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GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **BH209**

Sheet 1 of 5

REFERENCE No **H12218**

PROJECT **Mackay Ring Road**

LOCATION **Pioneer River Bridge, Pier 2 (RHS)**

COORDINATES **721276.9 E; 7660075.2 N**

PROJECT No **FG6184**

SURFACE RL **6.98m**

PLUNGE **90°**

DATE STARTED **23/09/2015**

GRID DATUM **GDA 94 / MGA Z55**

JOB No **242/10G/906**

HEIGHT DATUM **A.H.D.**

BEARING **°**

DATE COMPLETED **25/09/2015**

DRILLER **Cairns Drilling**

DEPTH (m)	R.L. (m)	AUGER CASING WASHBORING CORE DRILLING	RQD (%) CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH					DEFECT SPACING					ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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1	5.98				Silty SAND (Alluvium) Brown, dry, very loose to loose. Fine to coarse grained sand.		(SM)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																</

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REMARKS: Kgwu = Wundaru Granodiorite

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S.Foley



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GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **BH209**

Sheet 2 of 5

REFERENCE No **H12218**

PROJECT	Mackay Ring Road				
LOCATION	Pioneer River Bridge, Pier 2 (RHS)			COORDINATES 721276.9 E; 7660075.2 N	
PROJECT No	FG6184	SURFACE RL	6.98m	PLUNGE	90°
				DATE STARTED	23/09/2015
				GRID DATUM	GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM	A.H.D.	BEARING	°
				DATE COMPLETED	25/09/2015
				DRILLER	Cairns Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASHBORING CORE DRILLING	RQD () % CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH										DEFECT SPACING										ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
								EH	LVH	H	M	J	VL	EL	EC	VC	C	M	W	VW	EW								
	-3.22			J	SAND (Alluvium) Brown grey, moist, medium dense. Fine to coarse grained sand.		(SP)																					7, 12, 16 N=28	SPT
					CLAY (Alluvium) Grey, moist, very stiff. Low to medium plasticity.		(CI)																						
11	-4.02			K	Sandy CLAY (Alluvium) Grey, moist, very stiff. Fine to medium grained sand, low to medium plasticity.		(CI)																					6, 9, 16 N=25	SPT
12	-5.02			L	CLAY trace sand (Alluvium) Grey, moist, very stiff. Low to medium plasticity.		(CI)																					4, 7, 9 N=16	SPT
13	-6.02			M	Sandy CLAY (Alluvium) Brown, moist, very stiff to hard. Fine grained sand, medium to high plasticity.																							5, 8, 12 N=20	SPT
14				N	14.00m: becomes very stiff.		(CH)																					6, 11, 16 N=27	SPT
15	-8.02			O	Clayey SAND (Residual) Brown grey, moist, medium dense. Fine to coarse grained sand, low to medium plasticity.																							8, 12, 17 N=29	SPT
16				P	16.00m: becomes very dense.																							30/140	SPT
							(SC)																						
17				Q																								20, 30/100	SPT
18	-10.97		(0)		MICRODIORITE (Kgwu) MW: Blue grey, fine grained, massive, high strength.		MW																					Is(50)=2.30 MPa	D (18.19m)
			100		Js: 0° to 15°; (12/m); Pl/Ro; TI-FL; Fe																							Is(50)=4.70 MPa	A (18.48m)
			(0)		St and Cly Vr;		HW																						
19			100		Js: 20° to 30°; (3/m); Pl/Ro; TI; Fe St,																								
			(0)		some Cly Vr;																								
					Js: 60° to 70°; (1/m); Pl/Sm; TI; Fe		MW																					Is(50)=0.78 MPa	I (19.30m)
					St;																								
	-13.02																											18.65m-18.84m: HW zone	
																												19.80m-19.88m: BZ; DI	

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REMARKS: Kgwu = Wundaru Granodiorite

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GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No. **BH209**

Sheet 3 of 5

REFERENCE No **H12218**

PROJECT	Mackay Ring Road
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LOCATION	Pioneer River Bridge, Pier 2 (RHS)
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COORDINATES 721276.9 E; 7660075.2 N

PROJECT No. FG6184

SURFACE RI 6.98m

PLUNGE 90°

DATE STARTED 23/09/2015

GRID DATUM GDA 94 / MGA Z55

JOB No 242/10G/906

HEIGHT DATUM A.H.D.

BEARING °

DATE COMPLETED 25/09/2015

DRILLER Cairns Drilling

DEPTH (m)	R.L. (m)	AUGER CASING	WASHBORING CORE DRILLING	RQD () %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS	
				CORE REC %									
				100 (0)		MICRODIORITE (Kgwu) MW: (Cont'd)		MW			20.15m-20.20m: BZ; DI 20.20m-20.78m: HW zone, Cly FL, Fe St;		
21								HW	LM	VC-C			
	-14.72			100 (0)				MW	H LM		21.08m-21.30m: BZ; Cly FL		
22				100 (6)		MICRODIORITE (Kgwu) SW: Blue grey, fine grained, massive, high strength. Calcite vein/ infill of joints throughout. Js: 5° to 15°; (4-5/m); Pl/Ro; TI; Fe St and some Cly Vr; Js: 30° to 40°; (1-2/m); Pl/Ro; TI-FL; Fe St and CA; Js: 70° to 80°; (1-2/m); Pl/Ro; TI-FL; Fe St and CA;			MH H	VC C	Is(50)=0.94 MPa	D (21.50m)	
23								SW		C		Is(50)=4.10 MPa Is(50)=7.50 MPa	D (22.10m) A (22.20m)
24				100 (11)						VC C	23.10m-23.85m: J; 85°-90°, Un/Ro, TI-FL, Fe St and CA;	Is(50)=1.00 MPa	D (23.60m)
25	-18.12								H	VC-C		UCS=6.00 MPa	(24.57m)
26						MICRODIORITE (Kgwu) MW: Brown grey, fine to medium grained, massive, medium to high strength. Calcite veining throughout. Micro fractures throughout. Js: 0° to 10°; (4/m); Pl/Ro; TI; Fe St and Cly Vr; Js: 40° to 50°; (4/m); Pl/Ro; TI; Fe St and Cly Vr;		MW	M	VC-C	Is(50)=0.51 MPa	A (25.21m)	
27				100 (13)						VC-C	Is(50)=0.60 MPa	D (25.60m)	
28								HW	VL-L	EC- VC	27.10m-27.40m: HW zone	Is(50)=0.17 MPa	A (26.31m)
								MW	MH	VC-C	Is(50)=3.50 MPa	D (26.78m)	
								MW	MH	VC-C	Is(50)=0.67 MPa	A (27.50m)	
	-21.72							XW			28.31m-28.41m: XW Cly zone	Is(50)=1.30 MPa	D (28.15m)
								MW	MH	VC-C			
29						GRANODIORITE (Kgwu) MW: Pale red grey, coarse grained, porphyritic, medium to high strength.		HW	MH	VC-C	28.74m-28.86m: HW zone, Sinf		
	-22.42			100 (0)				HW	VL	EC	29.10m-29.25m: HW zone, Sinf		
						MICRODIORITE (Kgwu) MW: Blue grey, fine grained, massive, medium to high strength.		MW	MH	C		Is(50)=1.40 MPa	A (29.57m)
	-23.02									VC-C			

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REMARKS: Kgwu = Wundaru Granodiorite

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LOCATION	Pioneer River Bridge, Pier 2 (RHS)
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COORDINATES 721276.9 E; 7660075.2 N

PROJECT No	FG6184	SURFACE RL	6.98m	PLUNGE	90°	DATE STARTED	23/09/2015	GRID DATUM	GDA 94 / MGA Z55
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JOB No 242/10G/906 HEIGHT DATUM A.H.D. BEARING ° DATE COMPLETED 25/09/2015 DRILLER Cairns Drilling

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REMARKS: Kgwu = Wundaru Granodiorite

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GEOTECHNICAL BOREHOLE LOG

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BOREHOLE No **BH209**

Sheet 5 of 5

REFERENCE No **H12218**

PROJECT	Mackay Ring Road
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LOCATION	Pioneer River Bridge, Pier 2 (RHS)
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COORDINATES 721276.9 E; 7660075.2 N

PROJECT No	FG6184	SURFACE RL	6.98m	PLUNGE	90°	DATE STARTED	23/09/2015	GRID DATUM	GDA 94 / MGA Z55
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JOB No 242/10G/906 HEIGHT DATUM A.H.D. BEARING ° DATE COMPLETED 25/09/2015 DRILLER Cairns Drilling

REMARKS: Kgwu = Wundaru Granodiorite

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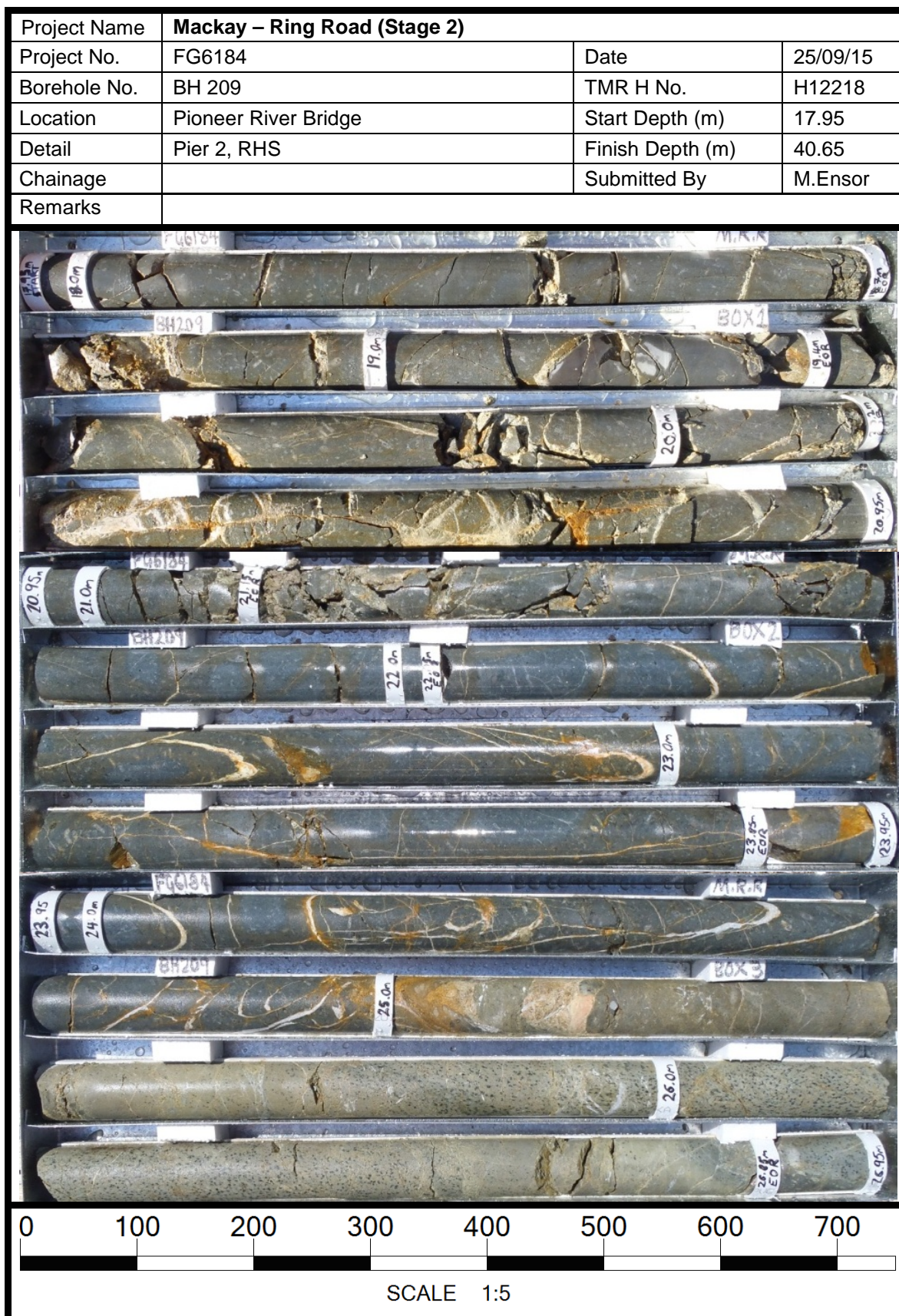
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CORE PHOTO LOG

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



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Phone 07 3066 3336



Project Name	Mackay – Ring Road (Stage 2)		
Project No.	FG6184	Date	25/09/15
Borehole No.	BH 209	TMR H No.	H12218
Location	Pioneer River Bridge	Start Depth (m)	17.95
Detail	Pier 2, RHS	Finish Depth (m)	40.65
Chainage		Submitted By	M.Ensor
Remarks			

0	100	200	300	400	500	600	700
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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 – Ring Road (Stage 2)		
Project No.	FG6184	Date	25/09/15
Borehole No.	BH 209	TMR H No.	H12218
Location	Pioneer River Bridge	Start Depth (m)	17.95
Detail	Pier 2, RHS	Finish Depth (m)	40.65
Chainage		Submitted By	M.Ensor
Remarks			

0 100 200 300 400 500 600 700

SCALE 1:5