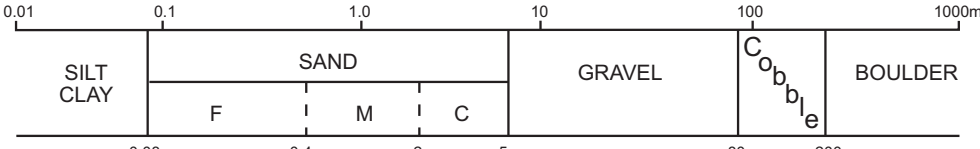




APPENDIX B

Record of Borehole Sheets

DESCRIPTIVE TERMS- BOREHOLE/TEST PIT LOG

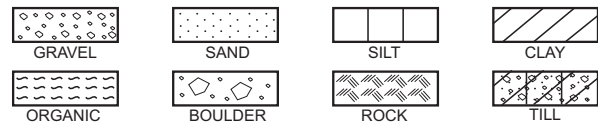
SOILS	GRAIN SIZE						
	DESCRIPTIVE TERMINOLOGY	TRACE	SOME	ADJECTIVE	and > 35% noun > 35% and main fraction		
		trace clay, etc.	some gravel, etc.	silty, etc.	sand and gravel, etc.		
	COMPACTNESS gravels, sands, tills	N, RANGE	0 - 4	4 - 10	10 - 30	30 - 50	> 50
	DENSITY	V. LOOSE	LOOSE	MEDIUM	DENSE	V. DENSE	
	CONSISTENCY silt, clay	S, KPa	< 12.5	12.5 - 25	25 - 50	50 - 100	100 - 200
		CONSISTENCY	V. SOFT	SOFT	MEDIUM	STIFF	V. STIFF

ROCK	RQD	OVERALL QUALITY			FRACTURE SPACING	
	0 - 25	VERY POOR			VERY CLOSE 20 - 60 mm	
	25 - 50	POOR			CLOSE 60 - 200 mm	
	50 - 75	FAIR			MODERATE 200 - 600 mm	
	75 - 90	GOOD			WIDE 600 - 2000 mm	
	90 - 100	EXCELLENT			VERY WIDE 2 - 6 m	
	COMP. STR. MPa	1 - 5	5 - 25	25 - 50	50 - 100	100 - 250
	DESCRIPTION	V. WEAK	WEAK	MODERATE	STRONG	V. STRONG

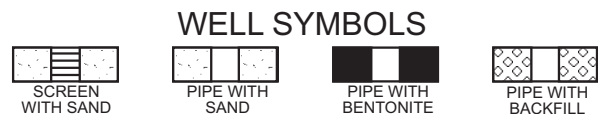
SAMPLE TYPES (location to scale on log)

S SPLIT TUBE	G SHOVEL
T SHELBY TUBE	H CARVED BLOCK
P PISTON	K SLOTTED
F AUGER	V IN SITU VANE
W WASH	NR NO RECOVERY

LOG SYMBOLS



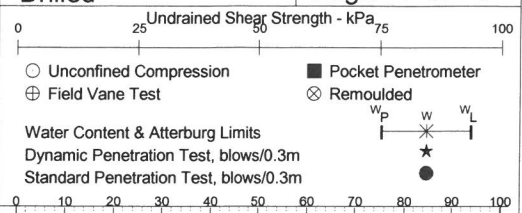
ROCK CORES A(30mm); B(41mm); N(54mm)



- N - standard penetration test; blows by 475 J drop hammer to advance Std. 50mm O.D. split tube sampler 0.3m
- RQD - percent of core consisting of hard, sound pieces in excess of 100mm long (excluding machine breaks)
- RECOVERY - sample recovery expressed as percent or length
- S - shear strength, kPa; vane \oplus ; penetrometer \blacksquare ; unconfined \circ ; U_c unconfined compressive strength
- Sr - shear strength, remoulded; vane \otimes ; penetrometer \square
- Dd - dry density; t/m^3
- W - natural moisture content, percent *
- PL - plastic limit, percent ---
- LL - liquid limit, percent ---
- ND - non detect, total petroleum hydrocarbons (TPH) not detected in soil
- Groundwater Level ∇ ; Seepage ∇

Client	Public Works & Government Services Canada	Proj No.	10456.75	BOREHOLE BH18-01 Page 1 of 1
Project	Saint John Ferry Terminal Marshalling Yard	Date Drilled	2018/01/11	
Location	170 Digby Ferry Road, Saint John, NB			

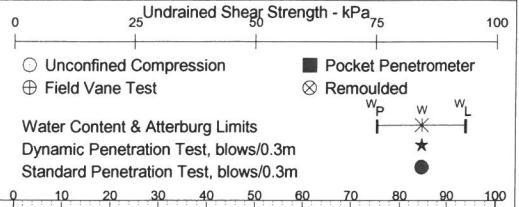
Ground Level, m	Datum:	Logged By
10.18	Chart	BJS



DEPTH m	SAMPLE				LOG	DESCRIPTION
	No	TYPE	N (RQD)	REC (mm)		
0	1	F			0.10 ASPHALT 10.08	
					grey SAND and GRAVEL, trace Silt (Crushed Rock)	*
	2	S	50+	75	0.61 light brown SAND and GRAVEL, some Silt 9.57	
	3	F				*
1	4	S	50+	460		
					1.52 dark brown SAND and GRAVEL, some Silt 8.66	
	5	S	50+	340		*
2					2.13 8.05	
					-EOH at 2.13 metres	
					-Grounwater not encountered	
					-Frost depth at time of drilling at approximately 1.52 metres	

Client	Public Works & Government Services Canada	Proj No.	10456.75	BOREHOLE BH18-02 Page 1 of 1
Project	Saint John Ferry Terminal Marshalling Yard	Date Drilled	2018/01/11	
Location	170 Digby Ferry Road, Saint John, NB			

Ground Level, m	9.93	Datum:	Chart	Logged By	BJS
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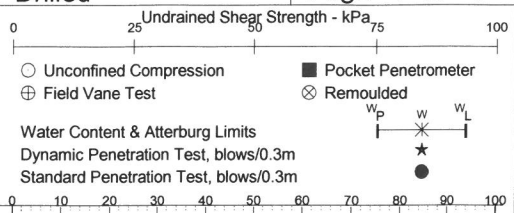


DEPTH m	SAMPLE				LOG	DESCRIPTION
	No	TYPE	N (RQD)	REC (mm)		
0	1	F			0.09 ASPHALT	9.85
					grey SAND and GRAVEL, trace Silt (Crushed Rock)	
					0.61	9.32
					light brown SAND and GRAVEL, some Silt	
1	2	S	50+	520		
					1.52	8.41
					dark brown SAND and GRAVEL, trace Silt	
2					2.13	7.80
					-EOH at 2.13 metres	
					-Groundwater not encountered	
					-Frost at time of drilling at approximately 1.22 metres	

Client	Public Works & Government Services Canada	Proj No.	10456.75	BOREHOLE BH18-03 Page 1 of 1
Project	Saint John Ferry Terminal Marshalling Yard	Date Drilled	2018/01/11	
Location	170 Digby Ferry Road, Saint John, NB			

Ground Level, m	9.90	Datum:	Chart	Logged By	BJS
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DEPTH m	SAMPLE				LOG	DESCRIPTION	TEST RESULTS													
	No	TYPE	N (RQD)	REC (mm)			0	10	20	30	40	50	60	70	80	90	100			
0	1	F			0.10	ASPHALT	9.80													
					0.46	grey SAND and GRAVEL, trace Silt (Crushed Rock)	9.44													
						light brown SAND and GRAVEL, trace Silt														
1	2	S	50+	75																
	3	F																		
					1.52	dark brown SAND and GRAVEL, trace Silt	8.38													
2	4	S	47	270																
					2.13		7.77													
						-EOH at 2.13 metres														
						-Groundwater not encountered														
						-Frost at time of drilling at approximately 1.52 metres														



Client Public Works & Government Services Canada

Proj No. 10456.75

BOREHOLE

Project Saint John Ferry Terminal Marshalling Yard

Date Drilled 2018/01/11

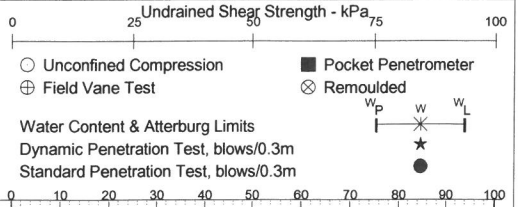
BH18-04
Page 1 of 1

Location 170 Digby Ferry Road, Saint John, NB

Ground Level, m 9.89

Datum: Chart

Logged By BJS

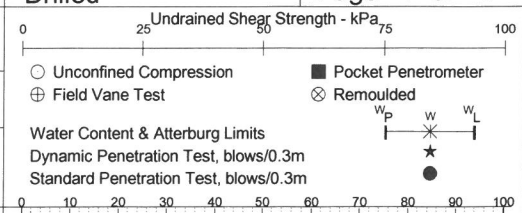


DEPTH m	SAMPLE				LOG	DESCRIPTION
	No	TYPE	N (RQD)	REC (mm)		
0	1	F			0.06 ASPHALT	9.83
					grey SAND and GRAVEL, trace Silt (Crushed Rock)	
					light brown SAND and GRAVEL, some Silt	
					0.61	9.28
1	2	S	50+	100		
	3	F				
	4	S	50+	310		
2					2.13	7.76
					-EOH at 2.13 metres	
					-Groundwater not encountered	
					-Frost at time of drilling at approximately 1.52 metres	

Client	Public Works & Government Services Canada	Proj No.	10456.75	BOREHOLE BH18-07 Page 1 of 1
Project	Saint John Ferry Terminal Marshalling Yard	Date Drilled	2018/01/11	
Location	170 Digby Ferry Road, Saint John, NB			

Ground Level, m	10.21	Datum:	Chart	Logged By	BJS
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DEPTH m	SAMPLE				LOG	DESCRIPTION	LOG
	No	TYPE	N (RQD)	REC (mm)			
0	1	F			0.10 ASPHALT 10.11		
					grey SAND and GRAVEL, trace Silt (Crushed Rock)		
					0.46 9.75		
					light brown SAND and GRAVEL, trace Silt		
1	2	S	50+	100			*
	3	F					*
					1.52 8.69		
	4	S	21	480		dark brown SAND and GRAVEL, trace Silt	*
2					2.13 8.08		
					-EOH at 2.13 metres		
					-Groundwater not encountered		
					-Frost depth at time of drilling at approximately 1.52 metres		





APPENDIX C

Topographic Survey of Saint John Ferry Terminal and Proposed Upgrades

PRELIMINARY

- LEGEND**
- EDGE OF PAVEMENT
 - EXISTING BUILDING
 - EDGE OF CONCRETE
 - EXISTING WATER MAIN
 - EXISTING SANITARY SEWER
 - EXISTING STORM SEWER
 - PROPOSED STORM SEWER
 - + BH 6 GEOTECHNICAL BOREHOLE
 - CB 6 EXISTING CATCH BASIN
 - CB 24 PROPOSED CATCH BASIN
 - MH MANHOLE
 - ⊕ FIRE HYDRANT
 - ⊕ GATE VALVE
 - ⊕ LUMINAIRE
 - ▨ REHABILITATION TREATMENT OPTION 1
 - ▨ REHABILITATION TREATMENT OPTION 4

QUANTITIES FOR UPGRADES:
 REHABILITATION TREATMENT OPTION 1 - 21 500 m²
 REHABILITATION TREATMENT OPTION 4 - 2 500 m²
 CATCH BASINS - 2
 MANHOLES - 2
 300mm STORM PIPE - 80m
 CONCRETE CURB - 240m

revisions	date

project project

MARSHALLING YARD SAINT JOHN, NB

drawing dessin

PROPOSED UPGRADES

designed DP congru

date FEB 2018

drawn MN dessin

date FEB 2018

approved approuvé

date

Tender DP soumission

PWGSC Project Manager / Administrateur de projets TPSGC

project number / no. du projet

10456.75

drawing no. / no. du dessin

C2

