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## ENGINEERING BOREHOLE LOG

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

BOREHOLE No	BHP83
SHEET	_ <u>1</u> _ of <u>_2</u> _
REFERENCE No	H9915

	PROJECT <u>HOUGHTON HIGHWAY BRIDGE DUPLICATION - HOUGHTON HIGHWAY UPGRADE PROJECT</u> LOCATION <u>24m RIGHT FROM EASTN PILE OF PIER 83 OF EXIST BRIDGE</u> COORDINATES <u>39850.1 E; 53988.6 N</u>												
									ATUM PROJECT D				
JOB					HEIGHT DATUM <u>AHD</u> BEARING							ILLER <u>CAIRNS DRI</u>	
o DEPTH (m)		MATERIAL  ONL  ONL  ONL  ONL  ONL  ONL  ONL  O				LITHOLOGY	П	INTACT STRENGTH	DEFECT	GRAPHIC LOG	ADDITI	ONAL DATA AND RESULTS	SAMPLES
	-1.41		1120 70		ESTUARINE SAND			<del>                                     </del>	<del>,</del>	Ť	11 - 7 40	HW,1,1	
-1				A	Dark grey, wet, mainly very toose.  Fine grained sand with partly decomposed shell fragments throughout; slightly organic throughout.			-			pH <sub>F</sub> = 7.48 pH <sub>FOX</sub> = 6.31	N=2 ASS Sample stored at Herston Geotechnical Laboratory	SPT
-2				В					**		pH <sub>F</sub> = 7.49 pH <sub>FOX</sub> = 6.67	1,-,1 N=1	SPT
-3				С	High amount of shell at 3m.		(SN	-			pH <sub>F</sub> = 8.02 pH <sub>FOX</sub> = 6.35	RW,HW N<1 ASS Sample stored at Herston Geotechnical Laboratory	
MRD LIB V1.2.GLB 25/10/06				D				-			pH <sub>F</sub> = 7.95 pH <sub>FOX</sub> = 5.57	RW N<1	
- I	-8.21			E							pH <sub>F</sub> = 7.46 pH <sub>FOX</sub> = 5.78	RW N<1 ASS Sample stored at Herston Geotechnical Laboratory	SPT
16 W LITHOLOGY F654231				F	ESTUARINE SILTY SAND/CLAYEY SAND Dark grey, wet, very loose to loose. Fine grained sand becoming silty clay with depth.		(SC)	-			ρH <sub>F</sub> = 7.89 ρH <sub>FOX</sub> = 4.75	RW N<1 ASS Sample stored at Herston Geotechnical Laboratory	SPT
A ENGINEERING BOREHOLE LOG W LITHOLOGY FG5423 HIGHWAY BRIDGE.GPJ	-9.71 -11.21 EMARKS			G	ESTUARINE GRAVELLY CLAY Dark grey, wet, very soft to soft.  Consisting of shell fragments and iron concretions / oolites.		<b>○</b>	0	+		pH <sub>F</sub> = 7.79 pH <sub>FOX</sub> = 6.02	1,2,2 N=4 ASS Sample stored at Herston Geotechnical Laboratory	SPT
											_	BW / ADISS	



A ENGINEERING BOREHOLE LOG W LITHOLOGY FG5423 HIGHWAY BRIDGE.GPJ MRD\_LIB\_V1.2.GLB 25/10/06

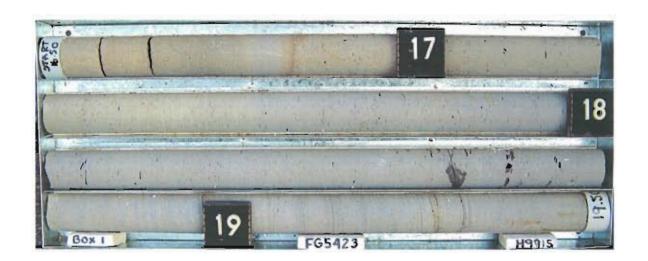
### ENGINEERING BOREHOLE LOG

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

	JECT				SHWAY BRIDGE DUPLICATION - HOUGHT						
LOCATION 24m RIGHT FROM EASTN PILE OF PIER 83 OF EXIST BRIDGE COORDINATES 39850.1 E; 53988.6 N  PROJECT No. FG5423 SURFACE R.L1.21 PLUNGE DATE STARTED 05/06/06 GRID DATUM PROJECT DATUM										— — – 'Uм	
DEPTH (m)	R.L. (m)	SORING	RQD ()%	SAMPLE	MATERIAL DESCRIPTION			INTACT DEFECT SPACING (mm)		ADDITIONAL DATA	S3
10	-11.21	CAS WAS COR	CORE REC %	SAM		탈	USC	88888 P×™±⊊	GRA	TEST RESULTS	SAMPL
10 	-11.21		NEC 18	H J	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.		(CI)			pH <sub>F</sub> = 6.14 ASS Sample stored at Herston Geotechnical Laboratory  3,4,8 N=12	SPT
-	-16.01			3	SANDSTONE			+		-	]
15	-17.71				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.		нw			30/110 N>50	SPT
- 17			(100)		<b>SW:</b> Pale orange gradually becoming to pale grey/white, mainly massive, mainly fine to medium grained, mainly medium to high strength.					ls(50)=0.68 MPa ls(50)=1.53 MPa ls(50)=1.34 MPa ls(50)=1.59 MPa	x -
-					Occasional carbonaceous laminations and rip-up clasts sizing upto 25mm.  Defects: Generally rare with some drilling					ls(50)=0.52 MPa ls(50)=0.62 MPa	x -
18					induced breaks.		SW			is(50)=0.52 MPa is(50)=0.65 MPa	X 1
- - 19										Is(50)=0.41 MPa Is(50)=0.38 MPa	o -
	-20.71		100	E				FB3 (77)		ls(50)=0.94 MPa ls(50)=1.01 MPa	× 1
20	20.1		,,,,,		Borehole terminated at 19.5m			#		SJIMI I A'I L'AAISI	-
	EMARKS	·								LOGGED BY	$\equiv$
										BW / ADISS	

Project: Houghton Highway Bridge Duplication

Borehole No: BHP83
Start Depth: 16.50m
Finish Depth: 19.50m
Project No: FG5423
H No: 9915





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

Feature: N/A

Sample Type: NMLC Core

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

Date Tested 10/06/06

Sample	Sample	Depth	Test Type	ls	is50	Strength	Lithology
Number	Location	(m)	D,A,B,I*	(MPa)	(MPa)	Descriptor	r**
GS06/482.A GS06/482.B GS06/482.C GS06/482.D GS06/482.E GS06/482.F GS06/482.G GS06/482.H	BHP 83 BHP 83 BHP 83 BHP 83 BHP 83 BHP 83 BHP 83	16.72 16.75 16.82 16.85 17.37 17.39 18.10	D A D A D A	0.68 1.47 1.34 1.56 0.53 0.62 0.52 0.65	0.68 1.53 1.34 1.59 0.52 0.62 0.52 0.65	M H H M M M M	Sandstone Sandstone Sandstone Sandstone Sandstone Sandstone Sandstone 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:

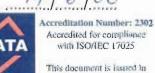
Test Method: AS4133.4.1 Software Version 2.03 April 2005

Client Name: Department of Main Roads

Client Address: PO Box 70, Spring Hill QLD 4004

Signatory .

( Mr Peter Simson )



accordance with NATA's

s on attached cover page.



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 Feature: N/A

Sample Type: NMLC Core

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

Date Tested 10/06/06

Sample	Sample	Depth	Test Type	ls	Is50	Strength	Lithology
Number	Location	(m)	D,A,B,I*	(MPa)	(MPa)	Descriptor**	
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;

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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

(Mr Peter Simson)



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

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