

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.

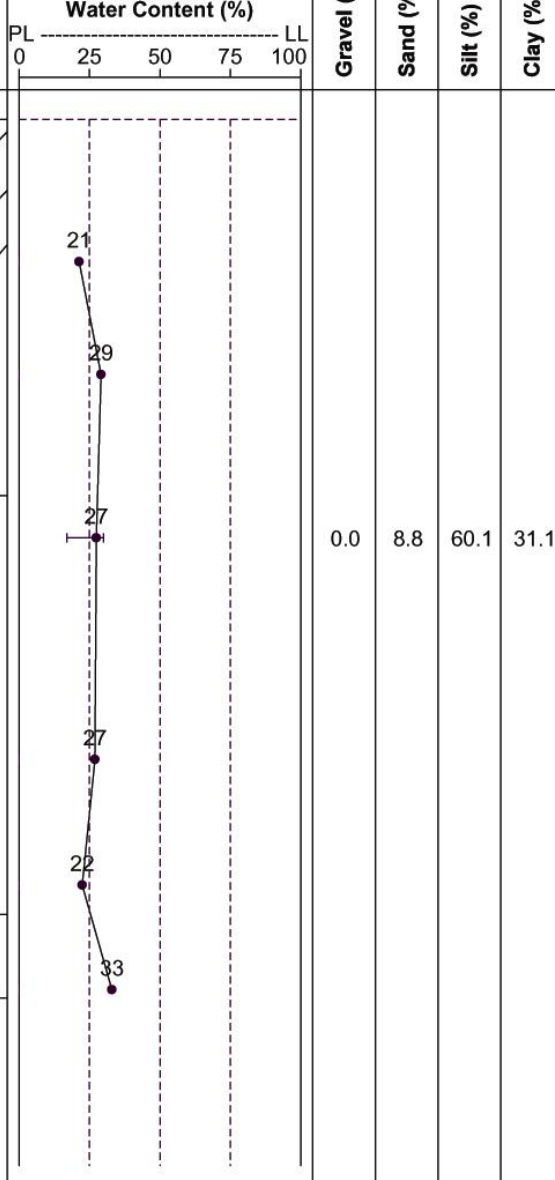
Geotechnical Report for Selkirk Avenue / Pritchard Avenue Alley

Test Hole Locations

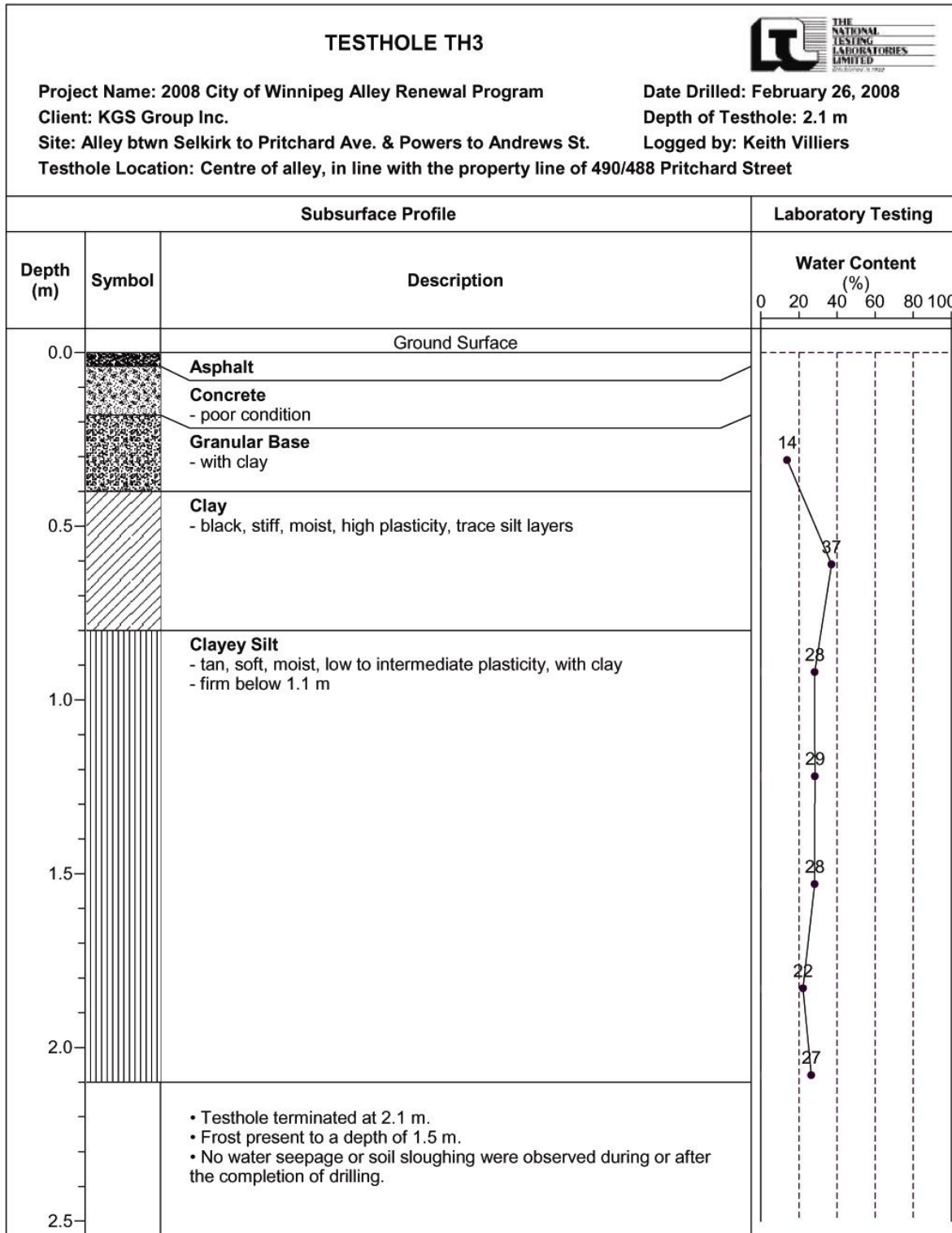


Test Hole Log for TH2

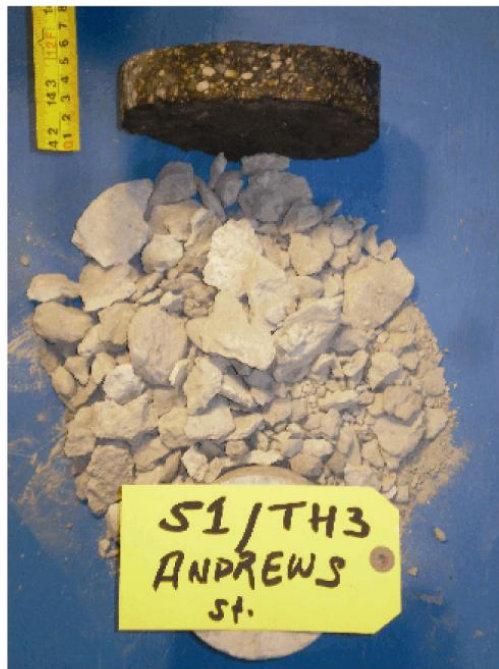
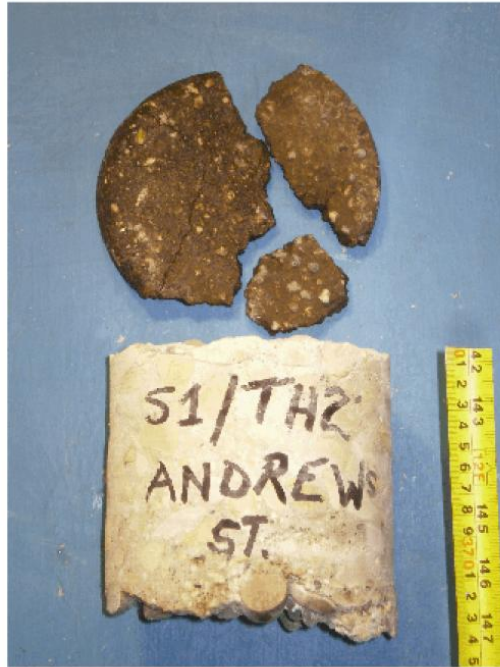
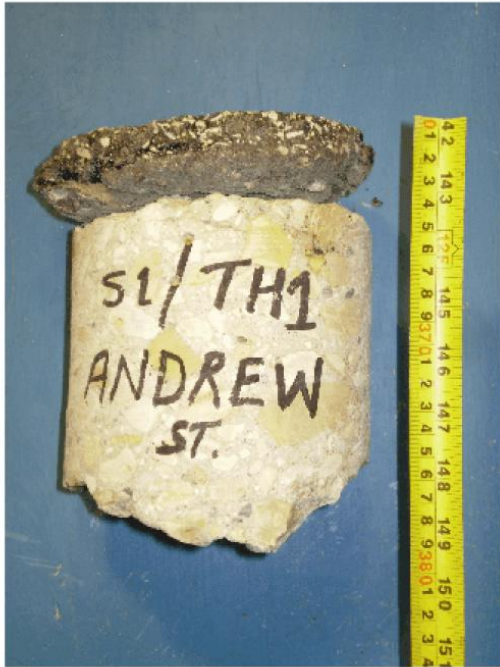
TESTHOLE TH2										
Project Name: 2008 City of Winnipeg Alley Renewal Program Client: KGS Group Inc. Site: Alley btwn Selkirk to Pritchard Ave. & Powers to Andrews St. Testhole Location: Centre of alley, in line with the property line of 506/504 Pritchard Street			Date Drilled: February 26, 2008 Depth of Testhole: 2.1 m Logged by: Keith Villiers							
Subsurface Profile			Laboratory Testing							
Depth (m)	Symbol	Description	Water Content (%)				Gravel (%)	Sand (%)	Silt (%)	Clay (%)
			PL	0	25	50				
0.0		Ground Surface								
		Asphalt								
		Concrete - poor condition								
		Granular Base - 37.5 mm aggregate size								
0.5		Clay - black to grey, stiff, moist, high plasticity, with gravel - grey below 0.5 m, firm, with silt layers								
1.0		Clayey Silt - tan, firm, moist, intermediate plasticity, trace sand, with clay - with clay layers below 1.7 m								
1.5										
2.0		Clay - brown, stiff, moist, high plasticity, with silt layers								
2.5		<ul style="list-style-type: none"> • Testhole terminated at 2.1 m. • Frost present to a depth of 1.4 m. • No water seepage or soil sloughing were observed during or after the completion of drilling. 								



Test Hole Log for TH3

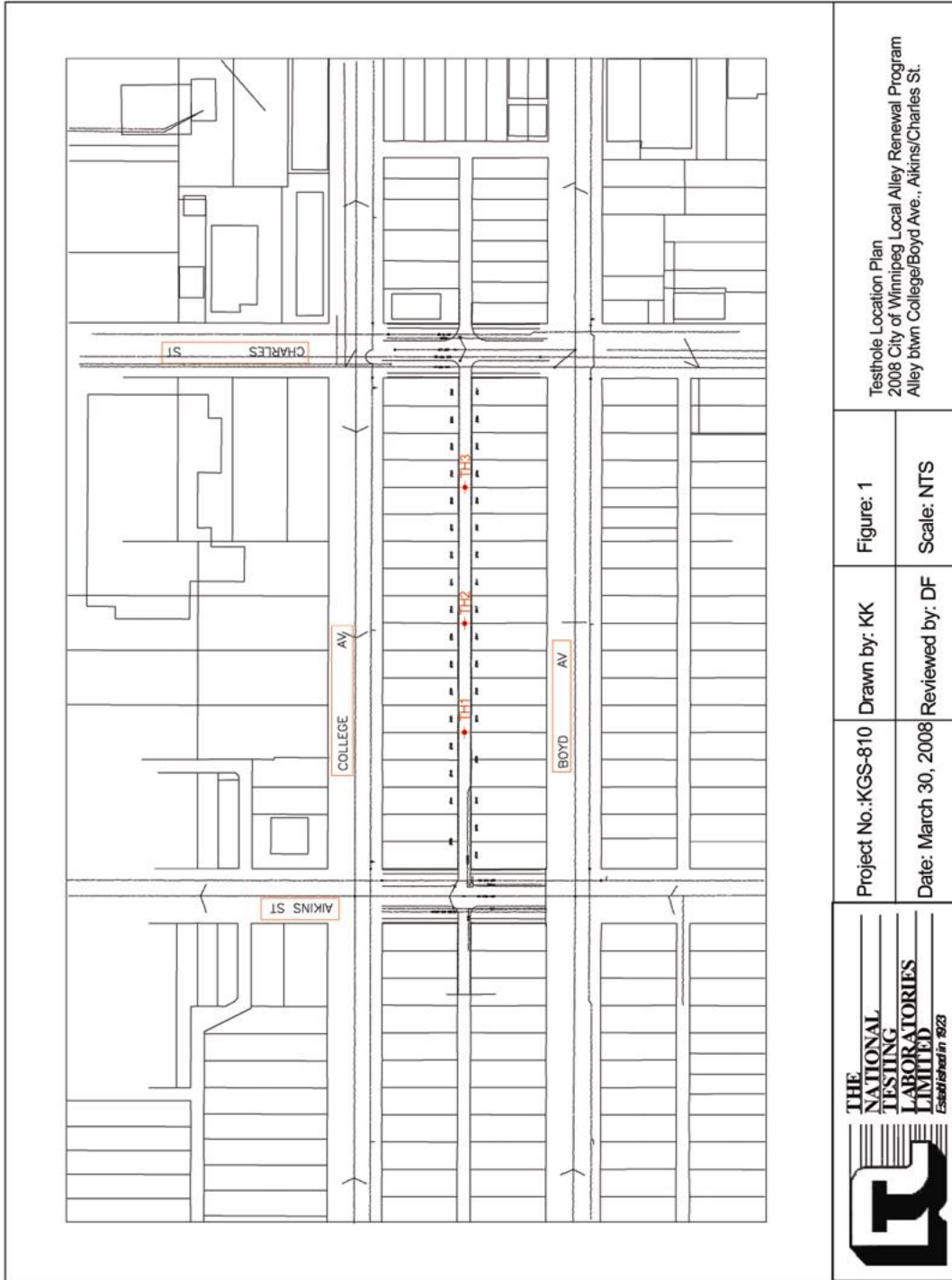


Pavement Core Photos



Geotechnical Report for Boyd Avenue / College Avenue Alley

Test Hole Locations

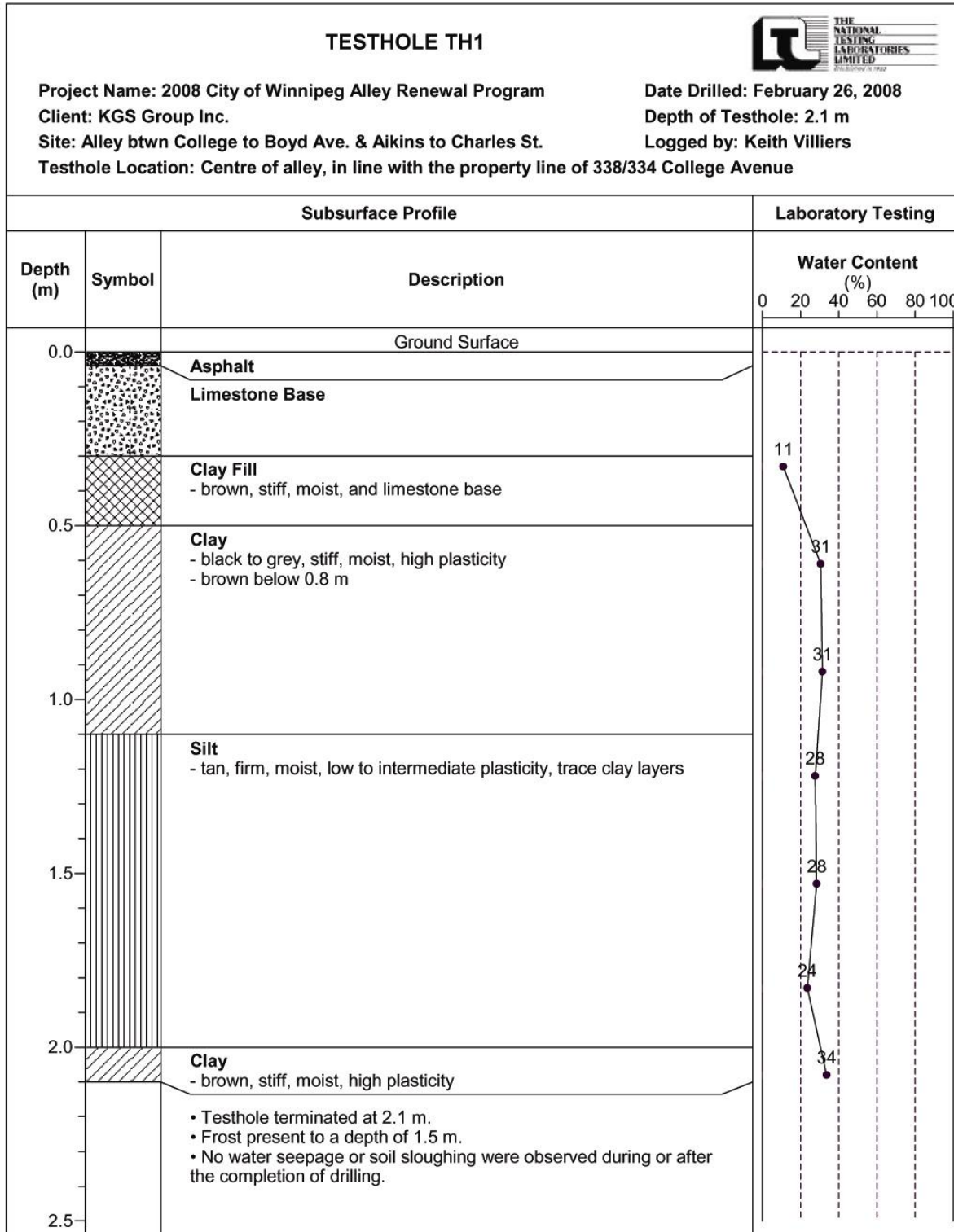


Summary of Core Samples





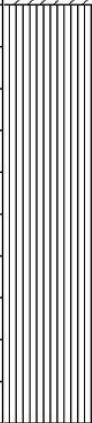
Site 2 - North Contract
2008 City of Winnipeg Alley Renewal Program
College Avenue to Boyd Avenue / Aikins Street to Charles Street

Testhole ID	Testhole Location	Pavement Surface		Pavement Structure Material		Sample Description	Sample Depth (m)	Moisture Content (%)	Particle Size Analysis				Atterberg Limits		
		Type	Thickness (mm)	Type	Thickness (mm)				Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Liquid Limit	Plastic Limit	Plasticity Index
TH1	Centre of alley, in line with the property line of 338/334 College Avenue	Asphalt	40	Limestone Base	260	N/A	N/A	-	-	-	-	-	-	-	-
TH2	Centre of alley, in line with the property line of 320/318 College Avenue	Asphalt	40	Limestone Base	260	Silt	1.5	22	0.0	5.9	71.4	22.7	21	17	4
TH3	Centre of alley, in line with the property line of 304/306 College Avenue	Asphalt	45	Limestone Base	255	Clay	0.9	32	0.0	1.2	7.2	91.6	85	26	59

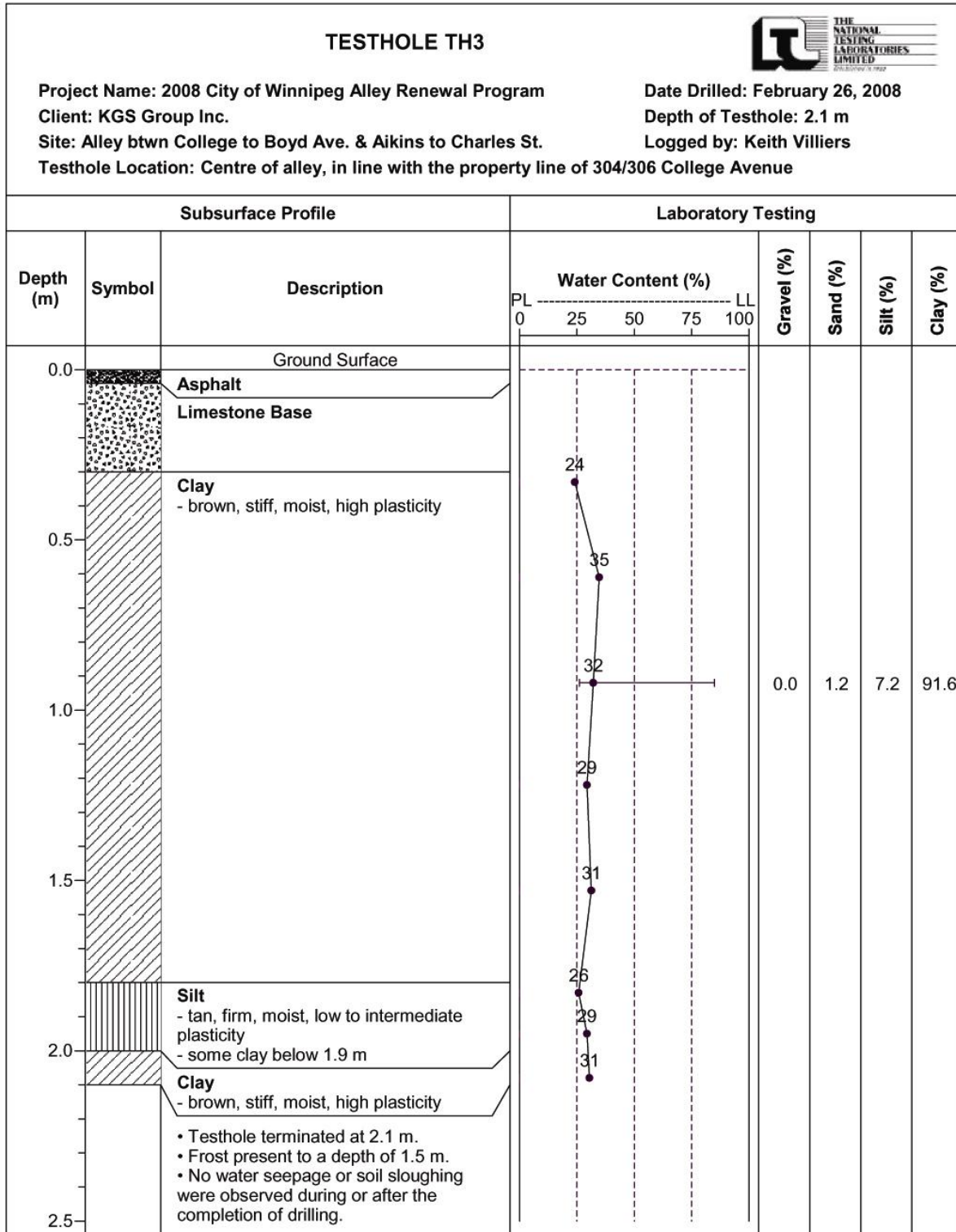
Test Hole Log for TH1



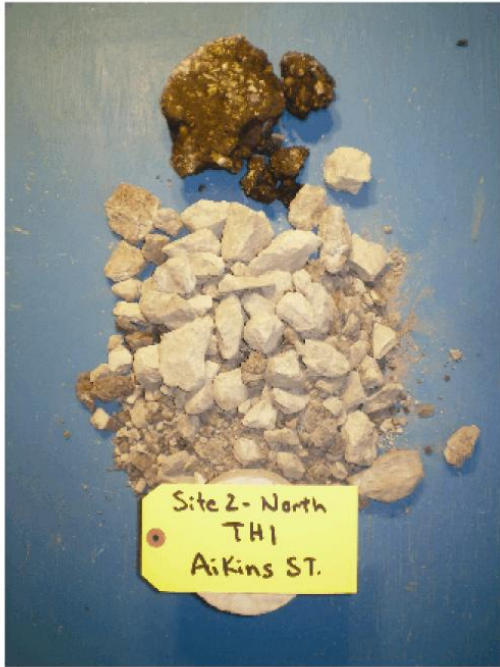
Test Hole Log for TH2

Subsurface Profile			Laboratory Testing					
Depth (m)	Symbol	Description	Water Content (%)		Gravel (%)	Sand (%)	Silt (%)	Clay (%)
			PL	LL				
Ground Surface			0	100				
0.0		Asphalt						
		Limestone Base						
0.5		Clay Fill - brown, firm, moist, intermediate plasticity, with limestone base	17					
1.0		Clay - black, stiff, moist, high plasticity, trace silt inclusions - brown below 0.8 m	31					
1.5		Silt - tan, firm, moist, low plasticity, some clay	35					
2.0			23					
2.1			22		0.0	5.9	71.4	22.7
2.2			23					
2.3			23					
2.5		<ul style="list-style-type: none"> • Testhole terminated at 2.1 m. • Frost present to a depth of 1.5 m. • No water seepage or soil sloughing were observed during or after the completion of drilling. 						

Test Hole Log for TH3

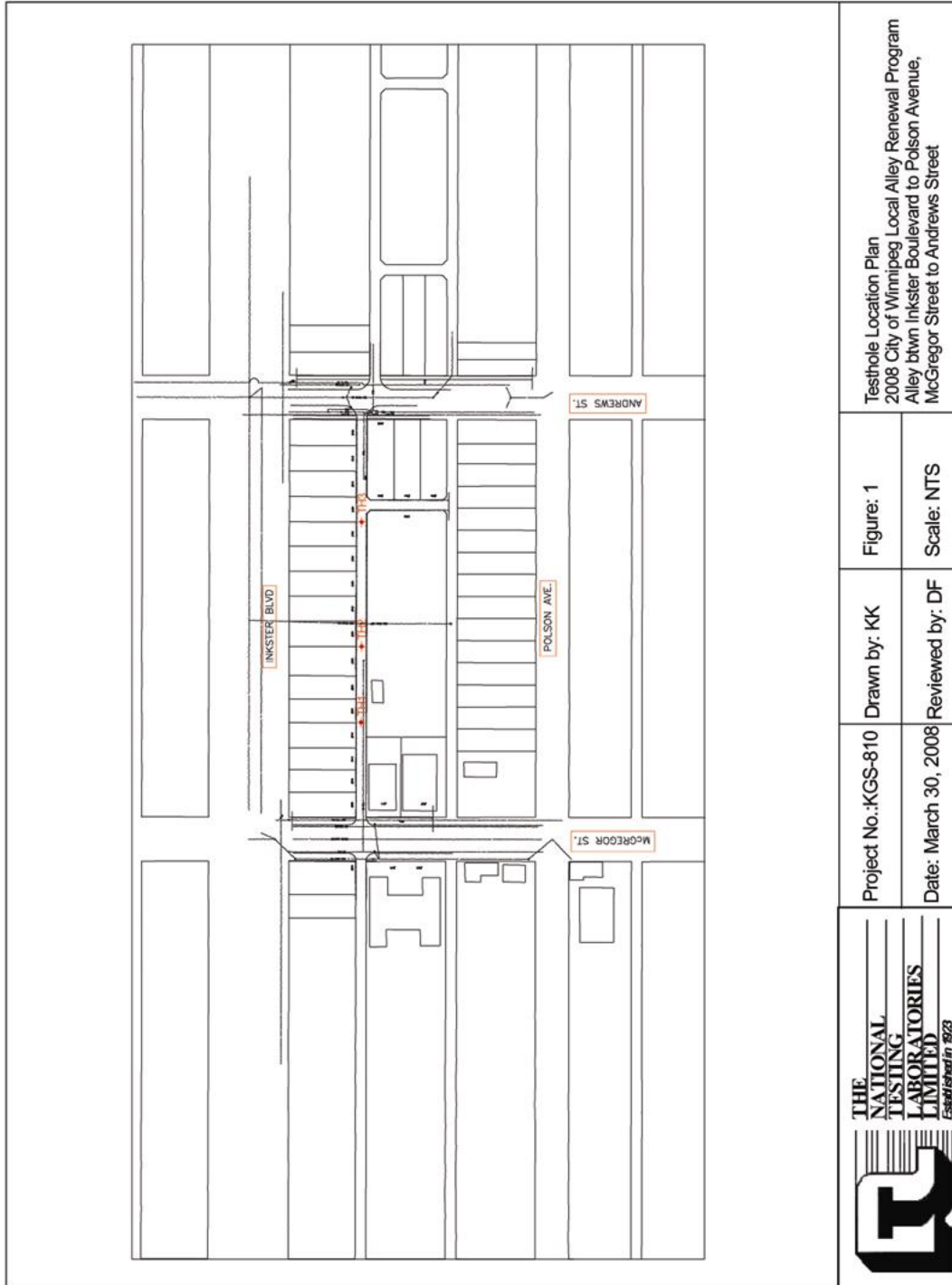


Pavement Core Photos

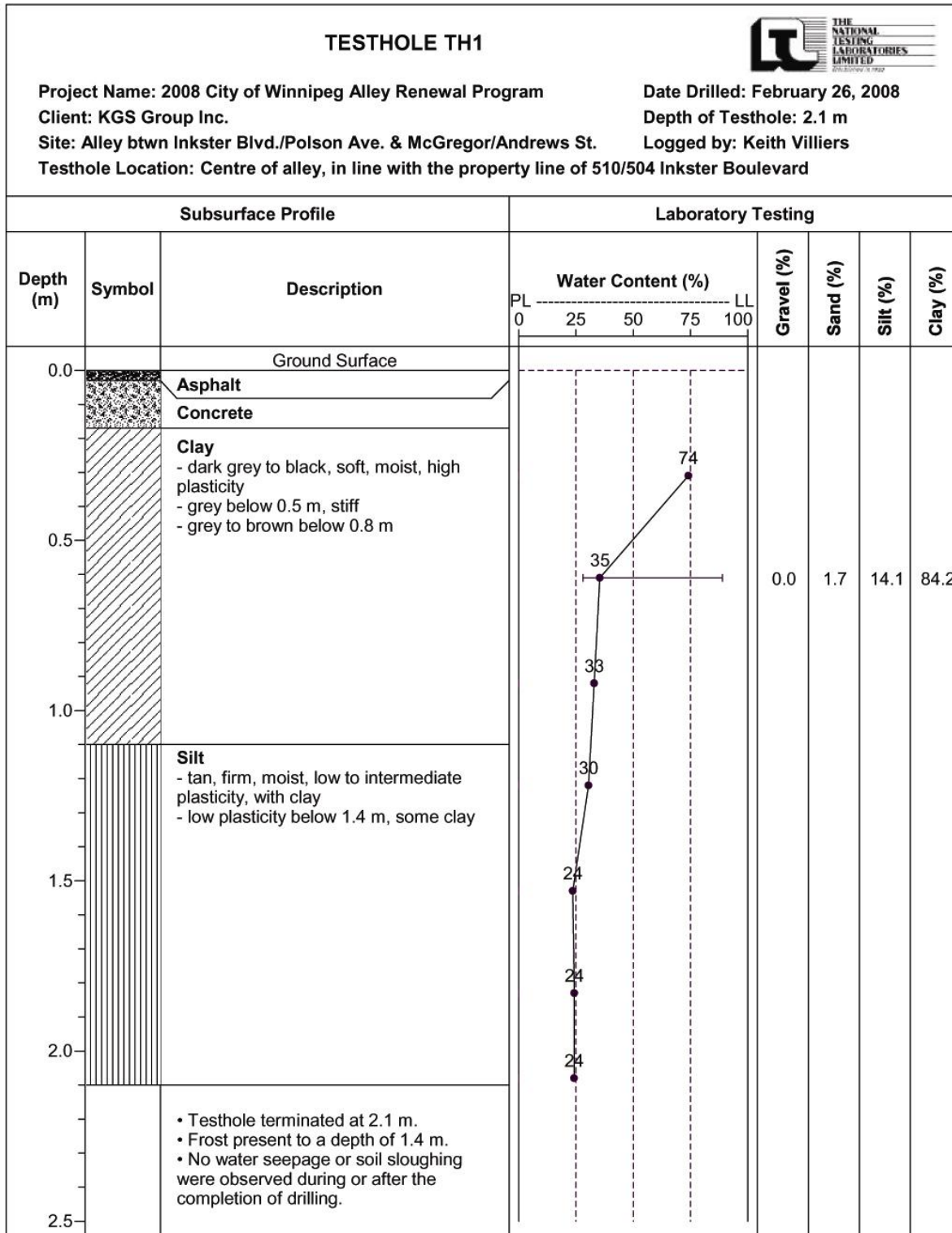


Geotechnical Report for Inkster Boulevard South Alley





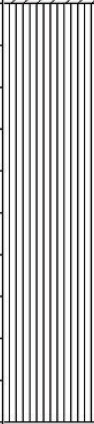
Test Hole Locations

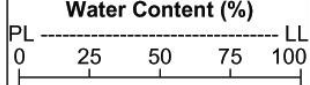


Test Hole Log for TH1

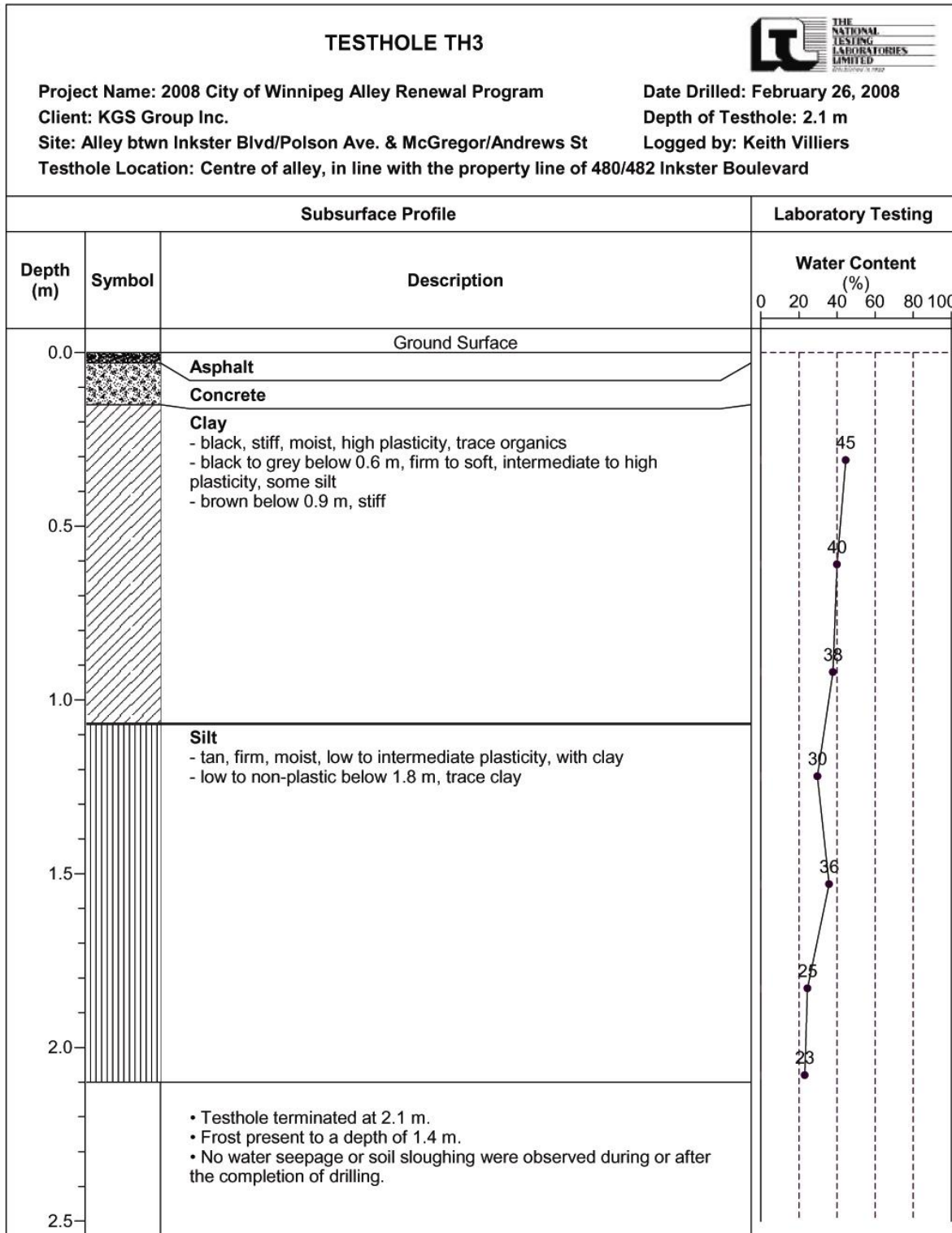


Test Hole Log for TH2

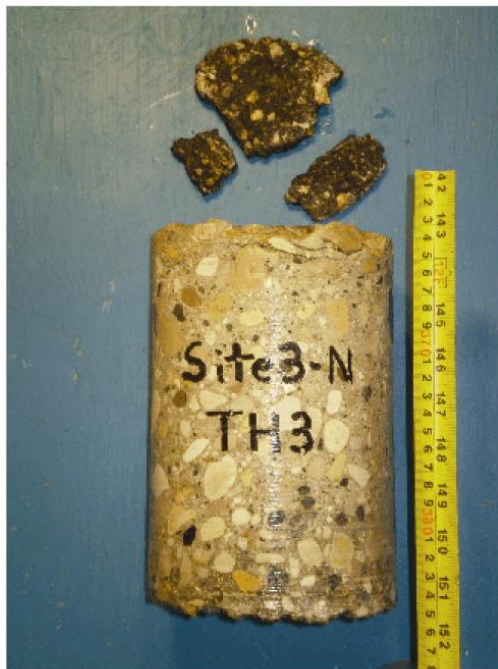
TESTHOLE TH2								
Project Name: 2008 City of Winnipeg Alley Renewal Program Client: KGS Group Inc. Site: Alley btwn Inkster Blvd./Polson Ave. & McGregor/Andrews St Testhole Location: Centre of alley, in line with the property line of 494/498 Inkster Boulevard			Date Drilled: February 26, 2008 Depth of Testhole: 2.1 m Logged by: Keith Villiers					
Subsurface Profile			Laboratory Testing					
Depth (m)	Symbol	Description	Water Content (%)		Gravel (%)	Sand (%)	Silt (%)	Clay (%)
			PL	LL				
0.0		Ground Surface						
		Asphalt						
		Concrete						
		Clay - black, firm, moist, high plasticity - brown below 0.5 m, stiff - light brown below 0.8 m, firm, intermediate plasticity, with silt						
0.5								
1.0								
		Silt - tan, soft, moist, low plasticity, some clay, trace sand - thin layer of sand observed at 1.8 m						
1.5					0.0	4.3	73.8	21.9
2.0								
2.5		<ul style="list-style-type: none"> • Testhole terminated at 2.1 m. • Frost present to a depth of 1.4 m. • No water seepage or soil sloughing were observed during or after the completion of drilling. 						



Test Hole Log for TH3

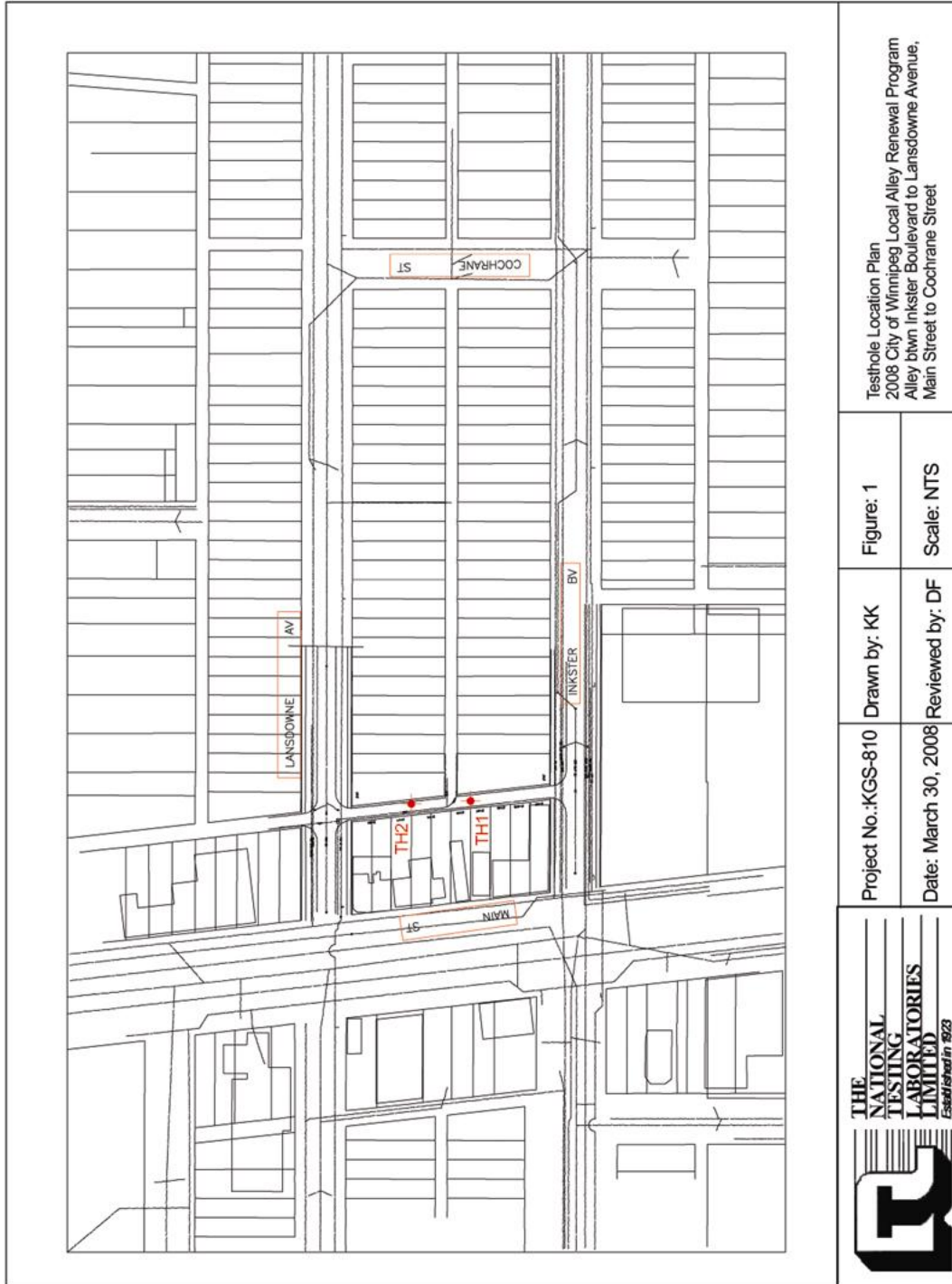


Pavement Core Photos



Geotechnical Report for Main Street East Alley

Test Hole Locations

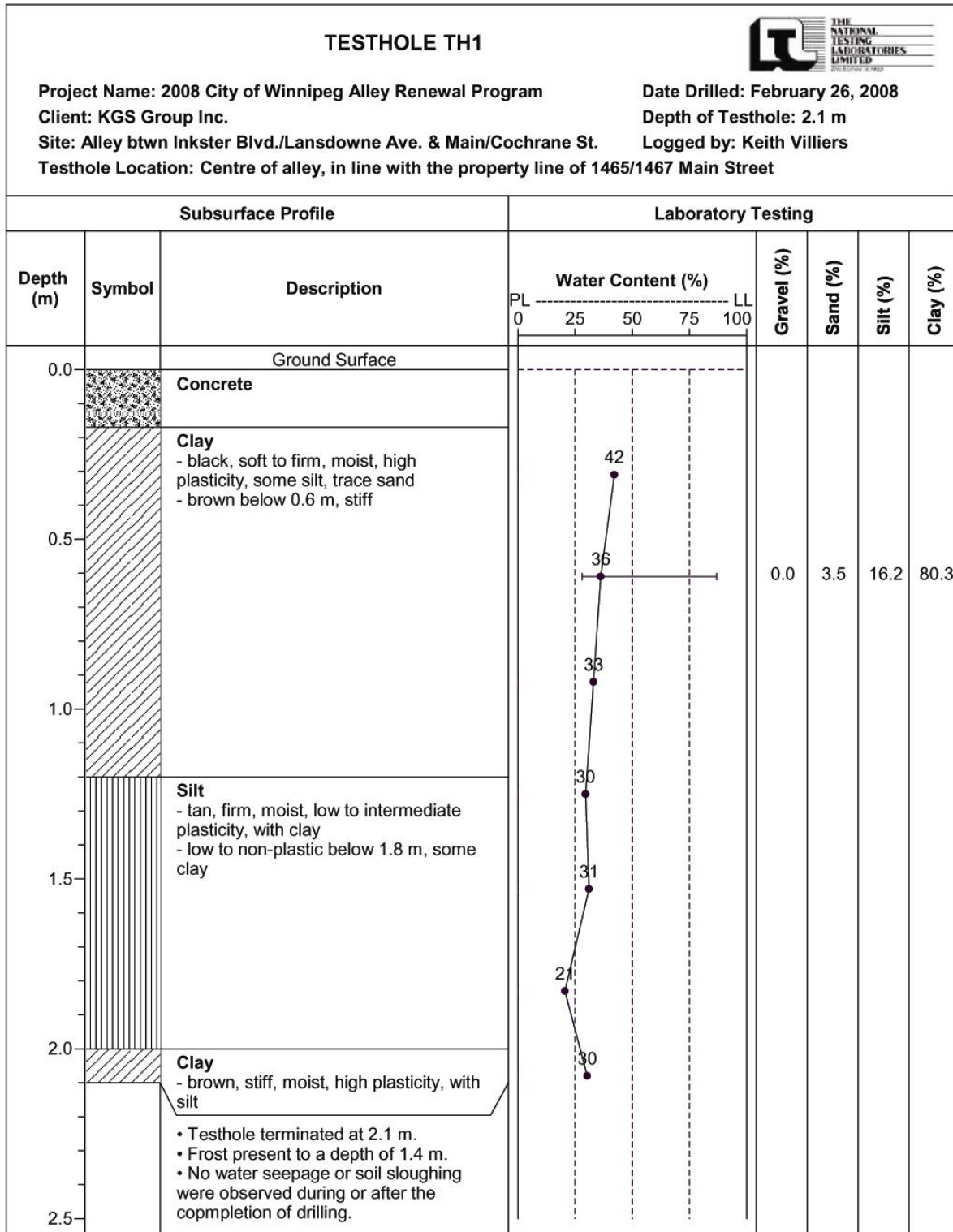


Summary of Core Samples



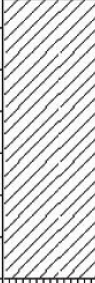
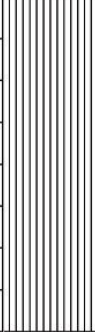
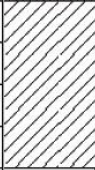
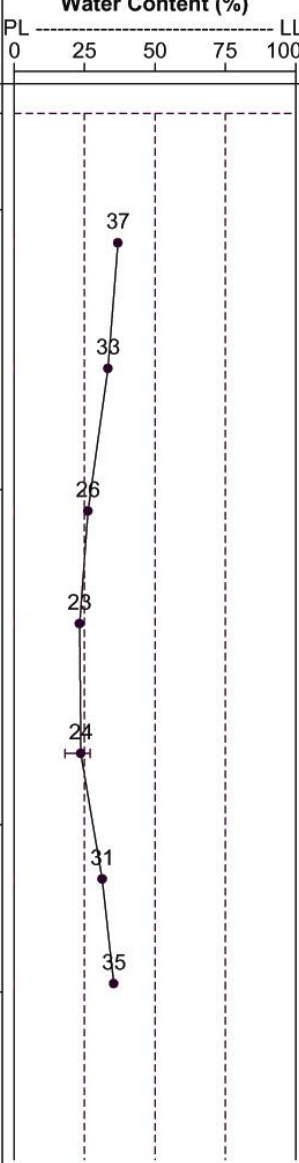
Site 4 - North Contract
2008 City of Winnipeg Alley Renewal Program
Inkster Boulevard to Lansdowne Avenue / Main Street to Cochrane Street

Testhole ID	Testhole Location	Pavement Surface		Pavement Structure Material		Sample Description	Sample Depth (m)	Moisture Content (%)	Particle Size Analysis				Atterberg Limits		
		Type	Thickness (mm)	Type	Thickness (mm)				Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Liquid Limit	Plastic Limit	Plasticity Index
TH1	Centre of alley, in line with the property line of 1465/1467 Main Street	Concrete	175	N/A	N/A	Clay	0.6	36	0.0	3.5	16.2	80.3	87	28	59
TH2	1 m W of the E side of alley, in line with the property line of 1473/1477 Main Street	Concrete	225	N/A	N/A	Clayey Silt	1.5	24	0.0	6.7	69.0	24.3	27	18	9

Test Hole Log for TH1



Test Hole Log for TH2

TESTHOLE TH2										
Project Name: 2008 City of Winnipeg Alley Renewal Program Client: KGS Group Inc. Site: Alley btwn Inkster Blvd./Lansdowne Ave. & Main/Cochrane St. Testhole Location: 1 m W of E side of alley, in line with the property line of 1473/1477 Main Street			Date Drilled: February 26, 2008 Depth of Testhole: 2.1 m Logged by: Keith Villiers							
Subsurface Profile			Laboratory Testing							
Depth (m)	Symbol	Description	Water Content (%)				Gravel (%)	Sand (%)	Silt (%)	Clay (%)
			PL	0	25	50				
0.0		Ground Surface								
0.0 - 0.3		Concrete								
0.3 - 1.0		Clay - black, soft to firm, moist, high plasticity, some silt, trace sand, some wood debris								
1.0 - 1.8		Clayey Silt - tan, firm, moist, low plasticity, some clay								
1.8 - 2.1		Clay - brown, stiff, moist, high plasticity								
2.1 - 2.5		<ul style="list-style-type: none"> • Testhole terminated at 2.1 m. • Frost present to a depth of 1.4 m. • No water seepage or soil sloughing were observed during or after the completion of drilling. 								
							0.0	6.7	69.0	24.3

Pavement Core Photos

