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ENGINEERING BOREHOLE LOG

FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/3-2005

BOREHOLE No	BHP90
SHEET	_ <u>1</u> _ of2_
REFERENCE No	H9917

PROJECT	HOUGHTON HIG	<u> GHWAY BRIDGE DUPLICATION - HOUGHT</u>	<u>TON</u> <u>F</u>	<u>IIGH</u>	WAY UPGF	RADE PR	ONE	CT		
LOCATION										
PROJECT No							UM <u>PROJECT DA</u>	ATUM		
JOB No	165/122/35	HEIGHT DATUM <u>AHD</u> BEARING			DATE COM	IPLETED _	<u>07/06</u>	8/0 <u>6</u> DRILL	ER <u>ÇAIRNS DR</u> IL	<u>LING</u>
(m) HL GG O1.01	CASSING CORE DRILLING CORE DRILLING % () 33 SAMPLE SAMPLE	MATERIAL DESCRIPTION	ГІТНОГОСУ	USC WEATHERING	INTACT STRENGTH ボチェミンドロ	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITION AN TEST RI	1D	SAMPLES TESTS
-1	A	ESTUARINE SAND Dark grey, wet, very loose. Fine grained sand; minor organic content.		(SM)	· _	- - - - - - - -		pH _F = 7.42 pH _{FOX} = 5.95	HW,1 N=1	SPT
-2.31	В	RESIDUAL SANDY CLAY White, moist, soft to mainly firm. Medium plastic white kaolinitic clay; minor sand fraction; some relic rock structures.				- - - - - - - - - - - - - - - - - - -		pH _F = 6.68 pH _{FOX} = 6.05	HW,2,4 N=6	SPT
-3	С			(CI)	-			pH _F = 4.34 pH _{FOX} = 3.49	3,3,5 N=8 ASS Sample stored at Herston Geotechnical Laboratory	SPT
MRD LIB V1.2.GL3 25/10/06	D	SANDSTONE MEDIUM TO COARSE GRAINED MASSIVE TO SLIGHTLY LAMINATED POORLY CEMENTED SEDIMENTARY ROCK XW: Generally exhibits engineering properties of white, moist, very stiff clayey silt. Relic rock structures throughout.		xw					4,8,10 N=18	SPT
77.01 HIGHWAY BRIDGE CAS	E	HW: Orange brown to pale orange brown, moist, very stiff sandy clay gradually grading into very low to low strength rock with depth.		HW		-			6,14,17 N=31	SPT
79.01 8 -9.01	F						· — -		23,30/110 N>50	SPT
ENGINEERING BOREHOLE LOG W LITHOLOGY FG5423 HIGHWAY BRIDGE GPJ	(98)	HW: Pale orange brown to pale brown, medium to coarse grained, massive to slightly laminated, very low to low strength. Occasional siltstone rip-up clasts sizing up to 30mm. Defects: Generally rare Subhorizontal lamination partings <10° (1/2m) - Joints @ 50° (1/2m)		HW					Ts(50)=0.05 MPa ls(50)=0.04 MPa ls(50)=0.05 MPa	0 -
REMARKS		- Joints @ 80° (1/2m)						-	LOGGED BY BW / ADISS	



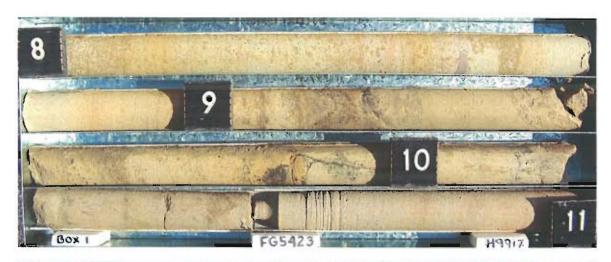
ENGINEERING BOREHOLE LOG

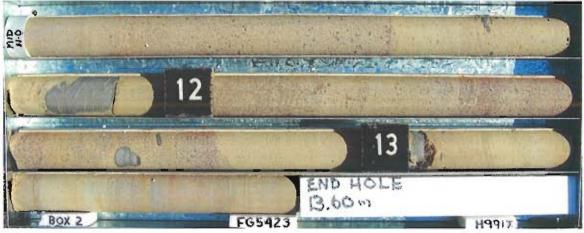
FOR GEOTECHNICAL TERMS AND SYMBOLS REFER FORM F:GEOT 017/3-2005

PROJECT												
PROJECT No	FG5423 SURFACE R.L1.01 PLUNGE DATE STARTED 07/00											
JOB No					<u>8/06</u> DF	RILLER <u>CAIRNS DRI</u>	LING_					
(E) HLL (M) HL	CASING WASH BORING CORE DRILLING	RQD ()% CORE REC%	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	JSC	INTACT STRENGTH ボデェミッドは	DEFECT SPACING (mm)	GRAPHIC LOG		TIONAL DATA AND T RESULTS	SAMPLES
		100 (100)		MW: Pale orange brown to pale red brown, massive, low to medium strength rock. Defects: Generally rare.							ls(50)=0.12 MPa ls(50)=0.12 MPa	x -
				- Occasional drilling induced lamination partings <10° (1/2m) (As above.)							ls(50)=0.22 MPa ls(50)=0.24 MPa	X -
12						MW					Is(50)=0.28 MPa Is(50)=0.24 MPa Is(50)=0.27 MPa Is(50)=0.31 MPa	X -
- - - - - - 13											Is(50)=0.66 MPa Is(50)=0.68 MPa Is(50)=0.37 MPa Is(50)=0.51 MPa Is(50)=0.07 MPa Is(50)=0.43 MPa Is(50)=0.19 MPa	X - X - X - X - X - X - X - X - X - X -
-14.61		100		Borehole terminated at 13.6m	:::			-		-	Is(50)=0,25 MPa	<u> </u>
14 15 15 16 17 17 18 19 19 19 19 19 19 19 19 19 19 19 19 19												
REMARKS	 s							<u> </u>			LOGGED BY	
						BW / ADISS						

Project: Houghton Highway Bridge Duplication

Borehole No: BHP90
Start Depth: 8.00m
Finish Depth: 13.60m
Project No: FG5423
H No: 9917







ROAD SYSTEM & ENGINEERING GEOTECHNICAL BRANCH 35 Butterfield St Herston Q 4006

Point Load Strength Index - Test Report

Project: Houghton Highway Bridgesite Investigation

Project No: FG5423

Date Sampled 07/06/06

Feature: N/A

Sample Type: NMLC Core

Report No. FG5423/GS06-490/AS4133.4.1

Date Tested 15/06/06

Sample Samp Number Locat		Test T D,A,B		ls50 (MPa)	Streng Descri	
GS06/490.A BHP GS06/490.B BHP GS06/490.F BHP GS06/490.G BHP GS06/490.H BHP GS06/490.J BHP GS06/490.K BHP GS06/490.L BHP GS06/490.N BHP	90 8.08 90 8.87 90 10.31 90 10.37 90 11.06 90 11.70 90 11.74	D A A D A D A D A	0.05 0.04 0.05 0.13 0.13 0.22 0.24 0.28 0.23	0.05 0.04 0.05 0.12 0.12 0.22 0.24 0.28 0.24	VL VL L L L L	Sandstone

Sample Remarks

' D - Diametral; A - Axial; B - Block; I - Irregular;

** EL - Extremely Low; VL - Very Low; L - Low; M - Medium; H - High; VH - Very High; EH - Extremely High (laken from AS1726 Table 8A)

Remarks / Variations to Test Procedures:

Test Method: AS4133.4.1 Software Version 2.03 April 2005

Client Name: Department of Main Roads

Client Address: PO Box 70, Spring Hill QLD 4004

Signatory

(MR P. REYNOLDS)

Accreditation Number: 2302
Accredited for compliance
with ISO/IEC 17025
This document is issued in

accordance with MATA's

on attached cover page.



ROAD SYSTEM & ENGINEERING GEOTECHNICAL BRANCH 35 Butterfield St Herston Q 4006

Point Load Strength Index - Test Report

Project: Houghton Highway Bridgesite Investigation

Project No: FG5423

Date Sampled 07/06/06

Feature: N/A

Sample Type: NMLC Core

Report No. FG5423/GS06-490/AS4133.4.1

Date Tested 15/06/06

Sample Number	Sample Location	Depth (m)	Test Type D,A,B,I*	ls (MPa)	ls50 (MPa)	Strength Descripto	Lithology r**
GS06/490.P	BHP 90	11.96	Α	0.31	0.31	M	Sandstone
GS06/490.Q	BHP 90	12.55	D	0.67	0.66	M	Sandstone
GS06/490.R	BHP 90	12.58	Α	0.70	0.68	M	Sandstone
GS06/490.S	BHP 90	12.96	D	0.38	0.37	M	Sandstone
GS06/490.T	BHP 90	12.98	Α	0.56	0.51	M	Sandstone
GS06/490.U	BHP 90	13.23	D	80.0	0.07	VL	Sandstone
GS06/490.V	BHP 90	13.25	Α	0.49	0.43	M	Sandstone
GS06/490.W	BHP 90	13.50	D	0.20	0.19	L	Sandstone
GS06/490X	BHP 90	13.52	Α	0.27	0.25	L	Sandstone

Sample Remarks

* D - Diametral; A - Axial; B - Block; I - Irregular;

** EL - Extremely Low; VL - Very Low; L - Low; M - Medium; H - High; VH - Very High; EH - Extremely High (taken from AS1726 Table 8A)

Remarks / Variations to Test Procedures:

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Test Method: AS4133.4.1

Software Version 2.03 April 2005

Client Name: Department of Main Roads

Client Address: PO Box 70, Spring Hill QLD 4004

Signatory

(MR P. REYNOLDS)

Accreditation Number: 2392
Accredited for compliance
with ISO/IEC 17025

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