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# ENGINEERING BOREHOLE LOG

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

BOREHOLE No **BH157**  
SHEET **1** of **3**  
REFERENCE No **12098**

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1  
LOCATION Sugarshed Road Overpass Abutment B; CH: 10043m; COORDINATES 721589.7 E; 7662354.0 N  
PROJECT No FG6184 SURFACE R.L. 10.18m PLUNGE \_\_\_\_\_ DATE STARTED 2/11/14 GRID DATUM GDA 94 /MGA Zone 55  
JOB No \_\_\_\_\_ HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 2/11/14 DRILLER Saxon Drilling

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	10.18												
0.50	9.68					<b>Silty CLAY (TOPSOIL)</b> Dark brown, moist, soft. Medium plasticity. Some tree roots.	(CI)						
1					A	<b>Silty CLAY (ALLUVIUM)</b> Grey-brown mottled orange, moist, stiff to very stiff. High plasticity. Trace fine grained sand.	(CH)					3.4,6 N=10	SPT
2					B	2.00m: Sand content increasing.						3.5,10 N=15	SPT
2.40	7.78												
3					C	<b>Clayey SAND (ALLUVIUM)</b> Brown, moist to wet, loose. Fine to medium grained sand. Trace coarse grained sand.	(SC)					3.4,3 N=7	SPT
3.50	6.68												
4					D	<b>Silty CLAY (ALLUVIUM)</b> Dark brown, moist, stiff to very stiff. High plasticity.	(CH)					2.7,12 N=19	SPT
5					E							3.6,8 N=14	SPT
6					F							3.5,7 N=12	SPT
7					G							4.8,12 N=20	SPT
7.30	2.88												
8					H	<b>Clayey SAND (ALLUVIUM)</b> Pale grey to pale brown, moist, medium dense. Fine to medium grained.	(SC)					6.9,13 N=22	SPT
9					J							6,10,12 N=22	SPT
10.10	0.18					9.80m: Becoming Sandy CLAY.							

REMARKS Kgwu - Wundaru Granodiorite;  
# Sample failed along existing defect surface.

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MS/JA

# ENGINEERING BOREHOLE LOG

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

BOREHOLE No **BH157**  
SHEET **2** of **3**  
REFERENCE No **12098**

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1  
LOCATION Sugarshed Road Overpass Abutment B; CH: 10043m; COORDINATES 721589.7 E; 7662354.0 N  
PROJECT No FG6184 SURFACE R.L. 10.18m PLUNGE \_\_\_\_\_ DATE STARTED 2/11/14 GRID DATUM GDA 94 /MGA Zone 55  
JOB No \_\_\_\_\_ HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 2/11/14 DRILLER Saxon Drilling

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
10	0.18													
11					K	<b>GRANODIORITE (Kgwu)</b> XW: Recovered as grey-brown mottled orange, moist, hard, Silty Sandy CLAY. Low plasticity. Fine grained sand.							10,28,30/140	SPT
12					L				XW				15,30/130	SPT
12.50	-2.32				M								20,30/100	SPT
13					N	<b>MICRODIORITE (Kgwu)</b> HW: Recovered as dark grey-brown, moist to dry, very dense Clayey SAND. Fine to medium grained sand. Some fine gravel sized, angular rock fragments <15mm.			HW				30/100	SPT
14	-4.02				P								30/90	SPT
15				(0)		<b>GRANODIORITE (Kgwu)</b> HW: Brown, grey and white, fine to coarse grained, massive, generally very low to low strength. Defects: - Js; 15°-20° (3/m); PI/Ro, TI-OP, Cly; - Js; 35°-45° (2/m); PI/Ro, TI-OP, Cly; - Js; 50° (1/m); PI/Ro, TI-OP, Cly; - Js; 80°-90° (2/m); PI/Ro, TI-OP, Cly;			HW					
16				100 (38)					MW				Is(50) = 0.47MPa Is(50) = 1.95MPa	A (15.58m) D (15.75m)
17	-7.02			100 (41)					XW				15.95m-16.30m: XW zone, EL strength.	
18				100 (66)		<b>GRANODIORITE (Kgwu)</b> MW: Grey, black and white with minor pink, fine to coarse grained, massive, mainly medium to high strength. Defects: - Js; 20°-25° (2/m); PI/Ro, TI-OP, Fe St; - Js; 45° (1/m); PI/Ro, TI-OP, Fe St; - Js; 70°-85° (3/m); PI/Ro, TI-OP, Fe St;			MW				Is(50) = 0.23MPa Is(50) = 0.50MPa Is(50) = 0.65MPa; # Is(50) = 2.51MPa; # UCS=40.2MPa Is(50) = 0.44MPa; # Is(50) = 1.08MPa Is(50) = 0.96MPa Is(50) = 1.03MPa	D (17.10m) A (17.22m) D (17.40m) A (17.45m) A (17.85m) A (17.90m) D (18.20m) A (18.50m)
19									HW				Is(50) = 1.20MPa Is(50) = 0.91MPa; # Is(50) = 0.64MPa	D (19.00m) A (19.05m) A (19.20m)
20									MW					

REMARKS Kgwu - Wundaru Granodiorite;

# Sample failed along existing defect surface.

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# ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH157  
SHEET 3 of 3  
REFERENCE No 12098

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1  
LOCATION Sugarshed Road Overpass Abutment B; CH: 10043m; COORDINATES 721589.7 E; 7662354.0 N  
PROJECT No FG6184 SURFACE R.L. 10.18m PLUNGE \_\_\_\_\_ DATE STARTED 2/11/14 GRID DATUM GDA 94 /MGA Zone 55  
JOB No \_\_\_\_\_ HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 2/11/14 DRILLER Saxon Drilling

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
20	-9.82													
20.20	-10.02		100			<b>GRANODIORITE (Kgwu)</b> <b>MW: (Cont'd)</b> Borehole terminated at 20.2m. .	+	MW					Is(50) = 1.00MPa	A (20.00m)
21														
22														
23														
24														
25														
26														
27														
28														
29														
30														

REMARKS Kgwu - Wundaru Granodiorite;  
# Sample failed along existing defect surface.

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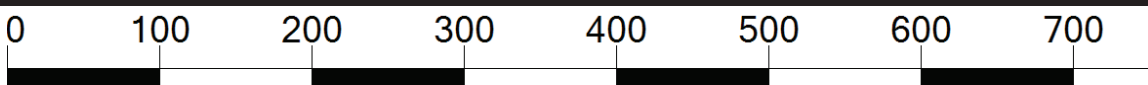
# CORE PHOTO LOG

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	<b>Mackay – Ring Road</b>		
Project No	FG6184	Date	02/11/14
Borehole No	BH157	TMR H No	12098
Location	Sugarshed Road Overpass	Start Depth (m)	14.2
Detail	Abutment B	Finish Depth (m)	20.2
Chainage	<b>10043m</b>	Submitted By	J. Lopez
Remarks			



SCALE 1:5