APPENDIX 'A'

GEOTECHNICAL REPORT

APPENDIX 'A' - GEOTECHNICAL REPORT

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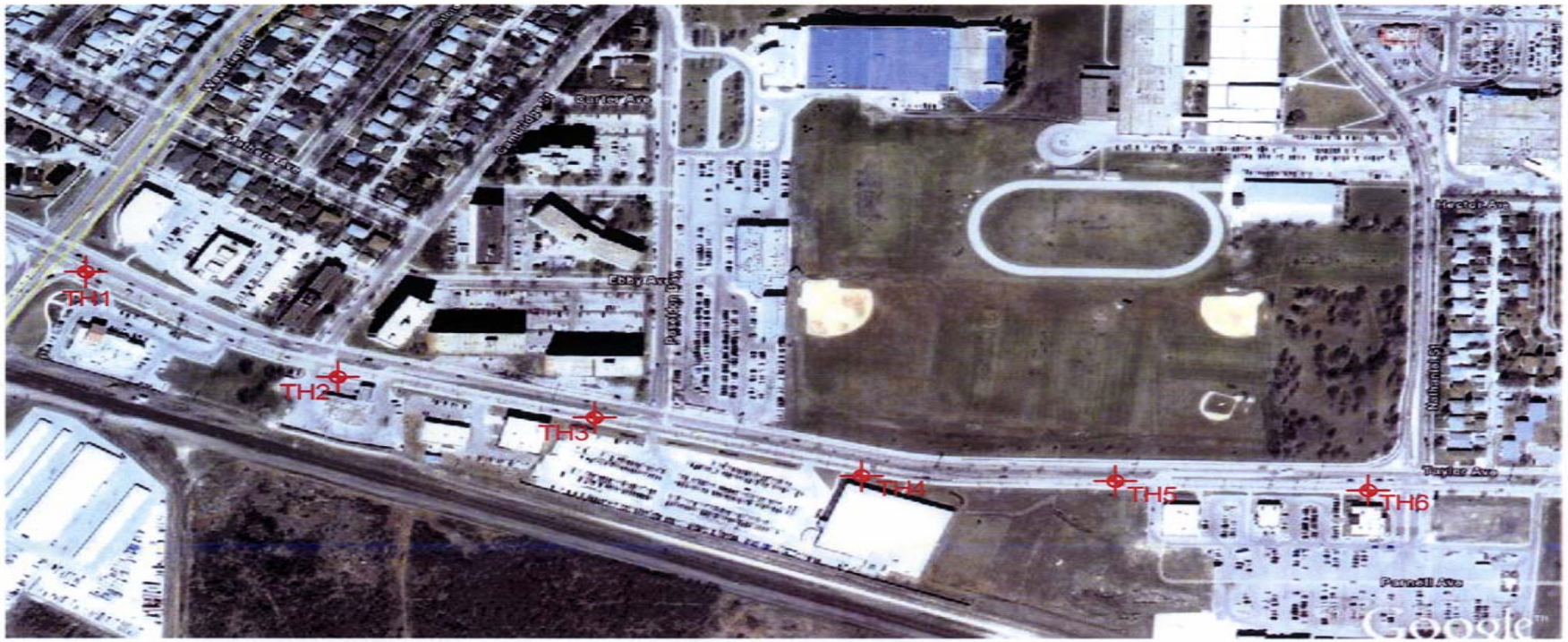
The geotechnical report is provided to aid in the Contractor's evaluation of the existing pavement structure and/or soil conditions. The information presented is considered accurate at the locations shown on the Drawings and at the time of drilling. However, variations in pavement structure and/or soil conditions may exist between test holes and fluctuations in groundwater levels can be expected seasonally and may occur as a result of construction activities. The nature and extent of variations may not become evident until construction commences.

Geotechnical Report for Taylor Avenue

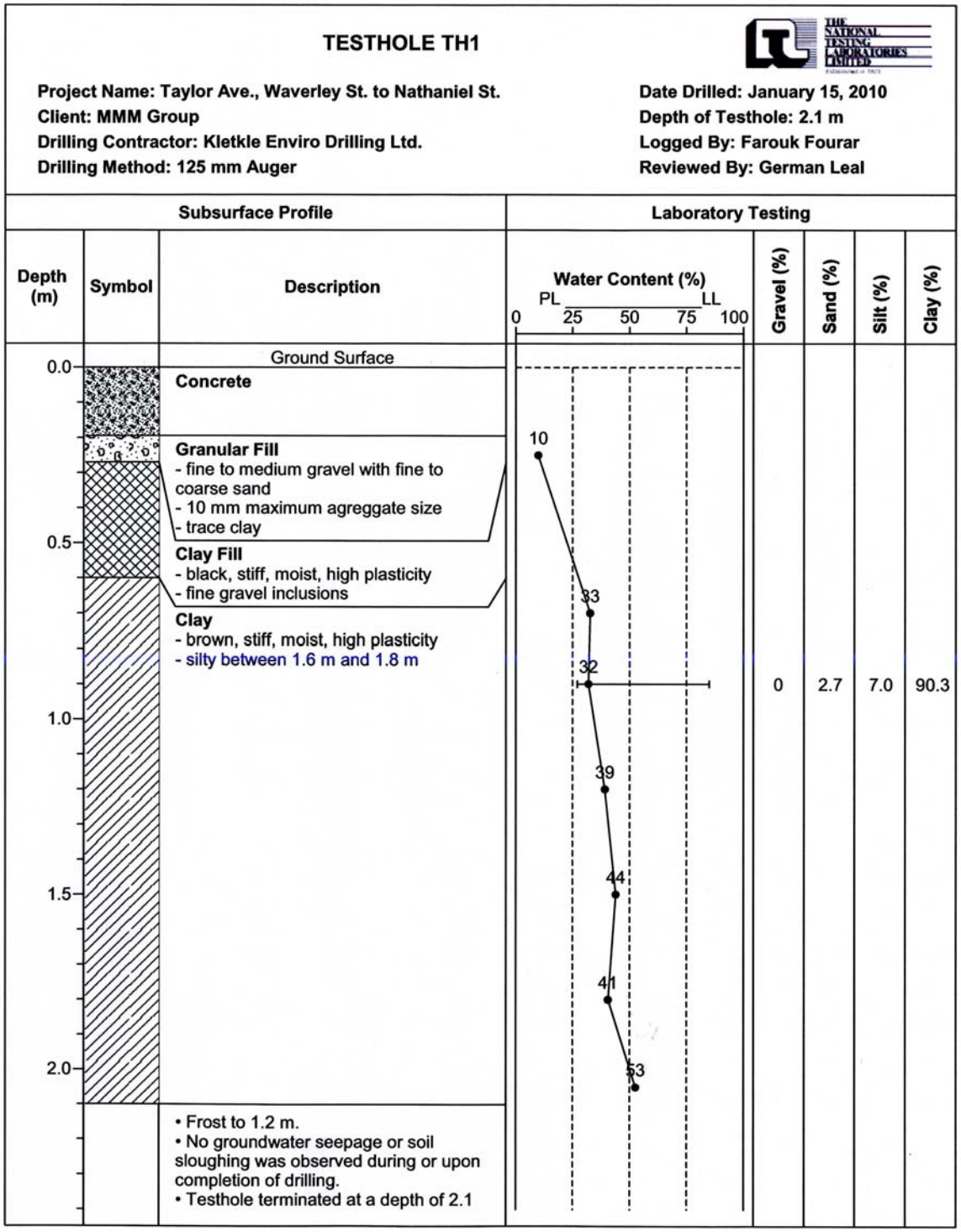


THE NATIONAL TESTING LABORATORIES LIMITED *Established in 1923*	Project No.MMM-917	Drawn by: G.L	Figure: 1	Testhole Location Plan Taylor Ave., Waverley St. to Nathaniel St. Winnipeg, Manitoba
	Date:Jan 18, 2010	Reviewed by: DF	Scale: NTS	

Summary of Core Samples

Testhole ID	Testhole Location	Pavement Surface		Pavement Structure Material		Sample Description	Sample Depth (m)	Moisture Content (%)	Particle Size Analysis				Atterburg Limits		
		Type	Thickness (mm)	Type	Thickness (mm)				Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Liquid Limit	Plastic Limit	Plasticity Index
TH1	East bound median lane 30m East of Waverley Street 1.5m from north curb	Concrete	195	Granular Base	75	Clay	0.9	32.0	0.0	2.7	7.0	90.3	85.0	27.0	58.0
TH2	East bound curb lane 15m east of Cambridge Street 2.5m from south curb	Concrete	205	Granular Base	100	Clay	-	-	-	-	-	-	-	-	-
TH3	East bound median lane 40m west of Poseidon Bay 1.5m from north curb	Concrete	215	Granular Base	100	Clay	-	-	-	-	-	-	-	-	-
TH4	East bound curb lane 130m east of Poseidon Bay 2.5m from south curb	Concrete	190	Granular Base	100	Clay	-	-	-	-	-	-	-	-	-
TH5	East bound median lane 190m west of Nathaniel Street 1.5m from north curb	Concrete	165	Granular Base	280	Clay	-	-	-	-	-	-	-	-	-
TH6	East bound curb lane 10m west of Nathaniel Street 1.5m from south curb	Concrete	225	Granular Base	100	Clayey Silt	1.2	25.0	0.0	2.0	67.3	30.7	28.0	18.0	10.0

Test Hole Log for TH1



Test Hole Log for TH2

TESTHOLE TH2

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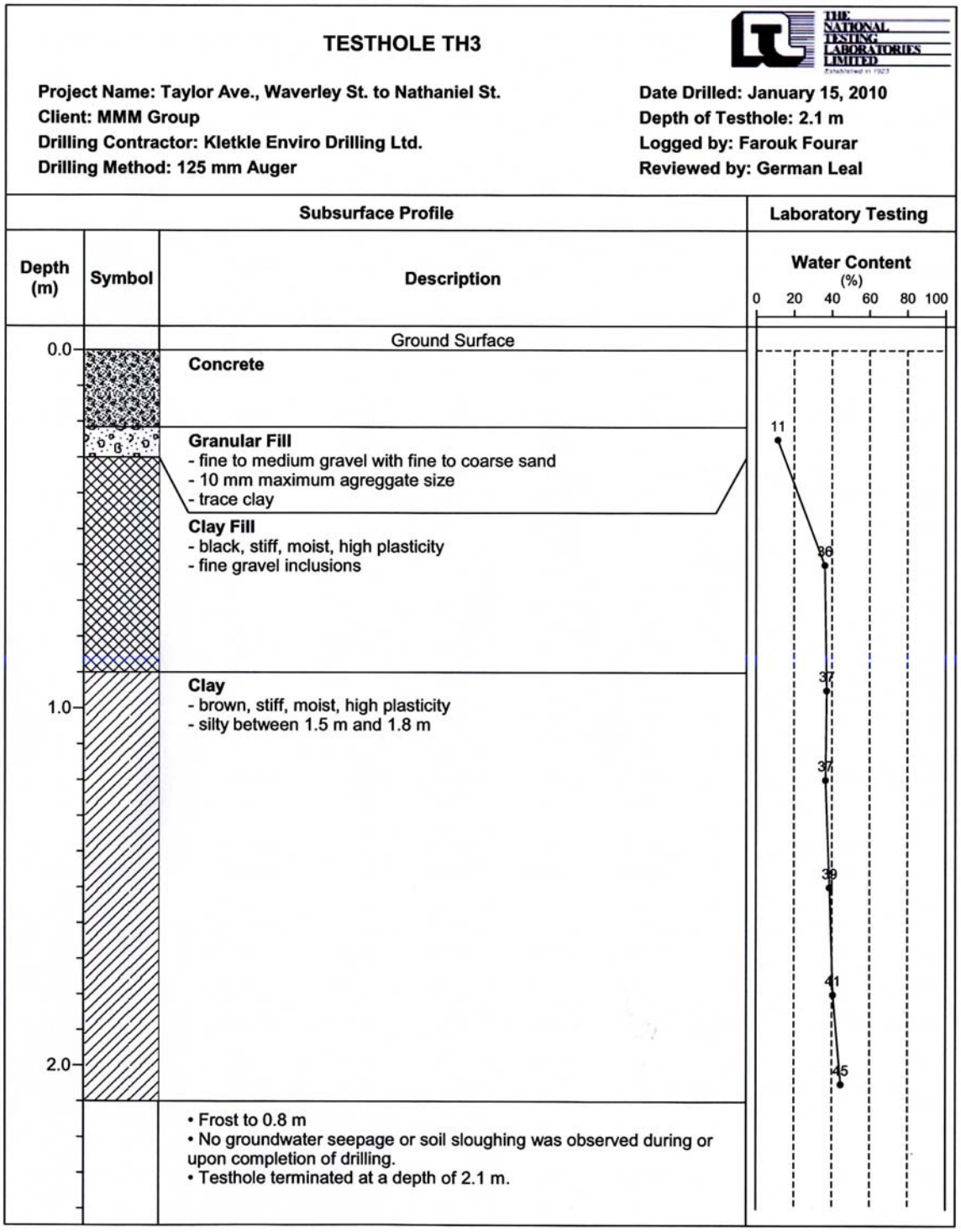
Project Name: Taylor Ave., Waverley St. to Nathaniel St.
Client: MMM Group
Drilling Contractor: Kletkle Enviro Drilling Ltd.
Drilling Method: 125 mm Auger

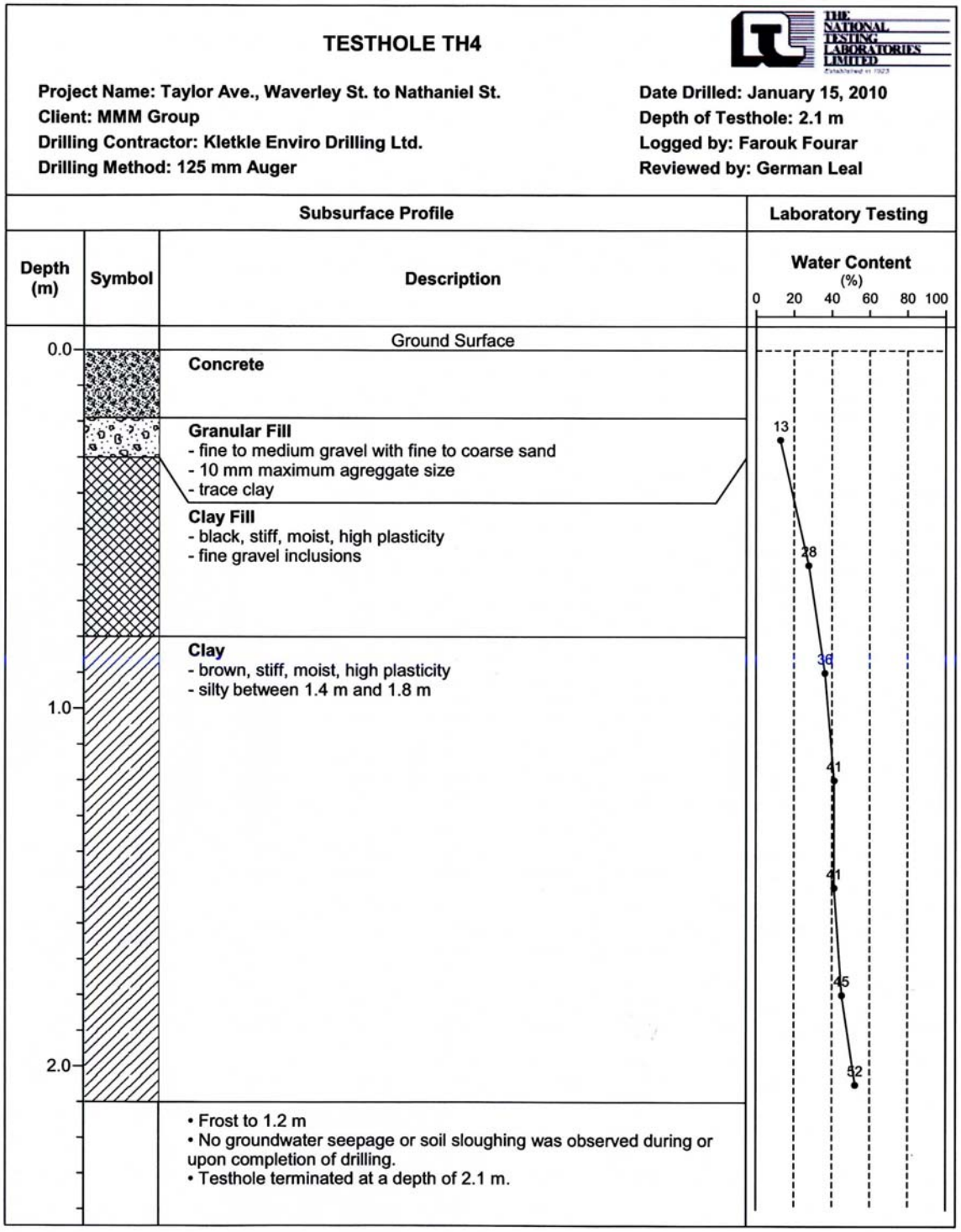
Date Drilled: January 15, 2010
Depth of Testhole: 2.1 m
Logged by: Farouk Fourar
Reviewed by: German Leal

Subsurface Profile			Laboratory Testing
Depth (m)	Symbol	Description	Water Content (%) 0 20 40 60 80 100
0.0		Ground Surface	
		Concrete	
		Granular Fill - fine to medium gravel with fine to coarse sand - 10 mm maximum agreggate size - trace clay	19
		Clay - brown, stiff, moist, high plasticity - silty below 1.8 m	28
1.0			28
			30
			31
			37
2.0			45
		• Frost to 1.2 m • No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.1 m.	

Test Hole Log for TH3



Test Hole Log for TH4



Test Hole Log for TH5

TESTHOLE TH5

THE NATIONAL TESTING LABORATORIES LIMITED

Project Name: Taylor Ave., Waverley St. to Nathaniel St.
Client: MMM Group
Drilling Contractor: Kletkle Enviro Drilling Ltd.
Drilling Method: 125 mm Auger

Date Drilled: January 15, 2010
Depth of Testhole: 2.1 m
Logged by: Farouk Fourar
Reviewed by: German Leal

Subsurface Profile			Laboratory Testing
Depth (m)	Symbol	Description	Water Content (%) 0 20 40 60 80 100
0.0		Ground Surface	
		Concrete	
		Granular Fill - fine to medium gravel with fine to coarse sand - 10 mm maximum agreggate size - trace clay	22
		Clay Fill - black, stiff, moist, high plasticity - fine gravel inclusions	36
1.0		**Clay** - brown, stiff, moist, high plasticity - silty between 1.2 m and 1.4 m	40 41 48 45
2.0			54
		• Frost to 0.9 m • No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.1 m.	

Test Hole Log for TH6

TESTHOLE TH6

THE NATIONAL TESTING LABORATORIES LIMITED

Project Name: Taylor Ave., Waverley St. to Nathaniel St.
Client: MMM Group
Drilling Contractor: Kletkle Enviro Drilling Ltd.
Drilling Method: 125 mm Auger

Date Drilled: January 15, 2010
Depth of Testhole: 2.1 m
Logged By: Farouk Fourar
Reviewed By: German Leal

Subsurface Profile			Laboratory Testing				
Depth (m)	Symbol	Description	Water Content (%) PL — LL (0 25 50 75 100)	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
0.0		Ground Surface					
		Concrete					
		Granular Fill - fine to medium gravel with fine to coarse sand - 10 mm maximum agreggate size - trace clay					
0.5		**Clay Fill** - black, stiff, moist, high plasticity - fine gravel inclusions					
		Clayey Silt - tan, soft, moist, low plasticity - trace clay	27, 28, 29, 25	0	2.0	67.3	30.7
1.0							
1.5			23, 24				
		Clay - brown, stiff, moist, high plasticity					
2.0			40				
		• Frost to 0.9 m • No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.1					

Pavement Core Photos

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Core sample from Testhole TH1

Core sample from Testhole TH2

Core sample from Testhole TH3

Core sample from Testhole TH4

Pavement Core Photos

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Core sample from Testhole TH5

Core sample from Testhole TH6