FINAL 18/03/2016

Queensland Government

GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **BH266**

Sheet 1 of 4

REFERENCE No **H12275**

PROJECT Mackay Ring Road

LOCATION Fursden Creek Bridge, Pier 3, (LHS)

COORDINATES 721484.8 E; 7661478.3 N

PROJECT No FG6184 | SURFACE RL 4.21m | PLUNGE 90° | DATE STARTED 27/07/2015 | GRID DATUM GDA 94 / MGA Z55

JOB No 242/10G/906 | HEIGHT DATUM A.H.D. | BEARING ° | DATE COMPLETED 29/07/2015 | DRILLER Saxon Drilling

DEPTH (m)	R.L. (m)	SAMPLE	MATERIAL DESCRIPTION	USCS WEATHERING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
	3.81		Engineered fill (pad)			
	3.21	Ox	Sandy SILT trace gravel (Topsoil) Dark brown, moist, firm. Trace rootlets.	(ML)	3, 2, 4 N=6	SPT
1		A	Sandy CLAY (Alluvium) Dark brown, moist, stiff. Fine grained sand, low plasticity, with tree roots.	(CL)	4, 6, 5 N=11	SPT
		Ax			4, 5, 7 N=12	SPT
2	2.11	B	Silty Sandy CLAY (Alluvium) Mottled orange, brown and grey, moist, firm to stiff. Fine grained sand, medium plasticity, with tree roots.	(CI)	3, 4, 4 N=8	SPT
	1.31	Bx			2, 3, 3 N=6	SPT
3		C	Sandy CLAY trace gravel (Alluvium) Dark grey, moist, soft to firm. High plasticity, with tree roots and organics.	(CH)	2, 2, 2 N=4	SPT
	0.51	Cx			2, 4, 6 N=10	SPT
4		D	Clayey Silty SAND (Alluvium) Dark grey, wet, very loose to loose. Medium grained sand, with mangrove roots.	(SM)	hw, hw, hw N<1	SPT
		Dx			3, 3, 4 N=7	SPT
5		E			3, 3, 4 N=7	SPT
	-1.09	Ex	Silty SAND trace gravel (Alluvium) Grey, wet, very loose to loose. Fine to coarse grained sand.	(SM)	1, 1, 1 N=2	SPT
6	-1.89	F	Silty CLAY trace sand (Alluvium) Mottled pale grey and orange, moist to wet, stiff to very stiff. Fine grained sand, medium plasticity.	(CI)	5, 6, 7 N=13	SPT
		Fx			4, 7, 8 N=15	SPT
7		G	7.40m: trace gravel, rounded to subrounded grains.		6, 9, 9 N=18	SPT
		Gx			8, 10, 13 N=23	SPT
8	-3.79	H	GRANODIORITE (Kgwu) XW: Recovered as grey, brown and pink, moist, dense to very dense, clayey sand. Fine to coarse grained sand.	XW	10, 12, 19 N=31	SPT
		Hx			14, 21, 30 N=51	SPT
9		I			18, 21, 27 N=48	SPT
	-5.79					

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REMARKS: Kgwu = Wundaru Granodiorite

LOGGED BY	REVIEWED BY
C.Boyes	S.Foley

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Sheet 2 of 4

REFERENCE No **H12275**

PROJECT Mackay Ring Road

LOCATION Fursden Creek Bridge, Pier 3, (LHS) COORDINATES 721484.8 E; 7661478.3 N

PROJECT No FG6184 SURFACE RL 4.21m PLUNGE 90° DATE STARTED 27/07/2015 GRID DATUM GDA 94 / MGA Z55

JOB No 242/10G/906 HEIGHT DATUM A.H.D. BEARING ° DATE COMPLETED 29/07/2015 DRILLER Saxon Drilling

DEPTH (m)	R.L. (m)	RQD ( ) % / CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (EC VC C M W VW EW)	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
			J	GRANODIORITE (Kgwu) HW: Speckled grey, dark grey, green, coarse grained, porphyritic, very low strength.					17, 24, 30/75	SPT
11			K						20, 30/70	SPT
12			L			HW			29, 30/120 hb	SPT
13			M						30/90 hb	SPT
	-9.49	(0)		MICRODIORITE (Kgwu) MW: Grey, fine grained, massive, low to very high strength. Clay throughout. Js: 20° to 30°; (8/m); Pl/Sm; OP; Cly or CA Vr;		MW	H, VH	EC, VC	13.95m-14.00m: Clay band, 40° 14.15m-14.20m: Clay ban	
14	-10.59	100				SW			14.60m-14.65m: Cly ba 14.70m-14.85m: Brecciated, Cly, Fault zone? 14.85m: contact	
15		(0)		Js: 50° to 80°; (<3/m); Pl/Sm-Ro; OP; Cly or CA Vr; GRANODIORITE (Kgwu) HW: Speckled pink, grey and dark grey, coarse grained, massive, extremely low to very low strength.		HW	VL	VC	Is(50)=0.03 MPa Is(50)=0.06 MPa	D (15.30m) A (15.35m)
16		83	CORE LOSS	15.80 to 16.60m: CORE LOSS						
		(0)	CORE LOSS							
17		57				HW	EL-VL	VC		
		(0)	CORE LOSS	17.53 to 17.60m: CORE LOSS						
		(0)		17.75 to 17.90m: CORE LOSS		HW	LM			
18			CORE LOSS							
19		11	N			HW				SPT
	-15.79								30/120 hb 0/0 UCS=49.30 MPa	(20.00m)

Continued on next sheet

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Sheet 3 of 4

REFERENCE No **H12275**

PROJECT Mackay Ring Road

LOCATION Fursden Creek Bridge, Pier 3, (LHS)

COORDINATES 721484.8 E; 7661478.3 N

PROJECT No FG6184 | SURFACE RL 4.21m | PLUNGE 90° | DATE STARTED 27/07/2015 | GRID DATUM GDA 94 / MGA Z55

JOB No 242/10G/906 | HEIGHT DATUM A.H.D. | BEARING ° | DATE COMPLETED 29/07/2015 | DRILLER Saxon Drilling

DEPTH (m)	R.L. (m)	RQD ( ) % / CORE REC %	SAMPLE	MATERIAL DESCRIPTION	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
21	-16.59	(44) 100 (0)	CORE LOSS	MICRODIORITE (Kgwu) SW: Grey, fine to medium grained, massive, generally medium to high strength. Js: 5° -20°(<4/m); Pl/Sm; OP; Cn or Sinf;	SW / MW / HW	H / MH / EL-VL	M / C / VC / C	Is(50)=0.56 MPa	A (20.37m)
22	-18.49	100 (44)		GRANODIORITE (Kgwu) HW: Speckled pink, grey and dark grey, coarse grained, massive, very low strength. Js: 5° to 15°; (<3/m); Pl/Sm-Ro; OP; some Sinf;	HW	EL-VL / E-L / VC		21.20m-22.00m: CORE LOSS; Is(50)=0.29 MPa	D (22.20m)
23	-19.39	100 (64)		GRANODIORITE (Kgwu) SW: Speckled pink, grey and dark grey, coarse grained, massive, high to very high strength. -Js; 5-15° (<3/m); Pl/Sm-Ro, OP, some SInf.	SW	H-VH / VH	M / C / VC	Is(50)=2.50 MPa Is(50)=5.00 MPa	A (23.05m) D (23.10m)
24	-20.64	100 (33)		GRANODIORITE (Kgwu) MW: Speckled pink, grey and dark grey, coarse grained, massive, high to very high strength. -Js; 5-15° (<3/m); Pl-Un/Ro, Op	MW	H / VH	C / C	Is(50)=0.53 MPa Is(50)=1.50 MPa Is(50)=1.00 MPa	A (24.10m) D (24.66m) A (24.71m)
25	-22.94	100 (100) 100 (95) 100 (48)		MICRODIORITE (Kgwu) SW: Green-grey, fine to medium grained, massive, very high strength. Calcite veining throughout. Altered throughout. - Js; 5-15° (<3/m); Pl/Sm-Ro, Op, Cn or CA Vn	SW	H / H-VH	VC-C / M / C / M	UCS=13.50 MPa E=11.7 GPa Is(50)=1.30 MPa Is(50)=2.90 MPa Is(50)=4.00 MPa Is(50)=2.60 MPa	(25.43m) A (26.13m) D (26.23m) D (27.07m) A (27.14m)
28	-24.19			GRANODIORITE (Kgwu) SW: Speckled pink, dark grey and grey, coarse grained, massive, generally medium to high strength. - Js; 5-15° (<5/m); Pl/Ro-Sm, Ti, some Sinf -Js; 50-60° (<4/m); Pl/Ro-Sm, Op, Cn or Sinf	SW / MW	M / VC / C / LM / E-C / VL		Is(50)=3.50 MPa	D (28.10m)
29	-25.49			GRANODIORITE (Kgwu) MW: Speckled pink, dark grey and grey, coarse grained, massive, generally low to high strength. - Js; 30-60° (10/m); Pl/Ro, Op, some Sinf	HW / MW	H	M / VC-C	Is(50)=1.70 MPa Is(50)=0.39 MPa	D (29.20m) A (29.26m)
	-25.79	100 (59)		MICRODIORITE (Kgwu)	SW		M	UCS=69.40 MPa	(29.99m)

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BOREHOLE No **BH266**

Sheet 4 of 4

REFERENCE No **H12275**

PROJECT Mackay Ring Road

LOCATION Fursden Creek Bridge, Pier 3, (LHS) COORDINATES 721484.8 E; 7661478.3 N

PROJECT No FG6184 SURFACE RL 4.21m PLUNGE 90° DATE STARTED 27/07/2015 GRID DATUM GDA 94 / MGA Z55

JOB No 242/10G/906 HEIGHT DATUM A.H.D. BEARING ° DATE COMPLETED 29/07/2015 DRILLER Saxon Drilling

DEPTH (m)	R.L. (m)	AUGER / CASING / WASH BORING / CORE DRILLING	RQD ( ) % CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH (EH VH H M L VL EL)	DEFECT SPACING (EC VC C M W VW EW)	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
31	-27.09				SW: Pale green-grey, fine grained, massive, very high strength. MICRODIORITE (Kgwu) SW: Green-grey, fine to medium grained, massive, very high strength. - Js; 5-15° (3/m)Pl/Ro-Sm, Op, Some CA Vn or Sinf Js; 40-50° (2/m)Pl/Sm, Op, CA Vn		SW	VH	C / VC-C / C	30.45m-30.80m: Granodiorite band (MW)	
32	-27.79		100 (93)		GRANODIORITE (Kgwu) SW: Speckled pink, dark grey and grey, coarse grained, massive, generally low to high strength. Js; 5-30° (3/m); Pl/Ro, Op		SW		M / C	Is(50)=1.80 MPa Is(50)=10.00 MPa Is(50)=3.10 MPa	A (31.08m) D (31.18m) A (32.32m)
33	-28.96		100		MICRODIORITE (Kgwu) SW: Green-grey, fine to medium grained, massive, very high strength. - Js; 5-15° (2/m); Pl/Ro, Op Js; 50-70° (2/m); Pl/Ro, Op, CA Vn Borehole completed at 33.17m		SW		M	32.85m-33.00m: Granodiorite band. Is(50)=9.30 MPa Is(50)=8.00 MPa	D (32.88m) A (32.93m)
34											
35											
36											
37											
38											
39											

REMARKS: Kgwu = Wundaru Granodiorite

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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

Queensland Government

Project Name	**Mackay – Ring Road (Stage 2)**		
Project No.	FG6184	Date	29/07/15
Borehole No.	BH 266	TMR H No.	H12275
Location	Fursden Creek Bridge	Start Depth (m)	24.35
Detail	Pier 3, LHS	Finish Depth (m)	33.17
Chainage		Submitted By	M.Ensor
Remarks			

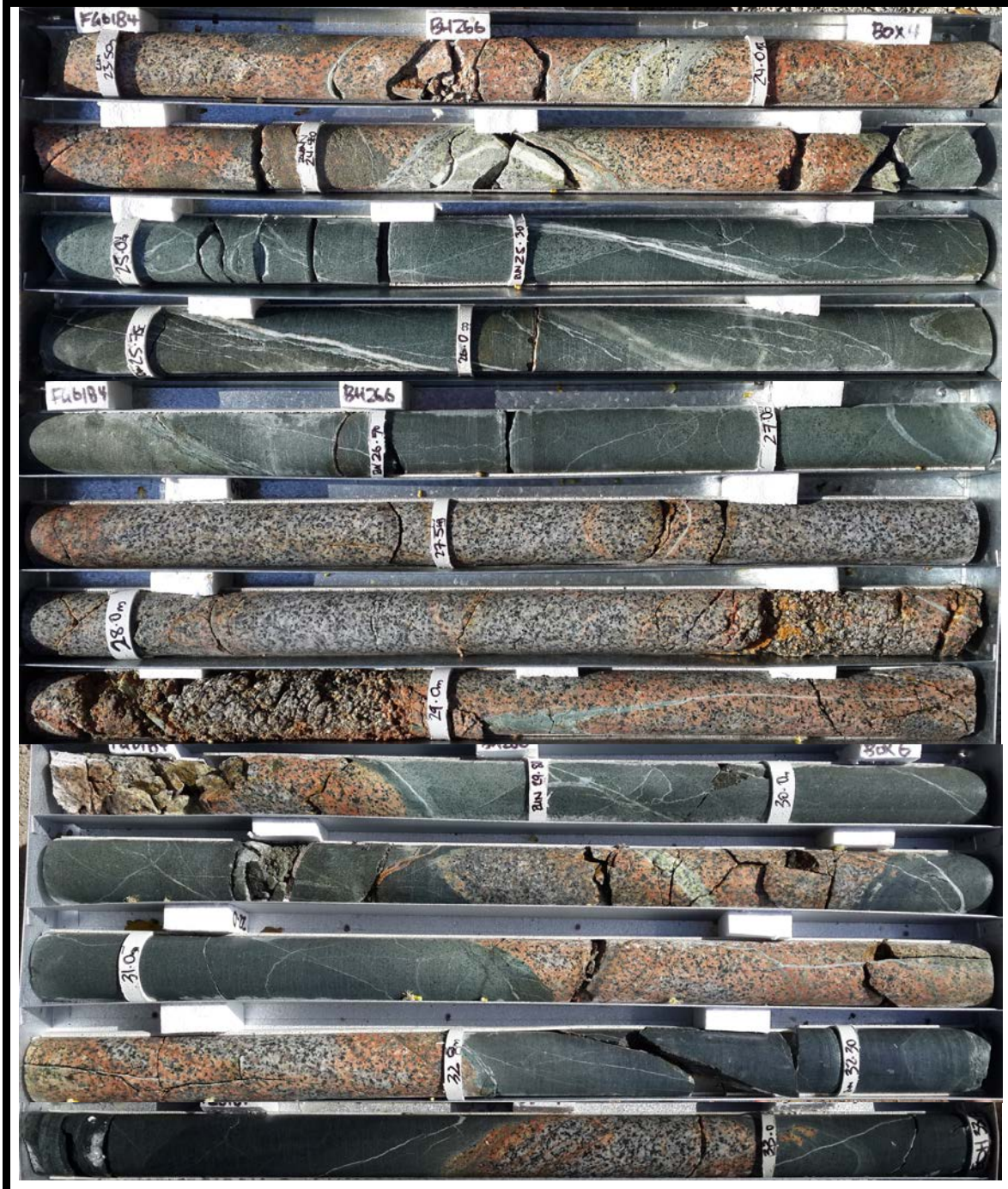
GEOT043/2

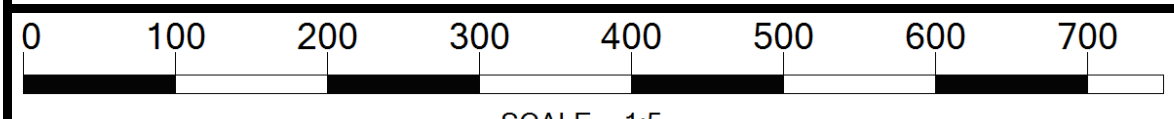
CORE PHOTO LOG

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

Queensland Government

Project Name	**Mackay – Ring Road (Stage 2)**		
Project No.	FG6184	Date	29/07/15
Borehole No.	BH 266	TMR H No.	H12275
Location	Fursden Creek Bridge	Start Depth (m)	24.35
Detail	Pier 3, LHS	Finish Depth (m)	33.17
Chainage		Submitted By	M.Ensor
Remarks			





SCALE 1:5