Queensland Government
Department of Main Roads

ENGINEERING BOREHOLE LOG

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

BOREHOLE No BHP88
SHEET 1 of 2
REFERENCE No H9916

PROJECT HOUGHTON HIGHWAY BRIDGE DUPLICATION - HOUGHTON HIGHWAY UPGRADE PROJECT
LOCATION 24m RIGHT FROM EASTN PILE OF PIER 88 OF EXIST BRIDGE COORDINATES 39909.2 E; 54112.4 N
PROJECT No FG5423 SURFACE R.L. -1.20 PLUNGE DATE STARTED 06/06/06 GRID DATUM PROJECT DATUM
JOB No 165/122/35 HEIGHT DATUM AHD BEARING DATE COMPLETED 06/06/06 DRILLER CAIRNS DRILLING

DEPTH (m)	R.L. (m)	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	-1.20			A	**ESTUARINE SAND** Dark grey, wet, very loose. Fine grained sand; minor organic content.		(SM)					pH_F = 7.63 pH_{FOX} = 6.45 HW,1,2 N=3 ASS Sample stored at Herston Geotechnical Laboratory	SPT
1	-2.50			B	**RESIDUAL SANDY CLAY** Pale orange grey to mottled dark red, moist, mainly soft to firm.		(CI)					pH_F = 7.95 pH_{FOX} = 6.79 4,1,3 N=4	SPT
2	-3.70			C	**RESIDUAL SILTY SAND** Pale orange to white, moist, medium dense. Some relic rock structures.		(SM)					pH_F = 4.58 pH_{FOX} = 3.34 3,4,7 N=11 ASS Sample stored at Herston Geotechnical Laboratory	SPT
3	-5.20			D	**SANDSTONE** **MEDIUM TO COARSE GRAINED** **MASSIVE TO SLIGHTLY LAMINATED** **POORLY CEMENTED SEDIMENTARY ROCK** **XW**: Generally exhibits engineering properties of pale orange to pale brown, moist, medium dense silty sand.		XW					4,8,14 N=22	SPT
4	-6.70			E	**HW**: Pale orange becoming white with depth, mainly moist to dry, dense to very dense silty sand gradually grading into very low to low strength rock with depth.		HW					7,15,19 N=34	SPT
5				F								14,30/110 N>50	SPT
6				G								30/100 N>50	SPT
7	-10.30		(84)		**MW**: Pale orange brown to pale brown, medium to coarse grained, massive to slightly laminated, mainly low strength with both very low strength and high strength bands.		MW					Is(50)=0.12 MPa Is(50)=0.10 MPa Is(50)=0.12 MPa Is(50)=0.11 MPa	x o x o
8	-11.20												
9													
10													

REMARKS

LOGGED BY
BW / ADISS

A_ENGINEERING BOREHOLE LOG W LITHOLOGY FG5423 HIGHWAY BRIDGE.GPJ MRD_LIB_V1.2.GLB 25/10/06

Queensland Government
Department of Main Roads

ENGINEERING BOREHOLE LOG

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

BOREHOLE No BHP88
SHEET 2 of 2
REFERENCE No H9916

PROJECT HOUGHTON HIGHWAY BRIDGE DUPLICATION - HOUGHTON HIGHWAY UPGRADE PROJECT
LOCATION 24m RIGHT FROM EASTN PILE OF PIER 88 OF EXIST BRIDGE COORDINATES 39909.2 E; 54112.4 N
PROJECT No FG5423 SURFACE R.L. -1.20 PLUNGE DATE STARTED 06/06/06 GRID DATUM PROJECT DATUM
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DEPTH (m)	R.L. (m)	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
10	-11.20				**MW**: (As above.) Occasional siltstone rip-up clasts sizing up to 35mm. Defects: - Subhorizontal stress relieved lamination / bedding partings <10° (1/2m). - Occasional highly weathered seams <20mm around bedding / lamination partings. - Joints @ 80° (1/3m).		MW					Is(50)=0.11 MPa Is(50)=0.13 MPa Is(50)=0.20 MPa Is(50)=0.19 MPa Is(50)=0.21 MPa Is(50)=0.19 MPa Is(50)=0.09 MPa Is(50)=0.18 MPa Is(50)=0.36 MPa	x o o x x o o x o	
11														
12	-13.30		100		Borehole terminated at 12.1m									
13														
14														
15														
16														
17														
18														
19														
20														

A_ENGINEERING BOREHOLE LOG W LITHOLOGY FG5423 HIGHWAY BRIDGE.GPJ MRD_LIB_V1.2.GLB 25/10/06

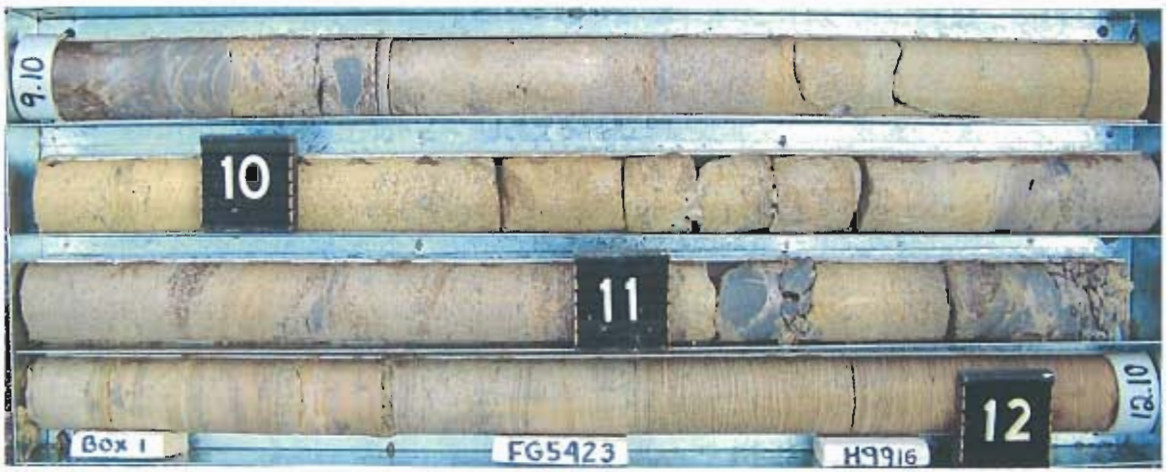
REMARKS

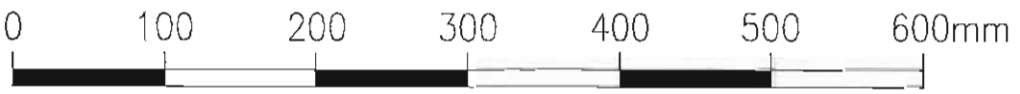
LOGGED BY
BW / ADISS

Project: **Houghton Highway Bridge Duplication**

Borehole No: **BHP88**

Start Depth: 9.10m
Finish Depth: 12.1m
Project No: FG5423
H No: 9916





SCALE 1:5

Queensland Government
Department of Main Roads

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

Point Load Strength Index - Test Report

Project: Houghton Highway Bridge Investigation
Project No: FG5423

Date Sampled 06/06/06 **Date Tested 13/06/06**
Feature: N/A
Sample Type: NMLC Core

Report No. FG5423/GS06-484/AS4133.4.1

Sample Number	Sample Location	Depth (m)	Test Type D,A,B,I*	Is (MPa)	Is50 (MPa)	Strength Descriptor**	Lithology
GS06/484.A	BHP 88	9.17	D	0.12	0.12	L	Sandstone
GS06/484.B	BHP 88	9.20	A	0.10	0.10	VL	Sandstone
GS06/484.C	BHP 88	9.46	D	0.12	0.12	L	Sandstone
GS06/484.D	BHP 88	9.48	A	0.11	0.11	L	Sandstone
GS06/484.E	BHP 88	10.21	D	0.11	0.11	L	Sandstone
GS06/484.F	BHP 88	10.23	A	0.13	0.13	L	Sandstone
GS06/484.G	BHP 88	10.64	A	0.19	0.20	L	Sandstone
GS06/484.H	BHP 88	10.67	D	0.19	0.19	L	Sandstone
GS06/484.J	BHP 88	11.18	D	0.21	0.21	L	Sandstone
GS06/484.K	BHP 88	11.20	A	0.18	0.19	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 19/6/06
(P.REYNOLDS)

Accreditation Number: 2302
Accredited for compliance with ISO/IEC 17025

This document is issued in accordance with NATA's accreditation requirements.

Queensland Government
Department of Main Roads

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

Point Load Strength Index - Test Report

Project: Houghton Highway Bridge Investigation
Project No: FG5423

Date Sampled 06/06/06 **Date Tested** 13/06/06
Feature: N/A
Sample Type: NMLC Core

Report No. FG5423/GS06-484/AS4133.4.1

Sample Number	Sample Location	Depth (m)	Test Type D,A,B,I*	Is (MPa)	Is50 (MPa)	Strength Descriptor**	Lithology
GS06/484.L	BHP 88	11.50	A	0.10	0.09	VL	Sandstone
GS06/484.M	BHP 88	11.85	D	0.18	0.18	L	Sandstone
GS06/484.N	BHP 88	11.88	A	0.36	0.36	M	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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