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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BHP63
SHEET 1 of 4
REFERENCE No H9912

PROJECT HOUGHTON HIGHWAY BRIDGE DUPLICATION - HOUGHTON HIGHWAY UPGRADE PROJECT
LOCATION 24m RIGHT FROM EASTN PILE OF PIER 63 OF EXIST BRIDGE COORDINATES 39614.6 E: 53492.9 N
PROJECT No FG5423 SURFACE R.L. -1.48 PLUNGE _____ DATE STARTED 29/05/06 GRID DATUM PROJECT DATUM
JOB No 165/122/35 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 29/05/06 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
									q _t	f _{cd}	f _{cs}	f _{ci}	f _{cu}				
0	-1.48					ESTUARINE SILTY SAND Dark grey, wet, mainly very loose to loose. Frequent partly decomposed shell fragments; mainly fine grained sand; slightly organic throughout.											
1					A			(SM)								pH _F = 7.29 pH _{FOX} = 6.26	2,1,- N=1 ASS Sample stored at Herston Geotechnical Laboratory
2																	
3					B											pH _F = 8.32 pH _{FOX} = 5.41	0,1,1 N=2
4																	
5																	
6																	
7																	
8																	
9																	
10																	

REMARKS

LOGGED BY
BW / ADISS



ENGINEERING BOREHOLE LOG

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

BOREHOLE No BHP63
SHEET 2 of 4
REFERENCE No H9912

PROJECT HOUGHTON HIGHWAY BRIDGE DUPLICATION - HOUGHTON HIGHWAY UPGRADE PROJECT
LOCATION 24m RIGHT FROM EASTN PILE OF PIER 63 OF EXIST BRIDGE COORDINATES 39614.6 E; 53492.9 N
PROJECT No FG5423 SURFACE R.L. -1.48 PLUNGE _____ DATE STARTED 29/05/06 GRID DATUM PROJECT DATUM
JOB No 165/122/35 HEIGHT DATUM AHD BEARING _____ DATE COMPLETED 29/05/06 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
10	-11.48				G	ESTUARINE SILTY CLAY (As above.)						pH _e = 8.05 pH _{FOX} = 5.70	RW N<1 SPT
11													
12					H			(OH)				pH _e = 7.81 pH _{FOX} = 0.62	HW N<1 ASS Sample stored at Herston Geotechnical Laboratory SPT
13													
14	-14.98					ALLUVIAL SILTY CLAY Pale green grey to mottled orange brown, moist, stiff to very stiff. High plasticity.							
15					J			(CH)				pH _e = 7.14 pH _{FOX} = 6.05	4,5,5 N=10 SPT
16													
17													
18	-19.18				K	ALLUVIAL SILTY CLAY Brown, moist, very stiff. Medium to high plasticity.							6,9,11 N=20 SPT
19								(CI-CH)					
20	-21.48												

REMARKS _____

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ENGINEERING BOREHOLE LOG

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

BOREHOLE No BHP63
SHEET 3 of 4
REFERENCE No H9912

PROJECT HOUGHTON HIGHWAY BRIDGE DUPLICATION - HOUGHTON HIGHWAY UPGRADE PROJECT
LOCATION 24m RIGHT FROM EASTN PILE OF PIER 63 OF EXIST BRIDGE COORDINATES 39614.6 E, 53492.9 N
PROJECT No FG5423 SURFACE R.L. -1.48 PLUNGE DATE STARTED 29/05/06 GRID DATUM PROJECT DATUM
JOB No 165/122/35 HEIGHT DATUM AHD BEARING DATE COMPLETED 29/05/06 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	-21.48					ALLUVIAL SILTY CLAY (As above.)		(CH)					
	-21.78				L	ALLUVIAL SANDY GRAVEL Pale brown to white, wet, very dense becoming medium dense with depth. (Coarse fraction > Fine fraction) Coarse fraction - Subangular to subrounded, quartz fragments sizing upto 30mm. Fine fraction - Angular to subangular medium to coarse sand with no clay fraction.						13,20,30/120 N>50	SPT
21													
22					M							No sample recovery.	5,4,8 N=12
23													
24													
25													
26													
	-27.78				N	SANDSTONE FINE TO MEDIUM GRAINED MAINLY MASSIVE TO SLIGHTLY LAMINATED POORLY CEMENTED SEDIMENTARY ROCK HW: Pale orange to pale orange brown, moist, very dense silty sand abruptly grading into low strength rock with depth. SW: Pale grey to white, mainly massive to slightly laminated, mainly fine to medium grained, medium to high strength with some low strength bands up to 1m. Defects: Generally rare. - Occasional drilling-induced lamination partings <15° (1/2m).		HW				30/100 N>50	SPT
27													
	-28.98			(100)								Is(50)=0.45 MPa Is(50)=0.53 MPa Is(50)=1.79 MPa Is(50)=2.01 MPa	x o x o
28								SW				Is(50)=1.64 MPa Is(50)=3.77 MPa	x o
29												Is(50)=0.27 MPa Is(50)=0.26 MPa	x o
30	-31.48											Is(50)=0.11 MPa Is(50)=0.07 MPa	x o
REMARKS													LOGGED BY BW / ADISS



ENGINEERING BOREHOLE LOG

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

BOREHOLE No BHP63

SHEET 4 of 4

REFERENCE No H9912

PROJECT HOUGHTON HIGHWAY BRIDGE DUPLICATION - HOUGHTON HIGHWAY UPGRADE PROJECT

LOCATION 24m RIGHT FROM EASTN PILE OF PIER 63 OF EXIST BRIDGE COORDINATES 39614.6 E; 53492.9 N

PROJECT No FG5423 SURFACE R.L. -1.48 PLUNGE DATE STARTED 29/05/06 GRID DATUM PROJECT DATUM

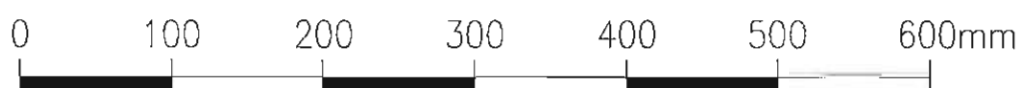
JOB No 165/122/35 HEIGHT DATUM AHD BEARING DATE COMPLETED 29/05/06 DRILLER CAIRNS DRILLING

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
										EH	VH	H	M	J	VL	EL			
30	-31.48					SW: (As above.)													
	-31.98		100					SW										Is(50)=1.18 MPa Is(50)=1.55 MPa	x o
31						Borehole terminated at 30.5m													
32																			
33																			
34																			
35																			
36																			
37																			
38																			
39																			
40																			

REMARKS

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Project: **Houghton Highway Bridge Duplication**
Borehole No: **BHP63**
Start Depth: 27.50m
Finish Depth: 30.50m
Project No: FG5423
H No: 9912



SCALE 1:5

Point Load Strength Index - Test Report

Project: Houghton Highway Bridge Investigation

Project No: FG5423

Date Sampled 29/05/06

Feature: N/A

Sample Type: NMLC Core

Date Tested 13/06/06

Report No. FG5423/GS06-485/AS4133.4.1

Sample Number	Sample Location	Depth (m)	Test Type D,A,B,I*	Is (MPa)	Is50 (MPa)	Strength Descriptor**	Lithology
GS06/485.A	BHP 63	27.62	D	0.45	0.45	M	Sandstone
GS06/485.B	BHP 63	27.64	A	0.56	0.53	M	Sandstone
GS06/485.C	BHP 63	27.79	D	1.82	1.79	H	Sandstone
GS06/485.D	BHP 63	27.82	A	2.15	2.01	H	Sandstone
GS06/485.E	BHP 63	28.55	D	1.64	1.64	H	Sandstone
GS06/485.F	BHP 63	28.62	A	3.97	3.77	VH	Sandstone
GS06/485.G	BHP 63	29.25	D	0.27	0.27	L	Sandstone
GS06/485.H	BHP 63	29.30	A	0.28	0.26	L	Sandstone
GS06/485.J	BHP 63	29.88	D	0.11	0.11	L	Sandstone
GS06/485.K	BHP 63	29.90	A	0.07	0.07	VL	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.REYNOLDS)



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Point Load Strength Index - Test Report

Project: Houghton Highway Bridge Investigation

Project No: FG5423

Date Sampled 29/05/06

Feature: N/A

Sample Type: NMLC Core

Date Tested 13/06/06

Report No. FG5423/GS06-485/AS4133.4.1

Sample Number	Sample Location	Depth (m)	Test Type D,A,B,I*	Is (MPa)	Is50 (MPa)	Strength Descriptor**	Lithology
GS06/485.L	BHP 63	30.45	D	1.18	1.18	H	Sandstone
GS06/485.M	BHP 63	30.48	A	1.50	1.55	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)

Remarks / Variations to Test Procedures:

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