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 Crestview Park Drive

Test Hole Locations

Summary of Core Samples

TABLE 1
2013 LOCAL STREETS PROGRAM
CRESTVIEW PARK DRIVE BETWEEN HAMILTON AVENUE & VOYAGEUR AVENUE
GEOTECHNICAL INVESTIGATION

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	Northbound Crestview Park Drive between Voyageur Avenue & Inch Bay north 22.2 m south from south corner of Voyageur Ave & Crestview Park Drive 6.0 m east from west curb	Concrete	170	Crushed Limestone	50	Clay	0.6	47	0.7	5.7	23.6	70.0	82	23	59
TH2	Northbound Crestview Park Drive between Inch Bay north & Inch Bay south 57.5 m N from northwest corner of Inch Bay South & Crestview Park Drive 5.4 m east from west curb	Concrete	165	-	-	-	-	-	-	-	-	-	-	-	-
TH3	Northbound Crestview Park Drive between Leisure Bay South & Hamilton Avenue 36.8 m N from northeast corner of Hamilton & Crestview Park Drive 2.0 m west from east curb	Concrete	145	Crushed Limestone	50	Clay Fill	0.6	40	2.3	7.1	20.9	69.7	82	27	55

Template Version: C420130321 - RW

Test Hole Log for TH1

TESTHOLE TH1

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1923

Project Name: 2013 Local Streets Program
Project Location: Crestview Park Drive Between Hamilton Ave and Voyageur Ave
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 22.2 m S from south corner of Voyageur Ave & Crestview Park Drive, 6.0 m east from west curb

Date Drilled: April 9, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Symbol	Description	Particle Size Distribution: Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Water Content (%) PL LL
		Concrete					
		Crushed Limestone - 20 mm max size aggregate					
		Clay Fill - brown, firm, moist, high plasticity - trace fine to coarse sand - trace fine gravel					40
0.5			0.7	5.7	23.6	70.0	47
		Clay - brown, stiff, moist, high plasticity - trace fine to coarse sand - trace fine gravel - some silt					46
1.0							39
1.5							39
							37
2.0		• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.0 m.					
2.5							

Water Content (%) scale: 25 50 75 100

Test Hole Log for TH2

TESTHOLE TH2

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1923

Project Name: 2013 Local Streets Program
Project Location: Crestview Park Drive Between Hamilton Ave and Voyageur Ave
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 57.5 m N from northwest corner of Inch Bay South & Crestview Park Drive, 5.4 m east from west curb

Date Drilled: April 9, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Symbol	Description	● Water Content (%) 25 50 75 100
		Concrete	
		Clay Fill - brown, firm, moist, high plasticity - trace fine to coarse sand - trace fine gravel	●58 ●36
0.5		**Clay** - brown, stiff, moist, high plasticity	●37 ●37
1.0			●29
1.5			●37 ●40
2.0		• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.0 m.	
2.5			

Test Hole Log for TH3

TESTHOLE TH3

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1923

Project Name: 2013 Local Streets Program
Project Location: Crestview Park Drive Between Hamilton Ave and Voyageur Ave
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 36.8 m N from northeast corner of Hamilton & Crestview Park Drive, 2.0 m west from east curb

Date Drilled: April 9, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Symbol	Description	Particle Size Distribution: Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Water Content (%) PL LL
		Concrete					
		Crushed Limestone - 20 mm max size aggregate					
		Clay Fill - brown, firm, moist, high plasticity - trace fine to coarse sand - trace fine gravel - some silt					44
0.5			2.3	7.1	20.9	69.7	48
		Clay - black, firm, moist, high plasticity - brown below 1.2 m					33
1.0							31
1.5							40
							38
2.0		• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.0 m.					
2.5							

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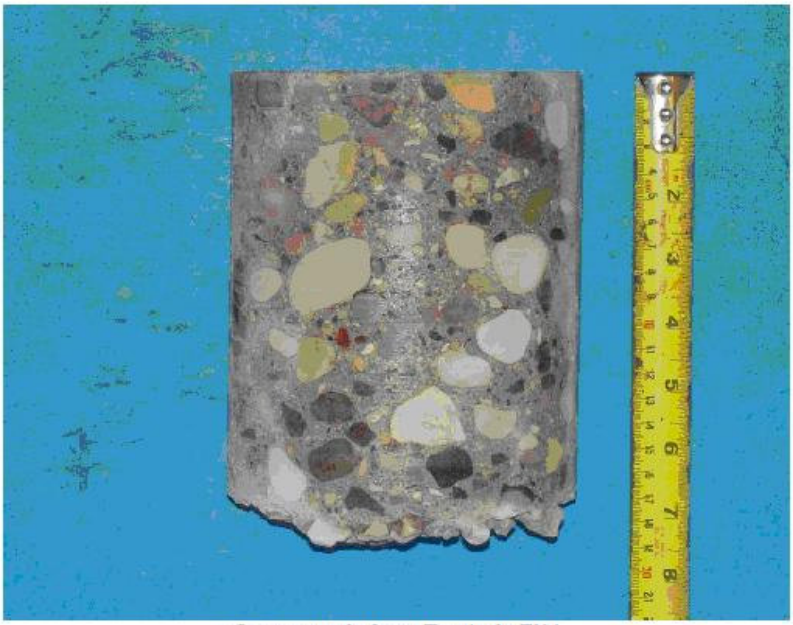
Pavement Core Photos



Core sample from Testhole TH1

Core sample from Testhole TH2

Core sample from Testhole TH3

Geotechnical Report for Leila Avenue

Test Hole Locations

Summary of Core Samples

TABLE 1
2013 LOCAL STREETS PROGRAM
LEILA AVENUE BETWEEN MAIN STREET AND MARYMOUND WAY
GEOTECHNICAL INVESTIGATION

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	Eastbound Leila Avenue 175 m west from southwest corner of Marymound Way & Leila Avenue 1.7 m north from south curb	Asphalt	65	-	-	-	-	-	-	-	-	-	-	-	-
		Concrete	120												
TH2	Eastbound Leila Avenue 94.9 m west from southwest corner of Marymound Way & Leila Avenue 0.7 m north from south curb	Asphalt	30	-	-	Clay	0.6	32	0.0	2.2	22.2	75.6	79	26	53
		Concrete	145												
TH3	Eastbound Leila Avenue 19.4 m west from southwest corner of Marymound Way & Leila Avenue 2.0 m north from south curb	Asphalt	30	-	-	-	-	-	-	-	-	-	-	-	-
		Concrete	165												

Test Hole Log for TH1

TESTHOLE TH1

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1923

Project Name: 2013 Local Streets Program
Project Location: Leila Avenue Between Main Street and Marymound Way
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 175.0 m west from southwest corner of Marymound Way & Leila Avenue, 1.7 m north from south curb

Date Drilled: April 9, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Symbol	Description	Sample Type	● Water Content (%) 25 50 75 100
		Asphalt		
		Concrete		
		Clay Fill - black, firm, moist, medium plasticity - some fine to coarse sand - trace fine gravel	BS	●35
			BS	●39
0.5		**Clay** - brown, stiff, moist, high plasticity - some silt below 1.7 m	BS	●36
			BS	●33
1.0			BS	●31
1.5			BS	●31
			BS	●33
2.0		• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated to a depth of 2.0 m.		
2.5				

Test Hole Log for TH2

TESTHOLE TH2

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1923

Project Name: 2013 Local Streets Program
Project Location: Leila Avenue Between Main Street and Marymound Way
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 94.9 m west from southwest corner of Marymound Way & Leila Avenue, 0.7 m north from south curb

Date Drilled: April 9, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Symbol	Description	Sample Type	Particle Size Distribution: Gravel (%)	Sand (%)	Silt (%)	Clay (%)	● Water Content (%) PL LL (25 50 75 100)
		Asphalt						
		Concrete						
		Clay Fill - brown, firm, moist, medium plasticity - trace fine to medium sand	BS					●32
			BS					●33
0.5		**Clay** - brown, stiff, moist, high plasticity - trace fine to coarse sand - some silt	BS	0.0	2.2	22.2	75.6	●32
			BS					●31
1.0			BS					●34
1.5			BS					●31
			BS					●37
2.0		• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated to a depth of 2.0 m.						
2.5								

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Test Hole Log for TH3

TESTHOLE TH3

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1923

Project Name: 2013 Local Streets Program
Project Location: Leila Avenue Between Main Street and Marymound Way
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 19.4 m west from southwest corner of Marymound Way & Leila Avenue, 2.0 m north from south curb

Date Drilled: April 9, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Symbol	Description	Sample Type	● Water Content (%) 25 50 75 100
		Asphalt		
		Concrete		
		Clay Fill	BS	●31
		- brown, firm, moist, medium plasticity	BS	●33
		- trace fine to medium sand		
		Clay		
0.5		- brown, stiff, moist, high plasticity	BS	●33
		- some silt	BS	●31
1.0			BS	●32
1.5			BS	●33
			BS	●34
2.0		• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated to a depth of 2.0 m.		
2.5				

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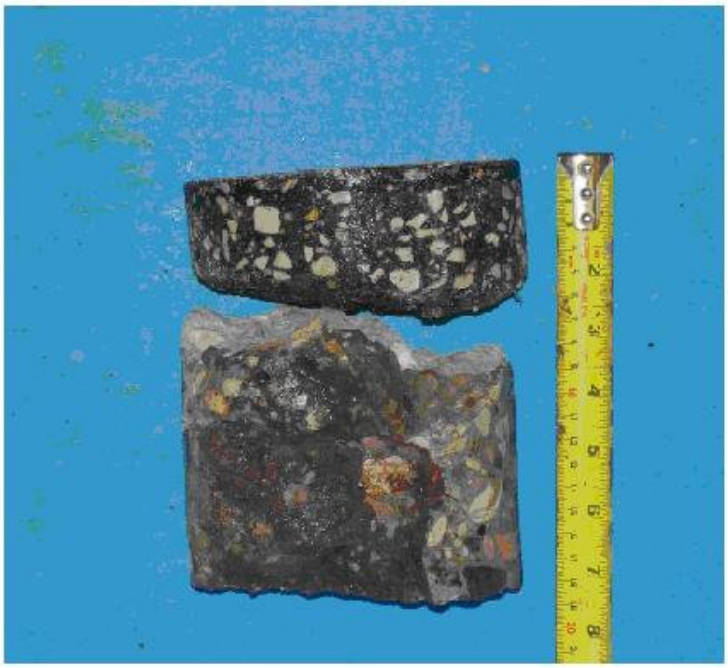
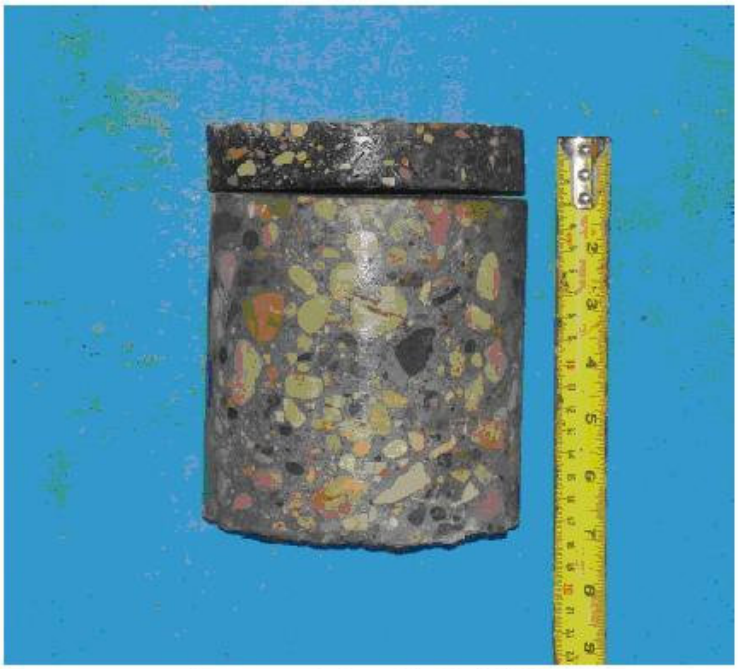
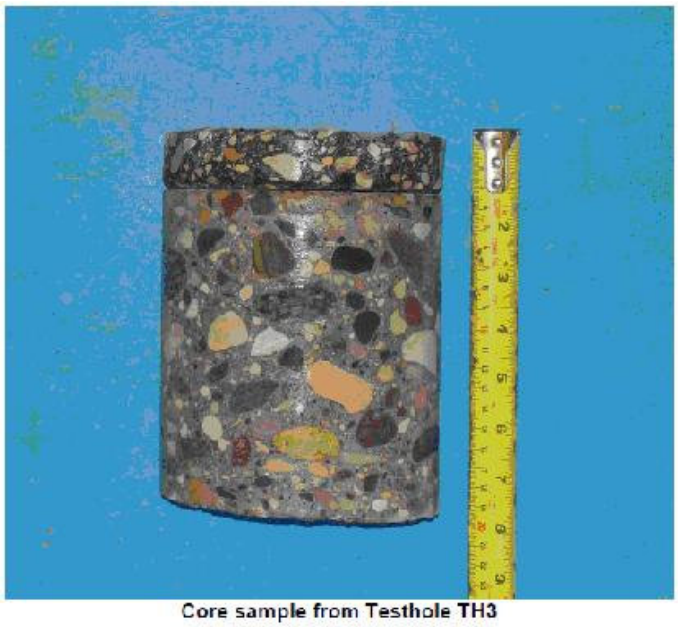
Pavement Core Photos



Core sample from Testhole TH1



Core sample from Testhole TH2



Core sample from Testhole TH3

Geotechnical Report for Red Robin Place

Test Hole Locations

Testhole Location Plan
2013 Local Streets Program
Red Robin Place Between
Athlone Drive & Athlone Drive

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1923

Project No. KGS-1307 | Drawn by: SB | Figure: 1
Date: April 25, 2013 | Reviewed by: GL | Scale: NTS

Summary of Core Samples

TABLE 1
2013 LOCAL STREETS PROGRAM
RED ROBIN PLACE BETWEEN ATHLONE DRIVE & ATHLONE DRIVE
GEOTECHNICAL INVESTIGATION

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	Northbound Red Robin Place 16.7 m south from northeast corner of Athlone Drive north & Red Robin Place 2.1 m west from east curb	Concrete	140	-	-	Clay	0.6	34	0.0	24.6	28.1	47.3	49	19	30
TH2	Northbound Red Robin Place 105.2 m South from northeast corner of Athlone Drive north & Red Robin Place 1.8 m west from east curb	Concrete	150	-	-	-	-	-	-	-	-	-	-	-	-
TH3	Northbound Red Robin Place 24.0 m north from southwest corner of Athlone Drive south & Red Robin Place 5.6 m east from west curb	Concrete	165	-	-	Silty Clay	0.9	38	0.2	11.2	32.6	56.0	73	26	47

Test Hole Log for TH1

TESTHOLE TH1

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1929

Project Name: 2013 Local Streets Program
Project Location: Red Robin Place Between Athlone Drive & Athlone Drive
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 16.7 m S from northeast corner of Athlone Drive north & Red Robin Place, 2.1 m west from east curb

Date Drilled: April 9, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Description	Sample Type	Particle Size Distribution: Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Water Content (%) PL LL
	Concrete - polyethylene vapor barrier below concrete						
	Clay Fill - black, firm, moist, medium plasticity - trace organic material - some fine to coarse sand - brown below 0.3 m - some silt	BS					28
		BS					24
0.5		BS	0.0	24.6	28.1	47.3	34
	Silty Clay - tan, firm, moist, high plasticity - soft below 0.9 m - brown, stiff, high plasticity below 1.2 m - some fine to coarse sand - trace fine gravel	BS					37
		BS					34
1.0		BS					25
1.5		BS					26
		BS					26
2.0	• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.0 m.						
2.5							

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Test Hole Log for TH2

TESTHOLE TH2

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1923

Project Name: 2013 Local Streets Program
Project Location: Red Robin Place Between Athlone Drive & Athlone Drive
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 105.2 m S from northeast corner of Athlone Drive north & Red Robin Place, 1.8 m west from east curb

Date Drilled: April 9, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Symbol	Description	Sample Type	Water Content (%)
		Concrete - polyethylene vapor barrier below concrete		
		Clay Fill - black, firm, moist, medium plasticity - some fine to coarse sand - trace fine gravel	BS BS	30 26
0.5		**Silty Clay** - tan, soft, moist, high plasticity - trace fine to medium sand - brown, stiff below 0.8 m - some fine to coarse sand below 1.2 m - trace fine gravel	BS BS BS BS	23 22 21 21
1.0				
1.5				
2.0		• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.0 m.	BS	18
2.5				

Water Content (%): 25 50 75 100

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Template Version: C420130321 - RW

Test Hole Log for TH3

TESTHOLE TH3

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1923

Project Name: 2013 Local Streets Program
Project Location: Red Robin Place Between Athlone Drive & Athlone Drive
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 24.0 m N from southwest corner of Athlone Drive south & Red Robin Place, 5.6 m east from west curb

Date Drilled: April 9, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Description	Sample Type	Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Water Content (%) PL LL
	Concrete - polyethylene vapor barrier below concrete						
	Clay Fill - black, firm, moist, medium plasticity - some fine to coarse sand - trace fine gravel	BS					36
		BS					39
0.5		BS					30
	Silty Clay - black, firm, moist, high plasticity - brown, stiff below 1.2 m - some fine to coarse sand - trace fine gravel	BS	0.2	11.2	32.6	56.0	38
1.0		BS					31
1.5		BS					33
		BS					27
2.0	• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.0 m.						
2.5							

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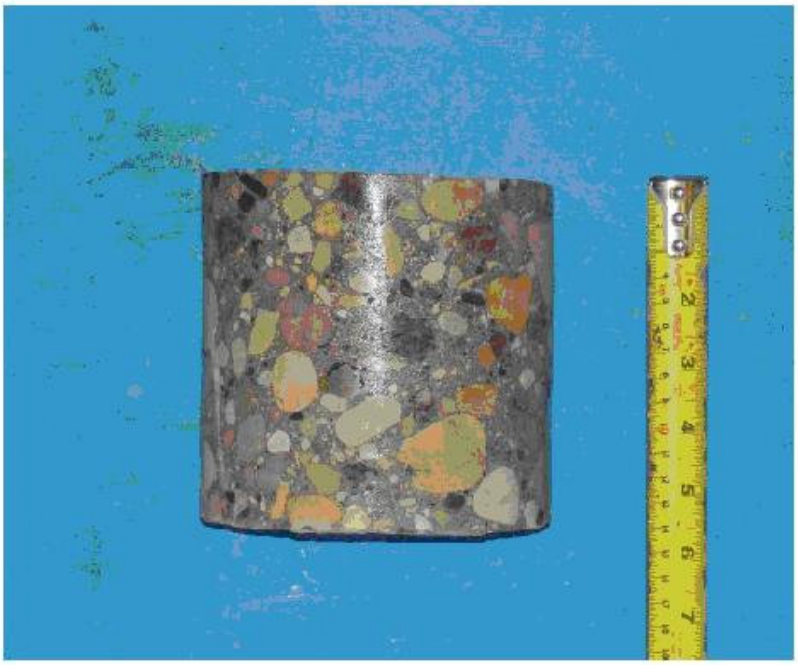
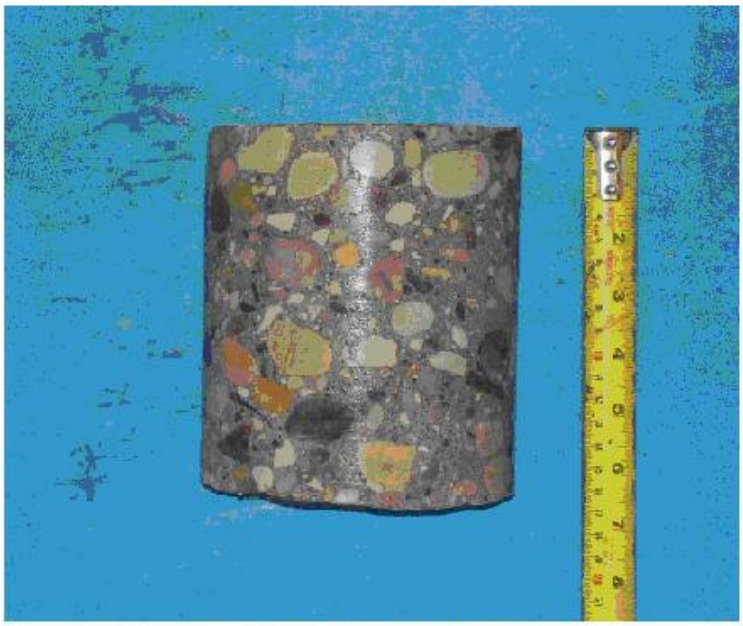
Pavement Core Photos



Core sample from Testhole TH1

Core sample from Testhole TH2



Core sample from Testhole TH3

Geotechnical Report for Argate Drive

Test Hole Locations

Template Version: C420130321 - RW

Summary of Core Samples

TABLE 1
2013 LOCAL STREETS PROGRAM
ARGATE DRIVE BETWEEN JEFFERSON AVENUE & LEAHCREST CRESCENT
GEOTECHNICAL INVESTIGATION

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	Southbound Argate Drive between Jefferson Ave & Bachman Bay north 34.4 m south from southwest corner of Jefferson Ave & Argate Drive 1.6 m east from west curb	Concrete	150	Crushed Limestone	610	Silty Clay	0.9	24	1.2	8.3	32.4	58.1	60	20	40
TH2	Northbound Argate Drive between Bachman Bay north & Bachman Bay south 23.0 m north from northeast corner of Bachman Bay south & Argate Drive 2.0 m west from east curb	Concrete	140	Crushed Limestone	620	-	-	-	-	-	-	-	-	-	-
TH3	Northbound Argate Drive between Bachman Bay south & Leahcrest Crescent 28.0 m north from northeast corner of Argate Drive & Leahcrest Crescent 2.1 m west from east curb	Concrete	160	Crushed Limestone	600	Clayey Silt	0.9	17	1.1	8.7	69.8	20.4	23	15	8

Test Hole Log for TH1

TESTHOLE TH1

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1923

Project Name: 2013 Local Streets Program
Project Location: Argate Drive btw Jefferson Avenue & Leahcrest Crescent
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 34.4 m south from SW corner of Jefferson Ave & Argate Drive, 1.6 m east from west curb

Date Drilled: April 5, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Symbol	Description	Sample Type	Particle Size Distribution: Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Water Content (%) PL LL
		Concrete						
		Crushed Limestone - 20 mm maximum aggregate size	BS					4
			BS					6
0.5			BS					6
		Silty Clay - brown, firm, moist, high plasticity - trace fine gravel - trace fine to coarse sand	BS	1.2	8.3	32.4	58.1	24
1.0			BS					21
		Clayey Silt - tan, soft, moist, low plasticity	BS					20
1.5			BS					21
2.0		• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.0 m.						
2.5								

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Test Hole Log for TH2

TESTHOLE TH2

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1922

Project Name: 2013 Local Streets Program
Project Location: Argate Drive btw Jefferson Avenue & Leahcrest Crescent
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 23.0 m north from NE corner of Bachman Bay south & Argate Drive, 2.0 m west from east curb

Date Drilled: April 5, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Description	Sample Type	Water Content (%)
	Concrete		
	Crushed Limestone - 20 mm maximum aggregate size	BS	3
		BS	5
0.5		BS	4
	Clay Fill - brown, stiff, moist, high plasticity - some fine to coarse sand - trace fine gravel	BS	20
1.0		BS	26
	Clay - grey, stiff, moist, high plasticity	BS	25
1.5			
	Clayey Silt - tan, soft, moist, low plasticity	BS	27
2.0	• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.0 m.		
2.5			

Water Content (%): 25 50 75 100

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Test Hole Log for TH3

TESTHOLE TH3

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1923

Project Name: 2013 Local Streets Program
Project Location: Argate Drive btw Jefferson Avenue & Leahcrest Crescent
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 28.0 m north from NE corner of Argate Drive & Leahcrest Crescent, 2.1 m west from east curb

Date Drilled: April 5, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Symbol	Description	Sample Type	Particle Size Distribution: Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Water Content (%) PL LL
		Concrete						
		Crushed Limestone - 20 mm maximum aggregate size	BS					9
			BS					7
0,5			BS					7
		Clayey Silt - tan, soft, moist, low plasticity - trace fine gravel - trace fine to coarse sand	BS	1,1	8,7	69,8	20,4	17
1,0			BS					15
1,5			BS					21
		Silty Clay - grey, firm, moist, high plasticity	BS					23
2,0		• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2,0 m.						
2,5								

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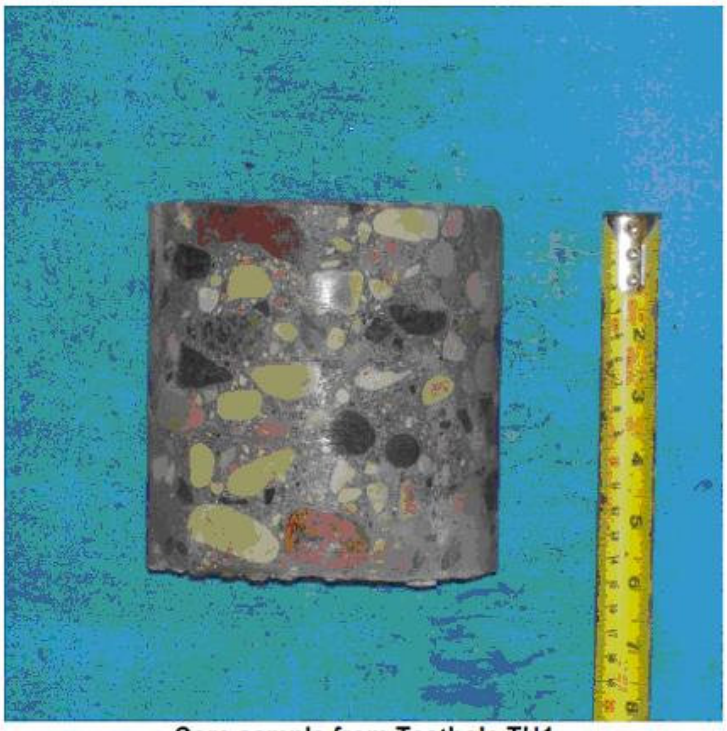
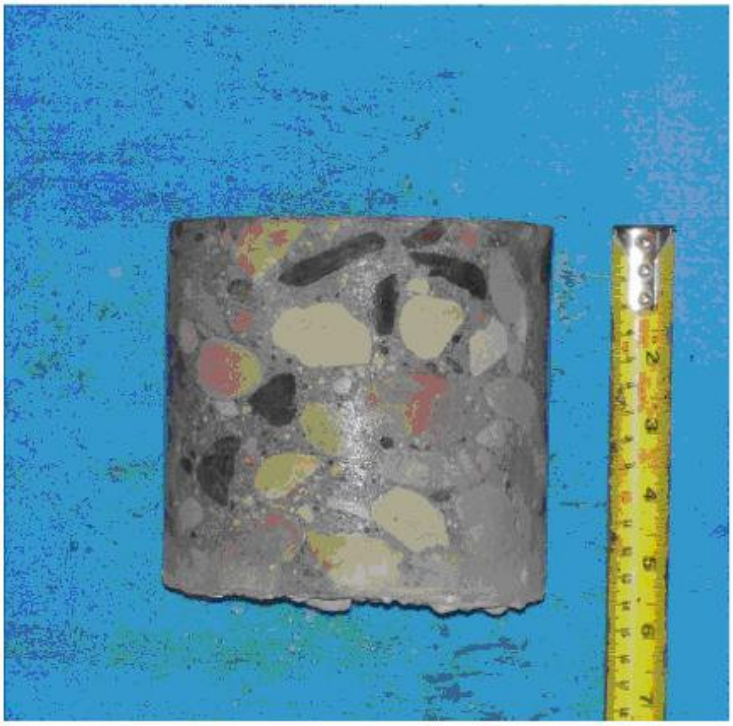
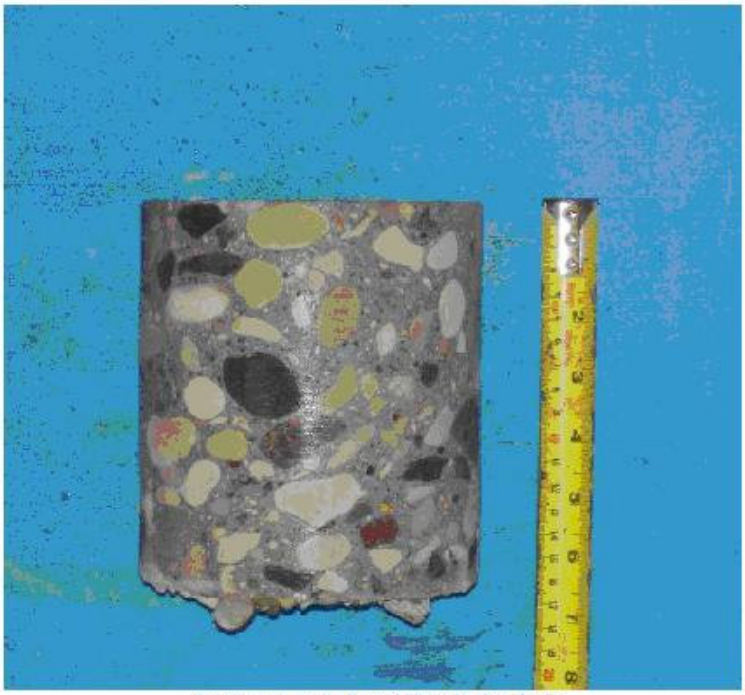
Pavement Core Photos



Core sample from Testhole TH1



Core sample from Testhole TH2



Core sample from Testhole TH3

Geotechnical Report for Leahcrest Crescent

Test Hole Locations

Summary of Core Samples

TABLE 1
2013 LOCAL STREETS PROGRAM
LEAHCREST CRESCENT BETWEEN ARGATE DRIVE AND ANGLIA AVENUE
GEOTECHNICAL INVESTIGATION

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	Westbound Leahcrest Crescent between Argate Drive & Baker Bay north 44.0 m east from northeast corner of Argate Drive & Leahcrest Crescent 1.5 m south from north curb	Concrete	160	Crushed Limestone	450	Silt	0.9	22	0.2	3.2	78.2	18.4	24	16	8
TH2	Northbound Leahcrest Crescent between Argate Drive & Baker Bay north 45.0 m north from northwest corner of Leahcrest Crescent & Baker Bay north 4.9 m east from west curb	Concrete	170	Crushed Limestone	440	-	-	-	-	-	-	-	-	-	-
TH3	Northbound Leahcrest Crescent between Baker Bay north and Baker Bay south 31.1 m north from northeast corner of Leahcrest Crescent & Anglia Avenue 2.4 m west from east curb	Concrete	165	Crushed Limestone	520	Clayey Silt	0.9	36	1.6	8.6	51.0	38.8	37	16	21

Test Hole Log for TH1

TESTHOLE TH1

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1922

Project Name: 2013 Local Streets Program
Project Location: Leahcrest Crescent between Argate Drive & Anglia Avenue
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 44.0 m east from NE corner of Argate Drive & Leahcrest Crescent, 1.5 m south from north curb

Date Drilled: April 5, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Symbol	Description	Sample Type	Particle Size Distribution: Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Water Content (%) PL LL
		Concrete						
		Crushed Limestone - 50 mm maximum aggregate size	BS					8
			BS					6
0.5		**Silt** - tan, soft, moist, low plasticity - trace fine gravel - trace fine to coarse sand - some clay	BS					23
			BS	0.2	3.2	78.2	18.4	22
1.0			BS					22
1.5			BS					23
			BS					24
2.0		• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.0 m.						
2.5								

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Test Hole Log for TH2

TESTHOLE TH2

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1923

Project Name: 2013 Local Streets Program
Project Location: Leahcrest Crescent between Argate Drive & Anglia Avenue
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 45.0 m north from NW corner of Leahcrest Crescent & Baker Bay north, 4.9 m east from west curb

Date Drilled: April 5, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Symbol	Description	Sample Type	● Water Content (%)
		Concrete		
		Crushed Limestone - 20 mm maximum aggregate size	BS BS	●6 ●6
0.5			BS	●7
		Clay - brown, firm, moist, high plasticity	BS	●27
1.0			BS	●24
		Silt - tan, soft, moist, low plasticity - some clay	BS	●23
1.5			BS	●22
2.0		• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.0 m.		
2.5				

25 50 75 100

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Test Hole Log for TH3

TESTHOLE TH3

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1922

Project Name: 2013 Local Streets Program
Project Location: Leahcrest Crescent between Argate Drive & Anglia Avenue
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 31.1 m north from NE corner of Leahcrest Crescent & Anglia Avenue, 2.4 m west from east curb

Date Drilled: April 5, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Description	Sample Type	Particle Size Distribution: Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Water Content (%)
	Concrete						
	Crushed Limestone - 20 mm maximum aggregate size	BS					6
		BS					6
0.5		BS					7
	Clayey Silt - tan, firm, moist, medium plasticity - trace fine gravel - trace fine to coarse sand	BS	1.6	8.6	51.0	38.8	36
1.0	**Silt** - tan, soft, moist, low plasticity	BS					23
1.5		BS					21
		BS					23
2.0	• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.0 m.						
2.5							

Water Content (%): PL — LL; 25 50 75 100

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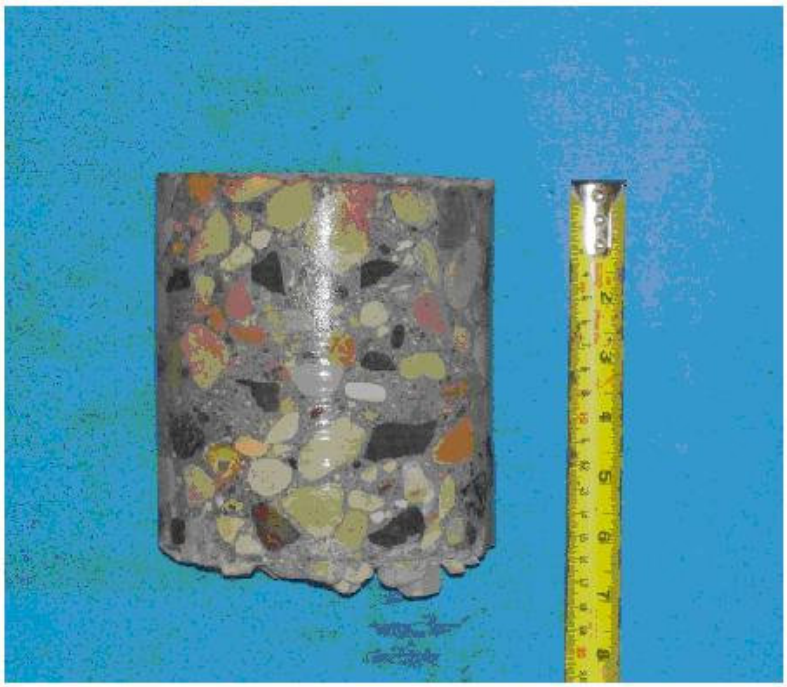
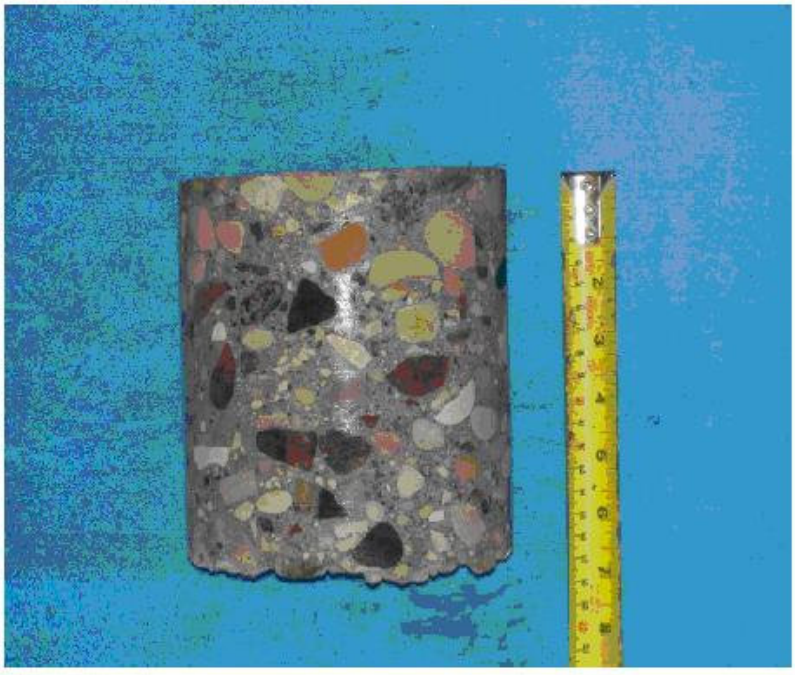
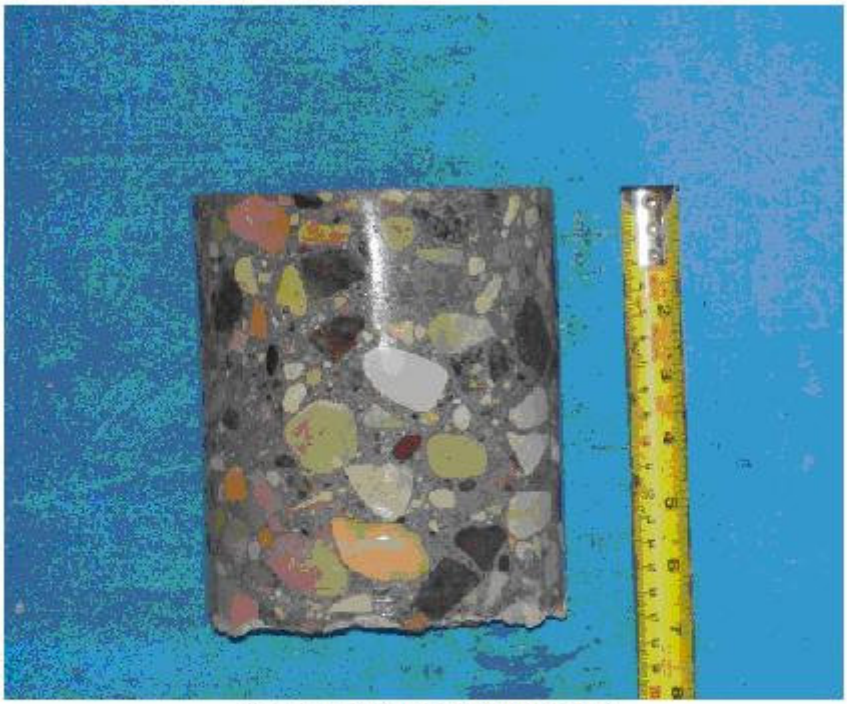
Pavement Core Photos



Core sample from Testhole TH1



Core sample from Testhole TH2

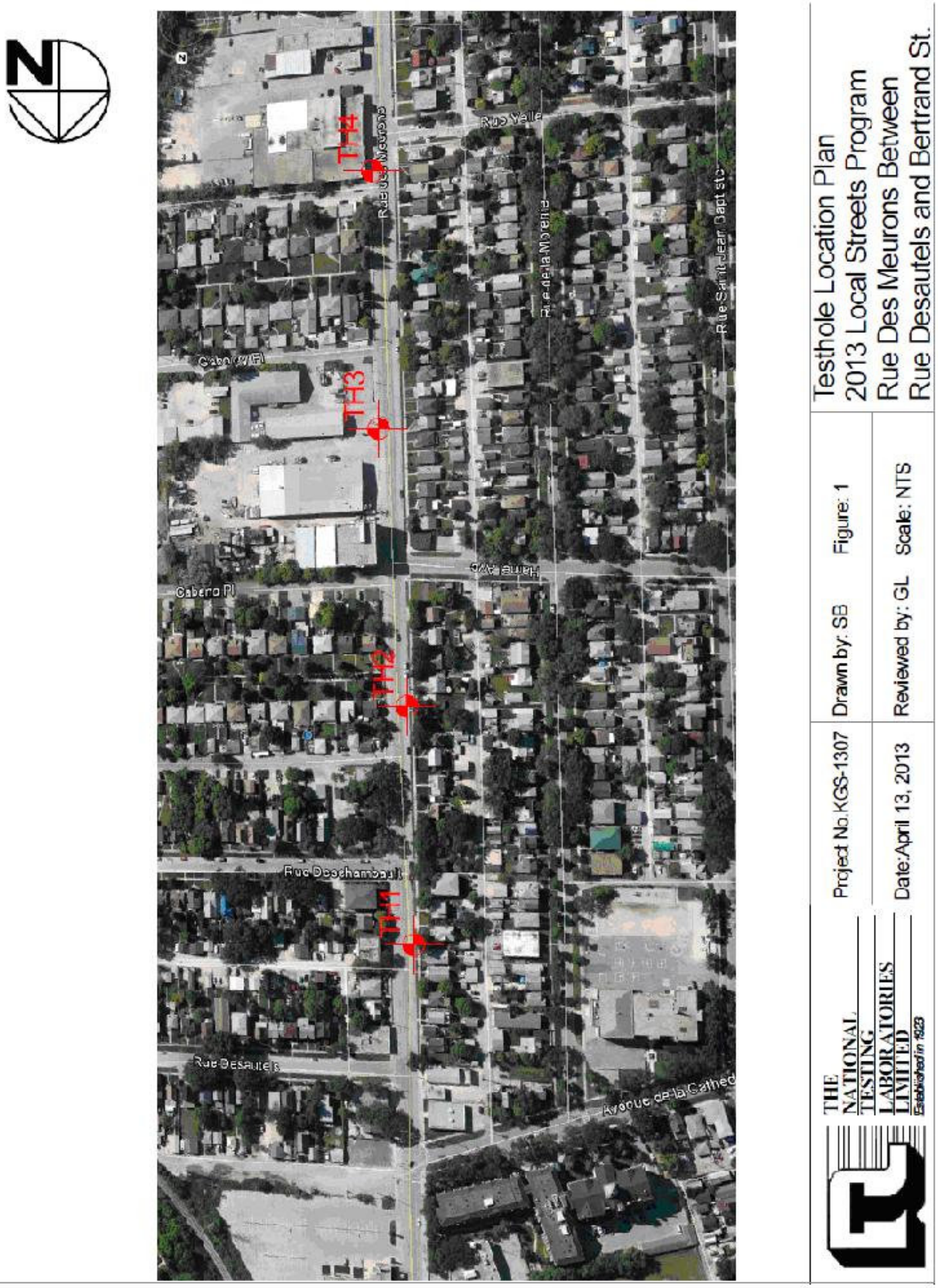


Core sample from Testhole TH3

Template Version: C420130321 - RW

Geotechnical Report for Rue Des Meurons

Test Hole Locations



Testhole Location Plan
2013 Local Streets Program
Rue Des Meurons Between
Rue Desautels and Bertrand St.

Project No.KGS-1307 | Drawn by: SB | Figure: 1
Date:April 13, 2013 | Reviewed by: GL | Scale: NTS

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1923

Summary of Core Samples

TABLE 1
2013 LOCAL STREETS PROGRAM
RUE DES MEURONS BETWEEN RUE DESAUTELS AND BERTRAND STREET
GEOTECHNICAL INVESTIGATION

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	Southbound Rue Des Meurons between Rue Desautels & Rue Deschambault 67.8 m south from southeast corner of Rue Desautels & Des Meurons Rue 11.1 m west from east curb	Asphalt	170	-	-	-	-	-	-	-	-	-	-	-	-
		Concrete	110												
TH2	Southbound Rue Des Meurons between Cabana Pl. & Hamel Ave. 78.0 m north from northwest corner of Hamel Ave. & Des Meurons Rue 1.8 m east from west curb	Asphalt	30	-	-	Clay fill	0.6	31	0.6	8.8	28.0	62.6	78	24	54
		Concrete	235												
TH3	Northbound Rue Des Meurons between Hamel Ave. & Gabbury Pl. 86.7 m south from southwest corner of Hamel Ave. & Des Meurons Rue 12.4 m east from west curb	Asphalt	65	-	-	-	-	-	-	-	-	-	-	-	-
		Concrete	200												
TH4	Northbound Rue Des Meurons between Gabbury Pl. & Rue Yelle 13.1 m north from northwest corner of Rue Yelle & Des Meurons Rue 12.8 m east from west curb	Asphalt	215	Granular	90	Clay	0.9	37	0.1	5.3	20.2	74.4	92	28	64

Test Hole Log for TH1

TESTHOLE TH1

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1923

Project Name: 2013 Local Streets Program
Project Location: Rue Des Meurons Between Rue Desautels & Bertrand Street
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 67.8 m south from SE corner of Rue Desautels & Rue Des Meurons, 11.1 m west from east curb

Date Drilled: April 4, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Symbol	Description	Sample Type	● Water Content (%) 25 50 75 100
		Asphalt		
		Concrete		
		Clay Fill - brown, soft, moist, medium plasticity - some medium to coarse sand - trace fine to coarse gravel	BS	●26
0.5			BS	●36
		Clay - brown, firm, moist, high plasticity - silty below 1.8 m	BS	●39
1.0			BS	●36
1.5			BS	●38
			BS	●42
2.0		• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.0 m.		
2.5				

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Test Hole Log for TH2

TESTHOLE TH2

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1922

Project Name: 2013 Local Streets Program
Project Location: Rue Des Meurons Between Rue Desautels & Bertrand Street
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 78.0 m north from NW corner of Hamel Ave & Rue Des Meurons, 1.8 m east from west curb

Date Drilled: April 4, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Symbol	Description	Sample Type	Particle Size Distribution: Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Water Content (%) PL LL
		Asphalt						
		Concrete						
		Clay Fill - brown, soft, moist, high plasticity - trace fine gravel - trace medium to coarse sand - some silt - firm below 0.3 m	BS					28
0.5			BS	0.6	8.8	28.0	62.6	31
			BS					30
1.0		**Clay** - brown, firm, moist, high plasticity - some silt below 1.2 m	BS					30
		Clayey Silt - tan, soft, moist, low plasticity	BS					31
1.5			BS					23
		Clay - brown, stiff, moist, high plasticity - some silt	BS					35
2.0								
2.5								

- No groundwater seepage or soil sloughing was observed during or upon completion of drilling.
- Testhole terminated at a depth of 2.0 m.

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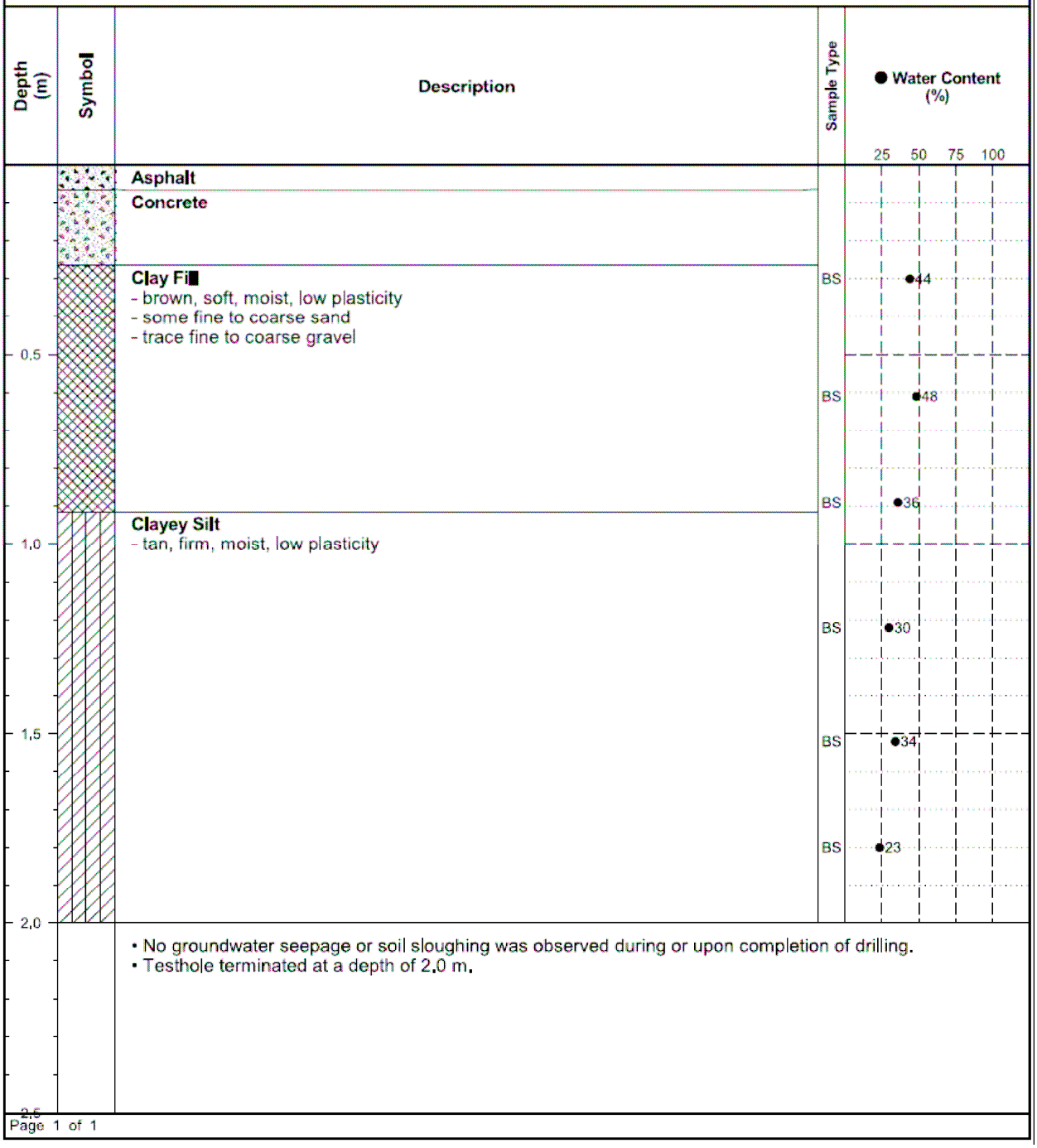
Test Hole Log for TH3

TESTHOLE TH3

THE NATIONAL TESTING LABORATORIES LIMITED
Established in 1923

Project Name: 2013 Local Streets Program
Project Location: Rue Des Meurons Between Rue Desautels & Bertrand Street
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 86.7 m south from SW corner of Hamel Ave & Rue Des Meurons, 12.4 m east from west curb

Date Drilled: April 4, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal



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Test Hole Log for TH4

TESTHOLE TH4

THE NATIONAL TESTING LABORATORIES LIMITED
established in 1923

Project Name: 2013 Local Streets Program
Project Location: Rue Des Meurons Between Rue Desautels & Bertrand Street
Client: KGS Group Inc.
Drilling Contractor: Active Drilling and Piling
Drilling Method: 125 mm Solid Stem Auger
Testhole Location: 13.1 m north from NW corner of Rue Yelle & Rue Des Meurons, 12.8 m east from west curb

Date Drilled: April 4, 2013
Depth of Testhole: 2.0 m
Logged by: Sothea Bun
Reviewed by: German Leal

Depth (m)	Symbol	Description	Sample Type	Particle Size Distribution: Gravel (%)	Sand (%)	Silt (%)	Clay (%)	Water Content (%) PL LL
		Asphalt						
		Granular - max 25 mm aggregate size - some clay	BS					●38
		Clay Fill - brown, firm, moist, high plasticity - some medium to coarse sand						
0.5			BS					●65
		Clay - brown, firm, moist, high plasticity - trace fine gravel - trace fine to coarse sand - some silt - stiff below 1.5 m - trace silt below 1.8 m	BS	0,1	5,3	20,2	74,4	●37
1.0			BS					●32
1.5			BS					●31
			BS					●32
2.0		• No groundwater seepage or soil sloughing was observed during or upon completion of drilling. • Testhole terminated at a depth of 2.0 m.						
2.5								

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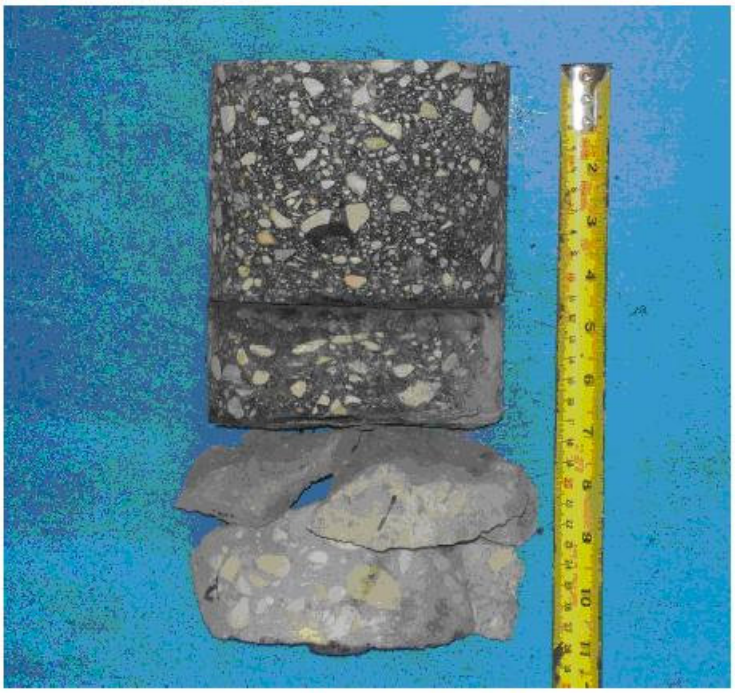
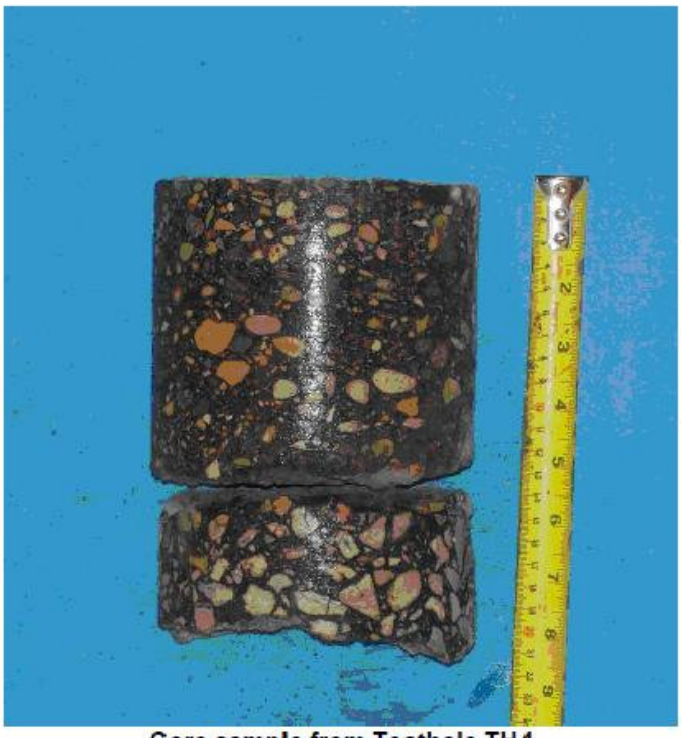
Pavement Core Photos



Core sample from Testhole TH1

Core sample from Testhole TH2

Core sample from Testhole TH3



Core sample from Testhole TH4