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# ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH118  
 SHEET 1 of 4  
 REFERENCE No H11198

PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE  
 LOCATION ABUTMENT A - (Ch. 84486.6 on control line) COORDINATES 721480.3 E; 7654825.2 N  
 PROJECT No FG5635 SURFACE R.L. 8.81m PLUNGE \_\_\_\_\_ DATE STARTED 16/9/11 GRID DATUM MGA 94  
 JOB No 242/33B/6 HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 17/9/11 DRILLER Cairns Drilling Pty Ltd

DEPTH (m)	R.L. (m)	MUDLOG 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
									CU	CI	CS	CU	CI	CS	CU	CI			
0	8.81					<b>Silty CLAY (ALLUVIAL)</b> Brown, moist, soft. High plasticity; some roots.		(CH)									Based on Driller's logs only		
1	7.51				A	<b>Sandy Silty CLAY (ALLUVIAL)</b> Brown, minor orange, moist, stiff. High plasticity; fine grained sand fraction.		(CH)									4.5,6 N=11	SPT	
2	6.21				B	<b>Silty CLAY (ALLUVIAL)</b> Brown grey, minor orange, moist, stiff to very stiff. High plasticity.		(CH)									4.5,7 N=12	SPT	
3	4.11				C	<b>Sandy Clayey SILT (ALLUVIAL)</b> Orange grey, moist, very stiff.		(MH)									4.7,11 N=18	SPT	
4	3.41					<b>Clayey SAND (ALLUVIAL)</b> Pale grey, moist, medium dense. Fine grained sand.		(SC)											
5	2.41				D	<b>SAND (ALLUVIAL)</b> Pale grey, wet, medium dense. Fine to medium grained; minor silt.		(SP)									7.7,4 N=11	SPT	
6					E												6.7,7 N=14	SPT	
7					F												9.7,7 N=14	SPT	
8																			
9																			
10																			

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

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# ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH118  
 SHEET 2 of 4  
 REFERENCE No H11198

PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE  
 LOCATION ABUTMENT A - (Ch. 84486.6 on control line) COORDINATES 721480.3 E; 7654825.2 N  
 PROJECT No FG5635 SURFACE R.L. 8.81m PLUNGE \_\_\_\_\_ DATE STARTED 16/9/11 GRID DATUM MGA 94  
 JOB No 242/33B/6 HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 17/9/11 DRILLER Cairns Drilling Pty Ltd

DEPTH (m)	R.L. (m)	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING	INTACT STRENGTH					DEFECT SPACING (mm)					GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS	
									Et	Th	W	M	J	R0	800	R400	R200	2000				
10	-1.19				<b>SAND</b> Pale grey and orange, wet, medium dense.																	
				G	Medium to coarse grained; minor silt and gravel.															12,12,9 N=21	SPT	
11								(SP)														
12				H																7,8,11 N=19	SPT	
13																						
14	-4.99			J	<b>Clayey SAND (ALLUVIAL)</b> Pale grey, moist, very dense.															12,10,13 N=23	SPT	
15					Fine to medium grained; some fine quartz gravel.			(SC)														
16	-6.99			K																15,22,29 N>50	SPT	
17				L	<b>Silty CLAY (RESIDUAL)</b> Grey, minor orange mottling, moist, hard.																	
18					High plasticity; occasional Mn nodules.			(CH)														
19				M																8,16,19 N=35	SPT	
20				N																9,13,18 N=31	SPT	
				O																8,13,19 N=32	SPT	

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

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# ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH118  
 SHEET 3 of 4  
 REFERENCE No H11198

PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE  
 LOCATION ABUTMENT A - (Ch. 84486.6 on control line) COORDINATES 721480.3 E; 7654825.2 N  
 PROJECT No FG5635 SURFACE R.L. 8.81m PLUNGE \_\_\_\_\_ DATE STARTED 16/9/11 GRID DATUM MGA 94  
 JOB No 242/33B/6 HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 17/9/11 DRILLER Cairns Drilling Pty Ltd

DEPTH (m)	R.L. (m)	ALGER 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
									0-40	40-100	100-200	200-600	600-2000	0-40			
20	-11.19				P	<b>Silty CLAY (RESIDUAL)</b> (Cont'd)		(CH)							9, 13, 18 N=31	SPT	
21	-11.59				Q	<b>GRANODIORITE</b> Intrusive, medium to coarse grained, massive, crystalline, porphyritic, acidic, igneous rock. <b>XW:</b> Generally displays engineering properties of brown grey, moist, hard, sandy silty clay.									20, 15, 21 N=36	SPT	
22					R										13, 26, 30/120mm N>50	SPT	
23					S			XW							16, 30/90mm N>50	SPT	
24					T										23, 30/130mm N>50	SPT	
25	-16.39				U										30/110mm N>50	SPT	
26	-17.56			(17)		<b>HW:</b> Speckled brown and pale grey, medium to coarse grained, massive, very low strength.		HW							Is(50) = 0.02MPa; * Is(50) = 0.03MPa; *	L	
27				100 (34)		<b>MW:</b> Speckled grey, brown and pink, medium to coarse grained, massive, generally medium strength.  Defects: - Joints @ 40-50° (4/m) - Joints @ 5-10° (2/m)  Defects are generally planar, rough and open.		MW						SM band @ 60°, white & green	Is(50) = 0.22MPa; * Is(50) = 1.63MPa Is(50) = 1.02MPa Is(50) = 0.24MPa; *	x o x o	
28				100 (19)										Cly seam, 30mm	Is(50) = 0.16MPa; * Is(50) = 0.13MPa; * Is(50) = 0.14MPa; *	x o L	
29	-20.35														Is(50) = 0.09MPa; * Is(50) = 0.43MPa	o o	
30	-21.19					<b>HW:</b> Speckled brown and pale grey, medium to coarse grained, massive, very low strength.		HW							Is(50) = 0.01MPa; *	x	

QLD\_DMR\_LIB\_01A\_GLB\_Log\_A\_ENGINEERING\_BOREHOLE\_LOG\_W/LITHOLOGY\_COWLEYS\_BYPASS\_GP1\_<DrawingFile>>\_Dategel CPT Tool dInk AddIn 12/12/2011 15:31

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

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# ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH118  
 SHEET 4 of 4  
 REFERENCE No H11198

PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE  
 LOCATION ABUTMENT A - (Ch. 84486.6 on control line) COORDINATES 721480.3 E; 7654825.2 N  
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 JOB No 242/33B/6 HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 17/9/11 DRILLER Cairns Drilling Pty Ltd

DEPTH (m)	R.L. (m)	AUGER Casing CORING 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	WH	N	J	U				
30	-21.19					<b>GRANODIORITE HW: (Cont'd)</b>		HW							Is(50) = 0.01MPa; *	0	
	-21.65		100			Borehole terminated at 30.46m											
31																	
32																	
33																	
34																	
35																	
36																	
37																	
38																	
39																	
40																	

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

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Project: **Walkerston Bypass Geotechnical Investigation**  
Borehole No: BH118 (Cowleys Road Bridge Ch. 84486.6 on control line)  
Start Depth: 23.20 m  
Finish Depth: 30.46 m  
Project No: FG5635  
H No: 11198



SCALE 1:5

F:GEOT043/1