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ENGINEERING BOREHOLE LOG

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

BOREHOLE No	BH305
SHEET	1 of 4
REFERENCE No	11483

PROJECT Townsville Ring Road Section 4 -----
 LOCATION Stony Creek Bridge ----- COORDINATES 464709.1 E; 7871543.1 N -----
 PROJECT No FG6020 SURFACE R.L. 12.11m PLUNGE ----- DATE STARTED 30/4/13 GRID DATUM GDA 94 -----
 JOB No 268/10M/5 HEIGHT DATUM AHD BEARING ----- DATE COMPLETED 1/5/13 DRILLER Saxon Drilling -----

QLD_DMR_LIB_01A.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY TOWNVILLE RING ROAD 4 STONY CREEK.GPJ <<DrawingFile>> Datagel CPT Tool.gINT Add-in 17/10/2013 11:55

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
									EH	VH	H	M	J	VL				
0	12.11					Silty SAND(TOPSOIL) Brown, moist, loose. Fine grained. Some tree roots.												
1	11.81				A	Silty SAND Brown, moist, loose. Fine grained.											3,2,3 N=5	SPT
2					B	Becoming medium dense.	(SM)										3,3,9 N=12	SPT
3					C	Becoming medium to coarse grained sand, loose. Colour change to grey brown. Becoming dense to very dense.											3,8,29 N=37	SPT
4	8.51				D	Sandy SILT Brown, moist, hard. Low plasticity. Fine grained sand.											19,30/135MM N>50	SPT
5					E												21,30/120MM N>50	SPT
6					F	Sand content increasing, becoming silty sand in parts. Becoming fine to medium grained sand. Occasional coarse gravel particles. Trace of fine gravel.	(ML)										15,27,30/140mm N>50	SPT
7					G	Grading into silty sand with depth.											19,27,30/130mm N>50	SPT
8																		
9	3.61				H	Silty SAND Brown to grey, moist, mainly dense to very dense. Medium to coarse grained sand.	(SM)										16,18,24 N=42	SPT
10	2.11					(See over)												

REMARKS -----

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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH305
SHEET 2 of 4
REFERENCE No 11483

PROJECT Townsville Ring Road Section 4
LOCATION Stony Creek Bridge COORDINATES 464709.1 E; 7871543.1 N
PROJECT No FG6020 SURFACE R.L. 12.11m PLUNGE DATE STARTED 30/4/13 GRID DATUM GDA 94
JOB No 268/10M/5 HEIGHT DATUM AHD BEARING DATE COMPLETED 1/5/13 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
									EH	VH	H	M	J	VL				
10	2.11				J	Silty SAND (Cont'd):											12,17,23 N=40	SPT
11					K												14,20,28 N=48	SPT
12					L	Silt content increasing, becoming sandy silt in parts. Sand becoming fine grained.	(SM)										11,23,27 N=50	SPT
13					M												11,15,24 N=39	SPT
14					N	Medium to coarse grained sand.											12,17,25 N=42	SPT
15																		
16																		
17	-4.89				O	Clayey SILT Pale brown, moist, hard. Low plasticity. Trace of fine grained sand.	(ML)										10,14,21 N=35	SPT
18																		
19	-6.09				P	VOLCANIC BRECCIA Pyroclastic rock consisting of angular fragments embedded in a finer grained matrix. XW: Exhibits the engineering properties of red, grey, pink, very dense, moist, silty sand.	XW										30/100mm N>50	SPT
20	-7.89					(See over)												

REMARKS _____

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ENGINEERING BOREHOLE LOG

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

BOREHOLE No	BH305
SHEET	3 of 4
REFERENCE No	11483

PROJECT Townsville Ring Road Section 4 -----
 LOCATION Stony Creek Bridge ----- COORDINATES 464709.1 E; 7871543.1 N -----
 PROJECT No FG6020 SURFACE R.L. 12.11m PLUNGE ----- DATE STARTED 30/4/13 GRID DATUM GDA 94 -----
 JOB No 268/10M/5 HEIGHT DATUM AHD BEARING ----- DATE COMPLETED 1/5/13 DRILLER Saxon Drilling -----

QLD_DMIR_LIB_01A_GLB_Log_A_ENGINEERING_BOREHOLE_LOG_W_LITHOLOGY_TOWNVILLE_RING_ROAD_4_STONY_CREEK.GPJ <<DrawingFile>> Datagel CPT Tool_gint_AAdd-In 17/10/2013 11:55

DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING						DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS		
									EH	VH	H	M	J	VL					EL	
20	-7.89					VOLCANIC BRECCIA XW (Cont'd):														
								HW									30/40mm N>50	SPT		
21	-8.89		(0)			HW: Red brown with pink, medium to coarse grained, massive, low to medium strength.														
22			88 (0)			Defects: - Joint @ 20°-30° (6/m) - Broken throughout														
			100 (0)			Defect surfaces are generally irregular, rough, open or tight, clay infilled.														
23	-10.89		100 (0)			MW: Brown red and pink, medium to coarse grained, massive, mainly medium to high strength.														
			100 (0)			Defects: - Broken zones throughout <300mm														
24			100 (16)			- Joint @ 10°-30° (5-6/m) - Joint @ 50°-60° (3-4/m) - Joint @ 80°-90° (2/m)														
			100 (0)			Defect surfaces are generally planar or irregular, rough, open or tight, clay infilled.														
25			100 (40)																	
			100 (43)																	
26																				
			95 (18)																	
27																				
			100 (30)			(See over)														
28																				
29																				
30	-17.89																			

REMARKS -----
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ENGINEERING BOREHOLE LOG

BOREHOLE No	<u>BH305</u>
SHEET	<u>4</u> of <u>4</u>
REFERENCE No	<u>11483</u>

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

PROJECT Townsville Ring Road Section 4 _____

LOCATION Stony Creek Bridge _____ COORDINATES 464709.1 E; 7871543.1 N _____

PROJECT No FG6020 SURFACE R.L. 12.11m PLUNGE _____ DATE STARTED 30/4/13 GRID DATUM GDA 94 _____

JOB No 268/10M/5 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 1/5/13 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				
									EH	VH	H	M	J	VL	EL	20				60	200	600	2000
30	-17.89	+	100		VOLCANIC BRECCIA MW (Cont'd):	++ + + + + +		MW	[Bar chart showing strength data]	[Bar chart showing defect spacing data]					Is(50) = 1.09MPa Is(50) = 0.92MPa UCS=21.8MPa	o o							
31	-19.04		100		Borehole terminated at 31.15m																		
32																							
33																							
34																							
35																							
36																							
37																							
38																							
39																							
40																							

QLD_DMR_LIB_01A.GLB Log A_ENG ENGINEERING BOREHOLE LOG W LITHOLOGY TOWNVILLE RING ROAD 4 STONY CREEK.GPJ <<DrawingFile>> Datgel CPT Tool_gint_Add-in 17/10/2013 11:55

REMARKS _____

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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	Townsville Ring Road Section 4		
Project No	FG 6020	Date	01/05/13
Borehole No	BH 305	TMR H No	11483
Location	Stony Creek Bridge	Start Depth (m)	21.00
Detail	Pier 2 (Right)	Finish Depth (m)	31.15
Chainage		Submitted By	MS
Remarks			



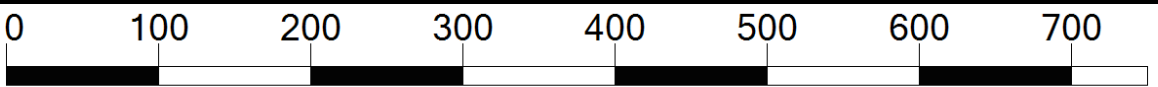
CORE PHOTO LOG

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	Townsville Ring Road Section 4		
Project No	FG 6020	Date	01/05/13
Borehole No	BH 305	TMR H No	11483
Location	Stony Creek Bridge	Start Depth (m)	21.00
Detail	Pier 2 (Right)	Finish Depth (m)	31.15
Chainage		Submitted By	MS
Remarks			



SCALE 1:5