

**Log of Geotech Borehole: BH1**

Project: Marine Geotechnical Investigation  
 Location: St. Louis, NL  
 Client: Public Works Government Services Canada  
 Drilling Supervisor: Elizabeth McInlay

Project No.: 556  
 Date: June 19, 2009

SYMBOL		SUBSURFACE PROFILE		SAMPLE		Standard Penetration "N" Value per 300 mm
Depth below Ground (m)	Symbol	Geologic Description	Elevation (m)	Sample No.	Recovery (%)	
0		0 m LNT	0			
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

Harbour Bottom (-4.75 m)  
 Spoil spoon rank 0.18 m into soft sediment  
 SP1: No sample recovered  
 SS1: "N" Value = 55; Rec = 0%  
 SS2: "N" Value = 55; Rec = 60%  
 SS3: "N" Value = 55; Rec = 60%  
 SS4: "N" Value = 55; Rec = 60%  
 SS5: "N" Value = 55; Rec = 60%  
 Bedrock Limestone  
 End of borehole

Drum: LNT  
 Sheet: 1 of 1

Drilling Method: XW casing / NQ coring  
 Driller: Formation Drilling Ltd.  
 Fax: (709) 753-1270  
 Fax: (709) 753-1301


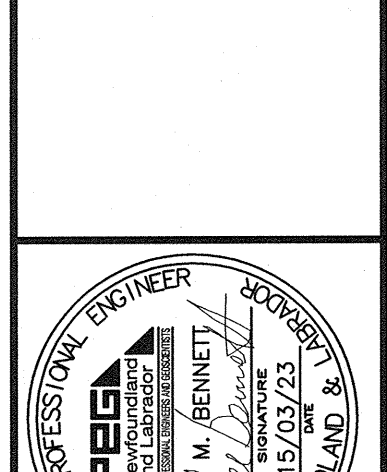
Project: Marine Geotechnical Investigation  
Location: St. Lawrence, NL  
Client: Public Works Government Services Canada  
Drilling Supervisor: Elizabeth McInday

Project No: 556  
Date: June 19, 2009

**Log of Geotech Borehole: BH2**

SUBSURFACE PROFILE		SAMPLE				Standard Penetration Test "N" Value per 300 mm
Depth below Ground Surface (m)	Symbol	Geologic Description	Sample Type	Sample No.	Recovery (%)	
0.0	0 m LNT					
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11		Harbour Bottom (3.97 m)				
12		Silt-sand with 0.35 m fine sand with silt	-3.97			
13		SPT 17.7 to 11.1 kN	-3.92			
14		CFEM Sand, some Silt, trace Gravel, trace Clay	-4.53	SS 1	18	84
15			-4.53			
16			-4.53			
17		SPT 26.7 to 50.0 kN for 0.05 m (Refusal)		SS 2	500	15
18		CFEM Sand, some gravel, trace Silt and/or Clay				
19						
20		Boulders				
21			-4.55			
22						
23		Bedrock: Mudstone with pyrite		RC	...	62
24						
25						
26						
27		End of Borehole	-3			
28						
29						
30						

Drum: LNT  
Sheet: 1 of 1

 <p>Public Works and Government Services Canada</p>	<p>Travaux Publics et Services gouvernementaux Canada</p>						<p>PROVINCE OF NEWFOUNDLAND AND LABRADOR</p> <p><b>P.Eng.</b> Professional Engineer No. 15102723 Expires 15/02/23</p> <p>Permit Holder this Permit Allows Meridian Engineering Inc. To practice Professional Engineering in Newfoundland and Labrador from 15/02/23 to 15/02/23 which is valid for the year 2023.</p>
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[illegible][illegible]

BOREHOLE LOGS, 2009

BOREHOLE LOGS, 1984

[illegible][illegible]

ATLANTIC EARTH SCIENCES LIMITED									
DRILLING METHOD DIAMOND		GROUND LEVEL LNT = 000		COORDINATES SEE DWG No. 1		WORKSHEET NO. 5			
MACHINE PROSPECTOR		CORE SIZE AX		ORIENTATION VERTICAL		SITE ST. LUNAIRE			
PEN. RESISTANCE BLOW / 500 MM CORE		SAMPLES NO. 1 IN CORE TYPE (RQD)		DESCRIPTION OF STRATA		DEPTH (METERS)			
20 40 60 80				WATER		LNT 0.00			
				BEDROCK, WITH THIN SAND AND GRAVEL LENSES.		LNT 5.60			
KEY		<input checked="" type="checkbox"/> STANDARD PENETRATION <input type="checkbox"/> ROCK CORE		REMARKS 1. NO SIGNIFICANT ATTEMPTS WERE MADE TO DRIVE SHUT DOWN IN BOREHOLE ONE AREA. THE RIGGING WAS REWIND AT CURRENT WIRE TWO HOURS TO AT THIS LOCATION THE ANCHORS WERE TO BE IDENTIFIED DUE TO THE CURRENT LOGGING.					
DRAWN BY CPM		SCALE 1:100							
CHECKED BY CPM		C.S.O.		SHEET		PUBLIC WORKS CANADA			
DATE FIELD 1977-28-66		DATE DRAWN 21-12-1984		FIG. 5					

[illegible]

D	RE-ISSUED FOR TENDER	04/01/2010	drawings	design
C	ISSUED FOR TENDER	04/01/2010	drawings	design
B	ISSUED FOR 99% REVIEW	04/01/2010	drawings	design
A	ISSUED FOR 50% REVIEW	04/01/2010	drawings	design

**WHARE  
CONSTRUCTION  
ST. LUNAIRE, NL**

**BOREHOLE LOGS**

designed by <b>L. BENNETT</b>	completed <b>JANUARY 2010</b>
drawn <b>C. HOBBS</b>	completed <b>JANUARY 2010</b>
date <b>04/01/2010</b>	approved <b>04/01/2010</b>

**WHARE  
CONSTRUCTION  
ST. LUNAIRE, NL**

**BOREHOLE LOGS**

project manager <i>John Dwyer</i>	project no. <b>R.07600.0001</b>
project name <b>domestic extension</b>	drawing no. <b>C13 OF C13</b>

BOREHOLE LOGS, 1984

PWGSC B1 (2004)