Queensland Government

ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH116
SHEET 1 of 4
REFERENCE No H11193

PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE
LOCATION ABUTMENT A - (Ch. 84487.1 22.0m LHS) COORDINATES 721484.0 E; 7654846.6 N
PROJECT No FG5635 SURFACE R.L. 8.84m PLUNGE DATE STARTED 13/9/11 GRID DATUM MGA 94
JOB No 242/33B/6 HEIGHT DATUM AHD BEARING DATE COMPLETED 14/9/11 DRILLER Cairns Drilling Pty Ltd

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	8.84				**Silty CLAY (ALLUVIAL)** Dark brown, moist, soft. High plasticity.		(CH)					Based on Driller's logs only		
	8.04				**Silty Sandy CLAY (ALLUVIAL)** Brown and grey, moist, stiff. High plasticity.		(CH)					3,3,5 N=8	A	SPT
2	6.74				**Silty CLAY (ALLUVIAL)** Brown and grey, moist, stiff. High plasticity; minor fine grained sand.		(CH)					4,5,9 N=14	B	SPT
	4.94				**Sandy Silty CLAY (ALLUVIAL)** Pale grey mottled orange, moist, very stiff. High plasticity; fine grained sand.		(CH)					4,8,10 N=18	C	SPT
	3.14				**SAND (ALLUVIAL)** Pale grey and minor orange, moist, medium dense. Fine to medium grained sand with minor silt.		(SP)					4,7,7 N=14	D	SPT
												2,3,7 N=10	E	SPT
												6,9,8 N=17	F	SPT
10	-1.16													

REMARKS Note: *Failure appears to have occured along a pre-existing defect plane.

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QLD_DMR_LIB_01A.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY COWLEYS FG5635- WALKERSTON BYPASS.GPJ <<DrawingFile>> Datgel CPT Tool gINt Add-In 12/12/2011 15:30

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

BOREHOLE No BH116
SHEET 2 of 4
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PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE
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10	-1.16				**SAND (ALLUVIAL)** (Cont'd)									
				G								7,12,9 N=21		SPT
11							(SP)							
12				H								6,8,9 N=17		SPT
	-3.96													
13					**Clayey Gravelly SAND (ALLUVIAL)** Pale grey and minor orange, moist, medium dense. Fine to medium grained sand and gravel; becoming more gravelly at base.									
				J								8,12,15 N=27		SPT
14							(SC)							
	-6.16													
15				K	**Silty CLAY (RESIDUAL)** Pale grey mottled orange, hard, wet. Some layers containing Mn nodules and minor fine sand fraction.							10,17,24 N=41		SPT
16				L								12,20,24 N=44		SPT
17				M								12,19,29 N=48		SPT
							(CH)							
18				N								12,21,28 N=49		SPT
19				O								11,17,25 N=42		SPT
20	-11.16													

QLD_DMR_LIB_01A.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY COWLEYS FG5635- WALKERSTON BYPASS.GPJ <<DrawingFile>> Datgel CPT Tool gINt Add-In 12/12/2011 15:30

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BOREHOLE No BH116
SHEET 3 of 4
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20	-11.16			P	**GRANODIORITE** **Intrusive, medium to coarse grained, massive, crystalline, acidic, igneous rock.** **XW:** Generally displays the engineering properties of grey brown, moist, hard, sandy silty clay.		XW					10,19,30/120mm N>50		SPT
	-12.06													
21				Q	**HW:** Speckled white, grey and dark grey, medium to coarse grained, massive, very low strength.							28,30/70mm N>50		SPT
22				R								30/149mm N>50		SPT
23				S			HW					30/100mm N>50		SPT
24				T								30/140mm N>50		SPT
25	-16.19		(31)	U	**HW:** Speckled brown, grey and white, medium to coarse grained, massive, generally low strength. Defects: - Joints @ 5-10° (5/m) Defects are generally planar, rough and tight to closed.							30/30mm N>50		SPT
												Andesite fragments present		
												Is(50) = 0.80MPa; *		o
26			100 (23)									Is(50) = 0.02MPa; *		o
							HW					Is(50) = 0.66MPa		x
27												Is(50) = 0.02MPa; *		o
												Is(50) = 0.03MPa; *		o
28	-19.19		100 (47)		**MW:** Speckled brown, grey and white, medium to coarse grained, generally low strength. Defects: - Joints @ 5-20° (7/m) Defects are generally planar, rough and open with some clay infill.							Is(50) = 0.84MPa		o
												Is(50) = 0.14MPa; *		o
29							MW					Is(50) = 0.04MPa; *		x
												Is(50) = 0.03MPa; *		o
			100 (85)									Is(50) = 0.04MPa; *		o
30	-21.16													

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BOREHOLE No BH116
SHEET 4 of 4
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30	-21.16				**GRANODIORITE** **MW:** (Cont'd) Defects: - Joints @ 5-20° (7/m) Defects are generally planar, rough and open with some clay infill.							Is(50) = 0.05MPa; *		x
												Is(50) = 0.08MPa; *		x
31			100 (36)					MW				Is(50) = 0.01MPa; *		o
												Is(50) = 0.11MPa; *		o
												Is(50) = 0.26MPa; *		x
32												Is(50) = 0.06MPa; *		x
	-23.60		100									Is(50) = 0.13MPa; *		o
			(23)		**HW:** Speckled white, grey and dark grey, medium to coarse grained, massive, low strength. Some sections bordering on MW. Defects: - Joints @ 5-30° (7/m) Defects are generally planar, rough and tight to open.							Is(50) = 0.09MPa; *		L
33											HFZ			
												Is(50) = 0.03MPa; *		x
34								HW				Is(50) = 0.02MPa; *		o
			100									Is(50) = 0.02MPa; *		x
			(41)									Is(50) = 0.02MPa; *		x
35												Is(50) = 0.01MPa; *		o
	-26.66		100											
					Borehole terminated at 35.5m									
36														
37														
38														
39														
40														

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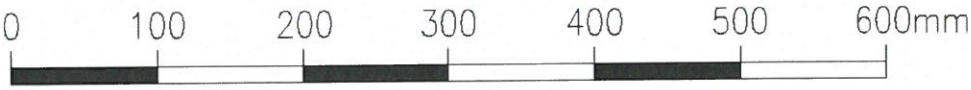
OLD_DMR_LIB_01A.GLB Log A_ENGINEERING BOREHOLE LOG W LITHOLOGY COWLEYS FG5635- WALKERSTON BYPASS.GPJ <<DrawingFile>> Datgel CPT Tool gINt Add-In 12/12/2011 15:30

Project: **Walkerston Bypass Geotechnical Investigation**
Borehole No: BH116 (Cowleys Road Bridge Ch. 84487.1 22m left)
Start Depth: 25.03 m
Finish Depth: 35.50 m
Project No: FG5635
H No: 11193



SCALE 1:5

F:GEOT043/1