Queensland Government

ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/6-2010

BOREHOLE No **BH309**
SHEET 1 of 3
REFERENCE No **11487**

PROJECT Townsville Ring Road Section 4
LOCATION Stony Creek Bridge COORDINATES 464711.7 E; 7871590.6 N
PROJECT No FG6020 SURFACE R.L. 12.89m PLUNGE DATE STARTED 15/4/13 GRID DATUM GDA 94
JOB No 268/10M/5 HEIGHT DATUM AHD BEARING DATE COMPLETED 16/4/13 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) (20 60 200 600 2000)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
0	12.89				**Silty CLAY (TOPSOIL)** Dark grey, grey, moist, soft. Medium plasticity. Some tree roots.									
	12.59			A	**Sandy CLAY** Dark grey - grey, moist, firm. Medium plasticity. Very fine grained sand.									U50
1					Becoming brown, very stiff to hard sandy clay.		(CL-CI)							
				B	Low to medium plasticity.							7,15,15 N=30		SPT
2	10.64													
				C	**Silty SAND** Pale grey, pale brown, moist to dry, very dense.							19,30/130mm,30/100mm N>50		SPT
3					Fine grained sand. Weakly cemented.									
					Becoming fine to coarse grained sand.		(SM)							
				D								17,30/90mm N>50		SPT
4	8.59													
				E	**Sandy SILT** Pale grey, moist, hard.							21,30/100mm N>50		SPT
5					Fine grained sand.									
				F								18,30,30/90mm N>50		SPT
6														
7				G	Clayey silt lens at 7.0m. Very stiff to hard.		(ML)					10,11,19 N=30		SPT
8														
				H								10,16,23 N=39		SPT
9														
10	2.89													

REMARKS

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BOREHOLE No **BH309**
SHEET 2 of 3
REFERENCE No **11487**

PROJECT Townsville Ring Road Section 4
LOCATION Stony Creek Bridge COORDINATES 464711.7 E; 7871590.6 N
PROJECT No FG6020 SURFACE R.L. 12.89m PLUNGE DATE STARTED 15/4/13 GRID DATUM GDA 94
JOB No 268/10M/5 HEIGHT DATUM AHD BEARING DATE COMPLETED 16/4/13 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) (20 60 200 600 2000)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES	TESTS
10	2.89			J	**Sandy SILT (Cont'd)** Grey, orange patches.		(ML)					12,16,24 N=40		SPT
11	1.89				**Clayey SAND** Pale brown, pale grey, moist, very dense.									
				K	Fine grained sand.							13,22,30 N>50		SPT
12														
13				L								17,27,30/120mm N>50		SPT
14					Becoming medium to coarse grained sand.		(SC)							
				M								18,21,30 N>50		SPT
15														
16				N	Becoming dense clayey sand. Trace of fine grained gravel.							12,13,18 N=31		SPT
17														
	-4.91			P								13,20,30/50mm N>50; (30/50mm HB)		SPT
18					**VOLCANIC BRECCIA** **Pyroclastic rock consisting of angular fragments embedded in a finer grained matrix.** **XW:** Generally exhibits the engineering properties of pale orange, brown, moist, very dense clayey sand.		XW							
19				Q	Medium to coarse grained. Some fragments of HW rock.							22,30/120mm,HB N>50		SPT
20	-7.11													

REMARKS

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QLD_DMR_LIB_01A.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY TOWNSVILLE RING ROAD 4 STONY CREEK.GPJ <<DrawingFile>> Datgel CPT Tool gINt Add-In 17/10/2013 11:55

ENGINEERING BOREHOLE LOG

Queensland Government

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/6-2010

BOREHOLE No **BH309**
SHEET 3 of 3
REFERENCE No **11487**

PROJECT Townsville Ring Road Section 4
LOCATION Stony Creek Bridge COORDINATES 464711.7 E; 7871590.6 N
PROJECT No FG6020 SURFACE R.L. 12.89m PLUNGE DATE STARTED 15/4/13 GRID DATUM GDA 94
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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) (20 60 200 600 2000)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES / TESTS
20	-7.11				**VOLCANIC BRECCIA** **XW (Cont'd):**							
				R							30/60mm N>50	SPT
21							XW					
22	-9.31											
			(0) 100		**HW:** Dark brown, orange, medium to coarse grained, massive to fractured, mainly low to medium strength. Some MW bands. Secondary mineralisation along joints.						Is(50) = 0.28MPa	o
			(0) 100									
23			(21)		Defects: - Joints @ 45°-50° (3/m) - Joints @ 25°-30° (2/m) - Joints @ 70°-75° (1/m) - Irrregular joints (3/m)						Is(50) = 0.29MPa	o
			100									
24			(70)		Defect surfaces are generally planar or irregular, rough, open, weathered, secondary mineralisation, clayey coated.		HW				Is(50) = 0.34MPa UCS=10.9MPa Is(50) = 1.05MPa	o
25			100 (56)								Is(50) = 0.25MPa	o
26											Is(50) = 0.08MPa Is(50) = 0.38MPa	o o
	-13.61		100								Is(50) = 0.29MPa	o
					Borehole terminated at 26.5m							
27												
28												
29												
30												

REMARKS

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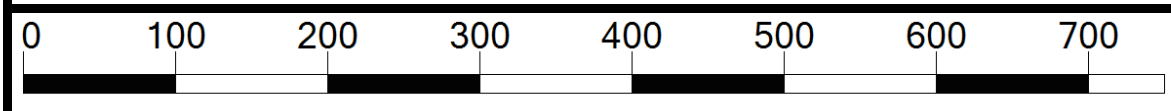
CORE PHOTO LOG

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

Queensland Government

Department of Transport and Main Roads

Project Name	**Townsville Ring Road Section 4**		
Project No	FG 6020	Date	16/04/13
Borehole No	BH 309	TMR H No	11487
Location	Stony Creek Bridge	Start Depth (m)	22.20
Detail	Abutment B (Right)	Finish Depth (m)	26.50
Chainage		Submitted By	BW
Remarks			



SCALE 1:5

GEOT043/2