APPENDIX 'A'

GEOTECHNICAL REPORT

APPENDIX 'A' - GEOTECHNICAL REPORT

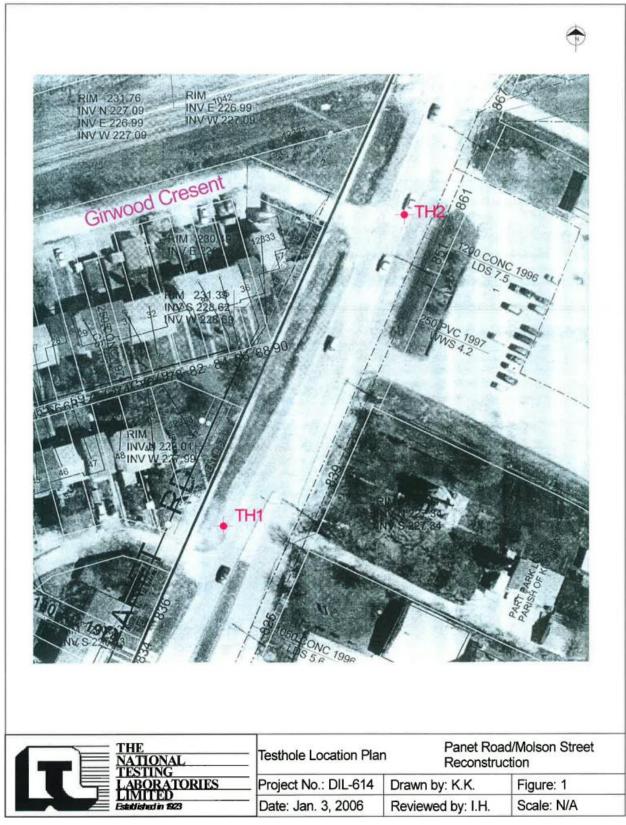
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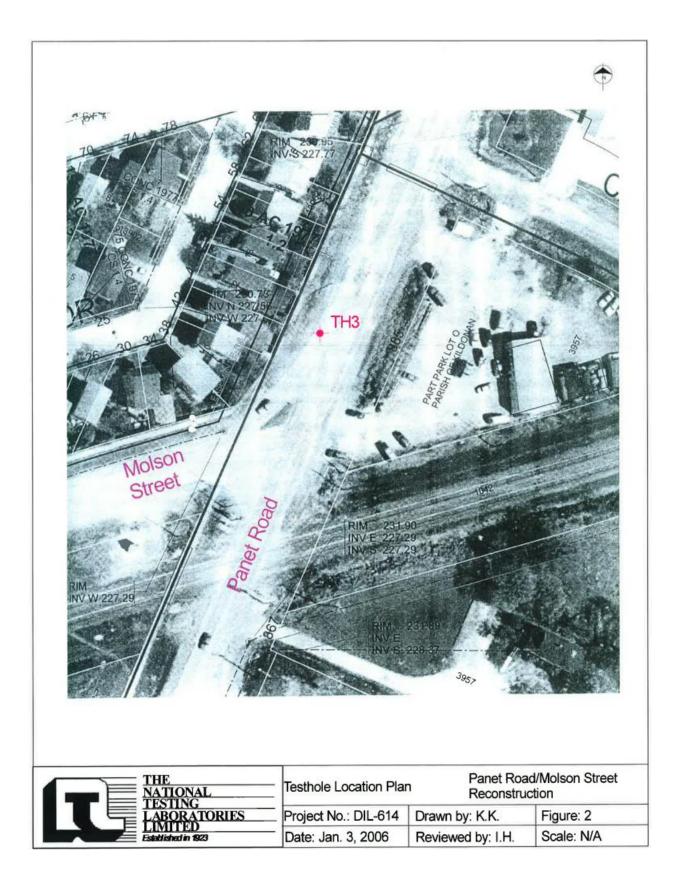
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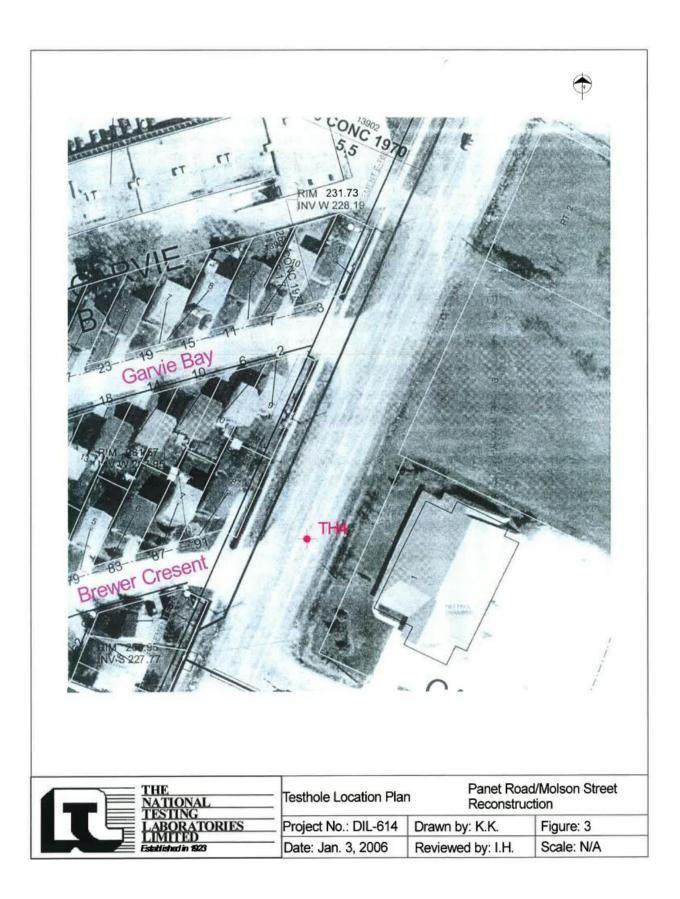
The geotechnical report is provided to aid in the Contractor's evaluation of the existing pavement structure and/or soil conditions. The information presented is considered accurate at the locations shown on the Drawings and at the time of drilling. However, variations in pavement structure and/or soil 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.

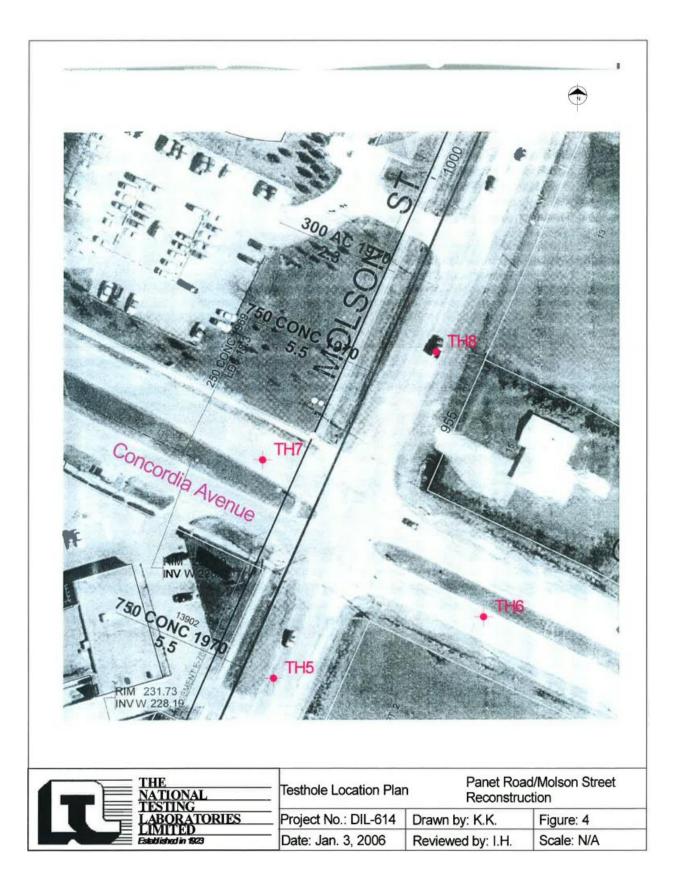
Geotechnical Report for Molson Street

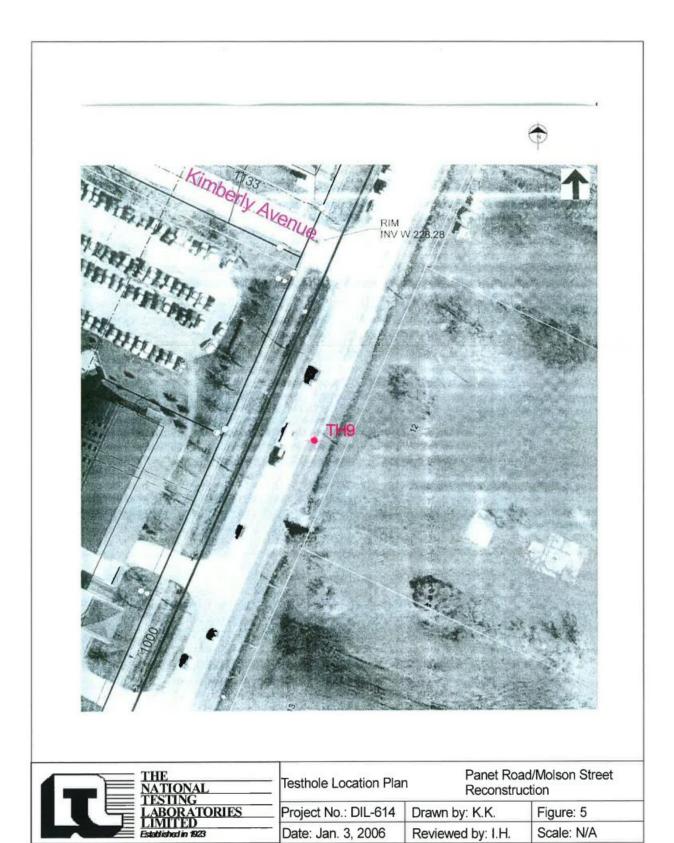
Test Hole Locations

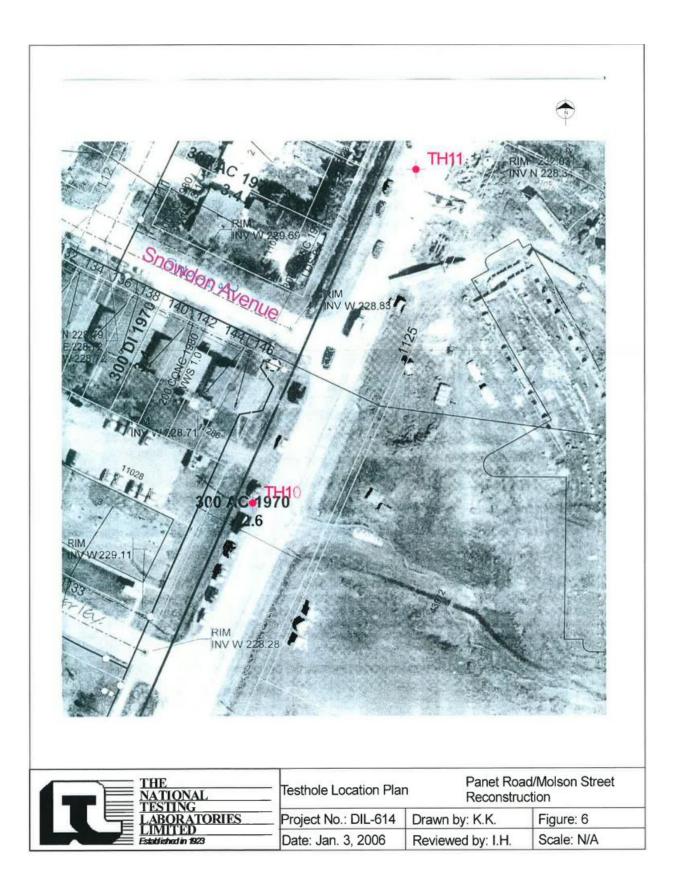












Geotechnical Investigation Panet Road/Molson Street Reconstruction Munroe Avenue to Antrim Road

		Pavement Sur	Irface	Pavement Str	Pavement Structure Material		Sample	Moisture		Particle Size Analysis	e Analysis	Γ	A	Atterberg Limits	hits
Testhola	Testhole Location	Tvpe	Thickness (mm)	Tvpe	Thickness (mm)	Sample Description	Depth (m)	Content (%)	Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Liquid	Plastic Limit	Plasticity Index
Ŧ	10 m N of the first three-way intersection S of Girwood Cr., SB shoulder lane	NA	N/A	Limestone	610	N/A	×		×	x		•	÷		
H	5 m N of Girwood Cr./Panet Rd. intersection, NB Iane, 2.0 m W of E shoulder	Asphalt	125	Granular	185	N/A			~			-			
TH3	30 m N of Panet Rd./Molson St. intersection, SB turning lane, 2.1 m E of W shoulder	Asphalt	100	Granular	210	Clay	2.1	33.5	0.0	0.9	18.9	80.2	11	19	28
TH4	15 m N of Brewer Cr./Molson St. intersection, NB stoulder lane	N/A	N/A	Granular	310	N/A						8			
3HF	20 m S of Concordia Ave./Molson St. intersection, SB lane, 2.4 m E of W shoulder	Asphalt	190	N/A	3	N/A					×				
TH6	31 m E Concordia Ave./Molson St. Intersection, EB median lane, 1.9 m S of N ourb	Concrete	200	Granular	75	NA									
TH7	17 m W of Concordia Ave. Motson St. intersection, WB median lane, 4.2 m N of S curb	Concrete	215	Granular	60	N/A			÷ 9						
TH8	30 m N of Concordia Ave./Molson St. intersection, NB lane, 2.4 m E of W shoulder	Asphalt	170	Granular	140	Clayey Silt	1.8	25.4	0.0	2.3	60.2	37.5	35	44	51
тнв	50 m S of Kimberly Ave./Molson St. intersection, NB shoulder lane	NA	N/A	Granular	310	N/A			÷ е		e	÷	•	۰.	÷
TH10	45 m S of Snowdon Ave.Molson St. intersection, SB shoulder lane	NA	NA	Granular	310	N/A						×		×	х
THI	50 m S of Snowdon Ave./Molson St. Intersection, SB lane, 2.0 m E of W shoulder	Asphalt	155	Granular	155	N/A	,	ъ		,	а	9			

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Summary of Core Samples

Template Version: C420130321 - RW

Clie Site	ent: Dillon Panet Ro	Consulting Limited Depth of Tes	Kurtis Kulchyski
		Subsurface Profile	Laboratory Testing
Depth	Symbol	Description	Water Content (%) 0 20 40 60 80 100
		Ground Surface	
0.0-	0000 0000 0000 0000 0000 0000 0000 0000 0000	Limestone Fill - 20 mm maximum size	•
0.5-		Clay - black/grey, moist, stiff, high plasticity, some silt, trace fine grained gravel at the surface of the layer - brown below 0.8 m - trace thin silt layers below 1.8 m	
1.5-			•
2.0-			•
2.5-			
		End of testhole at 3.1 m below grade.	
		No water seepage or soil sloughing were observed during or after the completion of drilling.	

6.0

6.5

7.0

TESTHOLE TH2 Date Drilled: December 19, 2006 Project Name: Panet Road/Molson Street Reconstruction **Client: Dillon Consulting Limited** Depth of Testhole: 6.1 m Site: Panet Road/Molson Street, Munroe Ave. to Antrim Rd. Logged by: Kurtis Kulchyski Testhole Location: 5 m N of the intersection of Girwood Cr./Panet Rd., NB lane, 2 m W of E shoulder Laboratory Testing Subsurface Profile Water Content Depth Symbol Description (%) 40 60 20 80 100 0 Ground Surface 0.0 Asphalt Granular Fill 20 mm maximum aggregate size 0.5 Clay Fill - black/brown, moist, firm, high plasticity, trace sand, trace fine grained gravel 1.0 - grey below 0.8 m, moist, and sand, and fine grained gravel Clay 1.5 - black/grey, moist, firm, high plasticity, some silt 2.0 Clayey Silt - tan, moist, firm to soft, low plasticity 2.5 Clay 3.0 - brown, moist, firm, high plasticity, some silt 3.5 4.0 4.5 5.0 5.5

End of testhole at 6.1 m below grade.

completion of drilling.

No water seepage or soil sloughing were observed during or after the

3.5-

2.5-	Clie Site	ent: Dillon : Panet R	: Panet Road/Molson Street Reconstruc Consulting Limited oad/Molson Street, Munroe Ave. to Antri ation: 30 m N of Panet Rd./Molson St. in Subsurface Profile	Dep m Rd. Log tersection, SB turning	e Drilled: De th of Testho ged by: Ku g lane, 2.1 m aboratory T	ole: 3. rtis Ku E of V	1 m Jichys W sho	ki	
0.0 Asphalt Granular Fill - 20 mm maximum aggregate size Clay Fill - grey, moist, stiff, high plasticity, trace sand, trace fine grained gravel 1.0 - black/grey, moist, firm, high plasticity, some silt, trace rootlets observed at the surface of layer 1.5 - brown below 2.1 m 2.0 0.0 0.9 2.5 Clayer Sift		Symbol	Description	PL	LL	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
Clay Clay 1.0 - black/grey, moist, firm, high plasticity, some silt, trace rootlets observed at the surface of layer - brown below 2.1 m 0.0 0.5 0.0 0.5 - black/grey, moist, firm, high plasticity, some silt, trace rootlets observed at the surface of layer - brown below 2.1 m 0.0 0.5 0.0	0.0								
0.5- sand, trace fine grained gravel 1.0- Clay 1.0- - black/grey, moist, firm, high plasticity, some silt, trace rootlets observed at the surface of layer 1.5- - brown below 2.1 m 2.0- 0.0 2.5- Clayer Slift	0.0-	2000 92 03 S 0	Granular Fill - 20 mm maximum aggregate size Clay Fill						
 - black/grey, moist, firm, high plasticity, some silt, trace rootlets observed at the surface of layer - brown below 2.1 m 2.0 2.0 Clavey Silt 			 grey, moist, stiff, high plasticity, trace sand, trace fine grained gravel 						
2.5- Clavey Sift	1.5		 black/grey, moist, firm, high plasticity, some silt, trace rootlets observed at the 						
Clavey Silt	2.0-		*			0.0	0.9	18.9	80.
- tan, moist, firm to soft, low plasticity	2.5-		Clayey Silt - tan, moist, firm to soft, low plasticity						

End of testhole at 3.1 m below grade.

No water seepage or soil sloughing were observed during or after the completion of drilling.

Clie Site	ent: Dillon (): Panet Ro	TESTHOLE TH4 Panet Road/Molson Street Reconstruction Consulting Limited ad/Molson Street, Munroe Ave. to Antrim Rd. tion: 15 m N of Brewer Cr./Molson St. intersection, NB s	Date Drilled: D Depth of Testh Logged by: Ku shoulder lane	ole: 3.1	m	5
		Subsurface Profile		Labo	ratory Te	sting
Depth	Symbol	Description		Wa 0 20	ter Conte (%) 40 60	
		Ground Surface				
0.0	800000 000000 000000000000000000000000	Granular Fill - 20 mm maximum aggregate size		•		
0.5-		Clay Fill - black/grey, moist, stiff, high plasticity, trace sand, trace f gravel	fine grained	•		
1.0-						
1.5-		Clay - brown, moist, firm, high plasticity, some silt - light brown below 1.8 m, with silt				
2.0-		Clayey Silt - tan, wet, soft, low plasticity				
2.5-		Clay - light brown/tan, moist, firm, intermediate to high plasticit	y, and silt			
3.0-		End of testhole at 3.1 m below grade			1	
		End of testhole at 3.1 m below grade.				1
	-	No water seepage or soil sloughing were observed during completion of drilling.	g or after the			

Clie Site	ent: Dillon : Panet Ro	TESTHOLE TH5 Panet Road/Molson Street Reconstruction Date Drill Consulting Limited Depth of ad/Molson Street, Munroe Ave. to Antrim Rd. Logged b tion: 20 m S of Concordia Ave./Molson St. intersection, SB lane, 2	Testhole y: Kurti	: 3.1 s Kulo	m chyski	
_		Subsurface Profile		Labo	ratory	Testing
Depth	Symbol	Description	0	Wa 20	ter Cor (%) 40 6	ntent 0 80 10
		Ground Surface				1
0.0-	2022	Asphalt		н н т н Т		
0.5-		Fill - black/grey, moist, mixture of sand, fine grained gravel and clay		1		
1.0-				•		
1.5-		Clay - grey, moist, firm, high plasticity, some silt - brown below 1.8 m			•	
2.0-						
2.5						
3.0		End of the the land 0.4 m had any set of a			1	
		End of testhole at 3.1 m below grade.		8. 8		
		No water seepage or soil sloughing were observed during or after the completion of drilling.	e	1		

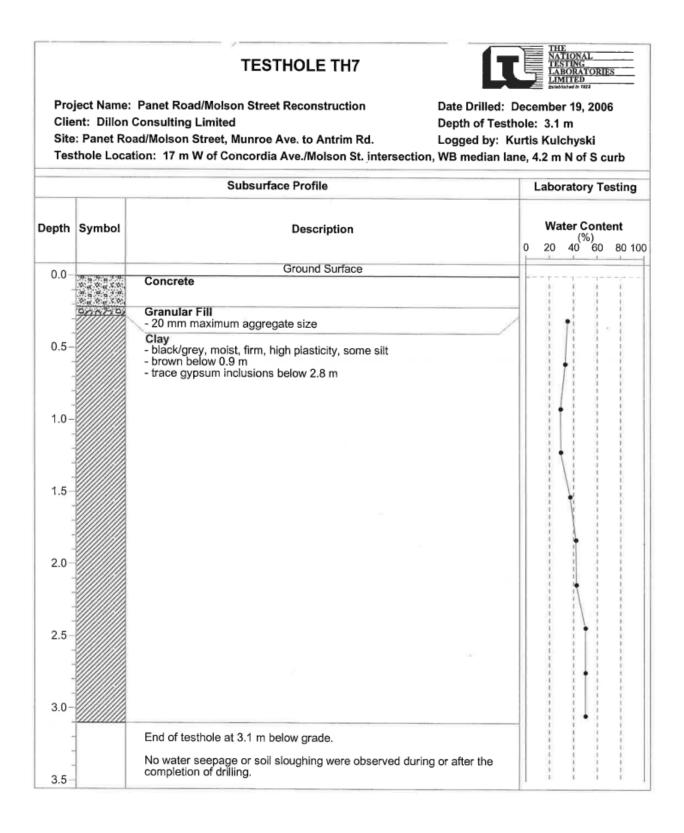
TESTHOLE TH6



Project Name: Panet Road/Molson Street Reconstruction Client: Dillon Consulting Limited Site: Panet Road/Molson Street, Munroe Ave. to Antrim Rd.

Date Drilled: December 19, 2006 Depth of Testhole: 3.1 m Logged by: Kurtis Kulchyski Testhole Location: 31 m E of Concordia Ave./Molson St. intersection, EB median lane, 1.9 m S of N curb

		Subsurface Profile	_	Labo	ratory Te	sting
Depth	Symbol	Description	0	W a 20	ter Conte (%) 40 60	ent 80 100
0.0		Ground Surface		1	1 1	-
0.0-		Concrete		1		
	9/10/2:9/	Granular Fill - 20 mm maximum aggregate size				
0.5-		Clay Fill - black/grey, moist, firm to soft, high plasticity, trace sand, trace fine grained gravel		ł	/	
1.0-		Clay - black/grey, moist, firm, high plasticity, some silt - 50 mm thick silt layer at 1.7 m - brown below 1.8 m, trace thin silt layers - trace gypsum inclusions below 2.8 m			Ì	
1.5-						
2.0-						
2.5-					Ì	
3.0-					l	
		End of testhole at 3.1 m below grade.		1		1
3.5-	-	No water seepage or soil sloughing were observed during or after the completion of drilling.		1		



Clie Site	ent: Dillon : Panet R	TESTHOLE TH Panet Road/Molson Street Reconstruct Consulting Limited oad/Molson Street, Munroe Ave. to Antri ation: 30 m N of Concordia Ave./Molson	tion m Rd.		Der Log on, NB		ole: 3. rtis Ki E of W	Der 19, 1 m ulchys shoul	iki	
		Subsurface Profile	+		1	aboratory T	esting	1		
Depth (m)	Symbol	Description	PL.	Moistu 25	re Cont	tent (%) 	Gravel (%)	Sand (%)	Silt (%)	Clay (%)
		Ground Surface	-IT-	2,0	0,0		G	<i>i</i>	S	o
0.0-	REAR	Asphalt								
0.5-	2000 V	Granular Fill - 20 mm maximum aggregate size Clay Fill - black/grey, moist, stiff, high plasticity,		•	1					
1.0- 1.5-		Clay - black/grey, moist, firm, high plasticity, some silt - brown below 1.5 m		•	/					
2.0-		Clayey Silt - tan, moist, firm to soft, low plasticity - 150 mm thick layer of clay at 2.0 m - wet below 2.2 m, soft					0.0	2.3	60.2	37.
2.5-	-				1 1 1 1 1 1 1					
3.0-		Clay - brown, moist, firm, high plasticity, some silt			1 1 1 1 1 1					
3.5-	-	End of testhole at 3.1 m below grade. No water seepage or soil sloughing were observed during or after the completion of drilling.								

Clie Site	ent: Dillon e: Panet Ro	Consulting Limited Depth of Tes	December 19, 2006 sthole: 3.1 m Kurtis Kulchyski ane
		Subsurface Profile	Laboratory Testing
Depth	Symbol	Description	Water Content (%) 0 20 40 60 80 100
0.0		Ground Surface	
0.0-	20022 00000 00000	Granular Fill - 20 mm maximum aggregate size	·
0.5-		Clay Fill - black/grey, moist, stiff, high plasticity, trace sand, trace fine grained gravel	
1.0-		Clay - black/grey, moist, firm, high plasticity, some silt - brown below 1.2 m - trace gypsum inclusions below 2.4 m	
1.5-			•
2.0-			•
2.5-			N.
3.0			
	-	End of testhole at 3.1 m below grade.	
3.5-		No water seepage or soil sloughing were observed during or after the completion of drilling.	

TESTHOLE TH10



Project Name: Panet Road/Molson Street Reconstruction Client: Dillon Consulting Limited Site: Panet Road/Molson Street, Munroe Ave. to Antrim Rd.

Date Drilled: December 19, 2006 Depth of Testhole: 3.1 m Logged by: Kurtis Kulchyski Testhole Location: 45 m S of Snowdon Ave./Molson St. intersection, SB shoulder lane

	1 1	Subsurface Profile	_	Labo	oratory 1	esting
Depth	Symbol	Description	0	W a 20	ater Con (%) 40 60	i tent 80 100
0.0		Ground Surface	-11			
- 0,0	80000 00000 00000	Granular Fill - 20 mm maximum aggregate size		1		1
0.5-		Clay Fill - black/grey, moist, stiff, high plasticity, trace sand, trace fine grained gravel			•	
1.0-						
1.5-		Clay - grey, moist, firm, high plasticity, some silt - brown below 1.2 m - trace thin silt layers below 1.8 m				
2.0-		Clayey Silt			•	
2.5-	-	 tan, moist, firm to soft, low plasticity 100 mm thick layer of clay at 2.3 m 		Į		
3.0-		Clay - brown, moist, firm, high plasticity,some silt				
	-	End of testhole at 3.1 m below grade.				1
3.5-	-	No water seepage or soil sloughing were observed during or after the completion of drilling.				

TESTHOLE TH11



 Project Name: Panet Road/Molson Street Reconstruction
 Date Drilled: December 19, 2006

 Client: Dillon Consulting Limited
 Depth of Testhole: 3.1 m

 Site: Panet Road/Molson Street, Munroe Ave. to Antrim Rd.
 Logged by: Kurtis Kulchyski

 Testhole Location: 50 m S of Snowdon Ave./Molson St. intersection, SB Iane, 2 m E of W shoulder

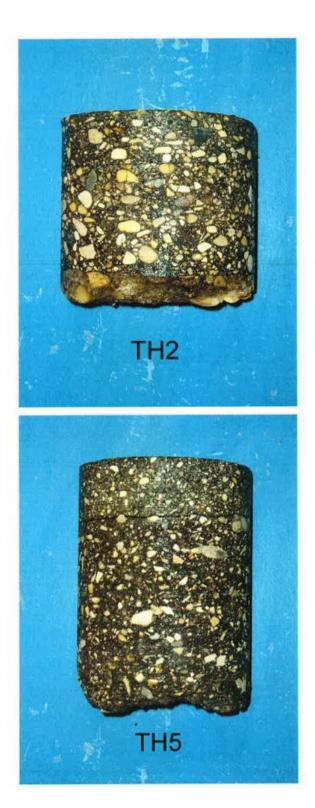
	r	Subsurface Profile		Labo	orato	гу Те	sting
Depth	Symbol	Description	0	W a 20		Conte %) 60	ent 80 100
0.0		Ground Surface	-++				_
0.0-	2233	Asphalt			1	-7	
	900092 000092	Granular Fill - 20 mm maximum aggregate size		•	1		1
0.5-		Clay Fill - black/grey, moist, stiff, high plasticity, trace sand, trace fine grained gravel - grey below 0.6 m, with sand, with fine grained gravel					
1.0-		Clay - grey, moist, firm, high plasticity, some silt - trace thin silt layers below 1.4 m, increasing with depth - and silt below 2.1 m		~			
1.5-				1 1 1			
2.0-							
2.5-	-	Clayey Silt - tan, moist, soft, low plasticity					
3.0		Clay - brown, moist, firm, high plasticity, some silt		8			
	-	End of testhole at 3.1 m below grade.		i			
3.5		No water seepage or soil sloughing were observed during or after the completion of drilling.					

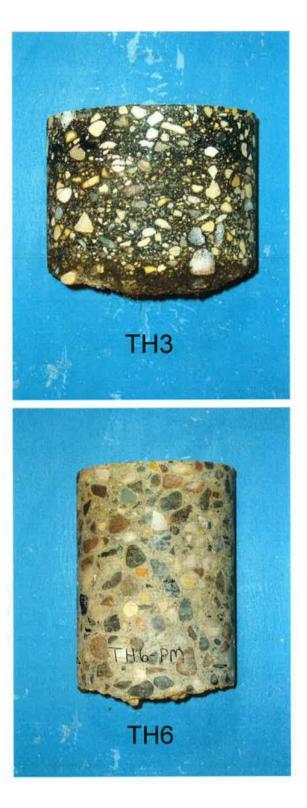
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Pavement Core Photos

Panet Road/Molson Street Reconstruction Munroe Avenue to Antrim Road







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> Panet Road/Molson Street Reconstruction Munroe Avenue to Antrim Road



