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ENGINEERING BOREHOLE LOG

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

BOREHOLE No **BH303**
SHEET **1** of **3**
REFERENCE No **11481**

PROJECT Townsville Ring Road Section 4
LOCATION Stony Creek Bridge COORDINATES 464706.5 E; 7871514.3 N
PROJECT No FG6020 SURFACE R.L. 12.24m PLUNGE _____ DATE STARTED 18/4/13 GRID DATUM GDA 94
JOB No 268/10M/5 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 18/4/13 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	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
0	12.24												
11.94						Sandy CLAY (TOPSOIL) Dark brown, moist, soft to firm. Low to medium plasticity. Some tree roots.							
					A	Silty Sandy CLAY Mottled grey, brown, moist, stiff to very stiff. Medium to high plasticity.	(Cl-CH)					2,3,9 N=12	SPT
					B	Becoming sandy clay of low plasticity.						6,12,15 N=27	SPT
					C							4,8,11 N=19	SPT
9.24						Sandy SILT Grey, brown, moist, hard.							
					D	Low plasticity. Fine grained sand. High content of silt in some places.						14,21,30/110mm N>50	SPT
					E		(ML)					16,29,30/75mm N>50	SPT
					F							14,25,30/110mm N>50	SPT
5.74						Clayey SAND Pale grey, pale brown, moist, generally dense.							
					G	Mainly fine to medium grained sand.						30/130mm,30/75mm,HB N>50	SPT
					H		(SC)					10,19,28 N=47	SPT
2.24													

REMARKS _____

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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH303
SHEET 2 of 3
REFERENCE No 11481

PROJECT Townsville Ring Road Section 4
LOCATION Stony Creek Bridge COORDINATES 464706.5 E; 7871514.3 N
PROJECT No FG6020 SURFACE R.L. 12.24m PLUNGE _____ DATE STARTED 18/4/13 GRID DATUM GDA 94
JOB No 268/10M/5 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 18/4/13 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	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
10	2.24												
11					J	Clayey SAND (Cont'd)						11,16,20 N=36	SPT
12					K							10,15,23 N=38	SPT
13					L	Becoming medium grained sand.						12,15,21 N=36	SPT
14													
15					M							8,11,21 N=32	SPT
16					N	Becoming medium dense with medium to coarse grained sand.						9,12,16 N=28	SPT
17													
18					P	Becoming very dense with medium to coarse grained sand.						13,23,30/130mm N>50	SPT
19													
20	-7.76				Q							16,21,30/130mm N>50	SPT

REMARKS _____

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ENGINEERING BOREHOLE LOG

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

BOREHOLE No **BH303**
SHEET **3** of **3**
REFERENCE No **11481**

PROJECT Townsville Ring Road Section 4
LOCATION Stony Creek Bridge COORDINATES 464706.5 E; 7871514.3 N
PROJECT No FG6020 SURFACE R.L. 12.24m PLUNGE _____ DATE STARTED 18/4/13 GRID DATUM GDA 94
JOB No 268/10M/5 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 18/4/13 DRILLER Saxon Drilling

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
20	-7.76											
	-7.86				VOLCANIC BRECCIA Pyroclastic rock consisting of angular fragments embedded in a finer grained matrix. XW: Generally exhibits the engineering properties of red, brown, moist to dry, very dense silty sand.	XW					30/50mm, HB N>50	SPT
21	-8.86		(25)		Medium to coarse grained sand. Some HW rock fragments.	HW					Is(50) = 0.09MPa	o
					HW: Grey, brown, pink, medium to coarse grained, massive, mainly low strength.	XW						
22			75 (0)		Defects: - Irregular joints (>5/m)	HW						
			100 (0)		Joints are generally irregular, rough, weathered, open, clay filled.	XW						
23			100 (68)		From 21.48 - 21.95m: XW, very low strength.						Is(50) = 0.13MPa	o
			100 (40)		From 22.6 - 23.1m: XW, very low strength.	HW						
24			100 (44)									
	-12.11		100 (65)		MW: Brown, pink, medium to coarse grained, massive to fractured, medium to high strength. Some zones of low strength.						Is(50) = 0.35MPa	o
25			100 (43)		Some HW bands with low strength.	MW					Is(50) = 0.69MPa UCS=27.2MPa Is(50) = 0.21MPa	o
26					Defects: - Joints @ 50-60° (2/m) - Joints @ 70° (1/m) - Irregular Joints (1/m)						Is(50) = 0.39MPa	o
	-14.11		100		Defect surfaces are generally planar or irregular, rough, weathered, open, clayey coated.						Is(50) = 0.76MPa	o
27					Borehole terminated at 26.33m							
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



Department of
Transport and Main Roads

Project Name	Townsville Ring Road Section 4		
Project No	FG 6020	Date	18/04/13
Borehole No	BH 303	TMR H No	11481
Location	Stony Creek Bridge	Start Depth (m)	21.10
Detail	Pier 1 (Right)	Finish Depth (m)	26.33
Chainage		Submitted By	BW
Remarks			

The photograph shows a series of core samples arranged in a tray. Each sample is labeled with its depth in meters (m) and a 'RUN' number. The labels are as follows:

- START 21.10 m
- 21.48 CORE LOSS 0.200 21.68
- 22.0 RUN
- 22.30 RUN
- 22.70 RUN
- 23.10 RUN
- 23.55 RUN
- 23.80 RUN
- 23.80 RUN
- 24.25 RUN
- 24.40 RUN
- 25.0 RUN
- 25.40 RUN
- 26.0 RUN
- 26.33 END HOLE

A color calibration strip is visible above the core samples. Below the photograph is a scale bar ranging from 0 to 700, with a scale of 1:5.