ENGINEERING BOREHOLE LOG

Queensland Government

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

BOREHOLE No **BH403**
SHEET 1 of 3
REFERENCE No **H11491**

PROJECT Townsville Ring Road Section 4
LOCATION Geaney Lane Overpass COORDINATES 464716.7 E; 7871665.1 N
PROJECT No FG6020 SURFACE R.L. 14.12m PLUNGE DATE STARTED 19/4/13 GRID DATUM GDA 94
JOB No 268/10M/5 HEIGHT DATUM AHD BEARING DATE COMPLETED 20/4/13 DRILLER Cairns 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	14.12				**Clayey SAND (FILL)** Dark grey, moist, loose. Sand is medium to coarse grained. Trace gravel.		(SC)						A	SPT
												1,3,6 N=9		
	13.17				**Silty CLAY (FILL)** Dark grey to brown, moist, firm. Low plasticity.		(CL)						B	SPT
1												MC = 16.4%; LL=33.8% PI=19.2% LS=11.2% 1,3,3 N=6		
2	11.82				**Clayey SAND** Pale brown to brown, moist, dense to mainly very dense. Generally fine to medium grained sand with coarse grained bands throughout.								C	SPT
												30/110 N>50		
3				D								30/70 N>50	D	SPT
4				E								30/150 N>50	E	SPT
5					Becoming medium to coarse grained sand.									
6				F			(SC)					30/120 N>50	F	SPT
7					6.5-9.2m: High silt content. Becoming fine grained sand.									
8				G								19,30/145 N>50	G	SPT
9				H								12,30/125 N>50	H	SPT
10					Becoming medium to coarse grained sand.									

QLD_DMR_LIB_01A.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY TOWNSVILLE RING ROAD 4 GEANEY LANE.GPJ <<DrawingFile>> Datgel CPT Tool gINt Add-In 17/10/2013 11:47

REMARKS

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VP

Queensland Government

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BOREHOLE No **BH403**
SHEET 2 of 3
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10	4.12				**Clayey SAND (Cont'd)**									
				J	Becoming dense.							13,21,25 N=46		SPT
11														
12				K								11,18,28 N=46		SPT
13					Becoming very dense.									
				L								13,24,30/110 N>50		SPT
14							(SC)							
15				M								14,30/130 N>50		SPT
16														
				N	Becoming fine to medium grained sand.							14,27,30/110 N>50		SPT
17														
18				P								17,30/125 N>50		SPT
19	-5.18													
				Q	**Silty CLAY** Pale grey, moist, hard. Low plasticity.		(CL)					16,26,30/110 N>50		SPT
20														

REMARKS

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20	-5.88				**Silty CLAY (Cont'd)**		(CL)							
	-6.38				**VOLCANIC BRECCIA** **Pyroclastic rock consisting of angular fragments embedded in a finer grained matrix.** **XW:** Generally exhibits engineering properties of a pale brown to red brown, slightly moist, very dense Clayey Sand. Medium to coarse grained sand. Minor fine to medium, subangular gravel.									
21				R								Rockroller used.	30/100 N>50	SPT
22				S			XW						30/135 N>50	SPT
23														
24	-9.88		(58)	T	**MW:** Brown, red brown, fine to coarse grained, massive, mainly medium strength. Some low & high strength zones. Clasts (sizing from 2mm to 50mm diameter) in a finer grained matrix. Defects: - Joints @ 30° (1/m) - Joints @ 45° (1/m) - Joints @ 60°-70°(2/m) - Irregular Jonts (1/m) Defects are generally mainly planar to irregular, rough, open, clay caoted. Defect spacing: close to medium.								30/50 N>50	SPT
												Clayey band.	Is(50) = 0.33MPa UCS=5.64 MPa	o
25													Is(50) = 1.14MPa	o
													Is(50) = 0.14MPa	o
26												Clayey band.		
													Is(50) = 0.50MPa	o
			100				MW						Is(50) = 1.01MPa	o
27			(0) 100 (62)										Is(50) = 0.72MPa	o
													Is(50) = 1.26MPa	o
28													Is(50) = 1.14MPa Is(50) = 0.43MPa	o o
29													Is(50) = 1.53MPa	o
	-15.48											HW Band.		
30	-15.88		100		**ANDESITE(MW):** Brown, grey, fine grained, massive, low to medium strength.		MW							
					Borehole terminated at 30m									

REMARKS

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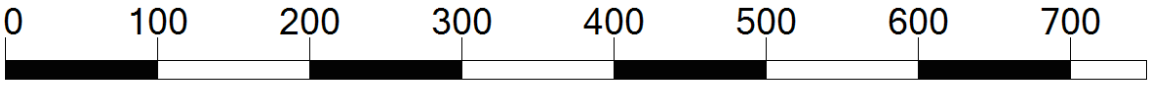
CORE PHOTO LOG

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	**Townsville Ring Road Section 4**		
Project No	FG 6020	Date	20/04/13
Borehole No	BH 403	TMR H No	11491
Location	Geaney Lane Overpass	Start Depth (m)	24.00
Detail	Pier 1 (Right)	Finish Depth (m)	30.00
Chainage		Submitted By	MS
Remarks			



SCALE 1:5

GEOT043/1