Project: Marine Geotechnical Investigation
Location: Port au Choix, NL
Client: Public Works Government Services Canada
Drilling Supervisor: Elizabeth Melindy

Project No: 563
Date: October 29, 2009

Log of Geotech Borehole: BH1

Depth below Datum	Symbol	Geologic Description	Elevation (m)	Sample Type	Sample No.	"N" Value	Recovery (%)	RQD (%)
0		0 m LNT	0					

Standard Penetration Test "N" Value per 300 mm (20 40 60 80)

Fracflow Consultants Inc.
154 Major's Path
St. John's, NL A1A 5A1
Phone: (709) 739-7270
Fax: (709) 753-5101

Drilling Method: NW casing/ NQ coring
Driller: Formation Drilling Ltd.
Datum: LNT
Sheet: 1 of 2

Project: Marine Geotechnical Investigation
Location: Port au Choix, NL
Client: Public Works Government Services Canada
Drilling Supervisor: Elizabeth Melindy

Project No: 563
Date: October 29, 2009

Log of Geotech Borehole: BH1

Depth below Datum	Symbol	Geologic Description	Elevation (m)	Sample Type	Sample No.	"N" Value	Recovery (%)	RQD (%)
		Harbour Bottom (-7.35 m)	-7.35					
		Split-spoon sank 0.23 m into soft sediment.	-7.58					
		SPT: 1 for 0.45 m / 2 CFEM: Sand, trace Silt and/or Clay, trace Gravel	-8.2	SS	1	2	50	
		SPT: 1 / 1 for 0.3 m / 2 CFEM: Sand, trace Silt and/or Clay	-8.81	SS	2	1	58	
			-9.76					
		SPT: 50 for 0.13 m (Refusal) CFEM: Sand, trace Silt and/or Clay, trace Gravel		SS	3	50	80	
		Bedrock: Highly broken limestone		RC	---		99	36
			-12	RC	---		100	15
		End of Borehole						

Standard Penetration Test "N" Value per 300 mm (20 40 60 80)

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Drilling Method: NW casing/ NQ coring
Driller: Formation Drilling Ltd.
Datum: LNT
Sheet: 2 of 2

Project: Marine Geotechnical Investigation
Location: Port au Choix, NL
Client: Public Works Government Services Canada
Drilling Supervisor: Elizabeth Melindy

Project No: 563
Date: October 30, 2009

Log of Geotech Borehole: BH2

Depth below Datum	Symbol	Geologic Description	Elevation (m)	Sample Type	Sample No.	"N" Value	Recovery (%)	RQD (%)
0		0 m LNT	0					

Standard Penetration Test "N" Value per 300 mm (20 40 60 80)

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154 Major's Path
St. John's, NL A1A 5A1
Phone: (709) 739-7270
Fax: (709) 753-5101

Drilling Method: NW casing/ NQ coring
Driller: Formation Drilling Ltd.
Datum: LNT
Sheet: 1 of 2

Project: Marine Geotechnical Investigation
Location: Port au Choix, NL
Client: Public Works Government Services Canada
Drilling Supervisor: Elizabeth Melindy

Project No: 563
Date: October 30, 2009

Log of Geotech Borehole: BH2

Depth below Datum	Symbol	Geologic Description	Elevation (m)	Sample Type	Sample No.	"N" Value	Recovery (%)	RQD (%)
		Harbour Bottom (-7.69 m)	-7.69					
		Split-spoon sank 0.23 m into soft sediment.	-7.92					
		SPT: 1 for 0.3 m / 1 / 1 CFEM: Sand, some Silt and/or Clay, trace Gravel	-8.53	SS	1	2	38	
			-8.81					
		SPT: 50 for 0.13 m (Refusal) Sand and gravel		SS	2	50	60	
		Bedrock: Highly broken limestone		RC	---		100	38
				RC	---		85	0
			-10.6	RC	---		73	0
		End of Borehole						

Standard Penetration Test "N" Value per 300 mm (20 40 60 80)

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Drilling Method: NW casing/ NQ coring
Driller: Formation Drilling Ltd.
Datum: LNT
Sheet: 2 of 2

Project: Marine Geotechnical Investigation
Location: Port au Choix, NL
Client: Public Works Government Services Canada
Drilling Supervisor: Kevin Gale

Project No: 563
Date: October 24, 2009

Log of Geotech Borehole: BH4

Depth below Datum	Symbol	Geologic Description	Elevation (m)	Sample Type	Sample No.	"N" Value	Recovery (%)	RQD (%)
0		0 m LNT	0					

Standard Penetration Test "N" Value per 300 mm (20 40 60 80)

Fracflow Consultants Inc.
154 Major's Path
St. John's, NL A1A 5A1
Phone: (709) 739-7270
Fax: (709) 753-5101

Drilling Method: NW casing/ NQ coring
Driller: Formation Drilling Ltd.
Datum: LNT
Sheet: 1 of 2

Project: Marine Geotechnical Investigation
Location: Port au Choix, NL
Client: Public Works Government Services Canada
Drilling Supervisor: Kevin Gale

Project No: 563
Date: October 24, 2009

Log of Geotech Borehole: BH4

Depth below Datum	Symbol	Geologic Description	Elevation (m)	Sample Type	Sample No.	"N" Value	Recovery (%)	RQD (%)
		Harbour Bottom (-7.80 m)	-7.8					
		Split-spoon sank 0.63 m into soft sediment.	-8.43					
		SPT: 2 / 2 / 3 / 3 CFEM: Sand, some Silt and/or Clay, trace Gravel	-9.04	SS	1	5	58	
			-9.89					
		SPT: 6 / 6 / 5 / 4 Sand and silt with rock in tip	-10.5	SS	2	11	17	
			-11.2					
		SPT: 15 / 50 for 0.10 m (Refusal) CFEM: Sand and Gravel, some Silt, trace Clay	-11.4	SS	3	50	80	
		Bedrock: Highly broken limestone	-11.7	RC	---		99	0
		SPT: 50 for 0.05 m (Refusal) Pieces of rock SS4; "N"-Value = 50; Rec = 100%	-12.2	SS	4	50	100	
		Bedrock: Highly broken limestone	-13.3	RC	---		48	17
		End of Borehole						

Standard Penetration Test "N" Value per 300 mm (20 40 60 80)

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St. John's, NL A1A 5A1
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Drilling Method: NW casing/ NQ coring
Driller: Formation Drilling Ltd.
Datum: LNT
Sheet: 2 of 2

Project: Marine Geotechnical Investigation
Location: Port au Choix, NL
Client: Public Works Government Services Canada
Drilling Supervisor: Kevin Gale

Project No: 563
Date: October 6-7, 2009

Log of Geotech Borehole: BH5

Depth below Datum	Symbol	Geologic Description	Elevation (m)	Sample Type	Sample No.	"N" Value	Recovery (%)	RQD (%)
0		0 m LNT	0					
		Harbour Bottom (-6.77 m)	-6.77					
							42	

Standard Penetration Test "N" Value per 300 mm (20 40 60 80)

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154 Major's Path
St. John's, NL A1A 5A1
Phone: (709) 739-7270
Fax: (709) 753-5101

Drilling Method: NW casing/ NQ coring
Driller: Formation Drilling Ltd.
Datum: LNT
Sheet: 1 of 2

Project: Marine Geotechnical Investigation
Location: Port au Choix, NL
Client: Public Works Government Services Canada
Drilling Supervisor: Kevin Gale

Project No: 563
Date: October 6-7, 2009

Log of Geotech Borehole: BH5

Depth below Datum	Symbol	Geologic Description	Elevation (m)	Sample Type	Sample No.	"N" Value	Recovery (%)	RQD (%)
		SPT: 12 / 22 / 11 / 13 CFEM: Sand and Gravel, trace Silt and/or Clay	-7.38	SS	1	33	42	
			-7.84					
		SPT: 8 / 13 / 24 / 50 for 0.1 m (Refusal) CFEM: Gravelly Sand, some Silt, trace Clay	-8.32	SS	2	37	45	
		SPT: 50 for 0.08 m (Refusal) Gravel [SS3 overlaps SS2 since drilling ran over a two day span] SS3; "N"-Value = 50; Rec = 100%	-9.17	SS	3	50	100	
		SPT: 50 for 0 m (Refusal) No sample recovery SS4; "N"-Value = 50; Rec = 0%	-10.4	SS	4	50	0	
		SPT: 50 for 0 m (Refusal) No sample recovery SS5; "N"-Value = 50; Rec = 0%	-11.6	SS	5	50	0	
		SPT: 50 for 0 m (Refusal) No sample recovery SS6; "N"-Value = 50; Rec = 0%	-13.4	SS	6	50	0	
		Bedrock: Highly broken limestone	-13.5	RC	---		59	15
		SPT: 50 for 0 m (Refusal) No sample recovery SS7; "N"-Value = 50; Rec = 0% End of Borehole		SS	7	50	0	

Standard Penetration Test "N" Value per 300 mm (20 40 60 80)

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Drilling Method: NW casing/ NQ coring
Driller: Formation Drilling Ltd.
Datum: LNT
Sheet: 2 of 2

Public Works and Government Services Canada / Travaux Publics et Services gouvernementaux Canada

STAMP
REGISTERED PROFESSIONAL ENGINEER
PEGL Newfoundland and Labrador
LEE M. BENNETT
SIGNATURE
15/04/17
NEWFOUNDLAND & LABRADOR

PROVINCE OF NEWFOUNDLAND AND LABRADOR
PEGL Newfoundland and Labrador
PERMIT HOLDER
This Permit Allows
Meridian Engineering Inc.
To practice Professional Engineering in Newfoundland and Labrador.
Permit No. as issued by PEG N0453
which is valid for the year 2015.

D	RE-ISSUED FOR TENDER	15/04/17
C	ISSUED FOR TENDER	10/05/21
B	ISSUED FOR 99% REVIEW	10/04/23
A	ISSUED FOR 66% REVIEW	10/03/30
revisions		date

project / projet
BREAKWATER WHARF CONSTRUCTION
PORT AU CHOIX, NL

drawing / dessin
BOREHOLE LOGS

designed L. BENNETT / conçu
date FEBRUARY 2010
drawn C. HOBBS / dessiné
date FEBRUARY 2010
approved / approuvé
date
Tender / Soumission
PWGSC Project Manager / Administrateur de projets TPSGC
13/04/2015

project number / no. du projet
R.076532.001
drawing no. / no. du dessin
C11 OF 11

E-DRM/GDD-E: 513840

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