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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BHP41
SHEET 1 of 3
REFERENCE No H9920

PROJECT HOUGHTON HIGHWAY BRIDGE DUPLICATION - HOUGHTON HIGHWAY UPGRADE PROJECT
LOCATION 24m RIGHT, 0.7m STH FROM EASTN PILE OF PIER 41 OF EXIST BRIDGE COORDINATES 39555.7 E; 52946.7 N
PROJECT No FG5423 SURFACE R.L. -3.17 PLUNGE _____ DATE STARTED 15/06/06 GRID DATUM PROJECT DATUM
JOB No 165/122/35 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 15/06/06 DRILLER CAIRNS DRILLING

DEPTH (m)	R.L. (m)	CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC	WEATHERING	INTACT STRENGTH					DEFECT SPACING (mm)			GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS		SAMPLES TESTS	
										TC	CU	TI	IM	JL	VL	EL	20		80	200		500
0	-3.17				A	ESTUARINE SAND & SHELL Dark grey, wet, very loose. Fine grained sand; high content of partly decomposed shell fragments; slightly organic throughout.	(SP-SM)												pH _e = 6.84 pH _{Fox} = 6.23	RW N<1	SPT	
1	-4.67				B	ESTUARINE SILTY CLAY Dark grey, moist, very soft. High plasticity; high organic content; occasional partly decomposed shell fragments.	(OH)												pH _e = 8.08 pH _{Fox} = 7.45	RW N<1	SPT	
3					C														pH _e = 7.68 pH _{Fox} = 2.40	RW N<1 ASS Sample stored at Herston Geotechnical Laboratory	SPT	
4	-7.47																					
5					D	ALLUVIAL SILTY CLAY (Green grey to mottled pale orange brown, mainly moist to slightly dry; stiff to very stiff. Medium to high plasticity.	(CI-CH)													pH _e = 8.02 pH _{Fox} = 6.70	1,4,7 N=11	SPT
8					E																3,6,8 N=14	SPT
10	-13.17																					

A. ENGINEERING BOREHOLE LOG W LITHOLOGY, FG5423 HIGHWAY BRIDGE GPJ, MRD_LUB_V1.2.GLB, 25/10/06

REMARKS _____

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Department of Main Roads

ENGINEERING BOREHOLE LOG

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

BOREHOLE No **BHP41**
SHEET 2 of 3
REFERENCE No **H9920**

PROJECT HOUGHTON HIGHWAY BRIDGE DUPLICATION - HOUGHTON HIGHWAY UPGRADE PROJECT
LOCATION 24m RIGHT, 0.7m STH FROM EASTN PILE OF PIER 41 OF EXIST BRIDGE COORDINATES 39555.7 E; 52946.7 N
PROJECT No FG5423 SURFACE R.L. -3.17 PLUNGE _____ DATE STARTED 15/06/06 GRID DATUM PROJECT DATUM
JOB No 165/122/35 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 15/06/06 DRILLER CAIRNS DRILLING

DEPTH (m)	R.L. (m)	CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	EH VH I M J U	INTACT STRENGTH				DEFECT SPACING (mm)				GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS			
										20	60	200	600	2000	20	60	200				600	2000	
10	-13.17					ALLUVIAL SILTY CLAY (As above.)																	
11					F																3,6,9 N=15	SPT	
12																							
13																							
14					G																	7,11,16 N=27	SPT
15																							
16																							
17					H																	9,19,30/120 N>50	SPT
18						ALLUVIAL SANDY GRAVEL Pale green grey to pale grey, wet, medium dense to dense. (Coarse fraction > Fine fraction) Coarse fraction - Subangular to subrounded quartz particles sizing upto 25mm. Fine fraction - Angular to subangular medium to coarse grained quartzo sand.																	
19																							
20	-23.17				J																	10,11,22 N=33	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

FOR GEOTECHNICAL TERMS AND
SYMBOLS REFER FORM F:GEOT 01/7/3-2005

BOREHOLE No BHP41

SHEET 3 of 3

REFERENCE No H9920

PROJECT HOUGHTON HIGHWAY BRIDGE DUPLICATION - HOUGHTON HIGHWAY UPGRADE PROJECT

LOCATION 24m RIGHT, 0.7m STH FROM EASTN PILE OF PIER 41 OF EXIST BRIDGE COORDINATES 39555.7 E; 52946.7 N

PROJECT No FG5423 SURFACE R.L. -3.17 PLUNGE DATE STARTED 15/06/06 GRID DATUM PROJECT DATUM

JOB No 165/122/35 HEIGHT DATUM AHD BEARING DATE COMPLETED 15/06/06 DRILLER CAIRNS DRILLING

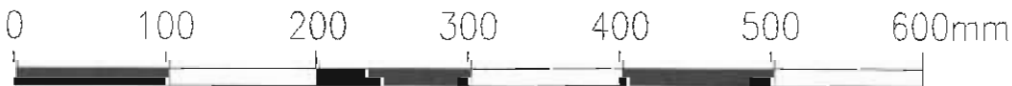
DEPTH (m)	R.L. (m)	CASING WASH BORING CORE DRILLING	RQD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH	DEFECT SPACING (mm)	GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
20	-23.17					ALLUVIAL SANDY GRAVEL (As above.)							
21													
22							(GP-GM)					Used rock roller due to large cobble at 22.0m.	
23	-26.17				K							12,12,12 N=24	SPT
24					L	SANDSTONE FINE TO MAINLY MEDIUM GRAINED MAINLY LAMINATED POORLY CEMENTED SEDIMENTARY ROCK HW: Grey to dark grey, mainly dry, very dense silty sand abruptly grading into very low to low strength rock.		HW				24,30/60 N>50	SPT
25	-27.67		(83)			SW: Pale grey to occasionally black banded, mainly laminated, fine to medium grained, low to mainly medium strength with some very low to low strength and high strength bands. Defects: - Drilling-induced lamination partings <20° (4-5/m).						Is(50)=0.89 MPa Is(50)=1.75 MPa Is(50)=0.30 MPa Is(50)=0.31 MPa	x o x o
26								SW				Is(50)=0.65 MPa Is(50)=0.58 MPa Is(50)=0.46 MPa Is(50)=0.43 MPa	x o x o
27					X							Is(50)=0.11 MPa Is(50)=0.15 MPa	x o
28	-30.67			87	X	Borehole terminated at 27.5m						Core left down in borehole.	
29													
30													

A: ENGINEERING BOREHOLE LOG W/ LITHOLOGY FG5423 HIGHWAY BRIDGE.GPJ_MRD_LIB_V1.2.GLB 25/10/06

REMARKS

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Project: **Houghton Highway Bridge Duplication**
Borehole No: **BHP41**
Start Depth: 24.50m
Finish Depth: 27.50m
Project No: FG5423
H No: 9920



Point Load Strength Index - Test Report

Project: Houghton Highway Bridge Investigation

Project No: FG5423

Date Sampled 15/06/06

Date Tested 27/06/06

Feature: N/A

Sample Type: NMLC Core

Report No. FG5423/GS06-562/AS4133.4.1

Sample Number	Sample Location	Depth (m)	Test Type D,A,B,I*	Is (MPa)	Is50 (MPa)	Strength Descriptor**	Lithology
GS06/562.A	BHP 41	24.55	D	0.89	0.89	M	Sandstone
GS06/562.B	BHP 41	24.57	A	1.91	1.75	H	Sandstone
GS06/562.C	BHP 41	24.83	D	0.30	0.30	L	Sandstone
GS06/562.D	BHP 41	24.85	A	0.32	0.31	M	Sandstone
GS06/562.E	BHP 41	25.51	D	0.65	0.65	M	Sandstone
GS06/562.F	BHP 41	25.53	A	0.64	0.58	M	Sandstone
GS06/562.G	BHP 41	25.83	D	0.46	0.46	M	Sandstone
GS06/562.H	BHP 41	25.85	A	0.46	0.43	M	Sandstone
GS06/562.J	BHP 41	26.94	D	0.11	0.11	L	Sandstone
GS06/562.K	BHP 41	26.96	A	0.16	0.15	L	Sandstone

Sample Remarks

GS06/562.J- See Note 1

GS06/562.K- See Note 1

* 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

"Note 1: The measured failure load is outside the range at which the accuracy of the load cell is compliant with the test method"

Client Name: Department of Main Roads

Client Address: PO Box 70, Spring Hill QLD 4004

Signatory

(P.REYNOLDS)



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