Queensland Government

ENGINEERING BOREHOLE LOG

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

BOREHOLE No **BH116**
SHEET 1 of 3
REFERENCE No **12062**

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1
LOCATION Peak Downs Hwy Overpass Abutment A; CH: 5572m; COORDINATES 720979.2 E; 7657925.1 N
PROJECT No FG6184 SURFACE R.L. 12.46m PLUNGE DATE STARTED 30/9/14 GRID DATUM GDA 94 /MGA Zone 55
JOB No HEIGHT DATUM AHD BEARING DATE COMPLETED 1/10/14 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 (EH VH H M L VL EL)	DEFECT SPACING (mm) (EC VC C M W VW EW)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
0	12.46				**Clayey SILT (ALLUVIUM)** Dark brown, moist, soft. Low plasticity.		(CL)							
0.50	11.96				**Silty CLAY (ALLUVIUM)** Dark brown, orange mottled grey, moist, mainly stiff to very stiff. High plasticity. Trace fine grained sand.									
1				A								4,5,6 N=11		SPT
2				B								3,4,7 N=11		SPT
3				C			(CH)					4,8,11 N=19		SPT
4				D								5,7,10 N=17		SPT
4.60	7.86				**Clayey SAND (ALLUVIUM)** Brown, moist, medium dense. Fine to medium grained.									
5				E			(SC)					5,7,5 N=12		SPT
6.00	6.46													
6				F	**Sandy CLAY (ALLUVIUM)** Brown mottled orange, moist, stiff. High plasticity. Fine grained sand.		(CH)					3,6,7 N=13		SPT
6.90	5.56				**Silty CLAY (ALLUVIUM)**									
7				G	Dark grey, moist, stiff to very stiff. High plasticity.							5,7,11 N=18		SPT
8				H			(CH)					3,5,8 N=13		SPT
9				J								4,5,9 N=14		SPT
10	2.46													

REMARKS # Sample failed along existing defect surface.

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

BOREHOLE No **BH116**
SHEET 2 of 3
REFERENCE No **12062**

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1
LOCATION Peak Downs Hwy Overpass Abutment A; CH: 5572m; COORDINATES 720979.2 E; 7657925.1 N
PROJECT No FG6184 SURFACE R.L. 12.46m PLUNGE DATE STARTED 30/9/14 GRID DATUM GDA 94 /MGA Zone 55
JOB No HEIGHT DATUM AHD BEARING DATE COMPLETED 1/10/14 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 (EH VH H M L VL EL)	DEFECT SPACING (mm) (EC VC C M W VW EW)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
10	2.46			K	**Silty CLAY (ALLUVIUM)** (Cont'd) Becoming mainly grey, yellow and pale brown.							4,5,7 N=12		SPT
11				L			(CH)					6,9,11 N=20		SPT
12				M	12.00m: Trace fine grained sand.							6,11,12 N=23		SPT
12.60	-0.14													
13				N	**Clayey SAND (ALLUVIUM)** Yellow-brown, moist to dry, dense. Mainly fine to medium grained.		(SC)					10,11,23 N=34		SPT
14.20	-1.74			P	**Silty CLAY (RESIDUAL)** Pale brown, orange mottled grey, moist, very stiff. High plasticity.							8,10,13 N=23		SPT
15				Q								11,10,13 N=23		SPT
16				R								6,10,13 N=23		SPT
17				S	17.00m: Becoming hard.		(CH)					9,15,19 N=34		SPT
18				T	18.00m: Becoming very stiff.							8,14,15 N=29		SPT
19				U	19.00m: Colour change to pale grey. Trace fine grained sand.							6,8,10 N=18		SPT
20	-7.54													

REMARKS # Sample failed along existing defect surface.

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TMR JAN 15.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY FG6184 - BOREHOLES.GPJ <<DrawingFile>> Datgel CPT Tool gINt Add-In 04/03/2015 10:50

ENGINEERING BOREHOLE LOG

Queensland Government

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

BOREHOLE No **BH116**
SHEET 3 of 3
REFERENCE No **12062**

PROJECT Mackay Ring Road Geotechnical Investigation - Stage 1
LOCATION Peak Downs Hwy Overpass Abutment A; CH: 5572m; COORDINATES 720979.2 E; 7657925.1 N
PROJECT No FG6184 SURFACE R.L. 12.46m PLUNGE DATE STARTED 30/9/14 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 EH VH H M L VL EL	DEFECT SPACING (mm) EC VC C M W VW EW	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
20	-7.54			V	**Clayey SAND (RESIDUAL)** Pale grey, moist to dry, medium dense. Fine to medium grained.		(SC)					8,11,13 N=24		SPT
21.00	-8.54			W	**Sandy CLAY (RESIDUAL)** Pale grey, moist, very stiff. Low plasticity. Fine grained sand.		(CL)					6,13,15 N=28		SPT
22.00	-9.54			X	**GRANODIORITE (Kgwu)** **XW:** Recovered as brown-grey, dry, very dense Clayey SAND. Fine to medium grained.		XW					19,30/130		SPT
23.20	-10.74			Y								30/30		SPT
			(40) 100		**GRANODIORITE** **MW:** Pale grey, brown, medium grained, massive, low to medium strength. Some XW zones, EL strength. Highly fractured in parts. Defects: - Js; 30° (2/m); Pl/Ro, OP, Cly Vr; - Js; 50°-60° (4/m); Pl/Ro, OP, Cly Vr; - Js; 70°-80° (3/m); Pl/Ro, OP, Cly Vr;		MW XW MW XW MW XW MW					Is(50) = 0.35MPa Is(50) = 0.21MPa 23.59m-23.65m: XW zone, EL strength. 23.80m-23.93m: XW zone, EL strength. 24.10m-24.18m: XW zone, EL strength.	A (23.25m) D (23.30m)	
			(13) 100				XW					24.83m-24.93m: XW zone, EL strength.		
			(13) 100				MW					Is(50) = 0.19MPa	D (25.44m)	
			(7) 100		26.28m: Becoming medium to high strength.		XW MW					Is(50) = 0.06MPa; # 26.20m-26.28m: Is(50) = 0.15MPa XW zone, EL strength. Is(50) = 0.73MPa; # Is(50) = 1.02MPa	D (26.05m) A (26.10m) D (27.23m) A (27.28m)	
28.35	-15.89		(18) 100		**MICRODIORITE (Kgwu)** **SW:** Grey-black, fine to medium grained, massive, very high strength. Highly fractured. Defects: - Js; 40° (2/m); Pl/Ro, OP, Fe St; - Js; 50° (5/m); Pl/Ro, OP, Fe St; - Js; 70°-80° (6/m); Pl/Ro, OP, Fe St;		SW					Is(50) = 3.38MPa Is(50) = 3.78MPa	A (28.63m) D (28.80m)	
29.20	-16.74				Borehole terminated at 29.2m. .									

REMARKS # 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

Queensland Government

Department of Transport and Main Roads

Project Name	**Mackay – Ring Road**		
Project No	FG6184	Date	01/10/14
Borehole No	BH 116	TMR H No	12062
Location	Peak Downs Hwy Overpass	Start Depth (m)	23.2
Detail	Abutment A	Finish Depth (m)	29.2
Chainage	**5572**	Submitted By	J. Lopez
Remarks			

0 100 200 300 400 500 600 700

SCALE 1:5

GEOT043/1