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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH151
SHEET 1 of 3
REFERENCE No 12092

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1
LOCATION QR North Coast Rail Overpass Pier 1; CH: 9952m; COORDINATES 721590.6 E; 7662261.9 N
PROJECT No FG6184 SURFACE R.L. 10.87m PLUNGE _____ DATE STARTED 28/10/14 GRID DATUM GDA 94 /MGA Zone 55
JOB No _____ HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 29/10/14 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	10.87												
0.50	10.37					Silty Gravelly CLAY (TOPSOIL) Dark brown, dry to moist, soft. Low plasticity. Medium gravel.	(CL)						
1					A	Silty CLAY (ALLUVIUM) Dark brown, moist, stiff. High plasticity.	(CH)					4.4,5 N=9	SPT
2					AA	2.00m: Colour change to pale grey.						Su _(PP) =80kPa;	U50
2.70	8.17					Sandy CLAY (ALLUVIUM) Grey, yellow and brown, moist, stiff. Low plasticity. Fine to medium grained sand.	(CL)					3.7,7 N=14	SPT
3.50	7.37				B	Clayey SAND (ALLUVIUM) Grey, yellow and brown, moist, medium dense. Fine to coarse grained sand.	(SC)					3.9,12 N=21	SPT
4					C								
4.90	5.97					Silty CLAY (ALLUVIUM) Dark grey and brown, moist, stiff. High plasticity.	(CH)					3.4,7 N=11	SPT
5					D								
6					E							3.5,6 N=11	SPT
7					F	7.00m: Becoming pale grey-brown.						3.5,8 N=13	SPT
7.90	2.97					Clayey SAND (ALLUVIUM) Pale grey, moist, dense. Fine to medium grained sand.	(SC)					10,19,25 N=44	SPT
8					G								
9					H							10,13,17 N=30	SPT
10													

REMARKS Kgwu - Wundaru Granodiorite;

Sample failed along existing defect surface.

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ENGINEERING BOREHOLE LOG

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SYMBOLS REFER FORM F:GEOT 017/8-2014

BOREHOLE No **BH151**
SHEET **2** of **3**
REFERENCE No **12092**

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1
LOCATION QR North Coast Rail Overpass Pier 1; CH: 9952m; COORDINATES 721590.6 E; 7662261.9 N
PROJECT No FG6184 SURFACE R.L. 10.87m PLUNGE _____ DATE STARTED 28/10/14 GRID DATUM GDA 94 /MGA Zone 55
JOB No _____ HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 29/10/14 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	0.87				J	Clayey SAND (ALLUVIUM) (Cont'd)		(SC)				10,19,20 N=39	SPT
10.60	0.27				K	GRANODIORITE (Kgwu) XW: Recovered as brown, yellow and pale grey, moist, hard Clayey Sandy SILT. Low plasticity.						10,12,17 N=29	SPT
11													
12					L							9,22,22 N=44	SPT
13					M			XW				30/140	SPT
14					N	14.00m: Recovered as Sandy SILT. Some HW rock fragments.						15,30/100	SPT
15					P							20,30/110	SPT
15.50	-4.63												
16					Q	MICRODIORITE (Kgwu) HW: Black to dark grey, fine to medium grained, very low strength.		HW				29,30/50	SPT
17	-6.23				R							30/50	SPT
17.10													
18			(0)			MICRODIORITE (Kgwu) SW: Brown to dark grey, fine grained, massive, high to very high strength. Highly fractured throughout. Occasional clay seams. Some HW zones with low strength. Defects: - Js; 10°-20° (4/m); Pl-Un/Ro, Cly Vr, Fe St; - Js; 30° (4/m); Pl-Un/Ro, Cly Vr, Fe St; - Js; 45° (3/m); Pl-Un/Ro, Cly Vr, Fe St; - Js; 60°-70° (1/m); Pl-Un/Ro, Cly Vr, Fe St;		MW				17-10m-17.20m: MW zone. Medium strength. 17.34m-17.40m: Clay seam. 17.75m-17.80m: Clay seam. 18.35m-18.80m: Silicified/altereds(50) = 7.94MPa 18.87m-19.20m: HW zone. 19.65m-19.95m: HW Granodiorite.	D (17.80m) A (17.82m) D (17.95m) D (18.25m) A (18.65m) A (19.55m)
19			100		(18)			SW				Is(50) = 0.37MPa Is(50) = 3.80MPa Is(50) = 2.81MPa; # Is(50) = 7.52MPa	
20			100		(0)			MW					
								HW					
								SW					
								HW					

REMARKS Kgwu - Wundaru Granodiorite;

Sample failed along existing defect surface.

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BOREHOLE No BH151
SHEET 3 of 3
REFERENCE No 12092

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1
LOCATION QR North Coast Rail Overpass Pier 1; CH: 9952m; COORDINATES 721590.6 E; 7662261.9 N
PROJECT No FG6184 SURFACE R.L. 10.87m PLUNGE _____ DATE STARTED 28/10/14 GRID DATUM GDA 94 /MGA Zone 55
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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	-9.13												
21				100 (0)		MICRODIORITE (Kgwu) SW: (Cont'd)		MW				Is(50) = 3.14MPa; # D (20.80m) Is(50) = 8.52MPa A (21.05m)	
22	-11.13			100				SW				21.20m-21.50m: MW zone. Medium to high strength.	
23						Borehole terminated at 22m .							
24													
25													
26													
27													
28													
29													
30													

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

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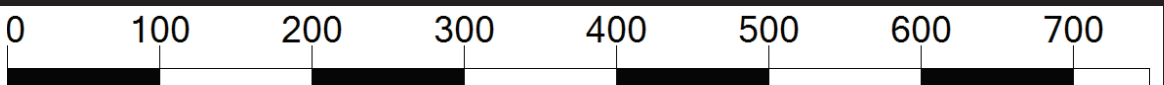
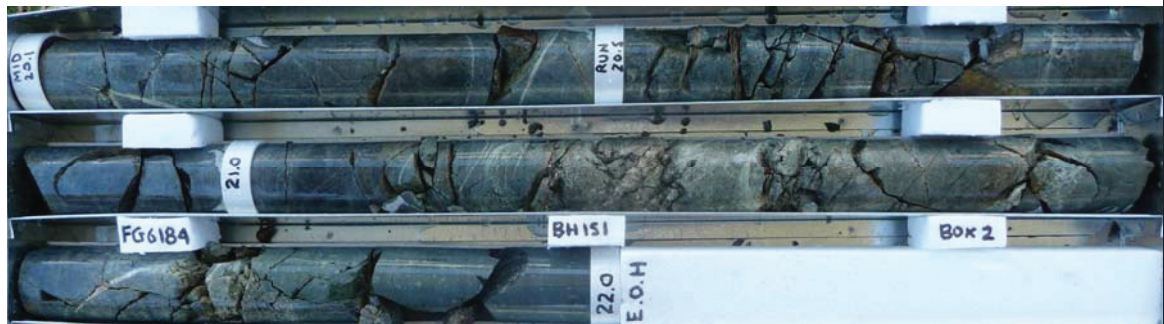
CORE PHOTO LOG

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	Mackay – Ring Road		
Project No	FG6184	Date	29/10/14
Borehole No	BH151	TMR H No	12092
Location	QR North Coast Rail Overpass	Start Depth (m)	17.1
Detail	Pier 1	Finish Depth (m)	22.0
Chainage	9952m	Submitted By	J. Lopez
Remarks			



SCALE 1:5