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# GEOTECHNICAL BOREHOLE LOG

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

BH221

Sheet 1 of 3

BOREHOLE No

REFERENCE No

H12230

PROJE	СТ	Mackay Ring Road												
LOCAT	ION	Pi	Pioneer River Bridge, Pier 6 (RHS) COORDINATES 721316.1 E; 7660212.1 N									12.1 N		
PROJE	CT No	F	G61	84		SURFACE RL 7.71m	PLU	INGE	90°	DATE STAF	RTED 31/08/2015	GRID DATUM	GDA 94 / N	/IGA Z55
JOB No	)	24	42/	10G/90	6	HEIGHT DATUM A.H.D.	BEA	RING_		DATE COMPLE	ETED 01/09/2015	DRILLER (	Cairns Drill	ing
DEPTH (m)	R.L. (m)	AUGER CASING	WASH BOKING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	ГІТНОГОGY	USCS WEATHERING	INTACT STRENGTH 표 <sub>.</sub> 독. <sub>독.독.</sub> , 독, 쿄	DEFECT SPACING		DDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
-	7.21					Silty SAND (Topsoil) Dark brown, moist, very loose to loose. Fine grained sand, organics and rootlets.		(SP)						
- - - -	<u>6.61</u> 6.11				A	SAND trace silt (Alluvium) Brown, dry, loose. Fine grained sand. Sandy Silty CLAY (Alluvium) Dark brown, dry, firm.		(SP)					3, 3, 4 N=7	SPT
- - - 2 - -						Fine grained sand, low plasticity, with organics. SAND (Alluvium) Brown, dry, loose. Fine grained sand.		(SP)					2, 2, 4 N=6	SPT
- - - 3 -	4.81	-			С	Clayey SAND (Alluvium) Dark brown, wet, very loose to loose.							1, 2, 2 N=4	SPT
- - - - - - - -	3.71				_	Fine to medium grained sand, low plasticity. SAND trace gravel (Alluvium)		(SC)						SPT
- - - - - -	2.71				D	Pale brown, wet, medium dense. Fine to coarse grained sand, fine grained gravel, subrounded grains.		(SP)					3, 7, 7 N=14	
- - - - - - - - -	1.71					Gravelly SAND trace silt (Alluvium) Grey brown, wet, medium dense. Fine to coarse grained sand, fine to medium grained gravel.		(SP)					7, 10, 12 N=22	SPT
- - - - -					F	SAND trace silt and gravel (Alluvium) Grey brown, wet, medium dense. Fine to coarse grained sand.							4, 6, 7 N=13	SPT
- 7 					G			(SP)					4, 4, 5 N=9	SPT
- - - - - -	-0.29				Н	Gravelly SAND trace silt (Alluvium) Grey brown, wet, medium dense. Fine to coarse grained sand, fine to medium grained gravel, subrounded		(SP)					12, 9, 7 N=16	SPT
- - - - - - -	-1.49					grains. Clayey SAND (Alluvium) Grey, wet, medium dense. Fine to medium grained sand, low		(SC)					12, 13, 13 N=26	SPT
-	-2.29					plasticity.	_							-
						Continued on next sheet								
RE	EMAR	KS:	K	gwu =	W	/undaru Granodiorite					-	LOGGED BY		WED BY
						7140	EOTEC					T.Goosey	S.I	oley
						TMR G	FOLECH	HNICAL B	OREHOLE LOG - CREATED \	WITH HOLEBASE SI				

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									_		FINAL 1	7/03/2016
1						GE	OTECHN	ICAL		BOREHOLE No	Bi	H221
				ensland		BO	REHOLE	LOG		Sheet	2 of 3	
13	RT.	Go	Ve	ernment	SYI		GEOTECHNICAL TER REFER FORM F:GEO			REFERENCE No	H	12230
PROJECT	Mac	kay Ring	r Ro	ad					L			
LOCATION				ridge, Pier 6 (RHS)					(	COORDINATES 721316.1	E: 76602	12.1 N
PROJECT No	FG61			SURFACE RL 7.71m	PIU	INGE 9	0°	DATE STAF	TED 31/08/2015			
JOB No		10G/90	6	HEIGHT DATUM A.H.D.		RING °			TED 01/09/2015		Cairns Dril	
100110					DEA	-		DATE COMITE				
(m) R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH 표준구구 목 그 주 교			ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
			J	Silty SAND (Alluvium) Pale grey, wet, medium dense. Fine to coarse grained sand, low plasticity.							8, 11, 17 N=28 6, 9, 10 N=19	SPT
			L	13.00m: becoming dense. Clay content increasing.	XXXXXXXXXX	(SM)					8, 13, 14 N=27 13, 19, 25 N=44	SPT
-6.29	-			Silty CLAY trace sand (Alluvium) Brown grey, moist, very stiff. Fine grained sand, medium to high plasticity.		(СН)					6, 8, 12 N=20	SPT
- 15 7.29	-			MICRODIORITE XW: Recovered as brown grey mottled white and black, moist, hard sandy gravelly clay. Fine to medium grained gravel, angular grains, medium to high plasticity.	×+ + + + + + + + + + + + + + + + + +	xw		- - - - - - - - - - - - - - - -			30/90 hb 22, 30/70 hb	SPT
	-		Q	GRANODIORITE (Kgwu	+ + + + + +							SPT
- 18				) XW: Recovered as brown grey, wet, very dense, clayey sand trace gravel. Fine to coarse grained sand.	• + • + • + • + • +			- - - - - - - - -			30/140 hb	
			S	1	++++++++++++++++++++++++++++++++++++++	xw		-			30/70 hb 30/100	
		(88)		MICRODIORITE (Kgwu	++			с	19.44m: J; 5°, Pl/Sm,		hb	A (19.44m)
				) SW: Blue grey, fine to medium	+++++++++++++++++++++++++++++++++++++++	SW			19.64m: J; 30°, Pl/Rc	Is(5	60)=8.00 MPa 60)=9.50 MPa	D (19.52m) (19.84m)
- 12.29				Continued on next sheet	+	1			20.00m: Contact; 65			. , _
REMAR	KS: K	(gwu =	W	/undaru Granodiorite						LOGGED BY	REVIE	WED BY
										T.Goosey	S.	Foley

TMR GEOTECHNICAL BOREHOLE LOG - CREATED WITH HOLEBASE SI

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												FINAL 1	.7/03/2016
J.	131Ê						_	OTECH	-	Γ	BOREHOLE No	В	H221
4			Qu	e	ensland ernment		BC	DREHOLI	e log		She	et 3 of 3	
1	S		GO	ve	ernment	SY		GEOTECHNICAL T			REFERENCE No	н	12230
PROJECT		Mac	kay Rin	g Rc	pad								
LOCATIO	N	Pion	eer Rive	er B	ridge, Pier 6 (RHS)						COORDINATES 721316	1 E; 76602	12.1 N
PROJECT	No	FG62	184		SURFACE RL 7.71m	PLU	JNGE	90°	DATE STA	RTED 31/08/2015	GRID DATUN	GDA 94 /	MGA Z55
JOB No		242/	'10G/90	)6	HEIGHT DATUM A.H.D.	BEA	RING		DATE COMPL	ETED 01/09/2015	DRILLEF	Cairns Dri	lling
DEPTH (m)	R.L. (m)	CASING WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH 표,동, <sub>エ</sub> , 독, 권, 권, 권	DEFECT SPACING		ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS
22	12.94 13.74 17.36		100 (92) (92) 100 (90) 100 (100)		grained, massive, high strength. GRANODIORITE (Kgwu ) SW: Pale grey mottled black and pale red, coarse grained, porphyritic, very high strength. Js: 5°-10°(2/m); PI/Sm; TI; Fe St Js: 25°-35°(<2/m); PI/Sm; TI; Fe St MICRODIORITE (Kgwu ) SW: Blue grey, fine to medium grained, massive, high to very high strength. Js: 5° to 10°; (4/m); PI/Ro; TI; Fe St; GRANODIORITE (Kgwu ) SW: Pale grey mottled black and pale red, coarse grained, porphyritic, very high strength. Js: 5° to 10°; (2-3/m); PI/Ro; TI; Fe St; Js: 25° to 35°; (3/m); PI/Sm; TI; Fe St; MICRODIORITE (Kgwu ) SW: Blue grey, fine to medium grained, massive, very high strength. Js: 5° to 10°; (2/m); PI/Ro; TI; Fe St; Js: 40° to 50°; (<1/m); PI/Sm; TI; Fe St and CA; 27.60 to 28.22m: GRANODIORITE (SW): Pale grey mottled pale red and black, coarse grained, porphyritic, high to very high strength. Js: 5° to 20°; (4/m); Un/Ro; OP;		sw sw sw			20.65m: Contact; 65 ⇒ 21.20m-21.23m: Js; Ro, FL, Cly Vr and Fc 21.45m: Contact; 60 (SW): high to very h (SW): high to very h 27.60m: Contact; 70 ⇒ 27.86m-27.91m: To HFZ; Sinf 28.22m: Contact; 35	5°, CD; 5°, CD; 2 St; 0°, CD St; DLERITE DYKE ligh strength. 1 1 1 1 1 1 1 1 1 1 1 1 1	ICS=227.00 MPa E=65.8 GPa v= 0.141 Is(50)=7.70 MPa Is(50)=8.00 MPa Is(50)=4.80 MPa (50)=14.00 MPa (50)=14.00 MPa (50)=10.00 MPa Is(50)=7.00 MPa Is(50)=7.00 MPa Is(50)=9.40 MPa	A (22.05m) D (22.20m) D (22.20m) D (23.10m) A (24.10m) A (24.15m) A (24.15m) A (24.15m) A (26.38m)
29 29 	22.09		100		Borehole completed at 29.80m	+ + + + + + + + + + + + + +		VH	M			ICS=174.00 MPa E=64.1 GPa v= 0.091 Is(50)=6.00 MPa	(28.65m)
REM	MARK	(S: H	(gwu =	= W	/undaru Granodiorite						LOGGED BY	REVI	EWED BY
			2	-							T.Goosey		Foley
					TMI	R GEOTEC	HNICAL B	OREHOLE 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 No. FG6184 Date 01/09/15   Borehole No. BH 221 TMR H No. H12230   Location Pioneer River Bridge Start Depth (m) 19.40   Detail Pier 6, RHS Finish Depth (m) 29.80   Chainage Submitted By M.Ensor   Remarks Submitted By M.Ensor   F0184 Start Depth (m) 29.80   BH221 Submitted By M.Ensor   Remarks Submitted By M.Ensor   F0184 Start Depth (m) 29.80   BH221 SoX1 Start Depth (m)   CH11 Start Depth (m) Start Depth (m)   Start Depth (m) Start Depth (m) Start Depth (m)   Start Depth (m) Start Depth (m) Start Depth (m)   BH221 Start Depth (m) Start Depth (m)   Start Depth (m) Start Depth (m) Start Depth (m)   Start Depth (m) Start Depth (m) Start Depth (m)	Project Name	Mackay – Ring Road (	Stage 2)			
Borehole No. BH 221 TMR H No. H12230   Location Pioneer River Bridge Start Depth (m) 19.40   Detail Pier 6, RHS Finish Depth (m) 29.80   Chainage Submitted By M.Ensor   Remarks H1223 B0X 1 10.40   BH221 B0X 1 10.40 10.40   BH223 B0X 2 10.40 10.40   BH223 B0X 3 10.40 10.40   BH223 B0X 3 10.40 10.40   BH223 B0X 4 10.40 10.40   BH234 B0.40 10.40 10.40   BH234 B0.40 10.40 10.40   BH244 B0.40 10.40 10.40   BH245<				Date		01/09/15
Location Pioneer River Bridge Start Depth (m) 19.40   Detail Pier 6, RHS Finish Depth (m) 29.80   Chainage Submitted By M.Ensor   Remarks But and the second sec						
Detail Pier 6, RHS Finish Depth (m) 29.80 Chainage Submitted By M.Ensor Remarks F46184 BH2221 BH2221 BOX 2 BH2221 BOX 2 BH2221 BH222 BH222 BH2221 BH222 BH222 BH222 BH222 BH222 BH222 BH222 BH222 BH222 BH22						
Chainage Remarks F46184 BH221 B0x1 BH221 B0x1 B0x1 Chainage BH221 B0x1 Chainage BH221 B0x1 Chainage Ch						
Remarks   F16184*   BH221	Chainage	·				M.Ensor
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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



		х	
Project Name	Mackay – Ring Road (Stage 2		
Project No.	FG6184	Date	01/09/15
Borehole No.	BH 221	TMR H No.	H12230
Location	Pioneer River Bridge	Start Depth (m)	19.40
Detail	Pier 6, RHS	Finish Depth (m)	29.80
Chainage		Submitted By	M.Ensor
Remarks			
FG618		Ston	
0 100	200 300	400 500 600	700
	SCALE	1:5	

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