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**Queensland
Government**

ENGINEERING BOREHOLE LOG

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

BOREHOLE No **BH160**
SHEET **1** of **2**
REFERENCE No **12101**

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1
LOCATION Ring Road Stage 2 Overpass Abutment A; CH: 10976m; COORDINATES 721230.1 E; 7663212.1 N
PROJECT No FG6184 SURFACE R.L. 14.28m PLUNGE _____ DATE STARTED 12/12/14 GRID DATUM GDA 94 /MGA Zone 55
JOB No _____ HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 16/12/14 DRILLER ND Drilling Pty Ltd

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD () %	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0	14.28												
0.20	14.08					Clayey SAND (TOPSOIL) Black, dry, medium loose. Fine to coarse grained. Roots & root fibres.	(SC)						
						Sandy CLAY (RESIDUAL) Orange, grey, moist, stiff. High plasticity. Fine to coarse grained sand.	(CH)						
1					A	Clayey sand band between 1.00-1.50m.						4.5,8 N=13	SPT
1.50	12.78												
2					B	GRANODIORITE (Kgwu) XW: Recovered as white, grey, orange, brown, moist, hard, Sandy CLAY.		XW				17,24,20 N=44	SPT
3					C	3.00m: Becoming stiff.						7,5,8 N=13	SPT
3.50	10.78												
4					D	GRANODIORITE (Kgwu) MW: Grey, orange, white and black, medium grained, weakly foliated, mainly very high strength. Defects: - Js; 0°-15° (4/m); PI/Ro, TI; - Js; 15°-30° (4/m); PI/Ro, TI; - Js; 30°-60° (5/m); PI/Ro, TI;						5/0	SPT
5			(72)									Is(50) = 6.69MPa Is(50) = 5.97MPa	A (4.40m) D (4.41m)
6			100 (99)			5.00-7.51m Defects: - Js; 0°-30° (8-10/m); PI-St/Ro, TI, Fe St, some CA; - Js; 30°-60° (6/m); PI-St/Ro, TI, Fe St, some CA; - Js; 60°-90° (2/m); PI-St/Ro, TI, Fe St, some CA;		MW				Is(50) = 3.85MPa	A (5.46m)
7			100 (83)									Is(50) = 5.64MPa Is(50) = 3.45MPa	D (6.70m) L (6.70m)
8			100 (15)					MW				Is(50) = 6.22MPa Is(50) = 5.48MPa Is(50) = 2.73MPa	A (7.37m) D (7.41m) A (7.44m)
8.90	5.38							MW				7.30m-7.65m: Altered/silicified.	
9			44 (100)			GRANODIORITE (Kgwu) SW: Grey, white, black, medium to coarse grained, massive, very high strength.		SW				8.40m-8.90m: BZ; 8.90m-9.05m: Fine grained band. 9.10m-9.25m: Fine grained band.	
9.90	4.38											Is(50) = 4.28MPa Is(50) = 9.19MPa	A (9.39m) D (9.40m)
10													

REMARKS Kgwu - Wundaru Granodiorite;

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**ENGINEERING
BOREHOLE LOG**

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

BOREHOLE No BH160
SHEET 2 of 2
REFERENCE No 12101

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1
LOCATION Ring Road Stage 2 Overpass Abutment A; CH: 10976m; COORDINATES 721230.1 E; 7663212.1 N
PROJECT No FG6184 SURFACE R.L. 14.28m PLUNGE _____ DATE STARTED 12/12/14 GRID DATUM GDA 94 /MGA Zone 55
JOB No _____ HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 16/12/14 DRILLER ND Drilling Pty Ltd

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD () %	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH											DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
									EH	VH	HM	JL	VL	EL	EC	VC	WC	WW	VW	EW			
10	4.28																						
10.33	3.95				(66)	GRANODIORITE (Kgwu) XW: Recovered as brown, moist, soft, Sandy Silty CLAY.	XW																
11					100 (100)	MICRODIORITE (Kgwu) SW: Dark grey, fine grained, massive, very high strength. With granodiorite zones up to 0.6m wide. Defects: - Js; 15°-30° (1/m); Pl/Ro, TI, some healed; - Js; 30°-45° (1/m); Pl/Ro, TI, some healed; - Js; 45°-60° (2/m); Pl/Ro, TI, some healed, some CA; - Js; 60°-75° (2/m); Pl/Ro, TI, some healed, some CA;	SW																
12					100 (100)																		
13	0.98																						
13.30																							
14	0.13				100	GRANODIORITE (Kgwu) SW: Grey to dark grey, medium to coarse grained, massive, very high strength. Defects: - Js; 0°-20° (2/m); Pl/Ro, TI;	SW																
14.15						Borehole terminated at 14.15m. .																	
15																							
16																							
17																							
18																							
19																							
20																							

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CORE PHOTO LOG

DEPARTMENT OF TRANSPORT & MAIN ROADS
Geotechnical Branch
35 Butterfield Street, HERSTON Qld 4006
Phone 07 3066 3336



Department of
Transport and Main Roads

Project Name	Mackay – Ring Road		
Project No	FG6184	Date	16/12/14
Borehole No	BH160	TMR H No	12101
Location	Ring Road Stage 2 Overpass	Start Depth (m)	4.0
Detail	Abutment A	Finish Depth (m)	14.15
Chainage	10976m	Submitted By	DC
Remarks			

Scale (mm)

100 200 300 400 500 600 700 800 900 1000