Queensland Government
Department of Main Roads

ENGINEERING BOREHOLE LOG

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

BOREHOLE No BHP83
SHEET 1 of 2
REFERENCE No H9915

PROJECT HOUGHTON HIGHWAY BRIDGE DUPLICATION - HOUGHTON HIGHWAY UPGRADE PROJECT
LOCATION 24m RIGHT FROM EASTN PILE OF PIER 83 OF EXIST BRIDGE COORDINATES 39850.1 E; 53988.6 N
PROJECT No FG5423 SURFACE R.L. -1.21 PLUNGE DATE STARTED 05/06/06 GRID DATUM PROJECT DATUM
JOB No 165/122/35 HEIGHT DATUM AHD BEARING DATE COMPLETED 05/06/06 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	-1.21			A	**ESTUARINE SAND** Dark grey, wet, mainly very loose. Fine grained sand with partly decomposed shell fragments throughout; slightly organic throughout.							pH_F = 7.48 pH_{FOX} = 6.31	HW,1,1 N=2 ASS Sample stored at Herston Geotechnical Laboratory	SPT
1				B								pH_F = 7.49 pH_{FOX} = 6.67	1,-,1 N=1	SPT
2														
3				C	High amount of shell at 3m.		(SM)					pH_F = 8.02 pH_{FOX} = 6.35	RW,HW N<1 ASS Sample stored at Herston Geotechnical Laboratory	SPT
4														
5				D								pH_F = 7.95 pH_{FOX} = 5.57	RW N<1	SPT
6				E								pH_F = 7.46 pH_{FOX} = 5.78	RW N<1 ASS Sample stored at Herston Geotechnical Laboratory	SPT
7	-8.21				**ESTUARINE SILTY SAND/CLAYEY SAND** Dark grey, wet, very loose to loose.									
8				F	Fine grained sand becoming silty clay with depth.		(SC-SM)					pH_F = 7.89 pH_{FOX} = 4.75	RW N<1 ASS Sample stored at Herston Geotechnical Laboratory	SPT
9	-9.71				**ESTUARINE GRAVELLY CLAY** Dark grey, wet, very soft to soft.									
10	-11.21			G	Consisting of shell fragments and iron concretions / oolites.		(OH)					pH_F = 7.79 pH_{FOX} = 6.02	1,2,2 N=4 ASS Sample stored at Herston Geotechnical Laboratory	SPT

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

REMARKS

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ENGINEERING BOREHOLE LOG

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BOREHOLE No BHP83
SHEET 2 of 2
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PROJECT HOUGHTON HIGHWAY BRIDGE DUPLICATION - HOUGHTON HIGHWAY UPGRADE PROJECT
LOCATION 24m RIGHT FROM EASTN PILE OF PIER 83 OF EXIST BRIDGE COORDINATES 39850.1 E; 53988.6 N
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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	-11.21				**RESIDUAL SANDY SILTY CLAY** Mottled orange brown becoming white with depth, moist, stiff to very stiff. Consisting of highly lateritic and concreted zones in the upper area with some relic rock structures; becoming medium plastic white kaolinitic clay with depth.							pH_F = 6.14 pH_{FOX} = 4.93 5,5,10 N=15 ASS Sample stored at Herston Geotechnical Laboratory	SPT
11				H									
12				J			(CI)					3,4,8 N=12	SPT
13													
14				K								3,4,7 N=11	SPT
15	-16.01			L	**SANDSTONE** **FINE TO MEDIUM GRAINED MAINLY MASSIVE TO SLIGHTLY LAMINATED POORLY CEMENTED SEDIMENTARY ROCK** **HW** : Pale orange brown, moist, very dense silty sand gradually grading into very low to low strength rock.		HW					30/110 N>50	SPT
16													
17	-17.71		(100)		**SW:** Pale orange gradually becoming to pale grey/white, mainly massive, mainly fine to medium grained, mainly medium to high strength. Occasional carbonaceous laminations and rip-up clasts sizing upto 25mm. Defects: Generally rare with some drilling induced breaks.							Is(50)=0.68 MPa Is(50)=1.53 MPa Is(50)=1.34 MPa Is(50)=1.59 MPa Is(50)=0.52 MPa Is(50)=0.62 MPa	x o x o x o
18							SW					Is(50)=0.52 MPa Is(50)=0.65 MPa	x o
19	-20.71		100									Is(50)=0.41 MPa Is(50)=0.38 MPa Is(50)=0.94 MPa Is(50)=1.01 MPa	o x x o
20					Borehole terminated at 19.5m								

REMARKS

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

Project: **Houghton Highway Bridge Duplication**

Borehole No: **BHP83**

Start Depth: 16.50m
Finish Depth: 19.50m
Project No: FG5423
H No: 9915

0 100 200 300 400 500 600mm

SCALE 1:5

Queensland Government
Department of Main Roads

Main Roads Department
Geotechnical Branch
35 Butterfield Street
Herston Qld 4006

Point Load Strength Index - Test Report

Project: Houghton Highway Bridge Investigation
Project No: FG5423

Date Sampled 05/06/06 **Date Tested 10/06/06**
Feature: N/A
Sample Type: NMLC Core

Report No. FG5423/GS06-482/AS4133.4.1

Sample Number	Sample Location	Depth (m)	Test Type D,A,B,I*	Is (MPa)	Is50 (MPa)	Strength Descriptor**	Lithology
GS06/482.A	BHP 83	16.72	D	0.68	0.68	M	Sandstone
GS06/482.B	BHP 83	16.75	A	1.47	1.53	H	Sandstone
GS06/482.C	BHP 83	16.82	D	1.34	1.34	H	Sandstone
GS06/482.D	BHP 83	16.85	A	1.56	1.59	H	Sandstone
GS06/482.E	BHP 83	17.37	D	0.53	0.52	M	Sandstone
GS06/482.F	BHP 83	17.39	A	0.62	0.62	M	Sandstone
GS06/482.G	BHP 83	18.10	D	0.52	0.52	M	Sandstone
GS06/482.H	BHP 83	18.13	A	0.65	0.65	M	Sandstone
GS06/482.J	BHP 83	18.92	D	0.38	0.38	M	Sandstone
GS06/482.K	BHP 83	18.90	A	0.43	0.41	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:

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 P. Simson 14/6/06
(Mr Peter Simson)

NATA
Accreditation Number: 2302
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Queensland Government
Department of Main Roads

Main Roads Department
Geotechnical Branch
35 Butterfield Street
Herston Qld 4006

Point Load Strength Index - Test Report

Project: Houghton Highway Bridge Investigation
Project No: FG5423

Date Sampled 05/06/06 **Date Tested 10/06/06**
Feature: N/A
Sample Type: NMLC Core

Report No. FG5423/GS06-482/AS4133.4.1

Sample Number	Sample Location	Depth (m)	Test Type D,A,B,I*	Is (MPa)	Is50 (MPa)	Strength Descriptor**	Lithology
GS06/482.L	BHP 83	19.46	D	0.95	0.94	M	Sandstone
GS06/482.M	BHP 83	19.48	A	1.01	1.01	H	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)

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