

APPENDIX 'A'

GEOTECHNICAL REPORT

APPENDIX 'A' - GEOTECHNICAL REPORT

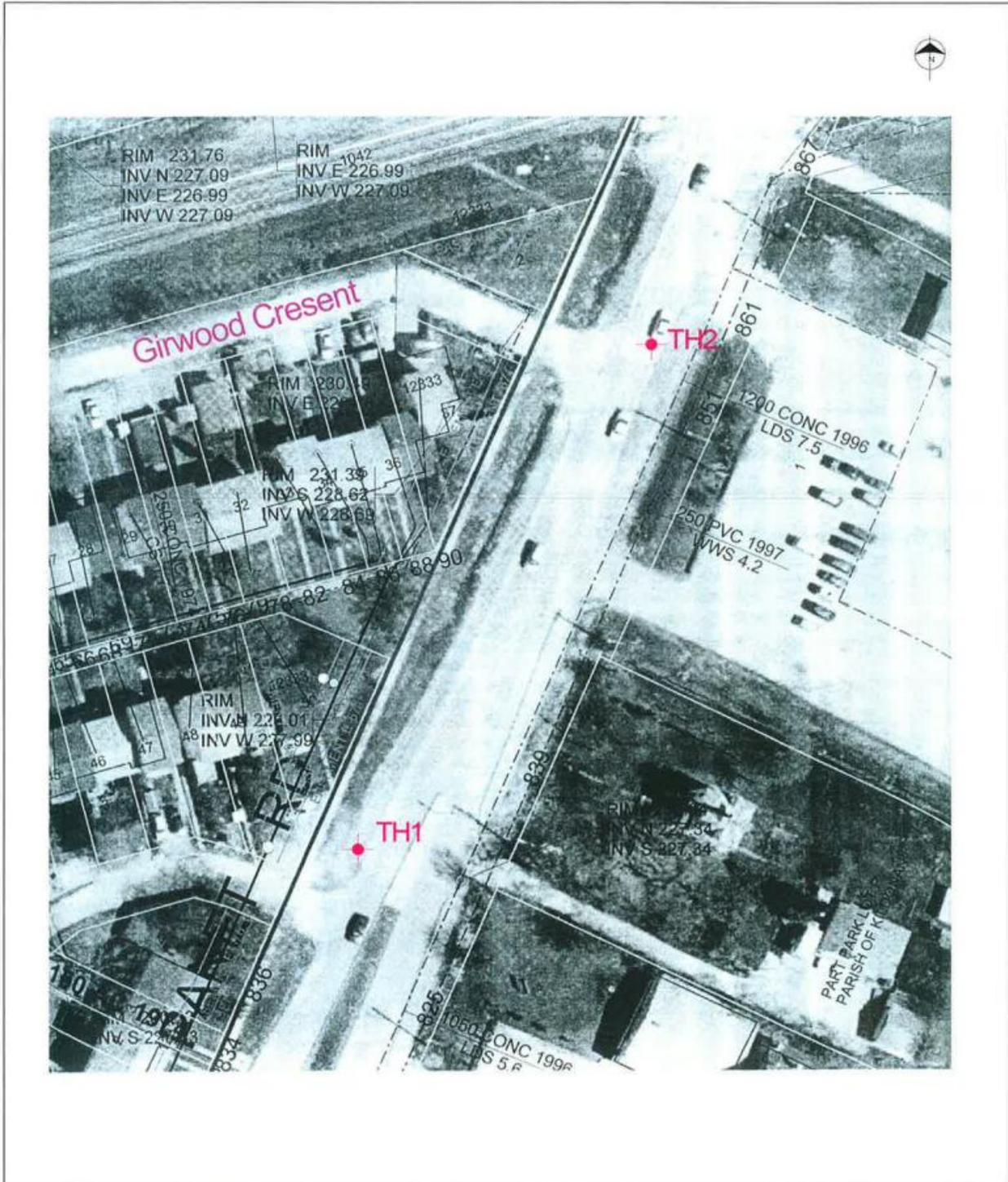
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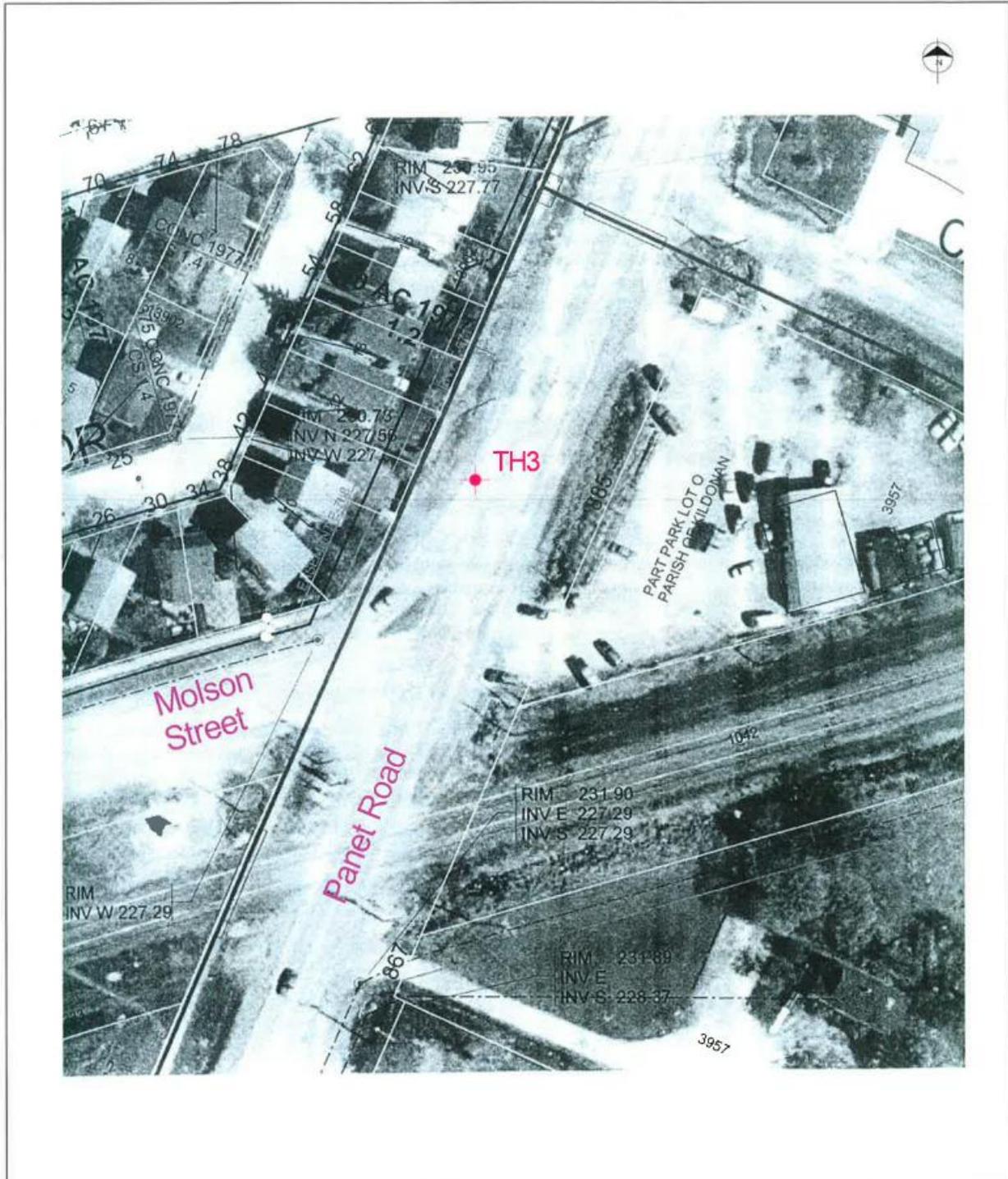
The geotechnical report is provided to aid in the Contractor's evaluation of the existing pavement structure and/or soil conditions. The information presented is considered accurate at the locations shown on the Drawings and at the time of drilling. However, variations in pavement structure and/or soil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

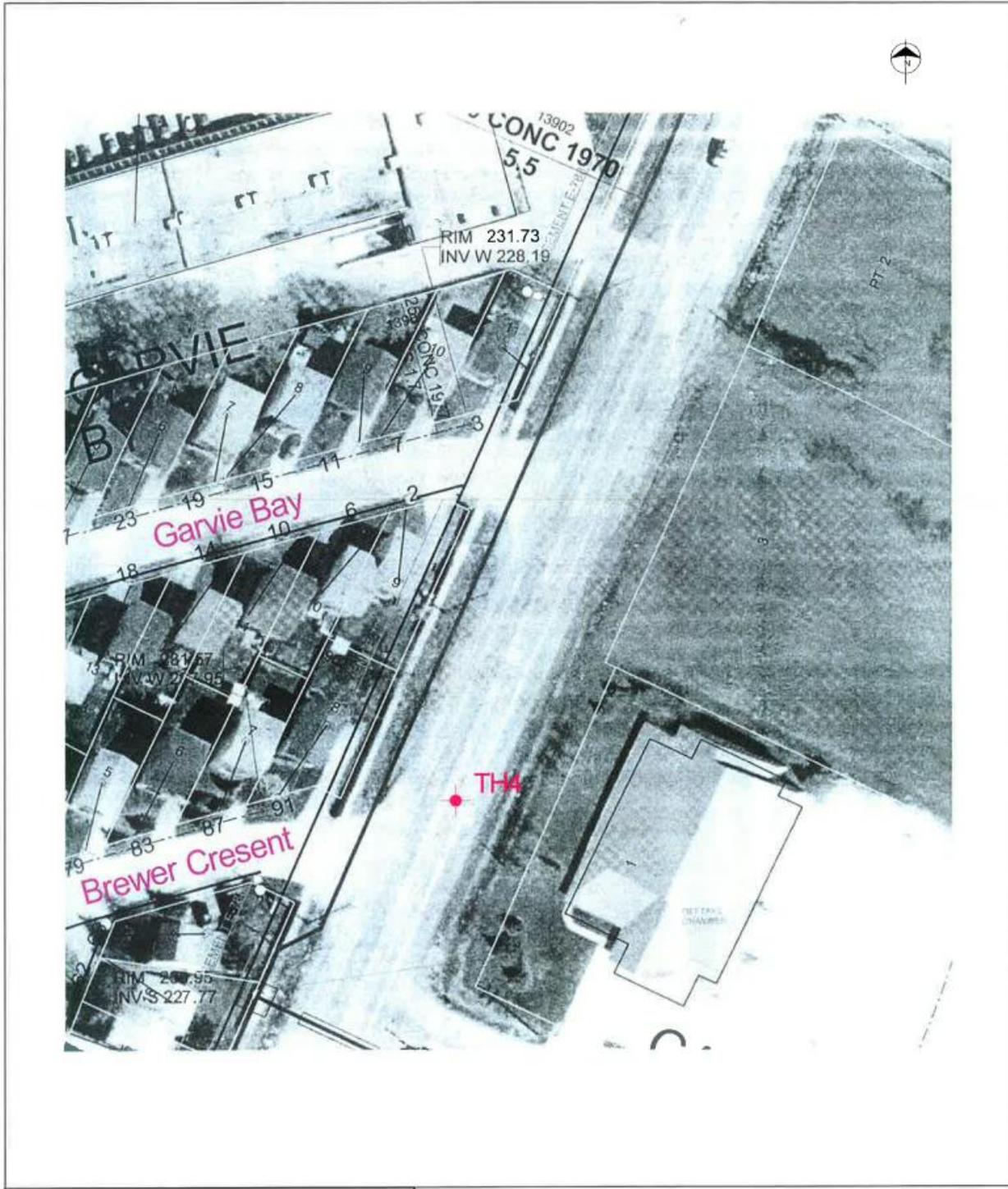
Test Hole Locations



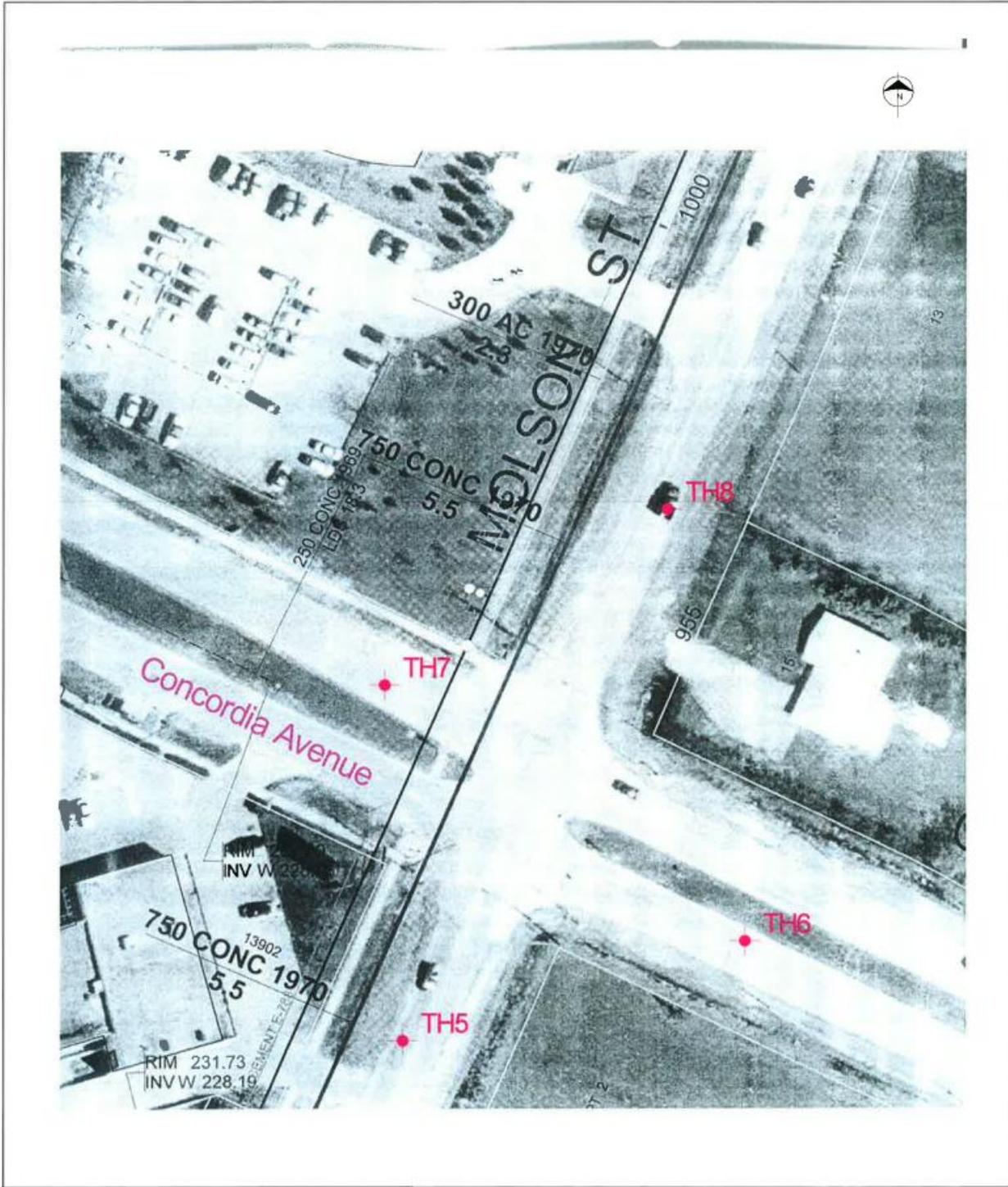
 <p>THE NATIONAL TESTING LABORATORIES LIMITED <i>Established in 1923</i></p>	<p>Testhole Location Plan</p>		<p>Panet Road/Molson Street Reconstruction</p>	
	<p>Project No.: DIL-614</p>	<p>Drawn by: K.K.</p>	<p>Figure: 1</p>	
	<p>Date: Jan. 3, 2006</p>	<p>Reviewed by: I.H.</p>	<p>Scale: N/A</p>	



 THE NATIONAL TESTING LABORATORIES LIMITED <small>Established in 1923</small>	Testhole Location Plan		Panet Road/Molson Street Reconstruction	
	Project No.: DIL-614	Drawn by: K.K.	Figure: 2	
	Date: Jan. 3, 2006	Reviewed by: I.H.	Scale: N/A	



 <p>THE NATIONAL TESTING LABORATORIES LIMITED <i>Established in 1923</i></p>	Testhole Location Plan		Panet Road/Molson Street Reconstruction	
	Project No.: DIL-614	Drawn by: K.K.	Figure: 3	
	Date: Jan. 3, 2006	Reviewed by: I.H.	Scale: N/A	



 <p>THE NATIONAL TESTING LABORATORIES LIMITED <i>Established in 1923</i></p>	Testhole Location Plan		Panet Road/Molson Street Reconstruction	
	Project No.: DIL-614	Drawn by: K.K.	Figure: 4	
	Date: Jan. 3, 2006	Reviewed by: I.H.	Scale: N/A	



**THE
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LABORATORIES
LIMITED**
Established in 1923

Testhole Location Plan

Panet Road/Molson Street
Reconstruction

Project No.: DIL-614

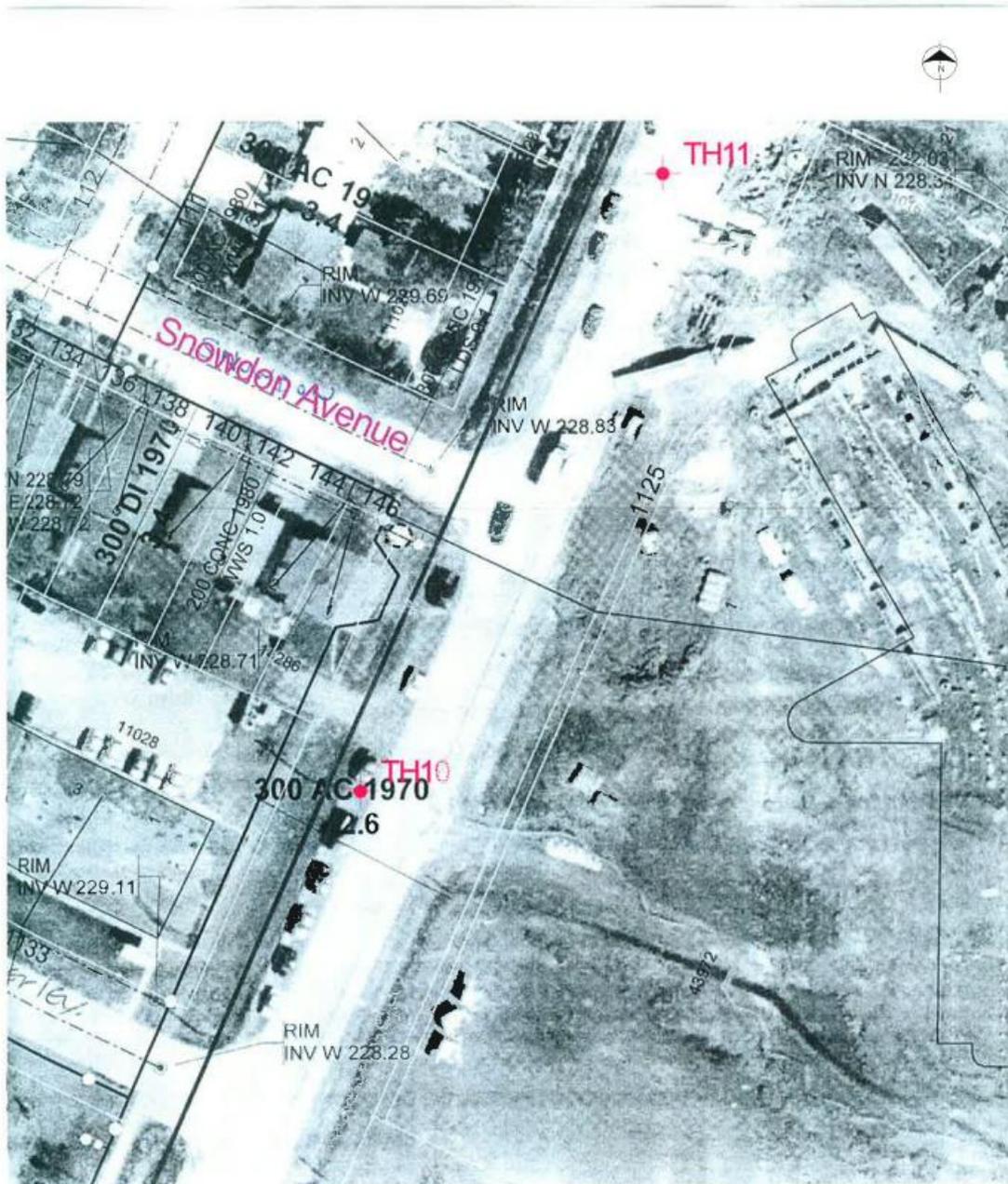
Drawn by: K.K.

Figure: 5

Date: Jan. 3, 2006

Reviewed by: I.H.

Scale: N/A



**THE
 NATIONAL
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 LABORATORIES
 LIMITED**
Established in 1923

Testhole Location Plan

Panet Road/Molson Street
 Reconstruction

Project No.: DIL-614

Drawn by: K.K.

Figure: 6

Date: Jan. 3, 2006

Reviewed by: I.H.

Scale: N/A

TESTHOLE TH1



Project Name: Panet Road/Molson Street Reconstruction
Client: Dillon Consulting Limited
Site: Panet Road/Molson Street, Munroe Ave. to Antrim Rd.
Testhole Location: 10 m N of first three-way intersection S of Girwood Cr., SB shoulder lane

Date Drilled: December 19, 2006
Depth of Testhole: 3.1 m
Logged by: Kurtis Kulchyski

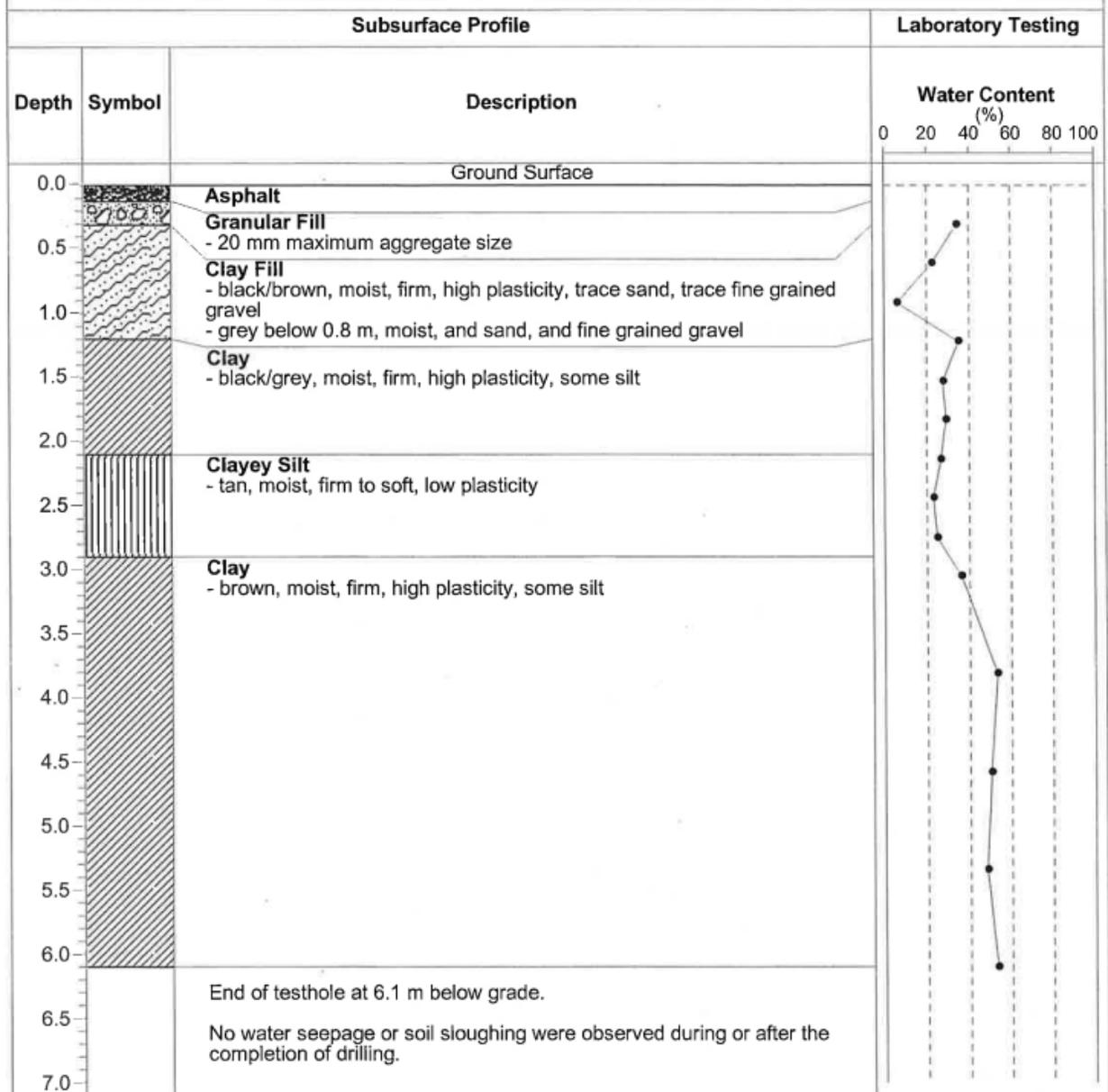
Subsurface Profile			Laboratory Testing	
Depth	Symbol	Description	Water Content (%)	
Ground Surface			0 20 40 60 80 100	
0.0		Limestone Fill - 20 mm maximum size		
0.5		Clay - black/grey, moist, stiff, high plasticity, some silt, trace fine grained gravel at the surface of the layer - brown below 0.8 m - trace thin silt layers below 1.8 m		
1.0				
1.5				
2.0				
2.5				
3.0				
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.				

TESTHOLE TH2



Project Name: Panet Road/Molson Street Reconstruction
Client: Dillon Consulting Limited
Site: Panet Road/Molson Street, Munroe Ave. to Antrim Rd.
Testhole Location: 5 m N of the intersection of Girwood Cr./Panet Rd., NB lane, 2 m W of E shoulder

Date Drilled: December 19, 2006
Depth of Testhole: 6.1 m
Logged by: Kurtis Kulchyski



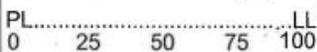
TESTHOLE TH3



Project Name: Panet Road/Molson Street Reconstruction
Client: Dillon Consulting Limited
Site: Panet Road/Molson Street, Munroe Ave. to Antrim Rd.
Testhole Location: 30 m N of Panet Rd./Molson St. intersection, SB turning lane, 2.1 m E of W shoulder

Date Drilled: December 19, 2006
Depth of Testhole: 3.1 m
Logged by: Kurtis Kulchyski

Subsurface Profile			Laboratory Testing					
Depth (m)	Symbol	Description	Moisture Content (%)		Gravel (%)	Sand (%)	Silt (%)	Clay (%)
			PL	LL				
Ground Surface								
0.0		Asphalt						
		Granular Fill - 20 mm maximum aggregate size						
0.5		Clay Fill - grey, moist, stiff, high plasticity, trace sand, trace fine grained gravel						
1.0								
1.5		Clay - black/grey, moist, firm, high plasticity, some silt, trace rootlets observed at the surface of layer - brown below 2.1 m						
2.0								
2.5		Clayey Silt - tan, moist, firm to soft, low plasticity						
3.0								
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.						



Gravel (%)	Sand (%)	Silt (%)	Clay (%)
0.0	0.9	18.9	80.2

TESTHOLE TH4

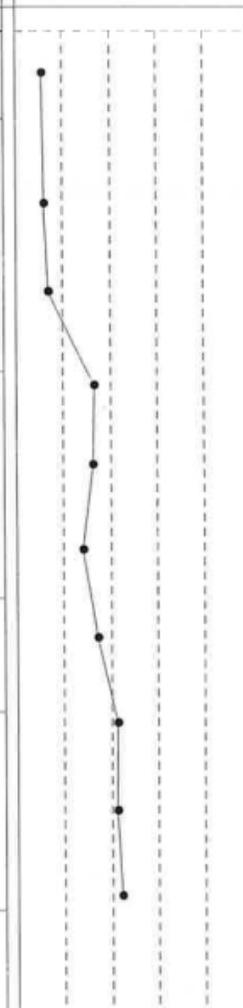


Project Name: Panet Road/Molson Street Reconstruction
Client: Dillon Consulting Limited
Site: Panet Road/Molson Street, Munroe Ave. to Antrim Rd.
Testhole Location: 15 m N of Brewer Cr./Molson St. intersection, NB shoulder lane

Date Drilled: December 19, 2006
Depth of Testhole: 3.1 m
Logged by: Kurtis Kulchyski

Subsurface Profile			Laboratory Testing
Depth	Symbol	Description	Water Content (%)
Ground Surface			
0.0		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 - brown, moist, firm, high plasticity, some silt - light brown below 1.8 m, with silt	
1.5		Clayey Silt - tan, wet, soft, low plasticity	
2.0		Clay - light brown/tan, moist, firm, intermediate to high plasticity, and silt	
2.5			
3.0			
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.	

Water Content (%)
 0 20 40 60 80 100



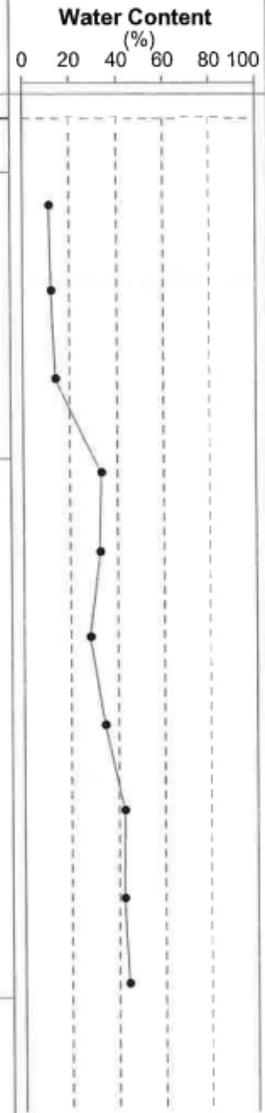
TESTHOLE TH5



Project Name: Panet Road/Molson Street Reconstruction
Client: Dillon Consulting Limited
Site: Panet Road/Molson Street, Munroe Ave. to Antrim Rd.
Testhole Location: 20 m S of Concordia Ave./Molson St. intersection, SB lane, 2.4 m E of W shoulder

Date Drilled: December 19, 2006
Depth of Testhole: 3.1 m
Logged by: Kurtis Kulchyski

Subsurface Profile			Laboratory Testing
Depth	Symbol	Description	Water Content (%)
Ground Surface			
0.0		Asphalt	
0.5		Fill - black/grey, moist, mixture of sand, fine grained gravel and clay	
1.0			
1.5		Clay - grey, moist, firm, high plasticity, some silt - brown below 1.8 m	
2.0			
2.5			
3.0			
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.	

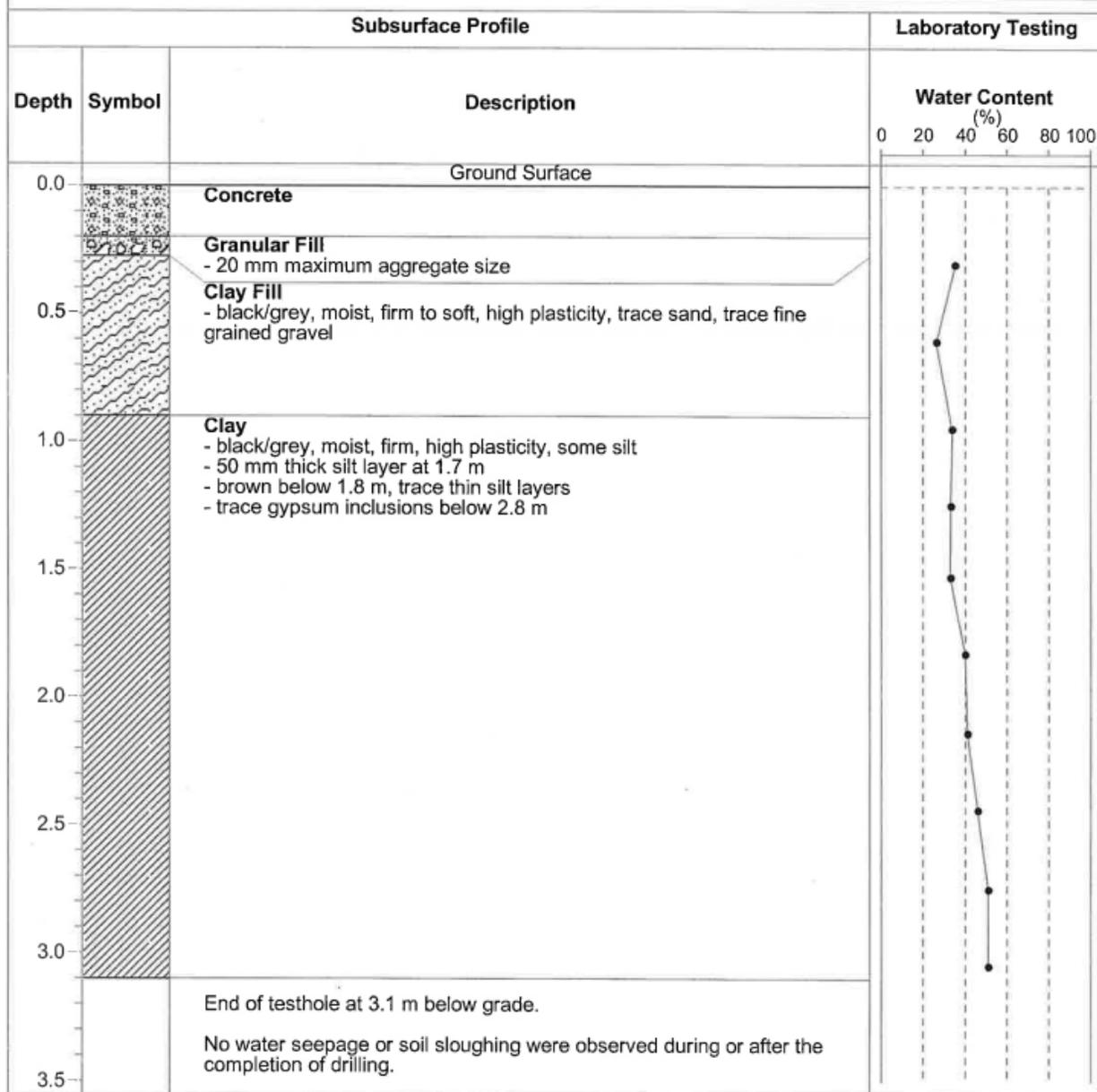


TESTHOLE TH6



Project Name: Panet Road/Molson Street Reconstruction
Client: Dillon Consulting Limited
Site: Panet Road/Molson Street, Munroe Ave. to Antrim Rd.
Testhole Location: 31 m E of Concordia Ave./Molson St. intersection, EB median lane, 1.9 m S of N curb

Date Drilled: December 19, 2006
Depth of Testhole: 3.1 m
Logged by: Kurtis Kulchyski



TESTHOLE TH7



Project Name: Panet Road/Molson Street Reconstruction
Client: Dillon Consulting Limited
Site: Panet Road/Molson Street, Munroe Ave. to Antrim Rd.
Testhole Location: 17 m W of Concordia Ave./Molson St. intersection, WB median lane, 4.2 m N of S curb

Date Drilled: December 19, 2006
Depth of Testhole: 3.1 m
Logged by: Kurtis Kulchyski

Subsurface Profile			Laboratory Testing
Depth	Symbol	Description	Water Content (%)
			0 20 40 60 80 100
0.0		Ground Surface Concrete	
0.5		Granular Fill - 20 mm maximum aggregate size	
1.0		Clay - black/grey, moist, firm, high plasticity, some silt - brown below 0.9 m - trace gypsum inclusions below 2.8 m	
1.5			●
2.0			●
2.5			●
3.0			●
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.	●

TESTHOLE TH8



Project Name: Panet Road/Molson Street Reconstruction
Client: Dillon Consulting Limited
Site: Panet Road/Molson Street, Munroe Ave. to Antrim Rd.
Testhole Location: 30 m N of Concordia Ave./Molson St. intersection, NB lane, 2.4 m E of W shoulder

Date Drilled: December 19, 2006
Depth of Testhole: 3.1 m
Logged by: Kurtis Kulchyski

Subsurface Profile			Laboratory Testing					
Depth (m)	Symbol	Description	Moisture Content (%)		Gravel (%)	Sand (%)	Silt (%)	Clay (%)
			PL	LL				
0.0		Ground Surface						
0.0 - 0.2		Asphalt						
0.2 - 0.4		Granular Fill - 20 mm maximum aggregate size						
0.4 - 1.3		Clay Fill - black/grey, moist, stiff, high plasticity, trace sand, trace fine grained gravel						
1.3 - 1.8		Clay - black/grey, moist, firm, high plasticity, some silt - brown below 1.5 m						
1.8 - 2.2		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	37.5
2.2 - 3.0		Clay - brown, moist, firm, high plasticity, some silt						
3.0 - 3.1		End of testhole at 3.1 m below grade. No water seepage or soil sloughing were observed during or after the completion of drilling.						

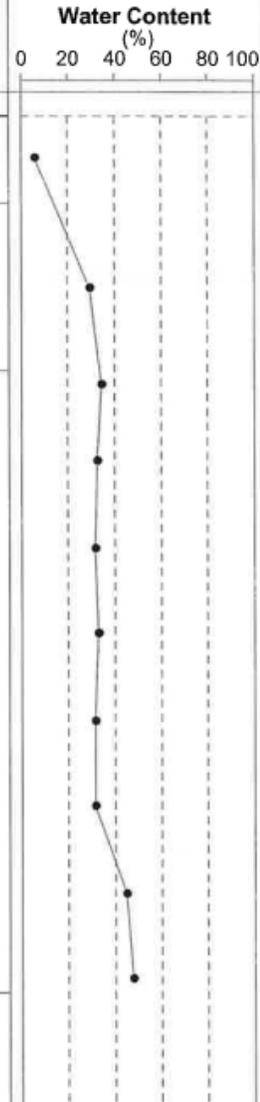
TESTHOLE TH9



Project Name: Panet Road/Molson Street Reconstruction
Client: Dillon Consulting Limited
Site: Panet Road/Molson Street, Munroe Ave. to Antrim Rd.
Testhole Location: 50 m S of Kimberly Ave./Molson St. intersection, NB shoulder lane

Date Drilled: December 19, 2006
Depth of Testhole: 3.1 m
Logged by: Kurtis Kulchyski

Subsurface Profile			Laboratory Testing
Depth	Symbol	Description	Water Content (%)
Ground Surface			
0.0		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			
3.0			
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.	



TESTHOLE TH10



Project Name: Panet Road/Molson Street Reconstruction
Client: Dillon Consulting Limited
Site: Panet Road/Molson Street, Munroe Ave. to Antrim Rd.
Testhole Location: 45 m S of Snowdon Ave./Molson St. intersection, SB shoulder lane

Date Drilled: December 19, 2006
Depth of Testhole: 3.1 m
Logged by: Kurtis Kulchyski

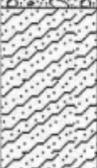
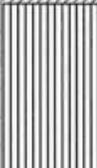
Subsurface Profile			Laboratory Testing
Depth	Symbol	Description	Water Content (%)
			0 20 40 60 80 100
Ground Surface			
0.0		Granular Fill - 20 mm maximum aggregate size	
0.5		Clay Fill - black/grey, moist, stiff, high plasticity, trace sand, trace fine grained gravel	
1.0		Clay - grey, moist, firm, high plasticity, some silt - brown below 1.2 m - trace thin silt layers below 1.8 m	
1.5			
2.0			
2.5		Clayey Silt - tan, moist, firm to soft, low plasticity - 100 mm thick layer of clay at 2.3 m	
3.0		Clay - brown, moist, firm, high plasticity, some silt	
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.	

TESTHOLE TH11



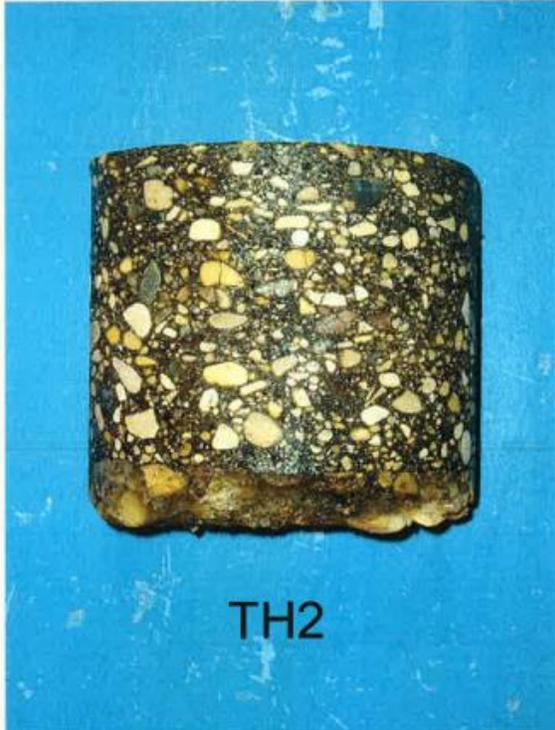
Project Name: Panet Road/Molson Street Reconstruction
Client: Dillon Consulting Limited
Site: Panet Road/Molson Street, Munroe Ave. to Antrim Rd.
Testhole Location: 50 m S of Snowdon Ave./Molson St. intersection, SB lane, 2 m E of W shoulder

Date Drilled: December 19, 2006
Depth of Testhole: 3.1 m
Logged by: Kurtis Kulchyski

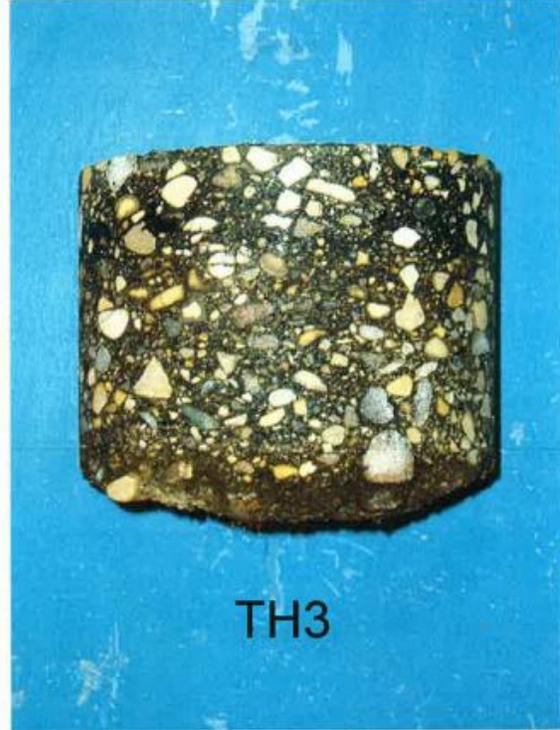
Subsurface Profile			Laboratory Testing
Depth	Symbol	Description	Water Content (%)
			0 20 40 60 80 100
0.0		Ground Surface	
		Asphalt	
		Granular Fill - 20 mm maximum aggregate size	
0.5		Clay Fill - black/grey, moist, stiff, high plasticity, trace sand, trace fine grained gravel - grey below 0.6 m, 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			
2.0			
2.5		Clayey Silt - tan, moist, soft, low plasticity	
3.0		Clay - brown, moist, firm, high plasticity, some silt	
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.	

Pavement Core Photos

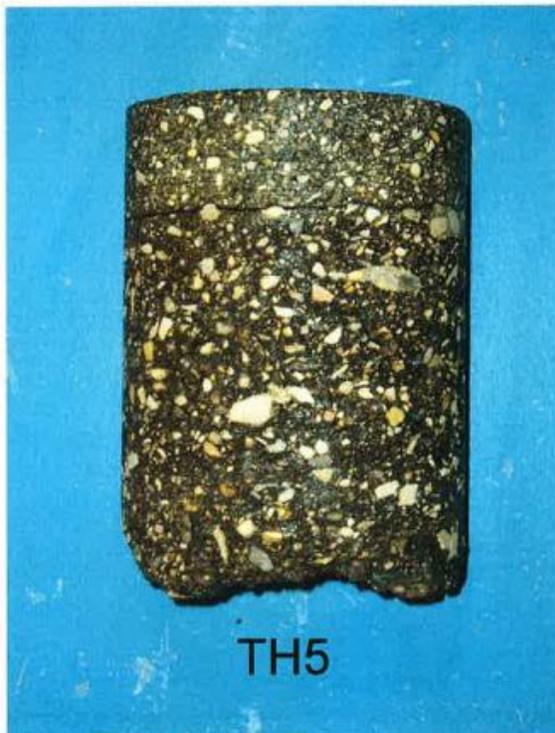
**Panet Road/Molson Street Reconstruction
Munroe Avenue to Antrim Road**



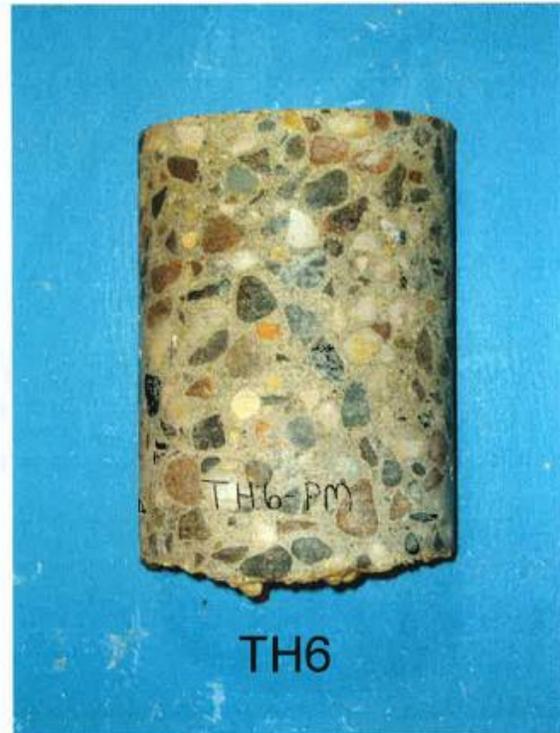
TH2



TH3

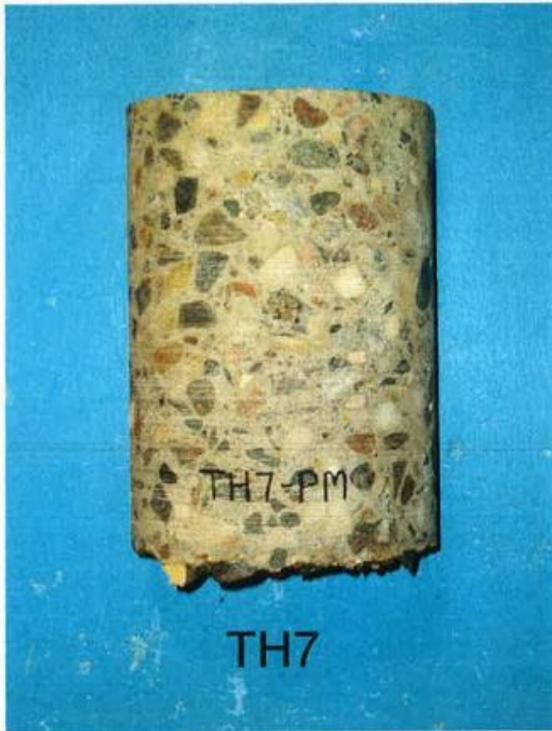


TH5

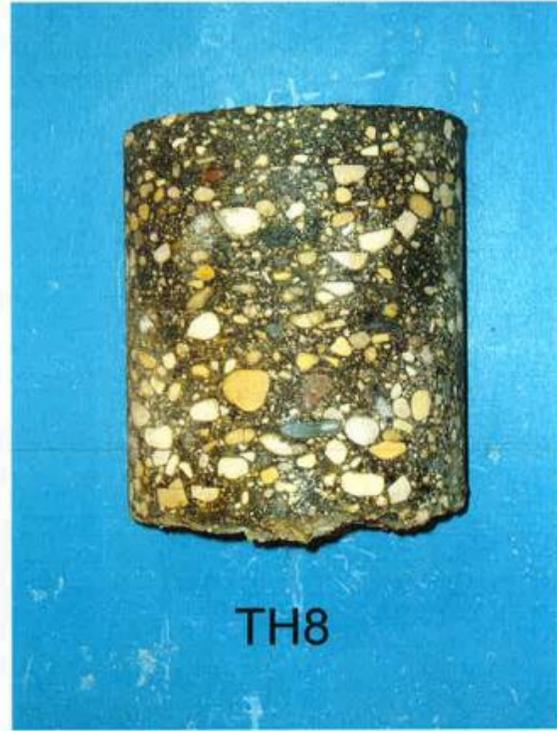


TH6

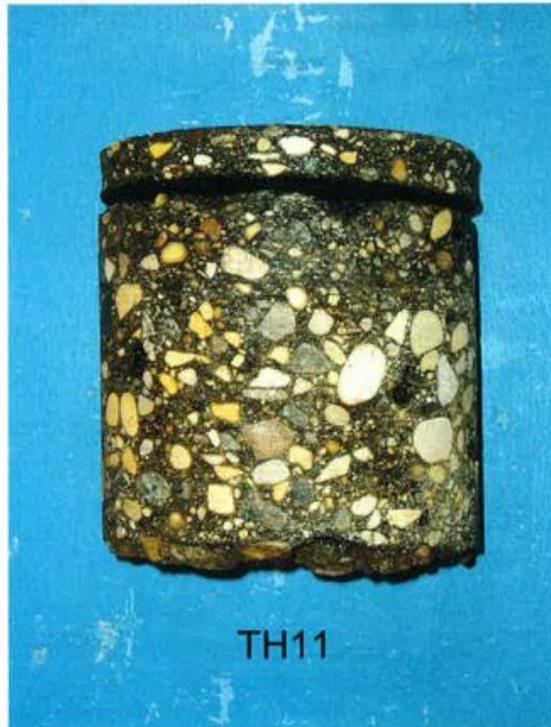
**Panet Road/Molson Street Reconstruction
Munroe Avenue to Antrim Road**



TH7



TH8



TH11