG		Sheet :	2 of 4	
13	S G	ove	ernment	SY		GEOTECHNICAL TERMS AND REFER FORM F:GEOT 017/8-20	014	REFERENCE No	H:	12219
PROJECT	Mackay R	ling Ro	bad							
LOCATION	Pioneer R	liver B	ridge, Pier 3 (LHS)					COORDINATES 721281.9	E; 76601	09.5 N
PROJECT No	FG6184		SURFACE RL 6.15m	PLU	INGE 9	0° DAT	TE STARTED 24/08/2015	GRID DATUM	ida 94 / M	MGA Z55
JOB No	242/10G/	/906	HEIGHT DATUM A.H.D.	BEA	RING °	DATE C	OMPLETED 26/08/2015	DRILLER S	axon Drill	ling
	RQ				0			ADDITIONAL DATA		
(E) R.L. (M) (M)	AUGER CASING WASHBORING CORE DRILLING CORE DRILLING	SAMPLE	MATERIAL DESCRIPTION	гітногобу	USCS WEATHERING	INTACT DEFEC STRENGTH SPACIN 표준구도로그것 비 비위이트	NG	ADD THOMAL DATA AND TEST RESULTS		SAMPLES TESTS
-		J	CLAY (Alluvium) (Cont'd)		-	-			6, 8, 11	SPT
-			10.00m: becomes pale grey mottled orange brown. Trace fine	E		Į Į			N=19	
-			grained sand. Becoming very stiff.	1]					-
- 11			11.00m: trace carbonaceous	=						_
		к	material, sand content increasing.	=	(CH)	Ŧ.			6, 7, 9 N=16	SPT
-				-		Ŧ				-
- 12			12.00m: becoming sandy clay.	E		↓ <u>∓</u>				_
		L]	Ŧ			5, 5, 8 N=13	SPT
						\pm				-
-6.75 - 13			Silty SAND trace clay (Alluvium)		2					
		м	Pale grey, wet, medium dense.	×	2	±			6, 12, 11	SPT
-			Fine to medium grained sand. 13.35m: becomes orange brown.	×	(SM)	+			N=23	
			Clay content increasing. Trace carbonaceous material.	××		± ±				-
- ¹⁴ -8.05		N		× ×	2					SPT
-			4.14m: carbonaceous content increasing.	1,		Ŧ		1	.9, 30/80mm	-
-			MICRODIORITE (Kgwu)	X		Ŧ				-
- 15		0	XW: Recovered as pale green grey, moist, very dense, clayey gravel.	X	xw	<u> </u>				SPT
-			Fine to medium grained gravel,	Ŵ		Ŧ			30/120mm	
			angular grains.	Ŵ						
			GRANODIORITE (Kgwu	+		±				-
- 16		Р	XW: Recovered as speckled pale	F.		±			30/130mm	SPT
-			grey, pale brown and dark grey, moist, very dense, clayey sand. Fine	• + • +	. xw	±				-
			to medium grained sand.	+++]					-
17 		Q	MICRODIORITE (Kgwu	į,					20/05	SPT _
) XW: Recovered as green grey, mois	t, 🕅					30/90mm	-
			hard, gravelly clay. Low to medium plasticity, angular gravel of Dolerite	X	xw					
- 18		R	some sandy lenses.	18						SPT
				Ŵ					30/40mm hb	-
12.45	(52	2)	MICRODIORITE (Kgwu	+	-		18.71m-18.81m: BZ	; 70°, PI/Sm,		 A (18.65m)
- - - 19)	+ + +	MW	L VC	some CA; 18.81m-19.15m: Hig	shly fractured,	0)=0.56 MPa	
-			MW: Brown grey, fine to medium grained, massive, medium strength		IVI VV	мн	weathered, calcite v throughout	eins		
- <u>-13.35</u>			Calcite veins throughout. Js: 5°-10°(<3/m); Pl-Un/Sm; OP;	+		c		ls(5	0)=2.40 MPa	 D (19.60m)
	100	0	some CA Vr or Sinf	+++++++++++++++++++++++++++++++++++++++	SW				0)=0.96 MPa	A (19.67m)
			Continued on next sheet			· · · · · · · · · · · · · · · · · · ·	I	1		
REMAR	KS:							LOGGED BY	REVIE	EWED BY
				_				C.Boyes	S.	Foley
			TMP	GEOTEC	HNICAL BO	DREHOLE LOG - CREATED WITH HOLEBASE S	SI	•	•	

												FINAL	. 17/03/2016
1	ALC.	1.000		<i>055</i>			GE	OTECH	NICAL		BOREHOLE N	0	BH210
		-		ensland			BC	REHOLI	e log			Sheet 3 of 4	
1SS	RT,	Gov	Ve	ernment		SI		GEOTECHNICAL T			REFERENCE N	lo	H12219
PROJECT	Mack	ay Ring	Ro	ad	JL								
LOCATION	Pione	eer Rive	r Bi	ridge, Pier 3 (LHS)							COORDINATES 7212	281.9 E; 7660)109.5 N
PROJECT No	FG61	84		SURFACE RL	6.15m	PL	UNGE S	90°	DATE ST	 FARTED 24/08/201	.5 GRID DA	atum GDA 94	/ MGA Z55
JOB No	242/2	10G/90	6	HEIGHT DATUM	A.H.D.	BEA	ARING °			PLETED 26/08/201		ILLER Saxon D	rilling
				_									
(m) R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	REC %	SAMPLE	MATERIAL DES		ГІТНОГОGY	USCS WEATHERING	INTACT STRENGTH 표天포고기		EW	ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
<u> 14.65</u> <u> 14.65</u> 	5	(60) 100 (29) <u>100</u> (18)		Js: 60°-80°(<2/m); Pl, CA Vr <1mm VN: 80° -90°; (4/m); <2mm MICRODIORITE (Kgw) SW: Green grey, fine grained, massive, me	Un; OP; CA F u to medium	L + + + + + + + + + + + + + + + + + + +	sw sw sw	H M VH	M VC C	20.07m-20.08m: J OP, Sinf; 20.25m-20.26m: J Sinf; 20.61m-20.82m: J PI/Sm, OP, Sinf;	; 15°, Un/Sm, OP,	Is(50)=1.80 M Is(50)=1.50 M Is(50)=6.10 M	Pa D (20.45m)
- 22 	5	100 (0) 100 (0) 100 (0) 90 (0)		Calcite veinlets throu Is: 5° -15°; (<6/m); Pi OP; Cn or CA Vr, som Js: 60° -70°; (<3/m); GRANODIORITE (Kgw) MW: Speckled grey, - pink, medium graine medium strength. Js: 5° -15°; (<6/m); Pi	ughout. I-Un/Sm-Ro; ie Fe St PI/Sm; OP; F vu dark grey an d, porphyrit	<u>e S</u> t + + d ic, +	• HW MW • MW • SW	MH LM VH	E C	21.50m: ~40% wa 21.61m-21.72m: b2; HFZ, 21.61m-82; HFZ, 21.72m-22.30m: f (HW): grey, fine gg medium to high st and fractured thrc day infill. 21.72m-21.77m:)	W zone HW to 22.62m Microdiorite rained, massive, rrength. Broken pughout, some		
		0 (50)		or some Fe St Js: 50° -75°; (<4/m); <u>or FeSt</u> GRANODIORITE (Kgw) SW: Speckled grey, d pink, medium graine	PI/Sm; OP; C vu ark grey and	2n + + + + + + + + + + + + + + + + + + +	sw		M			Is(50)=10.00 M Is(50)=16.00 M	
	3	<u>100</u> (91)		very high strength. Js: 20°-40°;(<6/m); P some Fe St Js: 5° -15° (<5/m); Pl, some Sinf Js: 70°(<1/m); Pl/Sm MICRODIORITE (Kgw	/Sm; OP; Fe -Ro; OP; Cly	; + St, +		VH	c	24.88m: CN; 15°, . 25.00m-25.11m: F		Is(50)=7.10 M Is(50)=0.96 M	Pa A (24.70m)
26 		<u>100</u> (91)		, SW: Green grey, fine grained, massive, ver strength, calcite vein <2mm, olivine altere Js: 50° -60°(<3/m); PI CA Vr <1mm; Js: 5° -15° (<5/m); PI, CA Vr <2mm;	ry high s throughou d. I-Un/Ro; OP-	-CD;++++++++++++++++++++++++++++++++++	+ + + + +		см			UCS=20.00 M E=14.7 G UCS=21.60 M Is(50)=1.60 M Is(50)=3.80 M	P_{a} (26.48m) - P_{a} A (26.60m)
- - - - - - - - - - - - - - - - - -				From 28.08m: Js: 5° PI/Sm-Ro; OP; some Js: 50° to 60°; (<2/m CD; CA Vr;	e CA Vr;	+-	- SW	MH	C C	27.50m-28.03m: E fractured, HW zor 28.08m: CN; 60°, (e, QZ VN	Is(50)=2.60 M Is(50)=2.70 M Is(50)=12.00 M	Pa A (28.41m)
- 29 - 29 		100 (85)					+ + + + +	н-ун		<u> </u>	ointed zone	UCS=188.00 M	Pa (29.05m) - - - - - - - - - - - - - - - - - - -
REMA				Continued on n	iext sileet								
REIVIA	11.5.												IEWED BY
						7140 00		00511015100	10070 1100 PD		C.Boyes		S.Foley
L						TMR GEOTE	CHNICAL B	OREHOLE LOG - CREATED	WITH HOLEBASE SI				

Queensland Government	
---------------------------------	--

GEOTECHNICAL BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/8-2014

|--|

BH210

Sheet 4 of 4

BOREHOLE No

REFERENCE No

H12219

PROJE	СТ	M	ackay Rin	ig Ro	ad											
LOCAT	ION	Pio	oneer Riv	er B	ridge, Pier 3 (LHS)									721281.9	E; 76601	09.5 N
PROJE	CT No	FG	6184		SURFACE RL 6.15m	PLL	INGE 9	0°		D	ATE STAF	RTED 24/08/2015	GR		GDA 94 / I	MGA Z55
JOB N	D	24	2/10G/9	06	HEIGHT DATUM A.H.D.	BEA	RING_			DATE	COMPLE	ETED 26/08/2015		DRILLER	Saxon Dril	ing
DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING	RQD ()% CORE REC%	SAMPI	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	Ē	INTACT STRENGTH 북 _부 녹 _독 극북道	DEF SPAC	CING		ADDITIONAL D AND TEST RESUL			SAMPLES TESTS
31 	-26.69				From 30.07m: Quartz veins throughout <1mm thick. Js: 5° to 15°; (<2/m); PI/Sm; PI/Sm; OP, CA VN; Js: 50° to 70°; (<3/m); OP-CD; some CA and QZ VN; 31.35 to 31.44m: becoming fine grained matrix with olivine crystals, high strength 32.12 to 32.50m: GRANODIORITE (SW): pink speckled grey and dark grey, medium grained, porphyritic, very high strength. Borehole completed at 32.84m		SW	(m)				30.07m: VN; QZ, Irr, 32.12m: CN; 20°, Pl/ 32.50m: CN; 75°, Pl/ <1mm;	5m, CD;	is(is(5	50)=7.10 MPa 50)=8.90 MPa 50)=15.00 MPa 50)=6.80 MPa 50)=2.90 MPa	D (30.10m) A (31.04m) D (31.15m) A (32.71m) A (32.71m)
RI	EMAR	KS:											LOGG			WED BY
													C.Bc	oyes	S.	Foley
					TMR	GEOTEC	HNICAL BO	DREF	IOLE LOG - CREATED	WITH HOLEBA	SE 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 Road (Stage 2)		
Project No.	FG6184	Date	26/08/15
Borehole No.	BH 210	TMR H No.	H12219
Location	Pioneer River Bridge	Start Depth (m)	18.60
Detail	Pier 3, LHS	Finish Depth (m)	32.85
Chainage		Submitted By	M.Ensor
Remarks			
	GIBY HUNGS SCIENT SCIEN	A CONTRACTOR	BAZID BAZID BAZID BAZIO BAZIO
	Edit CH		41210
		A A A A A A A A A A A A A A A A A A A	
	Red Contractions	OFF.	
0 100	200 300 4	00 500 600	700
	SCALE	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 _ Ping Pood (Stor	2)		
Project Name Project No.	Mackay – Ring Road (Stag FG6184	J⊂ <i>∠)</i>	Date	26/08/15
Borehole No.	BH 210		TMR H No.	H12119
Location	Pioneer River Bridge		Start Depth (m)	18.60
Detail	Pier 3, LHS			32.85
Chainage			Finish Depth (m) Submitted By	M.Ensor
Remarks			Submitted By	IVI.L11301
Romanto			3 542	10
	No Charles	Par Antonia	the state	0
			X 4 H	787
1	and the second s			
Merel and		S.S.	and and	· · ·
particular and a second				
		Contraction of the local division of the loc	A REAL PROPERTY AND INC.	
R. C		and the second		2
Same Provent	A SALAR AND A SALA			
ALP-	8.	Sector Sector	A. A.	aller all
	F76184	BOX 5		
	FECTO	- OVA S		3
1 - A -		1 marsh	新闻·西日 《	3
- Stansort we			200	A DECK
1922			s s	a de la como
Contraction of the		Special Providence of the	5	
	1.1		A Los Martines	
Contraction of the	320	1. 385.1		
2				
and the second second		a T		
E		EOH EOH	100	
			8	· Att Antion
1				
0 100	200 202	400	F00 000	700
0 100	200 300	400	500 600	700
	SCA	ALE 1:5		