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ENGINEERING BOREHOLE LOG

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

BOREHOLE No	<u>BH121</u>
SHEET	<u>1</u> of <u>4</u>
REFERENCE No	<u>H10884</u>

PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE
 LOCATION PIER 1 - (Ch. 84514.6 22.0m LHS) COORDINATES 721511.3 E; 7654843.2 N
 PROJECT No FG5635 SURFACE R.L. 9.29m PLUNGE _____ DATE STARTED 31/10/10 GRID DATUM MGA 94
 JOB No 242/33B/6 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 31/10/10 DRILLER Drillsure Pty Ltd

DEPTH (m)	R.L. (m)	CUTTER 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	
									SH	VH	M	J	U	EL					20
0	9.29					Sandy SILT (ALLUVIAL) Brown, moist, firm to stiff. High plasticity; occasional large cobbles <250mm.													
1					A		(MH)										2.5,3 N=8	SPT	
2	7.29					Silty CLAY (ALLUVIAL) Pale brown, moist, stiff. High plasticity; minor sand and gravel fraction.										Water table	3.5,7 N=12	SPT	
3					B		(CH)												
4	5.39					Silty SAND / Sandy SILT (ALLUVIAL) Pale orange and brown, moist, medium dense to very stiff.												4.8,11 N=19	SPT
5					C		(SM/MH)												
6					D												5.7,10 N=17	SPT	
7	2.89					SAND (ALLUVIAL) Pale grey, wet, loose to medium dense, mostly fine to medium grained. Some coarse sand to fine gravel bands with minor silt fraction.												6.8,8 N=16	SPT
8					E		(SP)												
9					F	Becoming gravelly and coarse sand with depth.												7.9,11 N=20	SPT
10																Increased gravel; minor water loss			

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

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BOREHOLE No	<u>BH121</u>
SHEET	<u>2</u> of <u>4</u>
REFERENCE No	<u>H10884</u>

PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE
 LOCATION PIER 1 - (Ch. 84514.6 22.0m LHS) COORDINATES 721511.3 E; 7654843.2 N
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 JOB No 242/33B/6 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 31/10/10 DRILLER Drillsure Pty Ltd

DEPTH (m)	R.L. (m)	KUCER 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
10	-0.71				G	SAND (ALLUVIAL) (Cont'd)							8,8,8 N=16	SPT
11	-2.01				H	Silty Gravelly SAND (ALLUVIAL) Pale grey, moist, dense, medium to coarse grained.	(SP)						13,20,20 N=40	SPT
12					J	Clayey Silty SAND (ALLUVIAL) Pale grey, moist, medium dense, medium to coarse grained sand.	(SM)						12,16,19 N=35	SPT
13	-4.31				K	Silty CLAY (RESIDUAL) Mottled pale grey, orange and black, moist, very stiff to mainly hard.	(SC)						8,11,13 N=24	SPT
14	-6.01				L	High plasticity; Fe/Mn oxide nodules; some minor sandy layers.							11,16,22 N=38	SPT
15					M	Becoming slightly gravelly with coarse sand.	(CH)						10,18,22 N=40	SPT
16					N								8,12,16 N=28	SPT
17														
18														
19														
20														

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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BH121
 SHEET 3 of 4
 REFERENCE No H10884

PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE
 LOCATION PIER 1 - (Ch. 84514.6 22.0m LHS) COORDINATES 721511.3 E; 7654843.2 N
 PROJECT No FG5635 SURFACE R.L. 9.29m PLUNGE _____ DATE STARTED 31/10/10 GRID DATUM MGA 94
 JOB No 242/33B/6 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 31/10/10 DRILLER Drillsure Pty Ltd

DEPTH (m)	R.L. (m)	RQD (%)	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
20	-10.71		Silty CLAY (RESIDUAL) (Cont'd)							
21					(CH)				10,19,30 N=49	SPT
22	-12.21		GRANODIORITE Intrusive, medium to coarse grained, massive, crystalline, porphyritic, acidic, igneous rock HW: Generally exhibits the engineering properties of pale grey, orange and black, moist, hard, silty clay.						30/50mm N>50	SPT
23										
24									17,30/100mm N>50	SPT
25									30/100mm N>50	SPT
26					HW					
27									30/80mm N>50	SPT
28									30/100mm N>50	SPT
29			<p>Becoming extremely low to very low strength rock with depth.</p>							
30									30/90mm N>50 Is(50) = 0.01MPa; *	SPT x

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

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ENGINEERING BOREHOLE LOG

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BOREHOLE No	<u>BH121</u>
SHEET	<u>4</u> of <u>4</u>
REFERENCE No	<u>H10884</u>

PROJECT WALKERSTON BYPASS PROJECT GEOTECHNICAL INVESTIGATION - COWLEYS ROAD OVERPASS BRIDGE
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DEPTH (m)	R.L. (m)	AUGER CASING WASH BORING CORE DRILLING	RQD (%)	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
30	-20.71				GRANODIORITE HW: (Cont'd)		HW					
	-21.11		100 (32)		MW: Grey brown to pink and speckled light grey, generally low to medium strength. Defects: - Joints @ 10-30° (7/m) Defects are generally planar, rough and open.		MW				Is(50) = 0.21MPa; * Is(50) = 0.32MPa; * Is(50) = 0.20MPa; *	x o x
	-23.66		100 (35)								Is(50) = 0.04MPa; * Is(50) = 0.06MPa; *	x o
33					Borehole terminated at 32.95m							
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: BH121 (Cowleys Rd Bridge Ch. 84514.6 22.0m left)
Start Depth: 29.60m
Finish Depth: 32.95 m
Project No: FG5635
H No: 10890



SCALE 1:5

F:GEOT043/1