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**Queensland
Government**

Department of
Main Roads

ENGINEERING BOREHOLE LOG

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

BOREHOLE No BHP57

SHEET 1 of 3

REFERENCE No H9907

PROJECT HOUGHTON HIGHWAY BRIDGE DUPLICATION - HOUGHTON HIGHWAY UPGRADE PROJECT

LOCATION 24m RIGHT, 0.7m STH FROM EASTN PILE OF PIER 57 OF EXIST BRIDGE COORDINATES 39543.7 E; 53343.5 N

PROJECT No FG5423 SURFACE R.L. -1.07 PLUNGE DATE STARTED 25/05/06 GRID DATUM PROJECT DATUM

JOB No 165/122/35 HEIGHT DATUM AHD BEARING DATE COMPLETED 25/05/06 DRILLER CAIRNS DRILLING

DEPTH (m)	R.L. (m)	CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	INTACT STRENGTH		DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS		
								CU	UC						
0	-1.07					ESTUARINE SILTY SAND Dark grey, moist, mainly very loose to loose. Slightly organic throughout; some shell fragments.	(SP-SM)					pH _F = 7.93 pH _{FOX} = 6.69 High content of shell pH _F = 8.01 pH _{FOX} = 7.19	3,3,1 N=4 2,1,1 N=2	SPT	
4	-4.97				C	ESTUARINE SILTY CLAY Dark grey, moist, very soft. High plasticity; high organic content; minor shell fragments.	(OH)					pH _F = 8.48 pH _{FOX} = 6.83	RW N<1	SPT	
6					D							pH _F = 8.05 pH _{FOX} = 6.93	RW N<1	SPT	
7					E							pH _F = 7.82 pH _{FOX} = 2.56	RW N<1 ASS Sample stored at Herston Geotechnical Laboratory	SPT	
8	-8.77				F	ALLUVIAL SILTY CLAY Green grey to mottled orange brown, mainly moist to slightly dry; stiff to very stiff. Medium to high plasticity.	(Cl-CH)							4,7,10 N=17	SPT
10	-11.07														

A-ENGINEERING BOREHOLE LOG W/LITHOLOGY FG5423 HIGHWAY BRIDGE.GPJ MRD LIB V1.2.GLB 25/10/06

REMARKS FREQUENT DRILLING INDUCED BREAKS DUE TO SIGNIFICANT MOVEMENT OF THE DRILLING BARGE

LOGGED BY
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ENGINEERING BOREHOLE LOG

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JOB No 165/122/35 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 25/05/06 DRILLER CAIRNS DRILLING

DEPTH (m)	R.L. (m)	CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
20	-21.07					ALLUVIAL CLAYEY SAND / SILTY SAND (As above.)							
21					K	Becoming coarse grained sand and gravel sizing upto 10mm.	(SC-SM)					6,13,27 N=40	SPT
22	-22.57				L	INTERBEDDED MUDSTONE AND SANDSTONE FINE GRAINED MAINLY LAMINATED POORLY CEMENTED SEDIMENTARY ROCK HW: Pale brown to orange brown, moist, very dense silty sand gradually grading into very low strength rock.		HW				14,30/100 N>50	SPT
23					M							30/50 N>50	SPT
24	-25.07				(88)	MW: Orange brown to banded black, laminated / interbedded, fine grained, low to mainly medium strength with occasional high strength bands. SW: Pale grey to banded black, fine grained, interbedded / laminated, mainly medium strength with some very low to low strength bands.		MW				Is(50)=0.05 MPa Is(50)=0.57 MPa Is(50)=0.13 MPa Is(50)=1.34 MPa	x o o o
25	-25.67							SW				Is(50)=0.70 MPa Is(50)=0.90 MPa	x o
26	-26.40					SANDSTONE FINE TO MEDIUM GRAINED, MASSIVE TO MAINLY LAMINATED POORLY CEMENTED SEDIMENTARY ROCK SW: Pale grey to white, mainly massive, fine grained, mainly medium becoming high strength with depth.		SW				Is(50)=0.07 MPa Is(50)=0.17 MPa Is(50)=0.77 MPa Is(50)=0.95 MPa	x o x o
27	-28.07				98	Defects: Frequent drilling-induced breaks due to significant movement of the drilling barge. Borehole terminated at 27m						Is(50)=0.93 MPa Is(50)=0.72 MPa Is(50)=0.90 MPa Is(50)=0.94 MPa Is(50)=1.25 MPa	x o x o
28												Core left in the borehole.	
29													
30													

REMARKS FREQUENT DRILLING INDUCED BREAKS DUE TO SIGNIFICANT MOVEMENT OF THE DRILLING BARGE.

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Project: **Houghton Highway Bridge Duplication**

Borehole No: **BHP57**

Start Depth: 24.00m

Finish Depth: 26.80m

Project No: FG5423

H No: 9907



SCALE 1:5

Point Load Strength Index - Test Report

Project: Houghton Highway Bridge Investigation

Project No: FG5423

Date Sampled 17/05/06

Date Tested 06/06/06

Feature: N/A

Sample Type: NMLC Core

Report No. FG5423/GS06-424/AS4133.4.1

Sample Number	Sample Location	Depth (m)	Test Type D,A,B,I*	Is (MPa)	Is50 (MPa)	Strength Descriptor**	Lithology
GS06/424.A	BHP 57	24.18	D	0.05	0.05	VL	I/B Mudstone/Sandstone
GS06/424.B	BHP 57	24.25	A	0.61	0.57	M	I/B Mudstone/Sandstone
GS06/424.C	BHP 57	24.37	A	0.13	0.13	L	I/B Mudstone/Sandstone
GS06/424.D	BHP 57	24.54	A	1.36	1.31	H	I/B Mudstone/Sandstone
GS06/424.E	BHP 57	24.74	D	0.71	0.70	M	I/B Mudstone/Sandstone
GS06/424.F	BHP 57	24.76	A	1.00	0.90	M	I/B Mudstone/Sandstone
GS06/424.G	BHP 57	25.24	D	0.08	0.07	VL	I/B Mudstone/Sandstone
GS06/424.H	BHP 57	25.26	A	0.18	0.17	L	I/B Mudstone/Sandstone
GS06/424.J	BHP 57	25.46	D	0.77	0.77	M	I/B Mudstone/Sandstone
GS06/424.K	BHP 57	25.48	A	1.02	0.95	M	I/B Mudstone/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

(MR P. REYNOLDS



Accreditation Number: 2302
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Point Load Strength Index - Test Report

Project: Houghton Highway Bridge Investigation

Project No: FG5423

Date Sampled 17/05/06

Date Tested 06/06/06

Feature: N/A

Sample Type: NMLC Core

Report No. FG5423/GS06-424/AS4133.4.1

Sample Number	Sample Location	Depth (m)	Test Type D,A,B;I*	Is (MPa)	Is50 (MPa)	Strength Descriptor**	Lithology
GS06/424.L	BHP 57	25.93	A	0.99	0.93	M	I/B Mudstone/Sandstone
GS06/424.M	BHP 57	26.44	D	0.72	0.72	M	I/B Mudstone/Sandstone
GS06/424.N	BHP 57	26.46	A	0.94	0.90	M	I/B Mudstone/Sandstone
GS06/424.P	BHP 57	26.75	D	0.94	0.94	M	I/B Mudstone/Sandstone
GS06/424.Q	BHP 57	26.77	A	1.34	1.25	H	I/B Mudstone/Sandstone

Sample Remarks

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

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