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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH117
 SHEET 2 of 4
 REFERENCE No H1197

PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE
 LOCATION ABUTMENT A - (Ch. 84486.6 10.m LHS) COORDINATES 721481.7 E; 7654834.4 N
 PROJECT No FG5635 SURFACE R.L. 8.82m PLUNGE DATE STARTED 13/9/11 GRID DATUM MGA 94
 JOB No 242/33B/6 HEIGHT DATUM AHD BEARING DATE COMPLETED 16/9/11 DRILLER Cairns Drilling Pty Ltd

DEPTH (m)	R.L. (m)	ALGER 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	W	J	VL				
10	-1.18					SAND (ALLUVIAL) (Cont'd) Pale brown, wet, medium dense.												
					G	Fine to coarse grained; minor silt.											9,12,15 N=27	SPT
					H		(SP)										12,17,20 N=37	SPT
					J												11,11,14 N=25	SPT
	-5.68				K	Clayey SAND (ALLUVIAL) Pale brown, moist, dense.	(SC)										9,14,19 N=33	SPT
	-6.18				L	Medium to fine grained. Silty CLAY (RESIDUAL) Mottled orange and grey, moist, hard.											10,17,21 N=38	SPT
					M	Medium plasticity; minor fine grained sand.	(CH)										9,16,18 N=34	SPT
					N												10,15,25 N=40	SPT
					O	Silty CLAY (RESIDUAL) Grey and orange speckled white, wet, hard.											14,27,30/110mm N>50	SPT
					P	High plasticity; minor fine to medium grained sand.	(CH)										13,21,30 N>50	SPT
20	-11.18																	

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 BH117
 SHEET 3 of 4
 REFERENCE No H11197

PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE
 LOCATION ABUTMENT A - (Ch. 84486.6 10.m LHS) COORDINATES 721481.7 E; 7654834.4 N
 PROJECT No FG5635 SURFACE R.L. 8.82m PLUNGE DATE STARTED 13/9/11 GRID DATUM MGA 94
 JOB No 242/33B/6 HEIGHT DATUM AHD BEARING DATE COMPLETED 16/9/11 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			DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
									0-20	20-60	60-2000				
20	-11.18					Silty CLAY (RESIDUAL) (Cont'd)		(CH)							
21	-11.58				Q	GRANODIORITE Intrusive, medium to coarse grained, massive, crystalline, acidic, igneous rock. HW: Speckled pale grey, brown and orange, medium to coarse grained, massive, very strength.							10,20,24 N=44	SPT	
22					R								14,30/130mm N>50	SPT	
23					S		HW						23,30/130mm N>50	SPT	
24					T								13,30/120mm N>50	SPT	
24	-15.53		(0)	100		XW: Generally exhibits engineering properties of brown and grey, moist, hard sandy clay.		XW					Is(50) = 0.08MPa; * Is(50) = 0.01MPa; *	o x	
25	-16.56		(51)	100		MW: Grey, speckled pink and greenish grey, medium grained, massive, generally low to medium strength. Defects: - Joints @ 5-10° (3/m) - Joints @ 40-50° (2/m)		MW					Is(50) = 0.11MPa; * Is(50) = 0.09MPa; * Is(50) = 0.30MPa; * Is(50) = 0.40MPa Is(50) = 0.24MPa; *	L x o x o	
26			(10)	100		Defects are generally planar, rough and open.		MW					Is(50) = 0.13MPa; * Is(50) = 0.04MPa; *	L L	
27	-18.76		(40)	100		MICRODIORITE Intrusive, fine grained, massive, crystalline, porphyritic, acidic igneous rock. MW: Greenish grey, minor pink, fine grained, low to medium strength. Slightly altered; numerous defects.		MW					Is(50) = 0.09MPa; *	L	
28	-19.88		(72)	100		Defects: - Joints @ 10-45° (15/m) Defects are generally wavy, smooth and tight.		MW					Some alteration & FeSt Is(50) = 0.40MPa Is(50) = 0.19MPa; *	x o	
29						GRANODIORITE MW: Speckled grey and dark grey, medium to coarse grained, generally		MW					Is(50) = 0.05MPa; * Is(50) = 0.09MPa; *	x x	
30	-21.18														

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 BH117
 SHEET 4 of 4
 REFERENCE No H1197

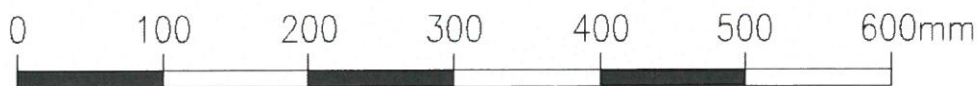
PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE
 LOCATION ABUTMENT A - (Ch. 84486.6 10.m LHS) COORDINATES 721481.7 E; 7654834.4 N
 PROJECT No FG5635 SURFACE R.L. 8.82m PLUNGE DATE STARTED 13/9/11 GRID DATUM MGA 94
 JOB No 242/33B/6 HEIGHT DATUM AHD BEARING DATE COMPLETED 16/9/11 DRILLER Cairns Drilling Pty Ltd

DEPTH (m)	R.L. (m)	CLOGGING 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	N	UL				
30	-21.18					medium strength. GRANODIORITE MW: (Cont'd) Defects: - Joints @ 10-50° (5/m)		MW							Is(50) = 0.04MPa; *	o	
31				100 (22)		Defects are generally planar, rough and tight to open.									Is(50) = 0.62MPa	x	
	-22.55			100		Borehole terminated at 31.37m									Is(50) = 0.23MPa; *	o	
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: BH117 (Cowleys Road Bridge Ch. 84486.6 10.0m left)
Start Depth: 23.80 m
Finish Depth: 31.37 m
Project No: FG5635
H No: 11197



SCALE 1:5

F:GEOT043/1