

## **COPYRIGHT NOTICE**

This geotechnical log and its associated data (the Document) is licensed by the Queensland Department of Transport and Main Roads under the [Creative Commons Attribution 4.0 Licence](#) (CC BY 4.0). When reusing the Document, in whole or in part, please attribute the Department as follows: "*(c) State of Queensland (Department of Transport and Main Roads) 2020, licensed under the CC BY 4.0 Licence*". This licence does not apply to the Queensland Government logo or trademarks.

## **LIMITATION OF LIABILITY**

The CC BY 4.0 Licence contains a comprehensive Disclaimer of Warranties and Limitation of Liability. In addition, please note that this Document was prepared for Departmental use only. Reuse of the Document by anyone for any other purpose could result in error and/or loss. You should obtain professional advice before making decisions based on the contents of the Document.

When reproducing any part of this Document, you must also reproduce this limitation of liability notice in addition to the italicised attribution statement above.

Retrieved from the Queensland Geotechnical Database <http://ggd.org.au/>



**Queensland  
Government**

Department of  
Main Roads

# ENGINEERING BOREHOLE LOG

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

BOREHOLE No BHP53

SHEET 1 of 3

REFERENCE No H9908

PROJECT HOUGHTON HIGHWAY BRIDGE DUPLICATION - HOUGHTON HIGHWAY UPGRADE PROJECT

LOCATION 24m RIGHT, 1m STH FROM EASTN PILE OF PIER 53 OF EXIST BRIDGE COORDINATES 39496.5 E; 53244.1 N

PROJECT No FG5423 SURFACE R.L. -1.20 PLUNGE \_\_\_\_\_ DATE STARTED 23/05/06 GRID DATUM PROJECT DATUM

JOB No 165/122/35 HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 23/05/06 DRILLER CAIRNS DRILLING

DEPTH (m)	R.L. (m)	CASING WASH BORING CORE DRILLING	RCD (%)	CORE REC %	SAMPLE	MATERIAL DESCRIPTION	LITHOLOGY	USC WEATHERING	INTACT STRENGTH		DEFECT SPACING (mm)		GRAPHIC LOG	ADDITIONAL DATA AND TEST RESULTS	SAMPLES TESTS
									q <sub>t</sub>	c <sub>u</sub>	20	30			
0	-1.20					<b>ESTUARINE SILTY SAND / SANDY SILT</b> Dark grey, mainly wet, very loose to loose.									
0.5					A	Fine grained sand; slightly organic throughout; becoming silty sand with depth.							pH <sub>e</sub> = 8.05 pH <sub>Fox</sub> = 5.99	Bulk sample. ASS Sample stored at Herston Geotechnical Laboratory	JAR
1.0					B								pH <sub>e</sub> = 8.03 pH <sub>Fox</sub> = 6.46	HW, 1,2 N=3	SPT
2.0							(SC-SM)								
3.0					C								pH <sub>e</sub> = 7.93 pH <sub>Fox</sub> = 5.76	1,-,- N<1	SPT
4.0	-5.00				D	<b>ESTUARINE SILTY CLAY</b> Dark grey, moist, very soft.							pH <sub>e</sub> = 8.10 pH <sub>Fox</sub> = 6.26	HW N<1	SPT
5.0						High organic content; high plasticity; occasional shell and gravel fragments up to 10mm.	(OH)								
6.0	-6.60				E	<b>ALLUVIAL CLAYEY SAND &amp; GRAVEL</b> Pale brown to mainly brown, moist to wet with depth, low to mainly medium dense.							Minor gravel up to 10mm.	3,4,4 N=8	SPT
7.0						Medium to coarse sand; quartz gravel layers sizing up to 30mm throughout.	(GC)								
8.0															
9.0					F									8,8,8 N=16	SPT
10.0	-11.20														

REMARKS \_\_\_\_\_

LOGGED BY  
BW / ADISS



**Queensland  
Government**

Department of  
Main Roads

# ENGINEERING BOREHOLE LOG

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

BOREHOLE No BHP53

SHEET 2 of 3

REFERENCE No H9908

PROJECT HOUGHTON HIGHWAY BRIDGE DUPLICATION - HOUGHTON HIGHWAY UPGRADE PROJECT

LOCATION 24m RIGHT 1m STH FROM EASTN PILE OF PIER 53 OF EXIST BRIDGE COORDINATES 39496.5 E; 53244.1 N

PROJECT No FG5423 SURFACE R.L. -1.20 PLUNGE \_\_\_\_\_ DATE STARTED 23/05/06 GRID DATUM PROJECT DATUM

JOB No 165/122/35 HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 23/05/06 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	-11.20					<b>ALLUVIAL CLAYEY SAND &amp; GRAVEL</b> (As above.)								
11					G								6,10,12 N=22	SPT
12						Becoming more sandy with depth.								
13														
14	-14.70					<b>ALLUVIAL SAND</b> Pale brown, moist, medium dense.  Mainly medium sand with occasional gravel sizing up to 20mm.								
15					H								8,11,14 N=25	SPT
16														
17	-17.20					<b>ALLUVIAL SILTY CLAY</b> Pale grey to mottled orange, moist, very stiff.  Medium to high plasticity.								
18					J								5,7,12 N=19	SPT
19														
20	-21.20													

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

REMARKS \_\_\_\_\_

LOGGED BY  
BW / ADISS



**Queensland  
Government**

Department of  
Main Roads

# ENGINEERING BOREHOLE LOG

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

BOREHOLE No BHP53

SHEET 3 of 3

REFERENCE No H9908

PROJECT HOUGHTON HIGHWAY BRIDGE DUPLICATION - HOUGHTON HIGHWAY UPGRADE PROJECT

LOCATION 24m RIGHT, 1m STH FROM EASTN PILE OF PIER 53 OF EXIST BRIDGE COORDINATES 39496.5 E; 53244.1 N

PROJECT No FG5423 SURFACE R.L. -1.20 PLUNGE \_\_\_\_\_ DATE STARTED 23/05/06 GRID DATUM PROJECT DATUM

JOB No 165/122/35 HEIGHT DATUM AHD BEARING \_\_\_\_\_ DATE COMPLETED 23/05/06 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	20	50
20	-21.20					<b>ALLUVIAL SILTY CLAY</b> (As above.)															
21					K		(CH)												6,11,14 N=25	SPT	
22	-22.70					<b>ALLUVIAL GRAVELLY SAND</b> Pale grey to white, wet, medium dense. (Fine fraction > Coarse fraction)  Coarse fraction - Subangular to subrounded quartz fragments up to 20mm.  Fine fraction - Angular to subangular quartz fragments in silty clay matrix.  Becoming less clayey with depth.															
23					L		(SP)														
24																			10,15,13 N=28	SPT	
25	-26.20				M	<b>SANDSTONE</b> <b>FINE TO MAINLY MEDIUM GRAINED</b> <b>SLIGHTLY LAMINATED TO MAINLY</b> <b>MASSIVE, POORLY CEMENTED</b> <b>SEDIMENTARY ROCK</b> <b>HW</b> : White to pale grey, moist, very dense silty sand abruptly grading into very low to low strength rock. <b>SW</b> : Pale grey to grey white, mainly massive, fine to medium grained, medium to mainly high strength with some low strength bands.  Defects: Generally rare. - Occasional drilling-induced lamination partings <20° (1/2m). - Drilling-induced breaks @ 70° (1/3m).													17,10/10,10 N=50	SPT	
26	-27.20		(100)				HW												is(50)=0.50 MPa is(50)=0.63 MPa	x o	
27																			is(50)=1.01 MPa is(50)=1.10 MPa	x o	
28							SW												is(50)=0.48 MPa is(50)=0.36 MPa	x o	
29				100															is(50)=1.83 MPa is(50)=1.07 MPa is(50)=1.08 MPa is(50)=1.96 MPa	o x x o	
30	-30.20					Borehole terminated at 29m													is(50)=0.12 MPa is(50)=0.45 MPa	o y	

REMARKS \_\_\_\_\_

LOGGED BY  
BW / ADISS

Project: **Houghton Highway Bridge Duplication**

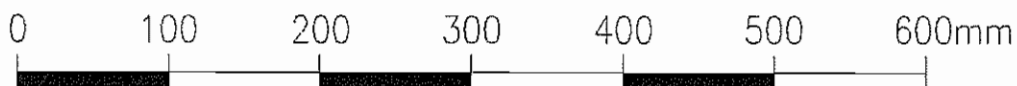
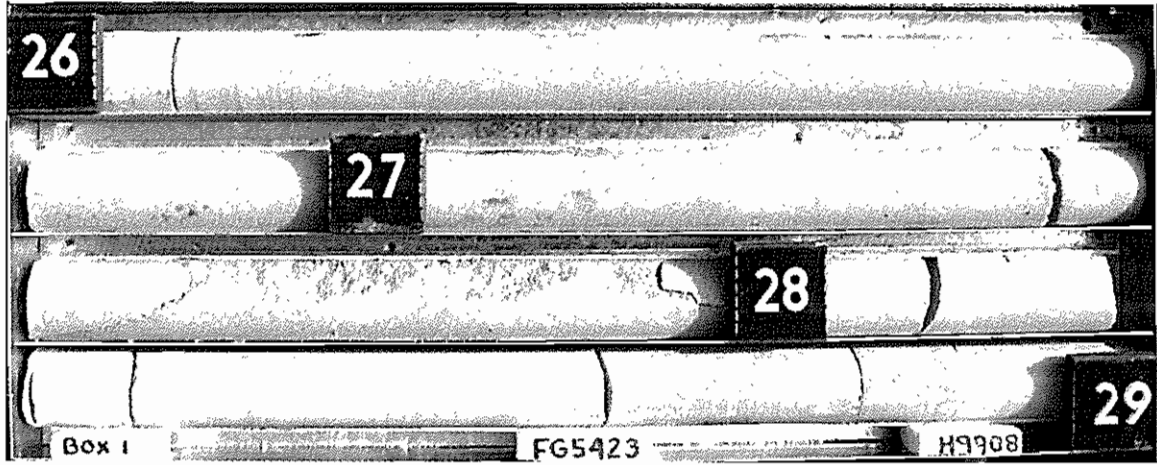
Borehole No: **BHP53**

Start Depth: 26.00m

Finish Depth: 29.00m

Project No: FG5423

H No: 9908



# Point Load Strength Index - Test Report

**Project: Houghton Highway Bridge Investigation**

**Project No: FG5423**

**Date Sampled 23/05/06**

**Feature: N/A**

**Sample Type: NMLC Core**

**Date Tested 10/06/06**

**Report No. FG5423/GS06-479/AS4133.4.1**

Sample Number	Sample Location	Depth (m)	Test Type D,A,B,I*	Is (MPa)	Is50 (MPa)	Strength Descriptor**	Lithology
GS06/479.A	BHP 53	26.20	D	0.50	0.50	M	Sandstone
GS06/479.B	BHP 53	26.22	A	0.66	0.63	M	Sandstone
GS06/479.C	BHP 53	26.91	D	1.01	1.01	H	Sandstone
GS06/479.D	BHP 53	26.94	A	1.12	1.10	H	Sandstone
GS06/479.E	BHP 53	27.48	D	0.48	0.48	M	Sandstone
GS06/479.F	BHP 53	27.50	A	0.35	0.36	M	Sandstone
GS06/479.G	BHP 53	28.14	A	1.79	1.83	H	Sandstone
GS06/479.H	BHP 53	28.16	D	1.07	1.07	H	Sandstone
GS06/479.J	BHP 53	28.37	D	1.07	1.08	H	Sandstone
GS06/479.K	BHP 53	28.40	A	2.06	1.96	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:

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* 14.1.6.06

( Mr Peter Simson )



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

This document is issued in  
accordance with NATA's  
policy on technical reports

# Point Load Strength Index - Test Report

**Project: Houghton Highway Bridge Investigation**

**Project No: FG5423**

**Date Sampled 23/05/06**

**Date Tested 10/06/06**

**Feature: N/A**

**Sample Type: NMLC Core**

**Report No. FG5423/GS06-479/AS4133.4.1**

Sample Number	Sample Location	Depth (m)	Test Type D,A,B,I*	Is (MPa)	Is50 (MPa)	Strength Descriptor**	Lithology
GS06/479.L	BHP 53	28.83	A	0.12	0.12	L	Sandstone
GS06/479.M	BHP 53	28.90	D	0.45	0.45	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 )



Accreditation Number: 2392  
Accredited for compliance with ISO/IEC 17025

This document is issued in accordance with NATA's