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## GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **BH236**

Sheet 1 of 4

REFERENCE No **H12245**

PROJECT Mackay Ring Road

LOCATION Pioneer River Bridge, Pier 11 (RHS) COORDINATES 721342.0 E; 7660384.0 N

PROJECT No FG6184 SURFACE RL 3.47m PLUNGE 90° DATE STARTED 07/11/2015 GRID DATUM GDA 94 / MGA Z55

JOB No 242/10G/906 HEIGHT DATUM A.H.D. BEARING ° DATE COMPLETED 09/11/2015 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
1				A	SAND trace gravel (Fill) Brown, dry, loose. Fine to coarse grained sand. River bund.  1.00m: becomes moist.						2, 3, 6 N=9 SPT
2				B							4, 3, 3 N=6 SPT
3				C	Becomes very loose.						2, 1, 1 N=2 SPT
4				D	Becomes loose.						3, 3, 4 N=7 SPT
5	-1.53			E	Sandy GRAVEL (Alluvium) Brown, moist to wet, medium dense. Fine to coarse grained sand, fine grained gravel.						3, 4, 6 N=10 SPT
6				F	6.00m: becomes loose						4, 1, 7 N=8 SPT
7	-3.53			G	Clayey Silty SAND trace gravel (Alluvium) Pale grey, moist, medium dense. Fine to medium grained sand, low plasticity.						12, 13, 14 N=27 SPT
8				H							8, 10, 14 N=24 SPT
9	-5.53			I	CLAY (Alluvium) Pale brown grey, moist, stiff. Low to medium plasticity.						4, 3, 10 N=13 SPT
10	-6.53										

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REMARKS: Kgwu = Wundaru Granodiorite

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T.Goosey

S.Foley



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## GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **BH236**

Sheet 2 of 4

REFERENCE No **H12245**

PROJECT **Mackay Ring Road**

LOCATION **Pioneer River Bridge, Pier 11 (RHS)**

COORDINATES **721342.0 E; 7660384.0 N**

PROJECT No **FG6184**

SURFACE RL **3.47m**

PLUNGE **90°**

DATE STARTED **07/11/2015**

GRID DATUM **GDA 94 / MGA 255**

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

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

BEARING **°**

DATE COMPLETED **09/11/2015**

DRILLER **Cairns Drilling**

DEPTH (m)	R.L. (m)	AUGER Casing Washing Cone Drilling	RQD (%) CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USCS WEATHERING	INTACT STRENGTH	DEFECT SPACING	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
							EH VH H M J VL EL		EC VC C M W VW EW		
11	-8.53			J	Sandy CLAY trace gravel (Alluvium) Brown grey, moist, hard. Fine to medium grained sand, medium to high plasticity.	(CH)				8, 16, 24 N=40	SPT
12				K						11, 20, 25 N=45	SPT
13				L	Silty CLAY trace sand and gravel (Residual) Pale grey, moist, hard. Low to medium plasticity.	(CI)				12, 18, 26 N=44	SPT
14	-10.63			M						12, 21, 30/130	SPT
15				N	Sandy CLAY (Residual) Pale grey to grey, moist, hard. Low plasticity.					10, 30/50	SPT
16				O						14, 20, 30/120	SPT
17				P		(CL)				14, 30/100	SPT
18	-14.53			Q						14, 30/120	SPT
19	-16.53			R	GRANODIORITE XW: Recovered as brown grey, moist, very dense, clayey sand. Fine to coarse grained sand, low plasticity.	XW				30/120	SPT
				S						30/130	SPT

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## GEOTECHNICAL BOREHOLE LOG

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

BOREHOLE No **BH236**

Sheet 3 of 4

REFERENCE No **H12245**

PROJECT	Mackay Ring Road		
LOCATION	Pioneer River Bridge, Pier 11 (RHS)		COORDINATES 721342.0 E; 7660384.0 N
PROJECT No	FG6184	SURFACE RL 3.47m	PLUNGE 90°
			DATE STARTED 07/11/2015
JOB No	242/10G/906	HEIGHT DATUM A.H.D.	BEARING °
			DATE COMPLETED 09/11/2015
			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 _VH _H _M _J _VL _EL	EC _VC _C _M _W _VW _EW													
21				U	GRANODIORITE (Kgwu) HW: Brown grey, coarse grained, massive, extremely low to very low strength.	+	XW											30/60	SPT			
																				30/50	SPT	
22				V																30/40	SPT	
23	-19.73			W		+													SPT			
			(61)		GRANODIORITE (Kgwu) MW: Brown to pale grey, coarse grained, porphyritic, low to medium strength. Js: 5° to 15°; (8-9/m); Pl/Ro; OP; Fe St and some Sinf; Js: 20° to 30°; (3/m); Pl/Ro; OP; Fe St and some Sinf; Js: 70° to 80°; (<1/m); Pl-St/Ro; OP; Fe St;			+	MW											30/40	D (23.44m) A (23.49m) D (23.82m) A (23.86m)	
24			100 (75)																			Is(50)=0.54 MPa Is(50)=0.22 MPa Is(50)=0.33 MPa Is(50)=0.13 MPa
25	-21.88					+	HW															
								+	MW												24.70m-24.85m: BZ: HW zone;	
26					GRANODIORITE (Kgwu) SW: Pale grey, coarse grained, porphyritic, very high strength. Js: 5° to 15°; (4/m); Pl/Ro; TI-OP; Fe St; Js: 20° to 30°; (1/m); Pl/Ro; TI; Fe St;																Is(50)=0.16 MPa	D (24.91m)
27			100 (85)			+																
																					Is(50)=8.60 MPa	A (25.47m)
28																					Is(50)=8.60 MPa	D (25.90m)
29						+	SW															
																					Is(50)=3.00 MPa	D (26.73m)
																					27.15m-27.25m: Pale red, fine grained band, massive, very high strength.	UCS=56.40 MPa E=55 GPa v= 0.082
	-26.53		100 (97)			+																
																					Is(50)=6.30 MPa Is(50)=5.70 MPa	A (28.46m) D (28.60m)
																					Is(50)=4.50 MPa	A (29.66m)
																				Is(50)=12.00 MPa	D (29.88m)	

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REMARKS: Kgwu = Wundaru Granodiorite

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## GEOTECHNICAL BOREHOLE LOG

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BOREHOLE No **BH236**

Sheet 4 of 4

REFERENCE No **H12245**

PROJECT	Mackay Ring Road				
LOCATION	Pioneer River Bridge, Pier 11 (RHS)			COORDINATES 721342.0 E; 7660384.0 N	
PROJECT No	FG6184	SURFACE RL	3.47m	PLUNGE	90°
				DATE STARTED	07/11/2015
				GRID DATUM	GDA 94 / MGA Z55
JOB No	242/10G/906	HEIGHT DATUM	A.H.D.	BEARING	°
				DATE COMPLETED	09/11/2015
				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	VH	H	M	J	VL	EL	EC	VC	C				M	W	VW	EW																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
	-27.21				GRANODIORITE (Kgwu ) SW: (Cont'd) Js: 5° to 15°; (5/m); Pl/Ro; Tl; MICRODIORITE (Kgwu ) SW: Blue grey, fine grained, massive, high to very high strength. Js: 5° to 10°; (2/m); Pl/Ro; Tl; Cn; GRANODIORITE (Kgwu ) SW: Pale red to pale grey, coarse grained, porphyritic, high to very high strength. Js: 5° to 15°; (4/m); Pl/Ro; Tl; Fe St; Js: 60° to 70°; (<1/m); Tl; Fe St; Borehole completed at 32.85m	+	SW																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																</

REMARKS: Kgwu = Wundaru Granodiorite

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T.Goosey

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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 Name	<b>Mackay – Ring Road (Stage 2)</b>		
Project No.	FG6184	Date	09/11/15
Borehole No.	BH 236	TMR H No.	H12245
Location	Pioneer River Bridge	Start Depth (m)	23.20
Detail	Pier 11, RHS	Finish Depth (m)	32.85
Chainage		Submitted By	M.Ensor
Remarks			

  

0 100 200 300 400 500 600 700

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	<b>Mackay – Ring Road (Stage 2)</b>		
Project No.	FG6184	Date	09/11/15
Borehole No.	BH 236	TMR H No.	H12245
Location	Pioneer River Bridge	Start Depth (m)	23.20
Detail	Pier 11, RHS	Finish Depth (m)	32.85
Chainage		Submitted By	M.ENSOR
Remarks			

  
A photograph of a core sample, a cylindrical metal tube, with labels "FG6184", "BH236", "BOX 4", and "M.R.R." visible. The core is dark and appears to be a soil or rock sample.  
  
A scale bar showing distances from 0 to 700 units. The bar is divided into segments of 100 units each. Below the bar, the text "SCALE 1:5" is printed.