DST Consulting Engineers Inc.,
A division of Englobe
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Sovima Ottawa Inc.
100 Lansdowne, Suite 201
Saint-bruno-de-montarville, QC
J3V 0B3

December 14, 2020

Attention: Mr. Pierre Couture, Ing.
Directeur

RE: Proposed New Multi-Story Building at 800 Montreal Road, Ottawa, ON
Geotechnical Investigation and Hydrogeological Investigation
For Site Plan Approval Application Only

DST File No: 02001055.000

DST Consulting Engineers, a division of Englobe (DST) is pleased to submit the following documents to support Sovima Ottawa Inc.'s (Client's) upcoming Site Plan Approval application:

- DST letter entitled "Review of Founding Elevation of Proposed Footings" (Ref No: 02001055, dated October 29, 2020);
- DST report entitled "Geotechnical Investigation Report, Proposed Multi-Storey Residential Development, 800 Montreal Road, Ottawa, ON" (Ref No: 2001055, dated July 2020); and
- DST report entitled "Hydrogeological Investigation, 800 Montreal Road, Ottawa, Ontario" (Ref No: 2001055.00, dated July 30, 2020)

As discussed in the October 29, 2020 letter, DST understands that the Client is currently considering various founding elevations and structural designs for this development. As per our November 27, 2020 email to the Client and subsequent telephone discussions, we understand that the Client will be performing additional field investigation including test pits to verify the depth of the weathered bedrock along the proposed footing locations. Therefore, it is important to emphasize that the attached reports are being provided to support the Client's Site Plan Approval application with the City only. Additional field investigation and engineering will be required prior to completion of the structural designs and construction. Final structural designs will need to be provided to DST for final review and comments.

We trust this letter and attachments meets your present requirements. Should you have any questions, please do not hesitate to contact our office.

Sincerely,
DST Consulting Engineers Inc.

Shanti Ratmono, M.Eng., P.Eng.
Geotechnical Engineer

Shane Dunstan, P.Eng.
Team Lead, Materials East – ON

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203 - 2150 Thurston Drive
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Sovima Ottawa Inc.
100 Lansdowne, Suite 201
Saint-bruno-de-montarville, QC
J3V 0B3

October 29, 2020

Attention: Mr. Pierre Couture

RE: Review of Founding Elevation of Proposed Footings for New Multi-Story Building (Phase I) located at 800 Montreal Road, Ottawa, ON

DST File No.: 02001055.000

This letter is written in response to the email received from Pierre Couture of Sovima (Client) on October 13th, 2020 concerning the anticipated founding depths of the proposed footings for the new Multi-Story Building (Phase I) at 800 Montreal Road (Project) in Ottawa, ON.

This letter should be read in conjunction with DST's Draft Preliminary Geotechnical Investigation Report tilted 'Proposed Multi-Storey Residential Development, 800 Montreal Road, Ottawa, ON' dated July 2020.

Based on the information provided by the Client earlier during the preliminary phase of this project, the depth of the footings was originally proposed to be at an elevation of 85.5 m. However, recently the client is contemplating raising the underground parking slab to an elevation of 87.0 m and is proposing to raise the founding elevation of the perimeter footings to an elevation of 86.5 m and interior footings to an elevation of 86.0 m. Nevertheless, we understand that the proposed founding elevation of the shear walls footing will remain at elevation 85.5 m.

This letter outlines the geotechnical concerns related to contemplated raising of the perimeter and interior footings to the elevations noted above which includes the following:

- Reduced anticipated bearing capacity for the footings; and
- Lower anticipated seismic site classification under the recently proposed conditions.

This letter will also provide comments on dewatering requirements, hydraulic uplift and waterproofing based on the new proposed foundation founding elevations. As a result of the proposed changes, additional geotechnical field investigation and engineering evaluations are recommended and provided at the end of this letter.

Anticipated Subsurface Conditions at New Footing Elevations

According to the new foundation elevation provided by the Client, different foundation subsoil conditions at the perimeter footing elevations should be expected, as shown on Figures 1 to 6 attached depicting the cross sections of the proposed building. The following table summarizes the anticipated subsurface conditions at elevation 86.5 m at the location of the perimeter footings, based on the cross sections shown on Figure 2 to Figure 5 attached.

Table 1 Anticipated Subsurface Conditions at El. 86.5 m along the Perimeter of the New Building

Phase I Building (Cross Section)	North End of Building Line	South End of Building Line	East End of Building Line	West End of Building Line
	Anticipated Subsurface Conditions and Factored ULS Design Bearing Resistance			
Cross Section A-A' **(West Building Line)**	Sound Bedrock* **1 MPa factored ULS design bearing resistance possible in sound bedrock subject to additional drilling performed at the time of construction** **Test Pits required in this area**	Overburden and heavily weathered bedrock **Limited/No significant design bearing resistance for footings on overburden 500 kPa bearing capacity possible on weathered bedrock**		
Cross Section B-B' **(North Building Line)**			Heavily weathered bedrock and sound bedrock * **500 kPa factored ULS design bearing capacity possible on weathered bedrock. 1 MPa factored ULS design bearing resistance possible in sound bedrock if additional drilling performed at the time of construction** **Test Pits required in this area**	Overburden and highly weathered bedrock* **Limited/No significant design bearing resistance for footings on overburden** **500 kPa factored ULS design bearing resistance possible on weathered bedrock** **Test Pits required in this area**
Cross Section C-C' **(East Building Line)**	Sound Bedrock **1 MPa factored ULS design bearing resistance possible in sound**	Heavily weathered bedrock **500 kPa factored ULS design bearing resistance**		

	bedrock if additional drilling performed at the time of construction	**possible on weathered bedrock**		
Cross Section D-D' **(South Building Line)**			Overburden * **Limited/No bearing capacity for footings on overburden** **Test Pits required in this area**	Heavily weathered bedrock **500 kPa factored ULS design bearing resistance possible on weathered bedrock**

(*) Indicate boreholes on cross sections are far from the referenced building line; Test Pits are recommended in this area

According to drawings provided by the Client, a shear wall is proposed to be located approximately 15 m east, along cross section E'-E shown on Figure 6 attached. According to cross section E'-E, the anticipated subsurface conditions at the location of the proposed shear wall footing is anticipated to consist of heavily weathered bedrock, based on the limited existing borehole advanced at the site. Confirmation of the subsurface condition is required through additional test pits.

Reduced Available Bearing Resistance at Raised Elevations

According to Table 1 above, a large portion of the perimeter footings at the proposed new elevation of 86.5 m will be founded in the overburden. There is limited to no bearing capacity available in the overburden and all footings should extend to bedrock. For conventional pad and strip footings founded on the highly weathered shale bedrock, a factored bearing resistance of 500 kPa under Ultimate Limit States (ULS) conditions is recommended. In cases where 500 kPa is not suitable, lean mix concrete can be used to raise the grade between the lower sound bedrock and the new design footing elevation. In this case, up to 1 MPa factored ULS may be possible under the conditions that the Contractor drills an additional 1.5 m deep probe holes within the footing bases in order to confirm there are no mud seams or voids below the footings.

If lean mixed concrete is used below any footings it must extend a minimum of 0.3 m beyond the edge of the footing and then downward at a 1H:1V. Recommended design bearing pressures on lean mix concrete would be the same as those for the bedrock, provided that the underlying subgrade has been approved by the Geotechnical Engineer.

Lower Seismic Site Classification

In order to use Site Class A or B, footings need to be founded on bedrock. If footings are founded on overburden, a maximum site class C is available.

In accordance with the Ontario Building Code (OBC-2012), structures designed under Part Four of the Code must be designed to resist a minimum earthquake force. Based upon the anticipated surface conditions at the perimeter founding footings elevation of 86.5 m in Table 1, a 'Site Class C' is recommended for this structure.

Dewatering Requirements

During the preliminary geotechnical investigation, a total of three (3) monitoring wells were installed in MW20-01, MW20-03, and MW20-04. The water levels recorded on June 2, 2020, June 3, 2020 and July 9, 2020 were found to range in elevation from approximately El. 85.3 masl to 87.2 masl. The 2004 Groundwater Investigation by Paterson Group reported ground water levels ranging in elevation from approximately El. 85.2 masl to 88.4 masl. Given that excavations are expected to extend to an approximate elevation near El. 86.5 masl for the perimeter footing, El. 86.0 masl for the interior footing, and El. 85.5 m for shear wall footings, the excavation will extend below the groundwater table. Therefore, the temporary construction dewatering requirements is expected to remain as per section 6.3 'Temporary Construction Dewatering' in the Preliminary Geotechnical Report.

Hydraulic Uplift

Considering the new proposed floor slab elevation of 87.0 m, and the measured groundwater elevation ranging from approximately El. 85.2 masl to 88.4 masl. The resultant hydraulic uplift up to approximately 14.0 kPa due to the elevated water table should be expected and considered in structural design.

Waterproofing

Based on the elevation of the water table, we continue to recommend full water proofing membranes such as a WR Meadows Mel-ROL PRECON or equivalent type product for walls to at least elevation 88.4 m or at ground surface, and under-slab as per Section 6.11 of the Preliminary Geotechnical Report

Additional Field Geotechnical Investigation and Engineering Evaluations Required

Considering the limited number of boreholes advanced during the May 2020 field investigation, additional field work is recommended to confirm the perimeter subsurface conditions below the proposed new founding footing elevation of 86.6 m and the subsurface conditions below the proposed shear wall footing. The following fieldwork is recommended:

- Ten (10) additional test pits advanced to sound bedrock.

Proposed test pit locations are provided on Figure 1 attached.

This proposed additional fieldwork is to confirm the bearing capacity and seismic site class of the proposed building at the new founding foundation elevations.

Additional hydrogeological consulting is recommended in support of the new foundation design.

Closure

We trust this letter meets your present requirements. Should you have any questions, please do not hesitate to contact our office.

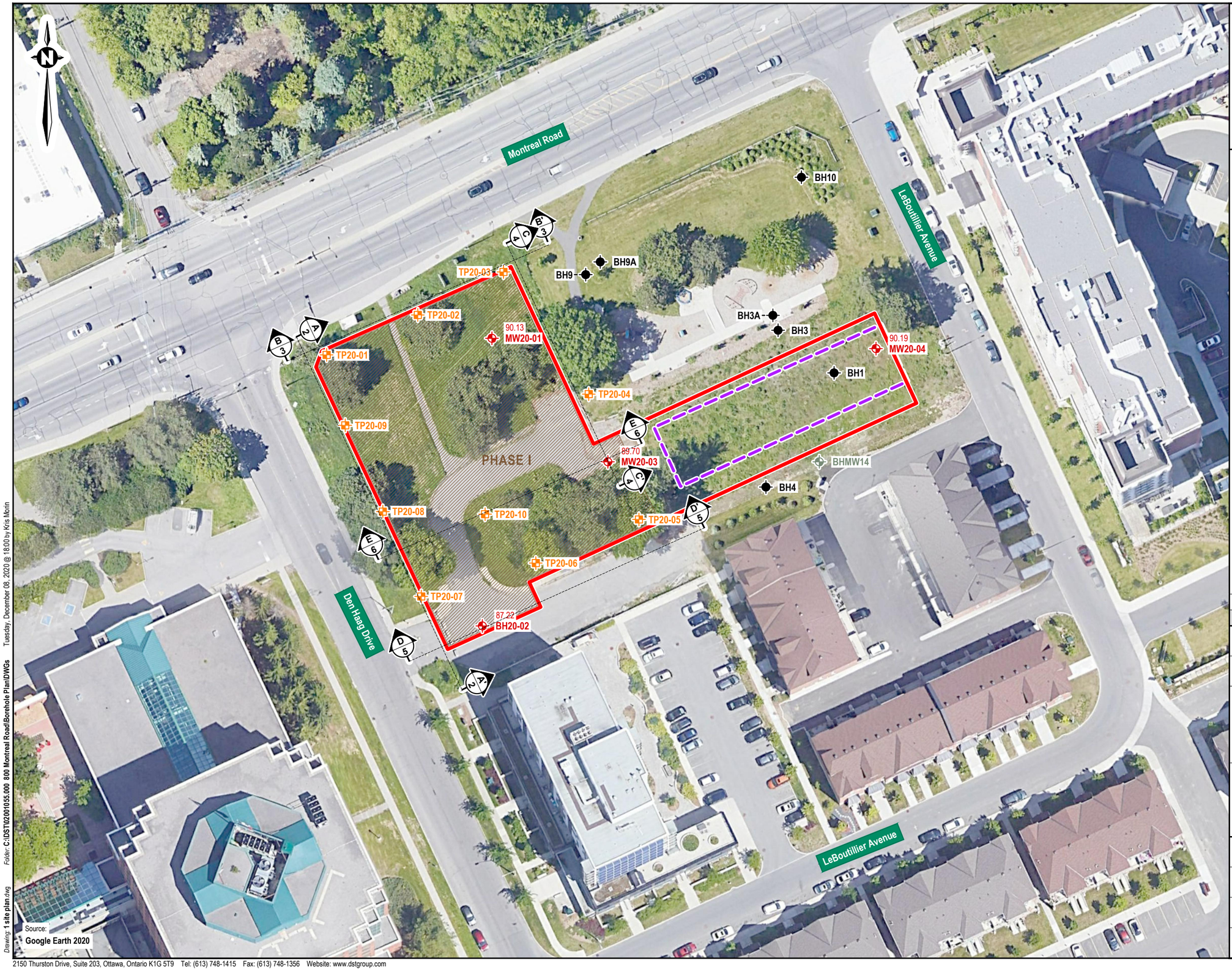
Sincerely,

DST Consulting Engineers Inc.

Shanti Ratmono, M.Eng., P.Eng.
Geotechnical Engineer

Shane Dunstan, P.Eng.
Geotechnical Project Manager
Team Lead, Materials East – ON

Farbod Saadat, Ph.D., P.Eng.
Subject Matter Expert, Geotechnical



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Note

1. This drawing shall be read in conjunction with the associated technical report.
2. Location of monitoring well BHMW14 was referenced from the *PHASE I/II ENVIRONMENTAL SITE ASSESSMENT FORMER FORINTEK BUILDING 800 MONTREAL ROAD OTTAWA, ONTARIO* report (DST, 2009).
3. Location of boreholes drilled by Paterson was referenced from the *GROUNDWATER INVESTIGATION 800 MONTREAL ROAD* report (Paterson Group, 2004)

Legend

- Approximate location of borehole (Paterson, 2004)
- Approximate location of borehole/monitoring well (DST, 2020)
- Approximate location of monitoring well (DST, 2008)
- Proposed test pit location
- Previously demolished Forintek building
- Proposed multi-story residential development
- Cross section reference
- Drawing with cross section

1:750

0 5 10 20 30 m

0 1:1 5 cm

Scale accurate when printed at 100% using paper size ANSI full bleed B (11.0 x 17.0 Inches)

Revision	Date	Issue	Approval
0	12/08/2020	Original	

Client

Site
800 Montreal Road, Ottawa, ON

Report Title
Geotechnical Letter
Review of Proposed Foundation Depth

Drawing Title
Phase I - Test Pit Location Plan

Designed By: S.R.	Scale: As shown
Drawn By: K.M.	Date: December 2020
Approved By:	Project No.: 02001055.000
Figure No.: 1	

Drawing: 1 site plan.dwg Folder: C:\DST\02001055.000 800 Montreal Road\Borehole Plan\DWGs Tuesday, December 08, 2020 @ 18:00 by Kris Morin

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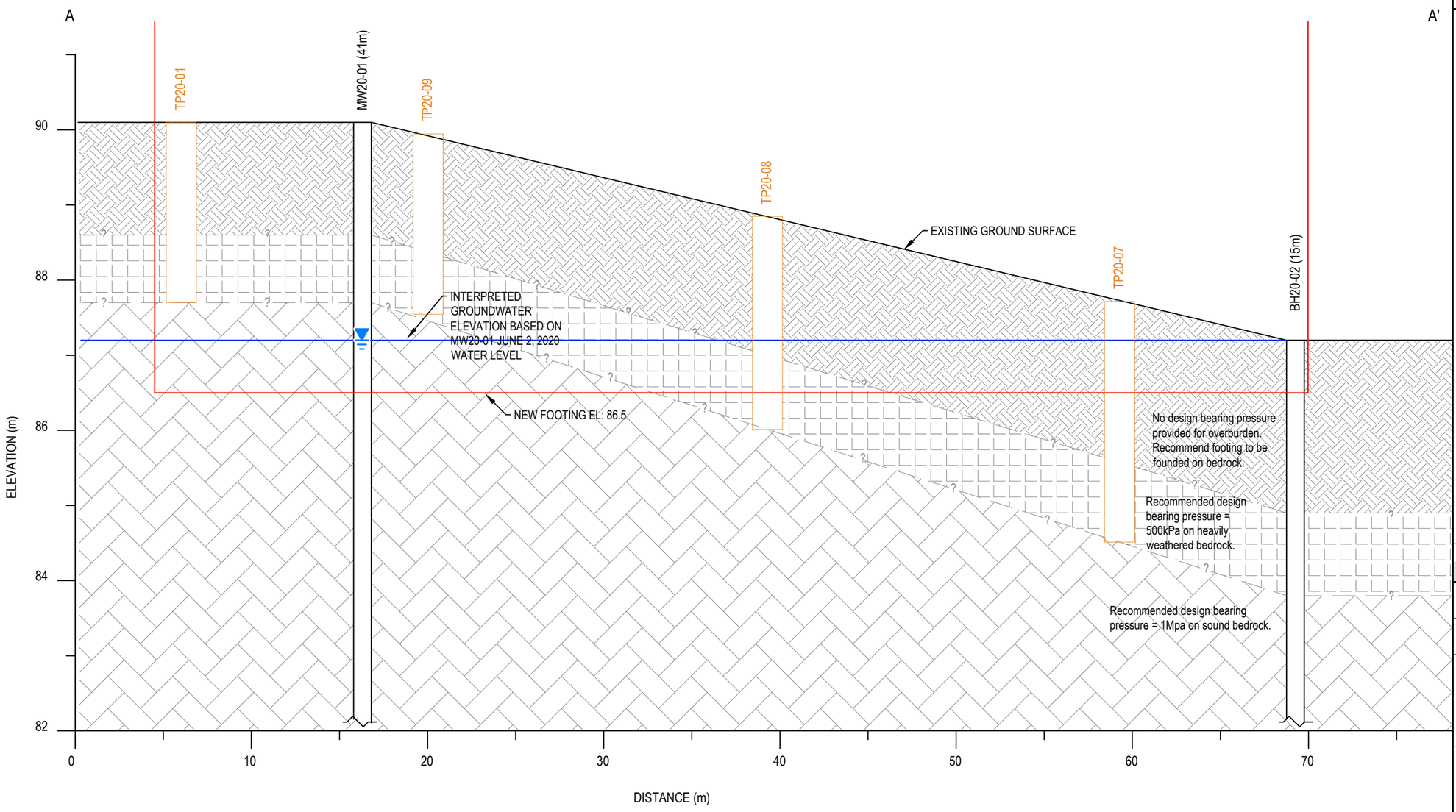

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Note

1. This drawing shall be read in conjunction with the associated technical report.
2. No design bearing pressure provided for overburden. Recommend footing to be founded on bedrock.
3. Recommended design bearing pressure = 500kPa on heavily weathered bedrock. Recommended design bearing pressure = 1Mpa on sound bedrock.

Legend

- OVERBURDEN
- HEAVILY WEATHERED BEDROCK
- SOUND BEDROCK
- (*m) DISTANCE OF BOREHOLE TO CROSS SECTION LINE
- PROPOSED BUILDING LIMITS

Revision	Date	Issue	Approval
0	12/08/2020	Original	

Client

Site
800 Montreal Road, Ottawa, ON

Report Title
Geotechnical Letter
Review of Proposed Foundation Depth

Drawing Title
Cross Section A-A'

Designed By: S.R.	Scale: As shown
Drawn By: K.M.	Date: December 2020
Approved By:	Project No.: 02001055.000

Figure No. **2**

Drawing: 2 section A.dwg Folder: C:\DST\02001055.000 800 Montreal Road\Borehole Plan\DWGs Tuesday, December 08, 2020 @ 18:02 by Kris Morin

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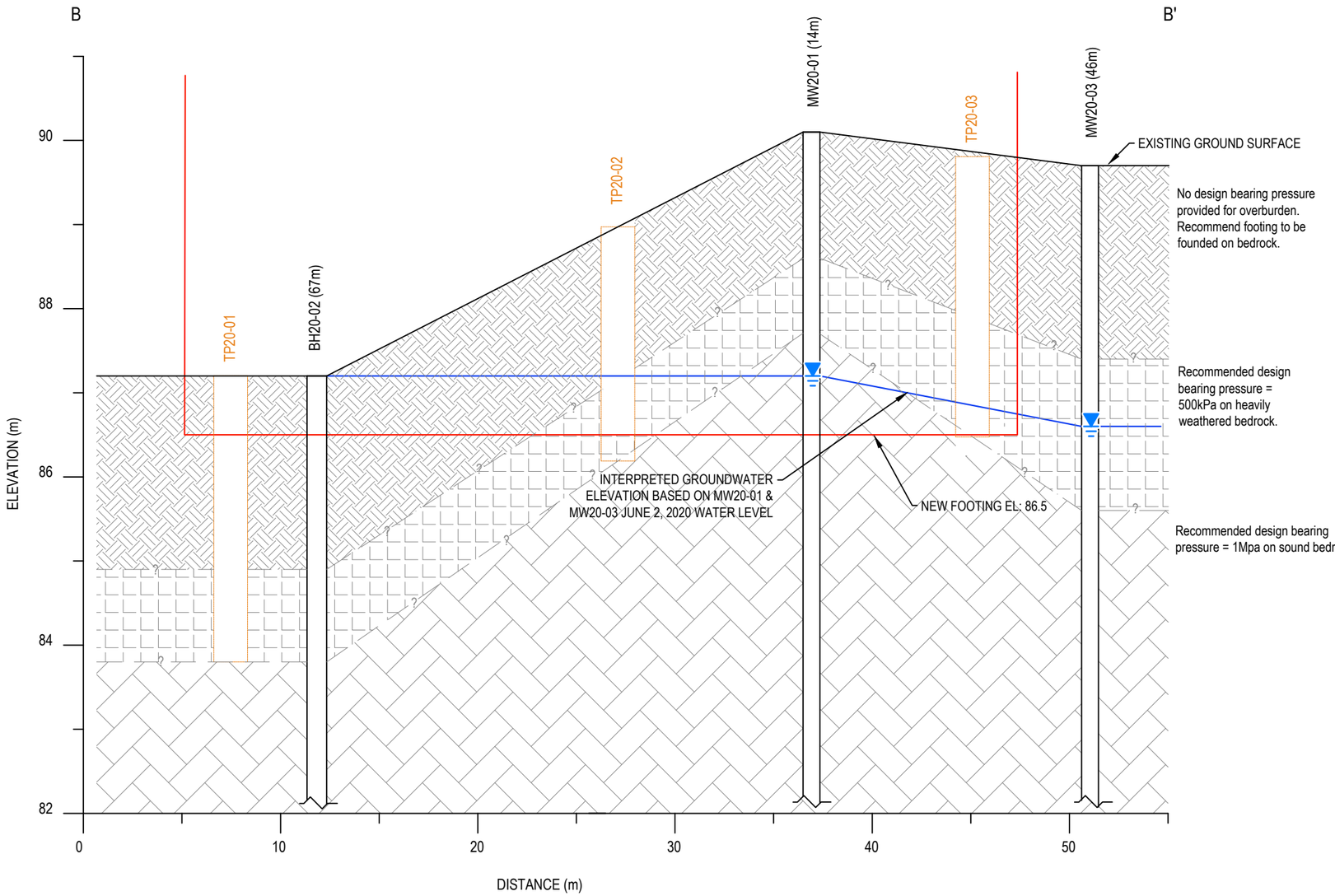

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3. Recommended design bearing pressure = 500kPa on heavily weathered bedrock. Recommended design bearing pressure = 1Mpa on sound bedrock.

Legend

- OVERBURDEN
- HEAVILY WEATHERED BEDROCK
- SOUND BEDROCK
- (*m) DISTANCE OF BOREHOLE TO CROSS SECTION LINE
- PROPOSED BUILDING LIMITS

Revision	Date	Issue	Approval
0	12/08/2020	Original	

Client

Site
800 Montreal Road, Ottawa, ON

Report Title
Geotechnical Letter
Review of Proposed Foundation Depth

Drawing Title
Cross Section B-B'

Designed By	Scale
S.R.	As shown
Drawn By	**Date**
K.M.	December 2020
Approved By	**Project No.**
	02001055.000

Figure No.
3

Drawing: **3 section B**.dwg *Folder:* **C:\DST\02001055.000 800 Montreal Road\Borehole Plan\DWGs** Tuesday, December 08, 2020 @ 18:02 by Kris Morin

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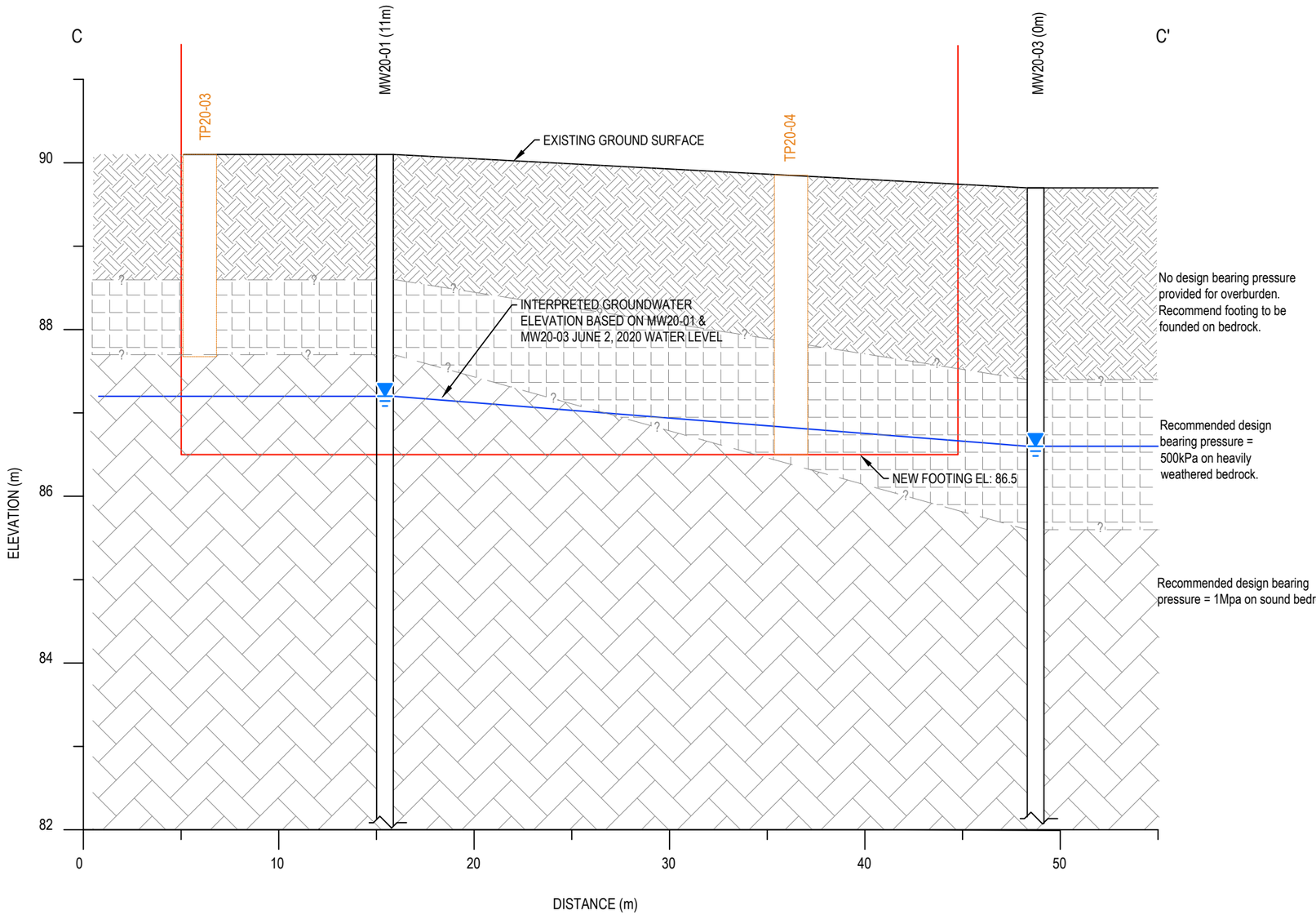

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Legend

- OVERBURDEN
- HEAVILY WEATHERED BEDROCK
- SOUND BEDROCK
- (*m) DISTANCE OF BOREHOLE TO CROSS SECTION LINE
- PROPOSED BUILDING LIMITS

Revision	Date	Issue	Approval
0	12/08/2020	Original	

Client

Site
800 Montreal Road, Ottawa, ON

Report Title
Geotechnical Letter
Review of Proposed Foundation Depth

Drawing Title
Cross Section C-C'

Designed By	Scale
S.R.	As shown
Drawn By	**Date**
K.M.	December 2020
Approved By	**Project No.**
	02001055.000

Figure No.
4

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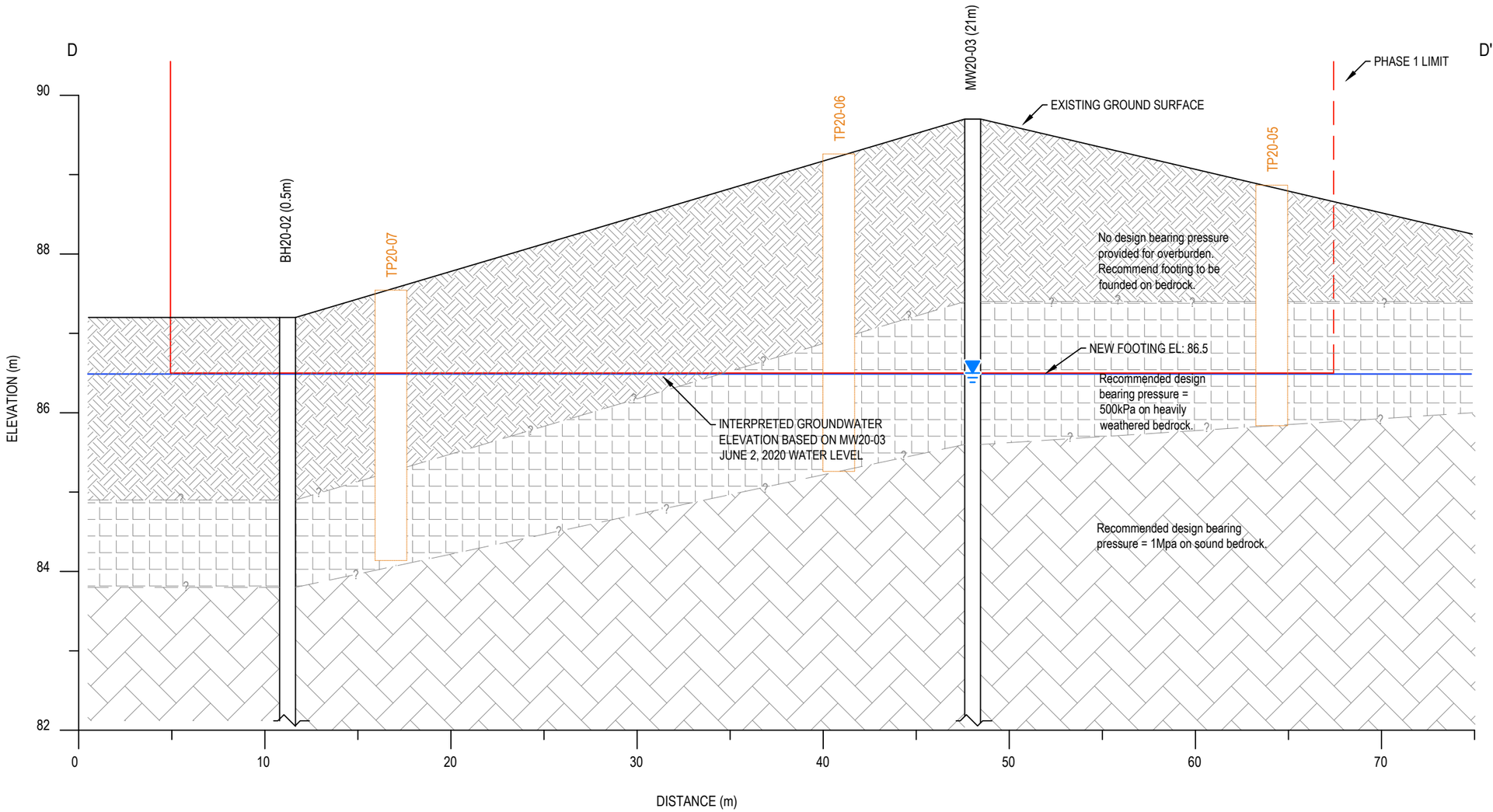
Drawing: 4 section C.dwg Folder: C:\DST\02001055.000 800 Montreal Road\Borehole Plan\DWGs Tuesday, December 08, 2020 @ 18:02 by Kris Morin



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Note

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Legend

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- HEAVILY WEATHERED BEDROCK
- SOUND BEDROCK
- (*m) DISTANCE OF BOREHOLE TO CROSS SECTION LINE
- PROPOSED BUILDING LIMITS

Revision	Date	Issue	Approval
0	12/08/2020	Original	

Client

Site
800 Montreal Road, Ottawa, ON

Report Title
Geotechnical Letter
Review of Proposed Foundation Depth

Drawing Title
Cross Section D-D'

Designed By	Scale
S.R.	As shown
Drawn By	**Date**
K.M.	December 2020
Approved By	**Project No.**
	02001055.000

Figure No. **5**

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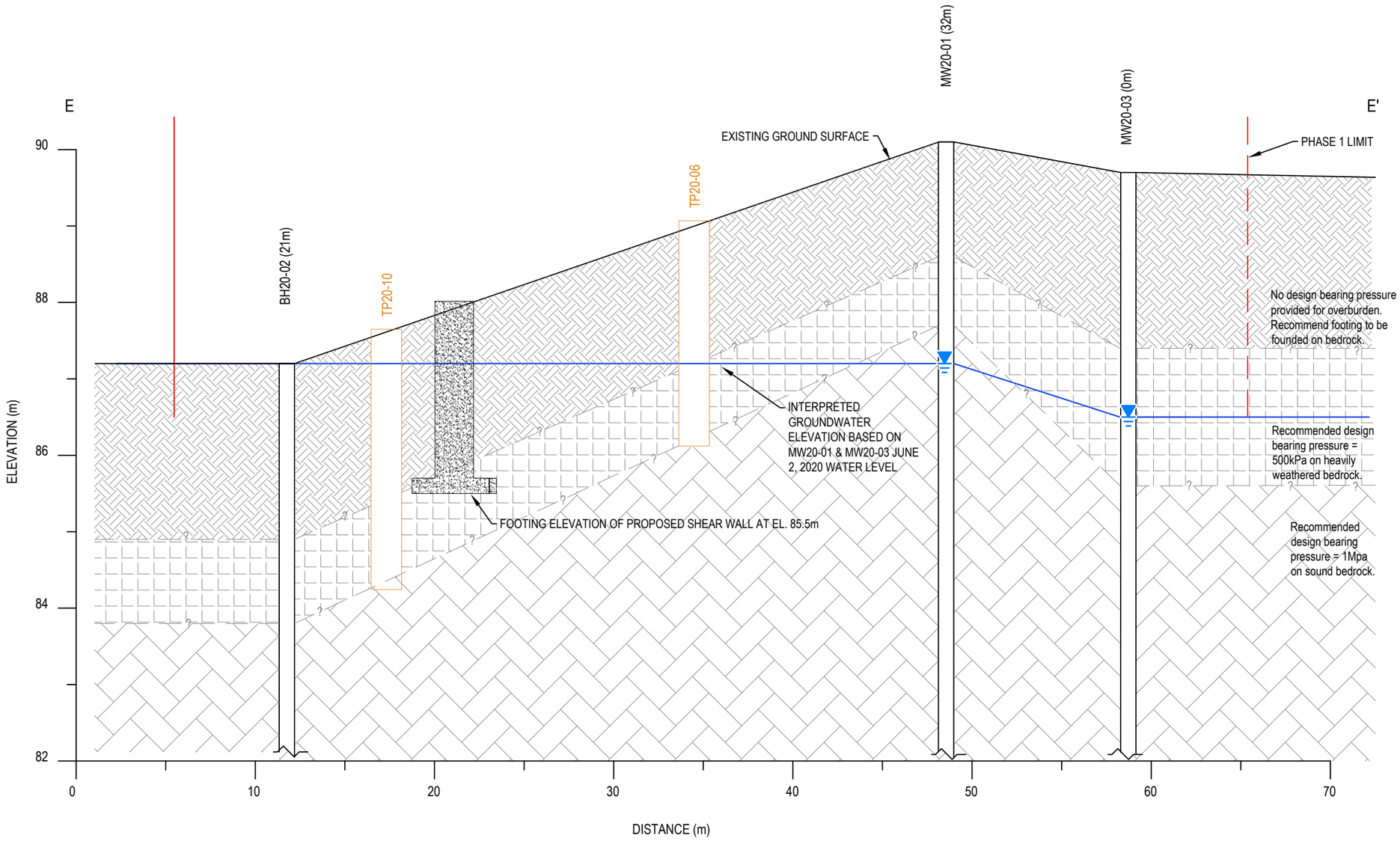
Drawing: 5 section D.dwg Folder: C:\DST\02001055.000 800 Montreal Road\Borehole Plan\DWGs Tuesday, December 08, 2020 @ 18:01 by Kris Morin



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Legend

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- HEAVILY WEATHERED BEDROCK
- SOUND BEDROCK
- (*m) DISTANCE OF BOREHOLE TO CROSS SECTION LINE
- PROPOSED BUILDING LIMITS

Revision	Date	Issue	Approval
0	12/08/2020	Original	

Client

Site
800 Montreal Road, Ottawa, ON

Report Title
Geotechnical Letter
Review of Proposed Foundation Depth

Drawing Title
Cross Section E-E'

Designed By	Scale
S.R.	As shown
Drawn By	**Date**
K.M.	December 2020
Approved By	**Project No.**
	02001055.000

Figure No.
6

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Drawing: 6 section E.dwg Folder: C:\DST\02001055.000 800 Montreal Road\Borehole Plan\DWGs Tuesday, December 08, 2020 @ 18:00 by Kris Morin

GEOTECHNICAL INVESTIGATION REPORT

PROPOSED MULTI-STOREY RESIDENTIAL DEVELOPMENT

800 MONTREAL ROAD

OTTAWA, ON

DST File No: 2001055.00

July 2020

Prepared for:

SOVIMA OTTAWA INC.

DST Consulting Engineers Inc.

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Appendices

Appendix A Limitations of Report

Appendix B Site Location Map and Borehole Location Plan

Appendix C List of Symbols and Definitions for Geotechnical Sampling

Borehole Logs (2020)

Rock Core Logs (2020)

Historical Borehole Log (2008 – BHMW14)

Historical Borehole Logs (2004)

Appendix D Geotechnical Laboratory Test Results

Rock Core Photographs

Appendix E 2015 Aerial View

Appendix F Shear Wave Velocity Report (Geophysics GPR International Inc)

2015 National Building Code Seismic Hazard Calculations

Shear Wave Velocity Calculation

1. INTRODUCTION

DST Consulting Engineers Inc., a division of Englobe (DST) is pleased to present the findings of our preliminary pre-design geotechnical investigation for the proposed Multi-Storey Residential Development (Project) located at 800 Montreal Road in Ottawa, Ontario (Site).

DST was retained by Sovima Ottawa Inc. (Client) to carry out a preliminary geotechnical investigation to evaluate the subsurface conditions at the Site of the proposed Multi-Storey Residential Development. The investigation included the drilling of four boreholes within the footprint of the proposed Project. Borehole locations were selected by the Owner.

Written authorization to proceed with this investigation was provided by Mr. Pierre Couture of Sovima Ottawa Inc. in an email dated March 27, 2020.

This report is prepared for the sole use of the Client. The use of the report, or any reliance on it by any third party, is the responsibility of such third party. This report is subject to the limitations shown in Appendix A. It is understood that the Project will be performed in accordance with all applicable codes and standards present within its jurisdiction.

This Geotechnical Investigation was undertaken in conjunction with a Hydrogeological Investigation by DST. The results of the Hydrogeological Investigation are provided under separate cover.

2. SITE AND PROJECT DESCRIPTION

The Site is located at a municipal address of 800 Montreal Road in Ottawa, Ontario. The location of the Site is shown on the Figure 1 ‘Site Location Map’ provided in Appendix B.

The Site is currently occupied with an asphalt parking lot and developed parkland. The existing topography of the Site is sloping downward from the north east at an approximate elevation near 91 masl toward the south west at an approximate elevation near 87 masl. There is an approximate elevation relief of 4 m across the Site.

In 2016, DST was involved in the demolition of the Forintek campus located south of the Site. The Forintek Administration Building was constructed between 1956 and 1958. A DST memo entitled ‘Demolition Inspection Report – December 13, 2016, indicates that Fortinek Administration Building was demolished, and the basement area was backfilled and compacted with crushed

stone material. Another memo dated December 19 and 20, 2016, indicates that the top 1.5 meters of the excavation was backfilled and compacted with mostly clay material. The location of the former Forintek Administration Building is show on the Figure 2 'Borehole Location Plan' provided in Appendix B.

DST's understanding of the proposed Project is based on a telephone call with the Client on March 25, 2020, a Site sketch provided at the time of the proposal, and the site survey drawing by Annis O'Sullivan, Vollebekk Ltd (Surveyor). We understand that the Site is located on Part 2 of Plot B, which is an L-Shaped lot. The Project will consist of the design and construction two new residential high-rise structures. One structure will consist of eight above ground levels, and the second structure will consist of four above ground levels. The structures will be joined by a single level of underground parking which extends approximately to the Project boundaries. Based on information provided by the Client, the proposed footing elevation for the new buildings are planned to be at an approximate elevation near 85.5 m above sea level (masl).

DST has not been provided with any structural drawings of the proposed building, or any civil/architectural drawings of the proposed Project at the Site. It is understood that the Project is currently in the pre-design stage. Therefore, it important to emphasize that the general recommendations in this report should be considered as preliminary in nature at this stage. DST should be retained to review the proposed foundation design drawings once they become available to ensure conformance with the general recommendations provided within this report.

3. SCOPE OF WORK

DST's scope of the work was outlined in proposal Ref No: P2001055 dated March 25, 2020 and was agreed to by the Client on March 27, 2020. DST's mandate generally consisted of the follow activities:

- DST retained a subcontractor to provide both public and private underground utility clearances;
- DST retained a geotechnical drilling subcontractor to drill four boreholes within the footprint of the proposed Multi-Story Residential Development. Boreholes ranged in depth from approximately 9.2 m to 10.1 m below the existing ground surface (mbgs). Borehole locations were prescribed by the Client;

- DST supervised the geotechnical drilling subcontractor and logged the subsoil conditions at the borehole locations based on the samples that were recovered;
- DST performed geotechnical laboratory testing consisting of eight unconfined compressive strengths on bedrock, eight unit weights determinations on bedrock, three corrosion packages, and moisture contents on all soil samples;
- DST retained Geophysics GPR International Inc. to conduct a Shear Wave Velocity Testing of the Site; and
- DST prepared this preliminary geotechnical investigation report based on the results of the field investigation and laboratory testing.

4. FIELD INVESTIGATION AND LABORATORY TESTING

To date, DST has performed two separate environmental and geotechnical field investigations at this Site. The earlier Phase I/II Environmental Site Assessment was performed in 2009 and the latest Geotechnical Investigation was performed recently in 2020, as described briefly below.

4.1 Previous DST Environmental Boreholes (2009)

DST performed a Phase I/II ESA at the former Forintek property located at 800 Montreal Road earlier in 2009. The scope of work at that time included 8 boreholes (Designated as BHMW7 to BHMW14), 31 test pits (Designated as TP1 to TP 31), and 60 surface soil samples. These historical boreholes and test pit locations were not advanced within the footprint of the proposed Multi-Story Residential Building, with the exception of borehole BHMW7. The location of BHMW7 is provided on the Borehole Location Plan provided in Appendix B and the borehole log is provided in Appendix C.

4.2 Previous Paterson Boreholes (2004)

Patterson Group conducted a groundwater investigation at 800 Montreal Road in 2004. The scope of work at that time included the drilling and sampling of fifteen boreholes, labelled as BH1 to BH12, BH3A, BH5A and BH9A). The previous Paterson boreholes BH1, BH3, BH3A, BH4, BH9, BH9A, and BH10 were advanced within the footprint of the currently proposed Multi Use Residential Building. The locations of these boreholes are shown on the Borehole Location Plan provided in Appendix B and the boreholes logs are provided in Appendix C.

4.3 Current Geotechnical Investigation (2020)

4.3.1 Current Geotechnical Drilling Fieldwork

The drilling component of this current geotechnical investigation was performed on June 13th, 14th, 19th and 28th, 2019. The drilling consisted of the advancement of four boreholes within the footprint of the proposed structure. They were labelled as boreholes MW20-01 through MW20-04. Boreholes were drilled at depths ranging from approximately 9.2 to 10.1 mbgs terminating within the shale bedrock. The location of the boreholes is shown on the Figure 2 'Borehole Location Plan' provided in Appendix B.

A geotechnical drilling subcontractor, Strata Drilling Ltd., was retained to perform the drilling. All boreholes were drilled using a track mounted drill rig. The boreholes were advanced through the overburden using hollow-stem augers and through the bedrock using wireline diamond coring methods. Monitoring wells were installed with screens sealed into the bedrock in monitoring wells MW20-01 and MW20-03, and with a screen sealed in the fill overburden in monitoring well MW20-4. Monitoring wells and boreholes were backfilled with a combination of bentonite hole-plug and auger cuttings as necessary and the surface was repaired with asphalt cold patch.

Soil samples were collected using a standard 50 mm outside diameter split-spoon sampler driven by an automatic Standard Penetration Test (SPT) hammer. The compaction of the cohesionless soil was assessed using recorded SPT N-values.

The subsurface conditions encountered in the boreholes were described by DST field staff based on the samples that were recovered. The recovered soil and rock core samples were labelled and submitted to DST's Ottawa geotechnical laboratory for further review and geotechnical laboratory testing on selected soil samples. Three soil samples were sent to an external certified environmental laboratory for corrosion package testing.

The location and elevation of the boreholes were provided by the Client and surveyed by Annis O'Sullivan, Vollebekk Ltd. and are provided in the Borehole Location Plan provided in Appendix B and Borehole Logs provided in Appendix C.

4.3.2 Current Geotechnical Laboratory Testing

The laboratory testing component of this current investigation consisted of the determination of moisture contents on all recovered soil samples. Unconfined compressive strength tests were

conducted on eight representative rock core samples; the depths of the samples varied between 4.7 and 9.4 m depth. Standard corrosion package testing was conducted on two representative sample of the silty sand and one representative sample of the fill from depths ranging from approximately 1.8 to 3.4 m depth. The results of the laboratory testing are presented on the Borehole Logs provided in Appendix C and as Laboratory Test Results provided in Appendix D.

4.3.3 Shear Wave Velocity Testing

DST retained Geophysics GPR International Inc. to conduct a Shear Wave Velocity Sounding of the Site on June 4th, 2020. The geophysical investigation used the Multi-channel Analysis of Surface Waves (MASW), the Extended Spatial AutoCorrelsltaion (ESPAC), and the seismic refraction methods. The seismic shear wave velocity values were calculated (soil and rock), to determine Site class. The survey design, principles of test methods and results in graphic and table format is outline in the report titled 'Shear Wave Velocity Sounding for the Site Class Determination, 800 Montreal Road, Ottawa (ON)', dated June 9th, 2019 provided in Appendix F.

5 DESCRIPTION OF SUBSURFACE CONDITIONS

The subsoil conditions encountered within the current DST borehole locations are briefly discussed in the following subsections with a graphical representation of each location presented on the Borehole Logs provided in Appendix C. A summary of the boreholes drilled at this Site with soil layers encountered in each borehole is presented in Table 5-1 below.

Table 5-1: Summary of Borehole Stratigraphy

Borehole ID	Asphalt Depth (mm)	Topsoil Thickness (m)	Fill Depth (m)	Native Silt to Silty Sand Depth (m)	Heavily Weathered Shale (m)	Sound Shale Bedrock (m)
MW20-01	-	0 - 1.5	-	-	1.5 - 2.4	2.4 - 10.1*
BH20-02	0-100	-	0.1 - 0.4	0.4 - 2.3	2.3-3.4	3.4 - 9.4*
MW20-03	-	-	0 - 0.9	0.9 - 2.3	2.3-4.1	4.1 - 9.2*
MW20-04	-	0 - 0.2	0.2 - 5.7	-	-	5.7 - 9.6*

*End of Borehole (EOB)/Termination Depth

It is important to note that the soil descriptions presented below and in the Borehole Logs represent the soils encountered at the test locations only. They may vary between and beyond

borehole locations. This is especially true in previously excavated and/or filled areas such as near existing and former utility trenches and building foundations. It is important to emphasize that the former Fortinek building is within the footprint of the proposed Project. Therefore, deeper fill soils should be expected in this location.

5.1 Asphalt Pavement

Borehole location BH19-02 was drilled within a paved area. The surficial covering at this location consisted of approximately 100 mm thick asphalt pavement.

It is important to note that the thickness and descriptions of the asphalt noted above are for planning purposes only. They should not be used for quality assessments or quantity take-offs.

5.2 Topsoil

Boreholes MW20-01 and MW20-04 encountered topsoil consisting of silty clayey sand to silty sand containing rootlets and organic material. Thickness of the topsoil ranged from 0.2 to 1.5 m.

Again, it is important to note that the thickness and descriptions of the topsoil noted above is for planning purposes only. They should not be used for quality assessments or quantity take-offs.

5.3 FILL

FILL soils associated with the pavement and roadway structure was encountered below the asphalt in BH20-02 and at ground surface at MW20-03. The FILL material at BH20-02 and MW20-03 borehole locations consisted of sand and gravel FILL and silty sandy clay/silty clayey sand some gravel FILL, respectively. FILL material was also encountered below the topsoil at MW20-04 and consisted of crushed material consisting of silty sand with gravel containing trace brick and concrete pieces. According to a 2015 aerial photographs and DST demolition photos taken in 2016, BH20-04 was advanced within the footprint of the former Forinktek Building. The location of the former Forintek Building is shown on the Borehole Location Plan provided in Appendix B and the 2015 aerial view provided in Appendix F for reference.

The thickness of the FILL encountered within BH20-02 and MW20-03 was approximately 0.4 and 0.9 m respectively and the thickness of the crushed material encountered within BH20-04 was approximately 5.5 m thick, corresponding to elevation El. 84.5 masl.

The FILL material was described as moist to dry and was brown in color. The natural moisture content of this deposit varied between 1 and 14 % based on laboratory testing. The recorded SPT

N-values of this fill layer ranged from 4 to 50 per 127 mm penetration, indicating the fill is in a loose to very dense state.

In the 2004 Patterson Report, Boreholes BH3, 3A, 4, 10 and 11 indicate fill extending to a depth ranging from 0.84 to 2.08 m and consist of silty fine sand with gravel and/or shale fragments and cobbles and boulders. Borehole 10 contained trace brick pieces.

5.4 Native Silt to Silty Sand

At borehole locations BH20-02 and MW20-03, the fill layer described above was found to be underlain by a native silt to silty sand deposit extending to a depth of approximately 2.3 mbgs at both locations or to an approximate elevation near El. 84.9 and 87.4 masl respectively. This native silt to silty sand deposit was described as light brown to brown in color. The natural moisture content of this deposit varied between 8 and 20 % based on laboratory testing. The recorded SPT N-values for this native sand layer ranged from 5 to 15, indicating a loose to compact silt to silty sand deposit.

In the 2004 Patterson Report, a compact silty fine sand with shale fragment layer was encountered in BH3A, extending to a depth of 2.7m, and a compact silty fine sand trace gravel layer was encountered in BH10, extending to a depth of 2.40 m.

5.5 Bedrock

Bedrock was encountered within all boreholes at a depth ranging from approximately 1.5 to 5.7 mbgs, corresponding to approximate elevations near El. 84.5 to 88.6 masl. The augers were capable of penetration the top 0.9 to 1.8 m of the shale bedrock in boreholes MW20-01 to MW20-03 indicating the top of the bedrock to consist of highly weathered material, probable mudstone. All boreholes were cored beyond this layer using an HQ sized core bit starting at depths ranging from of approximately 2.4 to 5.7 m bgs, corresponding to elevations El. 84.4 to 87.7 m. The intact portions of the bedrock consisted predominantly of black, moderately weathered shale. A Rock Quality Designation (RQD) ranged from 0 to 65% indicating the bedrock is in very poor to fair quality, but mainly very poor to poor quality. The boreholes were terminated within the shale bedrock at depths ranging from 9.2 to 10.1 m, corresponding to elevations El. 77.8 to 80.6 masl.

The following table is intended as a summary of the bedrock observations with the boreholes performed to date:

Table 5-2: Summary of Bedrock Observations

Borehole ID	Weathered Shale Surface		Sound Shale Bedrock		Notes
	Depth (mbgs)	Elevation (masl)	Depth (mbgs)	Elevation (masl)	
Current 2020 DST Geotechnical Investigation					
MW20-01	1.6	88.5	2.8	87.3	Augured through weathered shale surface. Sound bedrock was confirmed by rock coring.
BH20-02	2.3	84.9	3.4	83.8	
MW20-03	2.4	87.3	4.3	85.4	
MW20-04			5.7	84.5	
Previous 2009 DST Phase II ESA					
BHMW14	3.7	84.6	4.3	84.0	Augured through weathered shale surface. Sound bedrock inferred from auger refusal. No coring performed.
Previous 2004 Paterson Groundwater Investigation					
BH1	0.9	84.4	1.2	84.1	Augured through weathered shale surface. Sound bedrock was confirmed by rock coring.
BH3A	2.3	88.5	2.7	88.1	Augured through weathered shale surface. Sound bedrock inferred from auger refusal. No coring performed.
BH4	0.9	87.4	3.4	84.9	
BH9A	1.6	88.8	1.8	88.6	
BH10	2.7	87.8	3.2	87.3	Bedrock inferred as first rock core with full 100% recovery.

Laboratory tests conducted on eight rock core samples at depths ranging from 4.6 to 9.2 m, indicate unconfined compressive strength of rock range from approximately 14.1 Mpa to 79.8 Mpa. Unit weight testing conducted on these samples ranged from approximately 25.3 to 26.6 kN/m3. The following table is a summary of the results.

Table 5-3: Summary of Rock Core Tests

Borehole No.	Depth (m)	Elevation (m)	Unconfined Compressive Strength (MPa)	Unit Weight (kN/m3)
BH20-02	7.8	79.4	14.1	25.6
BH20-02	8.2	79.0	22.1	25.7
MW20-03	4.6	85.1	58.2	26.3
MW20-03	5.9	83.8	39.3	26.6

MW20-03	6.8	82.9	50.7	25.4
MW20-03	7.6	82.1	38.4	25.3
MW20-04	6.5	83.7	79.8	25.4
MW20-04	9.4	80.8	63.2	25.7

Shear wave velocity sounding of the Site was conducted on June 4th, 2020 by Geophysics GPR International Inc. indicated that rock was calculated between 4 meters (west of the Site) and 7 meters deep (east of the Site). This report is provided in Appendix F for reference.

5.6 Groundwater

DST installed a total of three monitoring wells. The following table provides the observations in the monitoring wells monitoring wells.

Table 5-4: Summary of Monitoring Well Observations

Monitoring Well No.	Location of Screen (masl)	Water Level Observations		
		Date	Depth (mbgs)	Elevation (masl)
MW20-01	83.4 to 87.2 (screen located in shale bedrock)	June 2, 2020 June 3, 2020 July 9, 2020	2.9 3.0 3.3	87.2 87.1 86.8 (Water in shale bedrock)
MW20-03	81.5 to 85.0 (screen located in shale bedrock)	June 2, 2020 June 3, 2020 July 9, 2020	3.1 3.3 3.7	86.6 86.4 86.0 (Water in weathered shale)
MW20-04	87.8 m to 84.7 m (screen located fill soils)	June 2, 2020 June 3, 2020 July 9, 2020	4.9 4.3 4.3	85.3 85.9 85.9 (Fill soils)

The previous Groundwater Investigation conducted by Paterson Group, entitled 'Groundwater Investigation and Preliminary Geotechnical Assessment, Forintek Building – 800 Montreal Road – Ottawa', dated November 10, 2004, indicated that groundwater levels at the Site range from depths of 0.1 to 2.4 mbgs, this corresponds to approximate elevations near El. 85.2 masl to 88.4 masl in boreholes BH1, BH3A, and BH10 as reported on October 26, 2004.

Monitoring well details and water level measurements are shown on the borehole logs provided in Appendix C.

It should be noted that groundwater levels are subject to seasonal fluctuations and response to precipitation, flooding, and snowmelt events. Typically, they are at their highest during the spring thaw. DST has also undertaken a concurrent Hydrogeological Investigation for this Site. The results of the Hydrogeological Investigation, and the corresponding well response tests are provided under separate cover. Designers and Contractors are referred to that document for further information on the groundwater conditions to be expected during construction.

6 DISCUSSION AND RECOMMENDATIONS

Based on the results of geotechnical field investigation and laboratory testing performed at the four borehole locations on this Site, the following discussion is provided to assist the Client and their Designers with the foundation design for the proposed Project. The recommendations provided within this report are based on our understanding of the proposed Project which is summarized above in Section 2 and are general in nature. If any of these understandings change, then DST should be contacted to assess the implications of those changes on the recommendations provided herein.

Based on the soil conditions encountered in four discrete boreholes, and assuming that they are representative of the soil conditions across the Site, the most important geotechnical considerations for the design of the foundations for the proposed Project are expected to be the following:

- **Pre-Design Geotechnical Investigation:** It is understood that this Project is currently in the pre-design stage. Therefore, it important to emphasize that this report should be considered as preliminary in nature. DST requests to be retained to review the designs once they become available to review for conformance with the recommendations provided within this report.

- **Swelling Shale:** The shale bedrock at this Site is of the Billings Formation. The Billings Formation shales swell when exposed to oxygen, such as the walls of bedrock excavations, and the floors of bedrock excavations. Therefore, the final approved bedrock surface must be covered with lean mix concrete on the same day as they are exposed, to minimize air contact and to avoid future heaving. The walls of bedrock excavations must be covered with

shotcrete to minimize air contact. This will require careful planning to ensure the sequence is properly achieved. Excavation contractors should be selected that have experience with planning such excavations in Billings Shale. For this purpose, we also recommend that considerations should be given to the design of building basement as a fully waterproof 'bath-tub' design (without external perimeter drains) to avoid potential adverse impacts due to moisture movements in the immediate areas around the proposed building footprint.

- **Multiple Bearing Capacities:** The shale bedrock encountered in the boreholes is generally of poor quality and is weathered. Typically, the weathered shale bedrock would be suitable for a factored design bearing capacity of 500 kPa under Ultimate Limit States (ULS) conditions. However, depending on the Site conditions at the time of excavation and the depth of the proposed foundations, factored ULS values up to 1 MPa may be possible. In order to confirm the availability of the increased 1 MPa factored ULS value, site-specific supplementary field investigation will be required with additional coring of 1.5 m below the footing bases to confirm there are no mud seams or voids/rubble zones below the footings. In case the coring is planned at the early stages of construction, it is recommended that the Structural Designer prepare and pre-approve alternate footing designs in the case that mud seams are encountered and the recommended 500 kPa is applicable.

- **Permanent Drainage and Waterproofing:** As the proposed floor slab is located below the water table, under-floor drainage is required. Exterior perimeter drains, if used, should not be connected to the interior under-floor systems. Full water proofing membranes such as a WR Meadows Mel-ROL PRECON or equivalent type product for walls and under-slab will be required. Water stops should be installed at cold joints in the foundation walls and floor-wall joints. To avoid future swelling of the shale bedrock in the building excavation, we also recommend that considerations should be given to the design of building basement as a fully waterproof 'bath-tub' design (without external perimeter drains) to avoid potential adverse impacts due to moisture movements in the immediate areas surrounding the proposed building footprint.

- **Existing Foundation Elements:** In 2016, DST was involved in the demolition of the Forintek Administration Building located within the footprint of the proposed Project. The building was demolished, and the basement area was backfilled and compacted with crushed stone and concrete material. All existing FILL material, and any remaining foundation elements or crushed concrete will need to be removed from the footprint of the new

development. Furthermore, there may be deeper than expected bedrock in the location of the former building footprint.

6.1 Site Preparation

All existing soils, fill soils, construction debris, and former foundation elements should be completely removed from within the footprint of the new structure, down to competent bedrock.

The Site surrounding the excavation should be graded in the early stages of construction to provide for positive control of surface water and directing it away from the excavation and subgrades. Appropriate provisions should be made for collection and disposal of storm water and runoff including an adequate pumping system, if necessary.

6.1.1 Subgrade Preparation for Footings

The existing soils, fill soils, and construction debris, former foundation elements and crushed fill material associated with the old Forintek Administration Building, are not suitable to support any foundations or floor slabs. Therefore, excavations for footings should extend down to intact shale bedrock. Based on the recent boreholes the intact shale bedrock is expected to be encountered at approximate depths of 2.4 to 5.7 mbgs, corresponding to approximate elevations near El. 84.4 to 87.7 masl. As the footings are currently planned to be founded at an approximate elevation of El. 85.5 masl, several of the planned footings will need to be lowered to be founded on sound bedrock.

Subgrade preparation for footings founded on rock will involve the removal of all soils and weathered bedrock to expose an intact shale bedrock sound bedrock. Any pieces of rock that can be easily manipulated by conventional excavation equipment should be removed, as directed by the Geotechnical Engineer. Final subgrade surfaces should be brushed and/or air blown clean, and dry. The exposed bedrock surface should be examined and approved by the Geotechnical Engineer to confirm the competency of foundation to support the design bearing pressures.

Confirmation of bedrock quality during construction will require the Contractor to perform probing of the bedrock using 50 mm diameter drill holes drilled to a depth of 1.5 m within the footings. These holes will need to be reviewed by the Geotechnical Engineer to confirm that no significant mud seams or voids exist. If mud seams are found, localized areas of the footings may need to be lowered below the mud seam, or footing sizes increased to lower design bearing pressures accordingly. The locations of these probe holes should be selected under the direction of the

Geotechnical Engineer during construction. Contractors should plan for one probe per pad footing and a minimum or 1 probe every 6 m in strip footings.

Designers and Contractors should make some allowance for additional excavation of fractured rock to achieve a sound bedrock subgrade to the satisfaction of the Geotechnical Engineer. It is recommended that a unit price item for additional rock excavation and replacement with lean mix concrete fill be incorporated into the tender documents.

6.1.2 Existing Foundation Elements

In 2016, DST was involved in the demolition of the Forintek Administration Building located south of the Site. The original Forintek Building was constructed between 1956 and 1958 for the Forest Products Laboratories of the Department of Northern Affairs and Natural Resources. A DST Memo titled 'Demolition Inspection Report – December 13, 2016, Administration Building Demolition, 800 Montreal Road, Ottawa, ON', indicate the Administration Building was demolished, and the basement area was backfilled and compacted with crushed stone and concrete material. The location of the former Forintek building is show on the Figure 2 'Borehole Location Plan' provided in Appendix B.

All existing fill soils, and any remaining foundation elements or crushed concrete will need to be removed from the footprint of the new development. Furthermore, there may deeper than expected bedrock in the location of the former building footprint.

6.1.3 Interference with Existing Underground Utilities

Designers should review the proposed excavation locations and compare them to the location of any existing underground utilities. Existing utilities that are excavated or exposed as part of construction will need to be supported rerouted around the building.

6.2 Excavations

Based on DST's current understanding of the Project, we anticipate that the excavations will extend to an approximate elevation of El. 85.5 masl. Therefore, on the north and east side of the Site, proposed excavation will be approximately 4.6 mbgs and on the south and west sides of the of the Site, proposed excavation will be approximately 1.7 m bgs. Excavations will extend through the soils and into the shale bedrock.

Designers will need to review the Site geometry and determine if open sloped excavations or Engineered Shoring are required based on the space limitations.

6.2.1 Sloped Excavations

All excavations must be undertaken in accordance with the requirements of the Occupational Health and Safety Act of Ontario (OHSA), Regulations for Construction O.Reg. 213/91, as amended. The comments within this subsection are intended to be in addition to, and not a replacement of the OHSA requirements.

The existing FILL soils would be considered as a “Type 3 Soil” according to the OHSA regulations. However, if they become wet, muddy, is below the water table, or shows signs of seepage, they would be considered as a “Type 4 Soil”;

The existing native silty sand would also be considered as a “Type 3 Soil” according to the regulations. However, if it becomes wet, muddy, is below the water table, or shows signs of seepage, it would also be considered as a “Type 4 Soil”;

According to the OHSA, excavations which penetrate through multiple soil types should be considered as having the highest soil type.

For excavations into bedrock, there is an upper weathered rock zone that will require back sloping depending on the degree of weathering. The bedrock quality and Site-specific requirements need to be assessed during construction by the Geotechnical Engineer. For planning purposes, a weathered bedrock is recommended to be treated as a “Type 2 Soil”. Sound rock, if encountered in excavations would generally be self-supporting, however, as a precautionary measure, it should be back-sloped at 10V:1H. All rock excavations should be scaled, to remove loose rock fragments to ensure safe working conditions. All rock faces should be reviewed by a Geotechnical Engineer to look for loose pieces and wedge failures. Rock bolting for worker safety may be necessary depending on the layout and field condition at that time.

The stability of the excavation side slopes will be highly dependent on the Contractor’s methodology. No surface surcharges should be placed closer to the edge of the excavation than a distance equal to twice the depth of the excavation, unless an excavation support system has been designed to accommodate such a surcharge.

No excavations should penetrate below an imaginary line drawn downwards and outwards at 7V:10H slope from the toe of any existing footing or load bearing elements, in order to avoid undermining them. Designers and Contractors should plan out the approximate excavation area and compare them to the location of any existing footings to ensure they are not undermined. If the limit of not undermining adjacent structures, or other space or property line restrictions are encountered then Engineered Shoring may be necessary.

6.2.2 Engineered Shoring

Engineered Shoring systems through soil often include (but are not limited to): soldier piles and lagging, interlocking sheet piles, secant and/or tangent walls, permanent diaphragm walls, etc. The appropriate method should be selected by the Project Designers and Contractors considering the space restrictions, estimated costs, and availability of materials. Engineered Shoring systems must be designed by a Professional Engineer taking into consideration the following Site-specific aspects:

- Lateral earth pressures;
- Hydraulic pressures of the groundwater;
- Loads from any adjacent structures, or infrastructure being retained;
- Seismic loadings;
- Freeze-thaw action on the face of the excavations;
- Expansion and contraction of shoring elements;
- Pre-stressing loads or post tensioning loads on tie backs;
- Possible surcharge loads throughout construction (i.e., trucks, equipment, stockpiles, etc.);
- Vibrations induced by construction processes; and
- Compatibility with the design of proposed waterproofing and drainage systems for the sub-surface levels.

Soldier piles and sheet piling, if used would require predrilling to provide sufficient embedment to achieve toe fixity. It is expected that the Engineered Shoring systems would need to be provided with tie-back rock anchors to ensure their lateral stability. It is recommended that the Client retain Contractors and Designers who have significant experience with deep excavations performed under similar soil conditions. Shop drawings should be submitted to the Designers and reviewed by the Geotechnical Engineer well in advance of mobilization.

The preliminary lateral earth pressure parameters to assist Designers and Contractors with shoring designs through soil are discussed in Section 6.7 below.

6.3 Temporary Construction Dewatering

As discussed in Section 5.6, a total of three (3) monitoring wells were installed in MW20-01, MW20-03, and MW20-04. The water levels recorded on June 2, 2020, June 3, 2020 and July 9, 2020 were found to range in elevation from approximately El. 85.3 masl to 87.2 masl. The 2004 Groundwater Investigation by Paterson Group reported ground water levels ranging in elevation

from approximately El. 85.2 masl to 88.4 masl. Given that excavations are expected to extend to an approximate elevation near El. 85.5 masl, the excavation will extend below the groundwater table.

Both surface water and significant groundwater seepage are expected in the excavations and will need to be adequately controlled. Water quantities will depend on seasonal conditions, depths of excavations, presence and lateral extents of fractured rock zones, and the duration that excavations are left open. Groundwater will travel easily through the fill material and weathered rock surface. rock. Existing utility trenches which join or intersect the excavations may act as a drain and supply off-Site water into the excavations. These should be plugged at the outset of construction in an attempt to mitigate this possibility.

Effective groundwater control prior to and during construction and possibly permanently in this case are expected to be required. Recommendations for appropriate dewatering measures beyond conventional sump pump techniques such as a positive dewatering system (e.g., well points or other specialized methods) to effectively lower the static groundwater level shall be provided by a specialized dewatering contractor based on the findings and recommendations of the Hydrogeological Investigation Report (provided for this Project under a separate cover).

6.4 Foundations

It important to note that at the time of this geotechnical investigation, the Project is still considered in the design stages, and DST has not been provided with the proposed foundation details. Based on the field drilling, and borehole logs, DST is anticipating that the foundations will be founded on rock, below the design frost depth. All foundation subgrades must be approved by the Geotechnical Engineer.

DST understands that the currently proposed design is based on footings founded at an approximate elevation of El. 85.5 masl. Based on the results of the boreholes, there is a weathered rock zone located at the top of the bedrock. The weathered zone was encountered at approximate elevations ranging from El. 88.8 masl to 84.6 masl. Sound bedrock was encountered at approximate elevations ranging from El. 87.3 masl to 83.8 masl. DST recommends that the footing for this structure be founded entirely on sound bedrock, which is below the weathered zone. In borehole locations BH20-02, MW20-04, BHMW14 (2008), BH1 (2004), and BH4 (2004) the sound bedrock was encountered to be deeper than 85.5 masl, therefore the footings will need to be lower in these areas.

6.4.1 Footings on Rock

For conventional pad and strip footings founded on shale bedrock, a factored bearing resistance of 500 kPa under Ultimate Limit States (ULS) conditions is recommended. This includes for a geotechnical resistance factor of $\Phi = 0.5$. However, depending on the rock condition conditions uncovered the time of excavation up to 1 MPa factored ULS may be possible. In order to use the increased 1 MPa value, the Contractor will be required to drill additional 1.5 m deep probe holes within the footing bases to confirm there are no mud seams or voids below the footings, as described below.

There is no corresponding design bearing pressure recommended under Serviceability Limit State (SLS) conditions for bedrock as settlement under the ULS condition is expected to be minimal. Designers should limit footing dimensions to a minimum of 1.0 m for pad footings, and 0.5 m for strip footings regardless of the bearing pressure being used.

Subgrade preparation for footings founded on rock will involve the removal of all soils and weathered rock surface to expose sound bedrock. Any pieces of rock that can be easily manipulated by conventional excavation equipment should be removed, as directed by the Geotechnical Engineer. Final subgrade surfaces should be brushed and/or air blown clean, and dry. The exposed surface should be examined by the Geotechnical Engineer to assess its competency.

Confirmation of bedrock quality during construction will require probing of the bedrock at footing locations using 50 mm diameter holes drilled to a depth of 1.5 m within the footprint of footings. These holes will need to be reviewed by the Geotechnical Engineer to confirm that no significant mud seams or voids exist. If mud seams are found, localized areas of the footings may need to be lowered below the mud seam, or footing sizes increased to lower design bearing pressures accordingly. The locations of these probe holes should be provided under the direction of the Geotechnical Engineer during construction.

Designers and Contractors should make allowance for additional excavation of fractured rock to achieve a sound bedrock subgrade to the satisfaction of the Geotechnical Engineer. It is recommended that a unit price item for additional rock excavation and replacement with lean mix concrete fill be incorporated into the tender documents.

6.4.2 Lean Mix Concrete

If the grade is required to be raised between the approved sound bedrock subgrade and the design footing elevation, then it is recommended to be performed with lean mix concrete, as opposed to with granular fill soils. If lean mixed concrete is used below any footings it must extend a minimum of 0.3 m beyond the edge of the footing and then downward at a 1H:1V. Recommended design bearing pressures on lean mix concrete would be the same as those for the bedrock, provided that the underlying subgrade has been approved by the Geotechnical Engineer.

6.4.3 Protection Swelling Shales

The shale bedrock at this Site is of the Billings Formation. The Billings Formation shales swell when exposed oxygen, such as the walls of bedrock excavations, and the floors of bedrock excavations. Therefore, the final approved bedrock bearing surface and excavation walls must be covered with lean mix concrete on the same day as they are exposed, to avoid future heaving. The walls of bedrock excavations must be covered with shotcrete to minimize air contact. This will require careful planning to ensure the sequence is properly achieved. Excavation Contractors should be selected that have experience with planning such excavations in Billings Shale. Again, for this reason we recommend the building basement be designed as a fully waterproof 'bath-tub' design (without external perimeter drains) to avoid potential adverse impacts due to moisture movements in the immediate areas around the proposed building footprint.

6.5 Frost Protection

All footings for heated structures must be provided with a minimum of 1.5 m of earth cover, and 1.8 m of earth cover for unheated or isolated structures in the Ottawa area. Otherwise an equivalent insulation detail would be required in order to provide adequate protection against frost action. Where soil cover cannot be provided, an insulation detail should be designed or approved by a Geotechnical Engineer. Contractors must be aware that this detail may be such that the insulation may need to be placed below the footing and then the footing poured on top, and therefore pre-approval is recommended to ensure excavations and backfill are properly planned. The shale bedrock on this Site should be considered to be frost susceptible.

Should construction take place during winter, surfaces that support foundations or Engineered Fill must be protected by Contractors against freezing for the entire duration of construction or until adequate soil cover is in place. Backfill soils should not be placed in a frozen condition or placed on frozen subgrades.

6.6 Seismic Site Classification

In accordance with the Ontario Building Code (OBC-2012), structures designed under Part Four of the Code must be designed to resist a minimum earthquake force. Based upon the results of the shear wave velocity testing, the V_{S30} value of the Site is 928 m/s, which corresponding to a "Site Class B" with respect to Table 4.1.8.4.A (OBC-2012). However, it is important to emphasize that this shear wave velocity is measured starting at the surface grade which is at an approximate elevation near El. 90.1 masl. According to Commentary J of NBCC-2015, the shear wave velocity should be measured from 30 m below the underside of the footings. Given a footing elevation of deeper than El. 85.5 masl, and considering footings founded directly on sound bedrock, the average shear wave velocity below the footings is estimated at 1765 m/s. Therefore a "Site Class A" would be suitable for this structure. The results are reported in the Shear Wave Velocity Report by Geophysics GPR International Inc provided in Appendix F.

6.7 Lateral Earth Pressures

The following preliminary lateral earth pressure parameters are provided to assist Contractors and Designers with the design of both permanent basement walls and temporary Engineered Shoring systems, if used. Designers will need to review if hydrostatic pressures are to be included in the earth pressure calculations based on the permanent drainage designs. If a fully waterproof 'bath-tub design without perimeter drainage is being used, then hydrostatic pressures will likely be included in the design.

6.7.1 Static Conditions

The following Rankine earth pressure coefficients are being provided to assist Designers.

Table 6-1: Recommended Lateral Earth Pressure Coefficients for Static Conditions

Soil	Bulk Density 'Y' (kN/m^3) *	Angle of Internal Friction, φ' (degrees)	Undrained Shear Strength, Su (kPa)	Rankin Earth Pressure Coefficients**		
				K_a	K_o	K_p
Existing Uncontrolled Cohesionless FILL where Loose to compact (excluding Objectionable inclusions)	24	30	0	0.33	0.50	3.00

Soil	Bulk Density 'Y' (kN/m^3) *	Angle of Internal Friction, φ' (degrees)	Undrained Shear Strength, Su (kPa)	Rankin Earth Pressure Coefficients**		
				K_a	K_o	K_p
Native loose to compact Silt to Silty Sand	21	28	0	0.36	0.53	2.77
New Compacted Granular Backfill OPSS "Granular B, Type II"	22	35	0	0.27	0.43	3.69

* *Only the bulk unit weight is being presented, Designers will need to assess whether bulk, saturated, and/or submerged unit weights should be used based on their design conditions.*
** *Assumes level/flat backfill surface. If Engineered Shoring is used, then Designers should refer to CFEM-2006 for design assistance and the Geotechnical Engineer should be retained to perform shoring design review.*

For yielding retaining walls, the active earth pressure coefficients, K_a, is recommended to be used. For non-yielding permanent walls, such as basement walls, the at-rest, K_o, is recommended to be used for design. The resultant of the applicable static or at-rest force is assumed to act at 1/3H above the base of the wall where H is the Height of the wall.

6.7.2 Dynamic Conditions

Below grade walls subjected to lateral forces due to seismic forces can be designed using the pseudo-static approach using the Mononobe-Okabe equations, shown in Section 24.9 of CFEM-2006. In these formulas, there are both geotechnical and geometric components.

The total active thrust under seismic loading (P_{ae}) is recommended to be expressed as follows:

$$P_{ae} = ½ K_{ae} \gamma H^2 \times (1- k_v)$$

Where: H = Height of the wall, K_{ae} = horizontal component of active earth pressure coefficient including effects of earthquake loading,

k_v = Vertical component of the earthquake acceleration typically a range of 2/3 x k_h to 1/3 k_h is considered but a value closer to 2/3 x k_h is recommended

k_h = Horizontal component of the earthquake acceleration, typically Peak Ground Acceleration (PGA) or a factor thereof is used. The Site Class-adjusted NBCC-2015 PGA for the Site is 0.257 g at Site Class A, where g is the acceleration due to gravity, and the probability of exceedance per annum is 0.000404. This value was determined using the 2015 National Building Code Seismic Hazard Calculation document and can be found attached in Appendix F.

For passive earthquake pressure (P_{pe}) the following equation can be used:

$$P_{pe} = ½ K_{pe}\gamma H^2 \times (1- k_v)$$

Where: K_{pe} = horizontal component of passive earth pressure coefficient including effects of earthquake loading

The above equation includes both the active pressures under static (P_a) as well as the increased force due to seismic forces. The active force under static conditions is assumed to act at a point of (0.3 x H) above the base and the seismic force is assumed to act near (0.6 x H) above the base, where H is the height of the wall. Therefore, the point of application for P_{ae} may be calculated from the following:

$$h = [(0.33H \times P_a) + (0.6H \times P_e)]/ P_{ae}$$

The following soil parameters are presented to assist Designers in designing retaining walls for this Site under seismic conditions using the pseudo-static approach.

Table 6-2: Recommended Lateral Earth Pressures under Dynamic Conditions

Soil	Bulk Density* 'Y' (kN/m^3)	Effective Angle of Internal Friction, φ' (degrees)	Effective Cohesion, C' (degrees)	Mononobe-Okabe Earth Pressure Coefficients**	
				K_{ae}	K_{pe}
Existing Uncontrolled Cohesionless FILL where Loose to very Dense	24	30	0	0.58	2.39
Native loose to compact Cohesionless Deposits	21	28	0	0.62	2.18
New Compacted Granular Backfill OPSS "Granular B, Type II"	22	35	0	0.49	3.04

* *Only the bulk unit weight is being presented, Designers will need to assess whether bulk, saturated, and/or submerged unit weights should be used based on their design conditions.*

** *Assumes level/flat backfill surface. If Engineered Shoring is used, then Designers should refer to CFEM-2006 for design assistance and the Geotechnical Engineer should be retained to perform shoring design review.*

6.8 Floor Slabs

Based on the design traffic condition in the proposed underground parking lot, designers will need to decide what type of floor will be necessary in the parking garage. Typical options would be a flexible asphalt pavement, a rigid free-floating slab on grade, or alternatively a structural slab.

DST was not provided with any design criteria for floor slab loadings and traffic loadings for the floor slab of the parking garage, therefore we have assumed that floor slabs are lightly loaded with no heavy racking or process machinery that require specific support.

A typical floor slab loading for a lightly loaded slab on grade would be a maximum value of 24 kPa,. If larger slab loadings are envisioned, then DST should be retained to perform additional consulting in regard to design of the floor slab. For design purposes and based upon a properly prepared native subgrade surface covered with 200 mm of Ontario Provincial Standard Specification (OPSS) 1010 'Granular A', a typical preliminary modulus of subgrade reaction appropriate for the slab design would be approximately 30,000 kN/m^3 on Engineered Fill and compacted to 100 percent of its Standard Proctor Maximum Dry Density (SPMDD). Alternative values would require additional analysis and testing.

A capillary moisture barrier consisting of a layer of either 19 mm clear stone or an OPSS 1010 'Granular A' at least 200 mm thick should underlie the slab. This layer should be compacted to 100 percent of its SPMDD and placed on approved subgrade surfaces.

If floor coverings are to be used, vapour barriers are also recommended to be incorporated beneath the slab. Floor toppings may be impacted by curing and moisture conditions of the concrete. Floor finish manufacturer's specifications and requirements should be consulted and procedures outlined in the specifications should be followed.

Subgrade preparation below floor slabs will involve the removal of all soils and weathered bedrock to expose an intact shale bedrock sound bedrock. Any pieces of rock that can be easily manipulated by conventional excavation equipment should be removed, as directed by the Geotechnical Engineer. Final subgrade surfaces should be brushed and/or air blown clean, and dry. The exposed bedrock surface should be examined and approved by the Geotechnical Engineer. As mentioned earlier, the Billings Formation shales swell when exposed oxygen, therefore, the final approved bedrock subgrade must be covered with lean mix concrete on the same day as they are exposed, to avoid future heaving.

Any new fill used to raise the grade between the approved bedrock subgrade (protected with lean mix) and the floor slab should be considered as Engineered Fill and should be placed in strict conformance with the requirements in Section 6.12.1.

6.9 Resistance to Foundation Uplift

Resistance to foundation uplift or overturning forces can be provided by considering the dead weight of the structures and backfill soils, increasing the dead weight of the structure using additional concrete elements, or with the use of additional rock anchors.

In the case that grouted rock anchors are considered, rock anchors may be designed based on a frictional stress between grout and intact shale bedrock. Based upon typical published values and conservative approach, DST recommends that a conservative allowable working stress value of 600 kPa be used to calculate the length of the required bond zone. The bond zone must be entirely within "sound bedrock" which is below the weathered zone. An allowance for a weathered rock zone of at least 1.8 m in each hole should be considered.

Designing in accordance with the Limit States Design (LSD) method, Designers may take the approach that working stress value is approximately equivalent to the SLS value. The ULS and SLS must be based upon both performance and structural criteria. However, based upon typical published values, the unfactored ULS values may be approximately 750 kPa to more than 1000 kPa. As per CFEM-2006, a geotechnical resistance factor of Φ=0.3 should be applied to the empirical unfactored ULS values. Higher stress values may be available; however, performance load testing in the field will be required to prove the capacities. If performance testing is carried out at the outset of the Project, then a resistance factor of Φ=0.4 could be applied.

In order to mobilize the shear stress in the rock, the load at the top of the anchor must be properly transferred through the upper bedrock to the bond zone to prevent progressive grout fail and ensure proper performance. Therefore, a “free length” is required through the foundation element, the weathered rock zone, and down to the bond zone.

The mass of rock mobilized by a rock anchor may be assumed to be based upon a 60-degree cone drawn upward from a point located at the lower one-third point of the bond zone and spaced such that the theoretical cones do not overlap. Designers should review the spacing of anchors and take into account of any overlapping cones (i.e. avoid doubling-up on rock mass calculations for overlapping cones). The bulk unit weight of bedrock may be assumed to be approximately 26 kN/m3. The corresponding buoyant unit weight would be approximately 16 kN/m3. It is

recommended that Designers consider the water level to be near the surface, and therefore, use submerged unit weights for the rock mass calculations.

6.10 Corrosion Potential of Soils

Analytical testing was carried out on three soil sample collected from the boreholes (BH20-2 SS3, BH20-4 SS5 & BH20-3 SS3) to determine corrosion potential of the subsurface soils. The selected soil sample was tested for pH, resistivity, chlorides, sulphides, and sulphates. The test results are summarized in the following table.

Table 6-3: Corrosion Parameter Results

Parameter	Tested Value		
	BH20-02, SS3	MW20-4, SS5	MW20-3, SS3
pH	7.51	11.76	8.09
Chloride (ug/g)	18	65	12
Sulphate (ug/g)	82	2120	331
Resistivity (Ohm-cm)	61.1	7.60	32.2
Sulphide (%)	0.01	0.41	0.02
Redox Potential (mV)	311	156	299

The American Water Works Association (AWWA) publication 'Polyethylene Encasement for Ductile-Iron Pipe Systems' ANSI/AWWA C105/A21.5-10 dated October 1, 2010 assigns points based on the results of the above tests. A soil that has a total point score of 10 or more is considered to be potentially corrosive to ductile iron pipe. Based on the results obtained for the sample submitted, the Site soils, are considered to be severely corrosive to ductile iron pipe based on low resistivity value of MW20-4 SS5. Additional resistivity testing based on the water-saturated soil box method or 4pt Wenner testing is recommended to confirm the resistivity of the soils on Site if they intended to be used next to ductile iron pipe.

The analytical results of the soil samples were compared with applicable Canadian Standards association (CSA Standards A23.1-04) standards and are given in Table 6-4 below.

Table 6-4: Additional Requirement for Concrete Subjected to Sulphate Attack

Class of Exposure	Degree of Exposure	Water soluble Sulphate in soil sample (%)	Cementing Material to be used
S-1	Very Severe	> 2.0	HS or HSb
S-2	Severe	0.20 – 2.0	HS or HSb
S-3	Moderate	0.10 – 0.20	MS, MSb, LH, HS, or HSb

The chemical sulphate content analyses for selected soil samples tested indicate a sulphate concentration of maximum of a 2120 ug/g (0.21 %) in soil, as shown in Table 6-1. indicating a “severe” risk for sulphate attack on concrete material. Therefore, sulphate resistance concrete is required for concrete substructures on this Site.

6.11 Permanent Drainage

Under floor drainage is recommended for this structure based on groundwater level which is above the basement floor slab. To avoid swelling of the shale, on the building exterior, we recommend the building basement be designed as a fully waterproof ‘bath-tub’ design (without external perimeter drains to avoid potential adverse impacts due to moisture movements in the immediate areas around the proposed building footprint.

Although not recommended, if the Project designers continue to contemplate a drained basement design, the options for a perimeter drainage system are to use a conventional drainage tile or use a composite drainage blanket such as Miradrain 6200 or equivalent type product. If a traditional perimeter drain system is installed, it may be constructed with 100 mm diameter weeping tiles placed on a 150 mm bed of 19 mm clear stone and then covered with 150mm of the same stone. The stone and weeping tile should be enveloped on the bottom, sides, and top with a non-woven geotextile filter cloth (such as Terrafix 270 or equivalent). The perimeter drainage system should be placed at the footing level and be connected to a "frost-free" outlet, such as a sump or storm sewer. It is critical that perimeter drains not be connected to the interior under-floor systems. If a composite drainage blanket or geodrain system is used, it is still recommended that the exterior foundation walls be backfilled with a free-draining non-frost susceptible soil.

Full water proofing membranes such as a WR Meadows Mel-ROL PRECON or equivalent type product for walls and under-slab will be required. These types of membranes adhere to the

concrete and provide a waterproof seal between the membrane and poured concrete. Their installation would require that excavations be planned large enough for safe worker accesses on the exterior of the foundation wall to allow installation. Water stops should be installed at cold joints in the foundation walls and floor-wall joint.

Under floor drainage systems should be placed at a minimum 4.5 m spacing between drains, running in one direction, and set at 0.45m below the underside of floor slabs.

6.12 Backfill

All new fill soils that underlie floor slabs, footing, are in building interiors, or other structural applications is considered as Engineered Fill and must be treated as such.

6.12.1 Engineered Fill

For this Project, Engineered Fill may be required to raise the grade between the approved intact shale bedrock subgrade and floor slabs, and for interior foundation wall backfill. Engineered Fill must meet the strict requirements as shown below:

- The proposed material must be tested for grain size and Proctor and reviewed and approved by the Geotechnical Engineer before being considered as Engineered Fill. Typically, a crushed well-graded material such as an OPSS 1010 Granular “A” or “Granular B Type II” type material is suitable. However, other suitable granular materials may be proposed and considered depending on the Site-specific conditions;
- Prior to placing any Engineered Fill, all unsuitable fill materials must be removed, and the subgrade approved by the Engineer. Any deficient areas should be repaired prior to placement;
- Engineered Fill should be placed in maximum loose lifts of 300 mm and adequately compacted to achieve 100% of its Standard Proctor Maximum Dry Density (SPMDD). Engineered Fill must have full-time compaction testing by geotechnical personnel.
- At a minimum, the Engineered Fill beneath foundations should extend laterally a distance of 0.3 m beyond the edge of the footings and then be sloped downward and outward at 1H:1V slope. Designers and contractors are cautioned that the resultant excavation can be quite large if a significant thickness of Engineered Fill is required.

6.12.2 Exterior Foundation Wall Backfill

The backfill placed against exterior foundations should be a free draining granular material meeting the grading requirements of an OPSS 1010 “Granular B, Type I” or “Granular B, Type II”. Exterior foundation backfill should be placed and compacted as outlined below:

- Backfill should not be placed in a frozen condition, or place on a frozen subgrade;
- Backfill should be placed and compacted in maximum loose lift thickness compatible with the selected construction equipment, but not thicker than 0.3 m
- In landscaped areas the upper 0.3 m of backfill below landscape details should be a low permeable soil to reduce surface water infiltration;
- Backfill should be placed uniformly on both sides of the foundation walls to avoid build-up of unbalanced lateral pressures, or alternatively wait until basement wall are tied together with the floor above before backfilling the exterior foundation wall.
- For backfill that would underlie paved areas, sidewalks or exterior slabs-on-grade, each lift should be uniformly compacted to achieve 98 % percent of its SPMDD.
- For backfill on the building exterior that would underlie landscaped areas, each lift should be uniformly compacted to at least 95 % of its SPMDD.
- Exterior grades should be sloped away from the foundation wall, and roof drainage downspouts should be placed so that water flows away from the foundation wall.
- Entrance slabs should be placed founded on frost walls or alternatively have insulation details developed to prevent frost heaving at the building entrances;
- In areas where the building backfill underlies a pavement, sidewalk, or other hard landscaping, the excavation should have a frost taper incorporated to prevent differential heaving around the building.

6.13 Underground Utilities

The recommendations within this section are intended to be a supplement to, and not a replacement of the most recent local municipal requirements.

6.13.1 Bedding and Cover

The following are recommendations for service trench bedding and cover materials:

- Bedding for buried utilities should consist of an OPSS 1010 "Granular A" material and placed in accordance with municipal requirements, assuming the subgrade soils are not allowed to become disturbed;
- The use of clear stone is not recommended for use as pipe bedding. The voids in the stone may result in a low gradient water flow and infiltration of fines from the surrounding soils and cover materials, causing settlement and loss of support to pipes and structures;
- The cover material should be a service sand material or an OPSS 1010 "Granular A". The dimensions should comply with pertinent specification section;
- The bedding, springline, and cover should be compacted to at least 95% of its SPMDD;
- Compaction equipment should be used in such a way that the utility pipes are not damaged during construction.

6.13.2 Trench Backfill

Backfill above the cover for buried utilities should be in accordance with the following recommendations:

- For service trenches underlying pavement areas, the backfill should be placed and compacted in uniform lift thickness compatible with the selected compaction equipment and not thicker than 300 mm. Each lift should be compacted to a minimum of 98% of its SPMDD;
- The backfill placed in the upper 0.3 m below the pavement subgrade elevation should be compacted to a minimum of 100% of its SPMDD;
- Excavation backfill should attempt to match texture of the existing adjacent soils. If imported materials are used, side slopes with frost tapers are recommended. Frost tapers should be a back-slope of 10H:1V through the frost zone, (i.e.,1.8 m from finished grade);
- During backfilling, care should be taken to ensure the backfill proceeds in equal stages simultaneously on both sides of the pipe;
- No frozen material should be used as backfill; neither should the trench base be allowed to freeze.

The quality and workmanship in the construction is as important as the compaction standards themselves. It is imperative that the guidelines for the compaction be followed for the full depth of the trench to achieve satisfactory performance.

6.14 Recommended Asphalt Pavement

All existing asphalt pavement and granular courses should be excavated down to the proposed new subgrade level. The final subgrade should be proof-rolled to look for deflection, soft spots, or local anomalies. Typically, a heavy-duty steel drum roller or a loaded dump truck is sufficient for proof rolling. Proof-rolling of proposed subgrades should be witnessed by geotechnical staff. Any non-performing areas should be sub-excavated and replaced with an appropriate new fill soil. An appropriate fill soil would be a free-draining non-frost susceptible soil similar to a Granular 'B' Type I or Granular 'B' Type II material.

Newly backfilled soils should attempt to match the texture of the existing adjacent soils. Localized sub-excavations should have frost tapers to avoid concentrated frost heaves across the roadway at the transition zones between sub-excavated and un-excavated subgrades.

In order to accommodate the recommended thicknesses, designers will need to review existing and proposed grades and determine where stripping or filling is necessary. Drainage of the pavement layers is important. Surface runoff should be directed to storm sewers or surface ditches where possible. The subgrade surface and each layer of the pavement section should also be provided with a suitable cross fall (approximately 3%) to prevent water from ponding on each layer. The installation of subdrains may be recommended as designs progress based on the surrounding topography and drainage conditions to assist in the long-term performance of the pavement structures. Non-woven geotextile as a separation medium may be prudent based on the observations during proof rolling.

For the proposed pavement base and subbase courses the material should consist of a Granular 'A' and Granular 'B' Type II material, respectively. The material should be placed in maximum loose lifts of 300 mm and compacted to 100 % of its SPMDD.

Sufficient field-testing should be carried out during construction to assess compaction of each lift of the pavement structure layers. This should be accompanied by laboratory testing of the proposed granular materials and asphalt materials.

In the case of winter work, which is not recommended, no frozen material should be used as backfill, and backfill should not be placed on frozen subgrades.

Based on the results of the field and laboratory testing, DST is recommending the following preliminary minimum pavement sections. It is important to note that at the time of this

investigation, DST has not been provided with any traffic counts, or level of service requirements or equipment loadings for pavement structures. The pavement sections being provided are what we would consider to be suitable for a private development within this part of Ottawa. Table 6-5 below summarizes proposed asphalt designs for the parking lot and fire route respectively.

Table 6-5: Recommended Minimum Pavement Sections

Material	Layer Thickness
Parking Lots – Light Duty (Parking Stalls)	
Asphalt Wearing Course	50 mm
Well Graded Granular Base Course (Granular 'A')	150 mm
Well Graded Granular Sub-Base Course (Granular 'B' Type II)	300 mm
Parking Lots – Heavy Duty (Aisles and Fire Routes)	
Asphalt Wearing Course	40 mm
Asphalt Binder Course	50 mm
Well Graded Granular Base Course (Granular 'A')	150 mm
Well Graded Granular Sub-Base Course (Granular 'B' Type II)	450 mm

Annual or regular maintenance will be required to achieve maximum life expectancy. Generally, the asphalt pavement maintenance will involve periodic crack sealing and repair of local distress.

It is important to emphasize that the pavement sections described above are for the proposed end use condition, including light vehicular traffic and occasional service trucks. It may be necessary to over-design these sections if they are intended to support heavy construction equipment throughout construction.

7 MONITORING DURING CONSTRUCTION

DST requests to be retained once the plans and specifications are finalized to review the documents and ensure the recommendations in this report are adequately addressed.

The recommendations presented in this report are based on the assumption that an adequate level of construction monitoring by qualified geotechnical personnel during construction will be provided. Based on our understanding of the scope of the Project, an adequate level of construction monitoring is considered to be as follows:

- Review and approval of all footing subgrades by geotechnical personnel prior to placement of lean concrete mud slabs;
- Confirmation of bedrock quality during construction using 1.5 m probe holes within the footings. These holes will need to be reviewed by the Geotechnical Engineer to confirm that no significant mud seams or voids exist.
- Review and approval of subgrades below the floor slab, prior to placement of lean concrete mud slabs;
- Laboratory testing and pre-approval of fill soils that are proposed to be used on Site;
- Full time compaction testing of Engineered Fill and part time compaction testing of exterior foundation wall backfill;
- Periodic testing of concrete;
- Vibration and settlement monitoring of adjacent Structures;
- Performance and proof testing or rock anchors;
- Visual review of waterproofing membranes.

An important purpose of providing an adequate level of monitoring is to check that recommendations, based on data obtained at the discrete borehole locations, are relevant to other areas of the Site.

8 CLOSURE

A description of limitations which are inherent in carrying out Site investigation studies is given in Appendix A and forms an integral part of this report.

We trust this report meets your present requirements. Should you have any questions, please do not hesitate to contact our office.

Sincerely,

For DST CONSULTING ENGINEERS INC.

Shanti Ratmono, M.Eng., P.Eng.
Geotechnical Engineer

Shane Dunstan, P.Eng.
Geotechnical Project Manager

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Senior Geotechnical Project Manager

APPENDIX A
LIMITATIONS OF REPORT

LIMITATIONS OF REPORT

GEOTECHNICAL STUDIES

The data, conclusions and recommendations which are presented in this report, and the quality thereof, are based on a scope of work authorized by the Client. Note that no scope of work, no matter how exhaustive, can identify all conditions below ground. Subsurface and groundwater conditions between and beyond the boreholes may differ from those encountered at the specific locations tested, and conditions may become apparent during construction which were not detected and could not be anticipated at the time of the site investigation. Conditions can also change with time. It is recommended practice that DST Consulting Engineers Inc. be retained during construction to confirm that the subsurface conditions throughout the site do not deviate materially from those encountered in the boreholes.

The design recommendations given in this report are applicable only to the project described in the text and then only if constructed substantially in accordance with details stated in this report. Since all details of the design may not be known, we recommend that we be retained during the final stage to verify that the design is consistent with our recommendations, and that assumptions made in our analysis are valid. Unless otherwise noted, the information contained herein in no way reflects on environmental aspects of either the site or the subsurface conditions.

The comments given in this report on potential construction problems and possible methods are intended only for the guidance of the designer. The number of boreholes may not be sufficient to determine all the factors that may affect construction methods and costs, e.g. the thickness of surficial topsoil or fill layers may vary markedly and unpredictably. The contractors bidding on this project or undertaking the construction should, therefore, make their own interpretation of the factual information presented and draw their own conclusion as to how the subsurface conditions may affect their work.

Any results from an analytical laboratory or other subcontractor reported herein have been carried out by others, and DST Consulting Engineers Inc. cannot warranty their accuracy. Similarly, DST cannot warranty the accuracy of information supplied by the Client.

APPENDIX B

SITE LOCATION MAP

BOREHOLE LOCATION PLAN

Note

1. This drawing shall be read in conjunction with the associated technical report.

Revision	Date	Issue	Approval
0	12/08/2020	Original	

Client

Site: 800 Montreal Road, Ottawa, ON

DST consulting engineers a division of Englobe

Report Title: Geotechnical Investigation

Drawing Title: Site Location Map

Designed By: S.R.	Date: December 2020
Drawn By: K.M.	Project No.: 02001055.000
Approved By:	Figure No.: 1
Scale: As shown	

2150 Thurston Drive, Suite 203, Ottawa, Ontario K1G 5T9 Tel: (613) 748-1415 Fax: (613) 748-1356 Website: www.dstgroup.com

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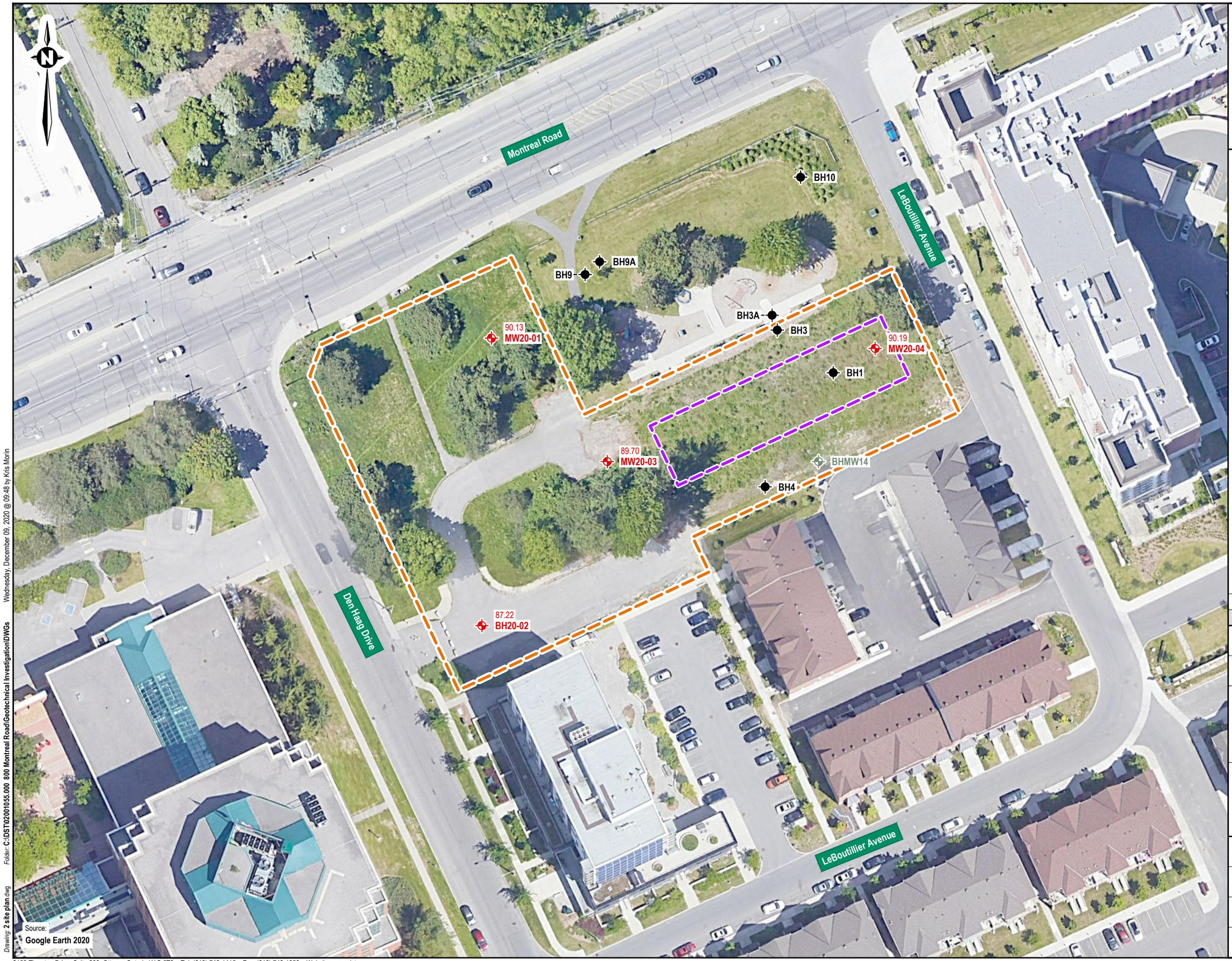
Drawing: 1 site location.dwg Folder: C:\DST\02001055.000 800 Montreal Road\Geotechnical Investigation\DWGs Wednesday, December 09, 2020 @ 09:48 by Kris Morin



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a division of Englobe

Note

1. This drawing shall be read in conjunction with the associated technical report.
2. Location of monitoring well BHMW14 was referenced from the *PHASE I/II ENVIRONMENTAL SITE ASSESSMENT FORMER FORINTEK BUILDING 800 MONTREAL ROAD OTTAWA, ONTARIO* report (DST, 2009).
3. Location of boreholes drilled by Paterson was referenced from the *GROUNDWATER INVESTIGATION 800 MONTREAL ROAD* report (Paterson Group, 2004)

Legend

- Approximate location of borehole (Paterson, 2004)
- Approximate location of borehole/monitoring well (DST, 2020)
- Approximate location of monitoring well (DST, 2008)
- Previously demolished Forintek building
- Proposed multi-story residential development

1:750

0 5 10 20 30 m

0 1:1 5 cm

Scale accurate when printed at 100% using paper size ANSI full bleed B (11.0 x 17.0 Inches)

Revision	Date	Issue	Approval
0	12/08/2020	Original	

Client

Site
800 Montreal Road, Ottawa, ON

Report Title
Geotechnical Investigation

Drawing Title
Borehole Location Plan

Designed By	Scale
S.R.	As shown
Drawn By	**Date**
K.M.	December 2020
Approved By	**Project No.**
	02001055.000

Figure No.
2

Drawing: 2 site plan.dwg Folder: C:\DST\02001055.000 800 Montreal Road\Geotechnical Investigation\DWGs Wednesday, December 09, 2020 @ 09:48 by Kris Morin

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APPENDIX C

BOREHOLE LOGS (2020)

ROCK CORE LOGS (2020)

HISTORICAL BOREHOLE LOG (2008 – BHMW14)

HISTORICAL BOREHOLE LOGS (2004)

LIST OF SYMBOLS AND DEFINITIONS FOR GEOTECHNICAL SAMPLING AND COMMON LITHOLOGIES

The following is a reference sheet for commonly used symbols and definitions within this report and in any figures or appendices, including borehole logs and test results. Symbols and definitions conform to the standard proposed by the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) wherever possible. Discrepancies may exist when comparing to third-party results using the Unified Soil Classification System (USCS).

PART A – SOILS

Standard Penetration Test (SPT) 'N'

The number of blows required to drive a 50-mm (2 in) split barrel sampler 300 mm (12 in). The standard hammer has a mass of 63.5 kg (140 lbs) and is dropped vertically from a height of 760 mm (30 in). Additional information can be found in ASTM D1586-11 and in §4.5.2 of the CFEM 4th Ed.

For penetration less than 300 mm, 'N' is recorded with the penetration that was achieved.

Non-Cohesive Soils

The relative density of non-cohesive soils relates empirically to SPT 'N' as follows:

Relative Density	'N'
Very Loose	0 – 4
Loose	4 – 10
Compact	10 – 30
Dense	30 – 50
Very Dense	> 50

Cohesive Soils

The consistency and undrained shear strength of cohesive soils relates empirically to SPT 'N' as follows:

Consistency	Undrained Shear Strength (kPa)	'N'
Very Soft	< 12	0 – 2
Soft	12 – 25	2 – 4
Firm	25 – 50	4 – 8
Stiff	50 – 100	8 – 15
Very Stiff	100 – 200	15 – 30
Hard	> 200	> 30

PART B – ROCK

The following parameters are used to describe core recovery and to infer the quality of a rockmass.

Total Core Recovery, TCR (%)

The total length of solid drill core recovered, regardless of the quality or length of the pieces, taken as a percentage of the length of the core run.

Solid Core Recovery, SCR (%)

The total length of solid, full-diameter drill core recovered, taken as a percentage of the length of the core run.

Rock Quality Designation, RQD (%)

The sum of the lengths of solid drill core greater than 100 mm long, taken as a percentage of the length of the core run. RQD is commonly used to infer the quality of the rockmass, as follows:

Rockmass Quality	RQD (%)
Very Poor	< 25
Poor	25 – 50
Fair	50 – 75
Good	75 – 90
Excellent	> 90

Weathering

The terminology used to describe the degree of weathering for recovered rock core is defined as follows, as suggested by the *Geological Society of London*:

Completely weathered: All rock material is decomposed and/or disintegrated to soil. The original mass structure is largely intact.

Highly weathered: More than half the rock material is decomposed and/or disintegrated to soil. Fresh or discolored rock is present either as a discontinuous framework or as core stone.

Moderately weathered: Less than half the rock material is decomposed and/or disintegrates to soil. Fresh or discolored rock is present ether as a continuous framework or as core stone.

Slightly weathered: Discoloration indicates weathering of rock material and discontinuity of surfaces. All the rock material may be discolored by weathering and may be somewhat weaker than its fresh condition.

Fresh: No visible signs of weathering.

PART C – SAMPLING SYMBOLS

Symbol	Description
SS	Split spoon sample
TW	Thin-walled (Shelby Tube) sample
PH	Sampler advanced by hydraulic pressure
WH	Sampler advanced by static weight
SC	Soil core

PART D – IN-SITU AND LAB TESTING

SOIL NAMING CONVENTIONS

Particle sizes are described as follows:

Particle Size Descriptor		Size (mm)
Boulder		> 300
Cobble		75 – 300
Gravel	Coarse	19 – 75
	Fine	4.75 – 19
Sand	Coarse	2.0 – 4.75
	Medium	0.425 – 2.0
	Fine	0.075 – 0425
Silt		0.002 – 0.075
Clay		< 0.002

The principle constituent of a soil is written in uppercase. The minor constituents of a soil are written according to the following convention:

Descriptive Term	Proportion of Soil (%)
Trace	1 – 10
Some	10 – 20
(ey) or (y)	20 – 35
And	35 – 50

Eg.: A soil comprising 65% Silt, 21% Sand and 14% Clay would be described as a: Sandy SILT, Some Clay

LOG OF BOREHOLE MW20-01

DST REF. No.: **02001425**
CLIENT: **Sovima Ottawa Inc.**
PROJECT: **New Multi-Storey Residential Develpment**
LOCATION: **800 Montreal Road**
SURFACE ELEVATION: 90.10m

Drilling Data
METHOD: **Hollow Stem Augers and Casings**
DIAMETER:
DATE: **May 14, 2020**
COORDINATES: **5034216.2** m N, **372447.9** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l) 20 40 60 80	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) ✖ 20 40 60 80; SPT (N) □ Blows/0.3m DCPT ◆ 20 40 60 80	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
0	90				**TOPSOIL -** silty sand trace rootlets and organic material, brown, dry	SS1		8		
1.0	89				contains trace gravel and shale fragments below 0.8 m	SS2		9		
2.0	88				**Highly weathered SHALE (Probable Mud Stone) -** black	SS3		45		
						SS4		92/203mm		
3.0	87				**BEDROCK -** Shale, moderately weathered, very poor quality based on RQD - Refer to bedrock core logs for additional details	HQ5				RQD = 0%
4.0	86									
						HQ6				RQD = 13%
5.0	85									
6.0	84					HQ7				RQD = 7%
7.0	83									
						HQ8				RQD = 0%
8.0	82									
9.0	81					HQ9				RQD = 0%
10.0	80				End of Borehole at approximatley 10.1 m (~Elev. 80.0 m) within shale bedrock. Water level measured to be at 2.9 m (~Elev. 87.2 m) June 2, 2020. Water level measured to be at 3.0 m (~Elev. 87.1 m) June 3, 2020. Water level measured to be at 3.3 m (~Elev. 86.8 m) July 9, 2020.					
11.0	79									
12.0	78									

BOREHOLE (STANDARD) - OTTAWA 02001055 SOVIMA - 800 MONTREAL ROAD.GPJ DST_MIN.GDT 7/10/20

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Web: www.dstgroup.com

SAMPLE TYPE LEGEND

- Auger Sample
- Split Spoon Sample
- Bulk Sample
- Rock Core
- Hiller Peat Sampler
- 70mm Thin Wall Tube
- Bentonite
- Sand

ENCLOSURE 2

LOG OF BOREHOLE BH20-02

DST REF. No.: **02001425**
CLIENT: **Sovima Ottawa Inc.**
PROJECT: **New Multi-Storey Residential Develpment**
LOCATION: **800 Montreal Road**
SURFACE ELEVATION: 87.20m

Drilling Data
METHOD: **Hollow Stem Augers and Casings**
DIAMETER:
DATE: **May 19, 2020**
COORDINATES: **5034157.1** m N, **372446.9** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) ✖ / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
	87				**100mm ASPHALT**					
					FILL - sand and gravel, very dense	SS1		31		
1.0	86				**SILTY SAND -**loose to compact, brown, moist	SS2		15		
2.0	85				51 mm thick coarse sand seam at 1.7 m	SS3		6		
					Highly weathered SHALE (Probable Mud Stone) - black	SS4		50/152mm		
3.0	84									
					BEDROCK - Shale, moderately weathered, very poor to poor quality based on RQD	HQ5				RQD = 0%
4.0	83				- Refer to bedrock core logs for additional details.	HQ6				RQD = 0%
5.0	82									RQD = 6%
6.0	81					HQ7				
7.0	80									RQD = 40%
						HQ9				UCS = 14.1 MPa; Unit weight = 25.6 kN/m3
8.0	79									UCS = 22.1 MPa; Unit weight = 25.7 kN/m3
9.0	78					HQ10				RQD = 0%
					End of Borehole at approximatley 9.4 m (~Elev. 77.80 m) within shale bedrock.					
10.0	77									
11.0	76									
12.0	75									

BOREHOLE (STANDARD) - OTTAWA 02001055 SOVIMA - 800 MONTREAL ROAD.GPJ DST_MIN.GDT 7/10/20

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SAMPLE TYPE LEGEND

- Auger Sample
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- Bulk Sample
- Rock Core
- Hiller Peat Sampler
- 70mm Thin Wall Tube
- Bentonite
- Sand

ENCLOSURE 1

LOG OF BOREHOLE MW20-03

DST REF. No.: **02001425**
CLIENT: **Sovima Ottawa Inc.**
PROJECT: **New Multi-Storey Residential Develpment**
LOCATION: **800 Montreal Road**
SURFACE ELEVATION: 89.70m

Drilling Data
METHOD: **Hollow Stem Augers and Casings**
DIAMETER:
DATE: **May 27, 2020**
COORDINATES: **5034191.2** m N, **372472.1** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l) 20 40 60 80	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) ✖ 20 40 60 80; SPT (N) □ Blows/0.3m; DCPT ◆ 20 40 60 80	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
0.0	89				**FILL -** silty sandy clay, stiff	SS1		7		
1.0					**FILL -** silty clayey sand, some gravel, loose	SS2		5		
	88				**SILT to SILTY SAND -** loose, light brown, wet	SS3		5		
2.0						SS4		>99		
	87				**Highly weathered SHALE (Probable Mud Stone) -** black	HQ5				Cored from 2.5 to 3.2 - no recovery
3.0						SS6		61/152mm		
	86									
4.0					**BEDROCK -** Shale, moderately weathered, very poor to poor quality based on RQD	HQ7				UCS = 58.2 MPa; Unit weight = 26.3 kN/m3 RQD = 37%
5.0	85				- Refer to bedrock core logs for additional details.					
	84					HQ8				RQD = 38% UCS = 39.3 MPa; Unit weight = 26.6 kN/m3
6.0										
	83									UCS = 50.7 MPa; Unit weight = 25.4 kN/m3
7.0						HQ9				RQD = 23% UCS = 38.4 MPa; Unit weight = 25.3 kN/m3
	82									
8.0						HQ10				RQD = 0%
	81									
9.0					End of Borehole at approximatley 9.2 m (~Elev. 80.5 m) within shale bedrock.					
	80									
10.0					Water level measured to be 3.1 m (~Elev. 86.6 m) June 2, 2020.					
	79									
11.0					Water level measured to be at 3.3 m (~Elev. 86.4 m) June 3, 2020.					
	78									
12.0					Water level measured to be at 3.7 m (~Elev. 86.0 m) July 9, 2020.					
	77									

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SAMPLE TYPE LEGEND

- Auger Sample
- Split Spoon Sample
- Bulk Sample
- Rock Core
- Hiller Peat Sampler
- 70mm Thin Wall Tube
- Bentonite
- Sand

ENCLOSURE 3

LOG OF BOREHOLE MW20-04

DST REF. No.: **02001425**
CLIENT: **Sovima Ottawa Inc.**
PROJECT: **New Multi-Storey Residential Develpment**
LOCATION: **800 Montreal Road**
SURFACE ELEVATION: 90.20m

Drilling Data
METHOD: **Hollow Stem Augers and Casings**
DIAMETER:
DATE: **May 14, 2020**
COORDINATES: **5034215.4** m N, **37257** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l) 20 40 60 80	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) ✖ 20 40 60 80; SPT (N) □ Blows/0.3m; DCPT ◆ 20 40 60 80	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
0.0	90				**TOPSOIL -** silty clayey sand, trace rootlets and organic material	SS1		7		
1.0	89				**FILL -** silty sand with gravel (consruction debris), loose to compact, brown, moist to dry Contains trace brick and concrete pieces	SS2		4		
2.0	88					SS3		22		
3.0	87					SS4		34		
4.0	86					SS5		19		
5.0	85				Very dense below 4. 1 m	SS6		50/127 mm		Conducted DCPT from 4.1 to 4.7 m
6.0	84				**BEDROCK -** Shale, moderately weathered, fair to very poor quality based on RQD - Refer to bedrock core logs for additional details.	SS7		20		
7.0	83					HQ8				RQD = 12% UCS = 79.8 MPa; Unit weight = 25.4 kN/m3
8.0	82					HQ9				RQD = 0%
9.0	81					HQ10				RQD = 65%
10.0	80				End of Borehole at approximatley 9.6 m (~Elev. 80.6 m) within shale bedrock. Water level measured to be at 4.9 (~Elev. 85.3 m) June 2, 2020.	HQ11				RQD = 14% UCS = 63.2 MPa; Unit weight = 25.7 kN/m3
11.0	79				Water level measured to be at 4.3 m (~Elev. 85.9 m) June 3, 2020.					
12.0	78				Water level measured to be at 4.3 m (~Elev. 85.9 m) July 9, 2020.					

BOREHOLE (STANDARD) - OTTAWA 02001055 SOVIMA - 800 MONTREAL ROAD.GPJ DST_MIN.GDT 7/10/20

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SAMPLE TYPE LEGEND

- Auger Sample
- Split Spoon Sample
- Bulk Sample
- Rock Core
- Hiller Peat Sampler
- 70mm Thin Wall Tube
- Bentonite
- Sand

ENCLOSURE 4

Bedrock Core Log

Client:	Sovima	**Project No.:**	2001055
Project:	800 Montreal Road, Ottawa, ON	**Date:**	13-May-20
Contractor:	Strata Drilling Ltd.	**Borehole No.:**	MW20-01
		Logger:	KSD/SR

ELEV. FROM (masl)	RUN NO.	% CORE RECOVERY	% RQD	ELEV. TO (masl)	GENERAL DESCRIPTION	STRENGTH	WEATHERING	DISCONTINUITIES							OCCASIONAL FEATURES	DRILLING OBSERVATIONS
								NO. OF SETS	TYPE/S	ORIENTATION	SPACING	ROUGHNESS	APERTURE	FILLING		
87.7	HQ5	100%	0%	86.1	Very poor quality, black, Shale of the Billings Formation		W2	3	BD	F	VC-C	RP	O	T	Top 0.4 m consited of mainly gravel sized pieces	
									JN	D	M	RU	O	T		
									JN	V	M	RP	O	T		
86.1	HQ6	100%	13%	84.9	Very poor quality, black Shale of the Billings Formation		W2	2	JN	D	VC-C	RU	O	T		
									BD	F	W	RP	O	T		
84.9	HQ7	100%	7%	83.2	Very poor quality, black, Shale of the Billings Formation		W2	3	BD	F	VC-C	RP	MW	T		
									JN	D	VC-M	RU	O	T		
									JN	V	M	RP	O	T		
83.2	HQ8	100%	0%	81.8	Very poor quality, black, Shale of the Billings Formation		W2	3	BD	F	VC	RP	O	SC	Top 0.5 m of core run is very clayey (breaks apart)	
									JN	V	VC	RP	O	SC		
									JN	F	VC	RU	VW	SC		

STRENGTH (MPa)

Grade/Classification	Est. Strength (MPa)
R0 Extremely Week	0.25 - 1.0
R1 Very Weak	1.0 - 5.0
R2 Weak	5.0 - 25.0
R3 Medium Strong	25.0 - 50.0
R4 Strong	50.0 - 100.0
R5 Very Strong	100.0 - 250.0
R6 Extremely Strong	>250.0

JOINT TYPE

BD = Bedding
JN = Joint
FOL = Foliation
CON = Contact
FLT = Fault
VN = Vein

ORIENTATION

F = Flat = 0-20^0
D = Dipping = 20-50^0
V = n-Vertical = >50^0

FILLING

T = Tight, Hard
O = Oxidized
SA = Slightly Altered, Clay Free
S = Sandy, Clay Free
Si = Sandy, Silty, Minor Clay
NC = Non-softening Clay
SC = Swelling, Soft Clay

APERTURE

VT = Very Tight (<0.1mm)
T = Tight (0.1 - 0.25mm)
PO = Partly Open (0.25 - 0.5mm)
O = Open (0.5 - 2.5mm)
MW = Moderately Wide (2.5 - 10mm)
W = Wide (>10mm)
VW = Very Wide (1 - 10cm)
EW = Extremely Wide (10 - 100cm)
C = Cavernous (> 1m)

WEATHERING

Grade/Classification	Description
W1 Fresh	No Visible Signs of Weathering
W2 Slightly	Discoloration, Weathering on Discontinuities
W3 Moderately	<50% of Rock Material is Decomposed, Fresh Core Stones
W4 Highly	>50% Decomposed to soil: Fresh Core Stones
W5 Completely	100% Decomposed to Soil: Original Structure Intact
W6 Residual Soil	All Rock Converted to Soil, Structure and Fabric Destroyed

DISCONTINUITY SPACING

Spacing (mm)	
EW = >6000	Extremely Wide
VW = 2000 - 6000	Very Wide
W = 600 - 2000	Wide
M = 200 - 600	Moderate
C = 60 - 200	Close
VC = 20 - 60	Very Close
EC = <20	Extremely Close

JOINT ROUGHNESS

Jr	Description
4	DJ = Discontinuous Joints
3	RU = Rough, Irregular, Undulating
1.5	SU = Smooth, Undulating
1.5	LU = Slickensided, Undulating
1.0	RP = Rough or Irregular, Planar
0.5	SP = Smooth, Planar
2	LP = Slickensided, Planar

Bedrock Core Log

Client:	Sovima	**Project No.:**	2001055
Project:	800 Montreal Road, Ottawa, ON	**Date:**	13-May-20
Contractor:	Strata Drilling Ltd.	**Borehole No.:**	MW20-01
		Logger:	KSD/SR

ELEV. FROM (masl)	RUN NO.	% CORE RECOVERY	% RQD	ELEV. TO (masl)	GENERAL DESCRIPTION	STRENGTH	WEATHERING	DISCONTINUITIES							OCCASIONAL FEATURES	DRILLING OBSERVATIONS
								NO. OF SETS	TYPE/S	ORIENTATION	SPACING	ROUGHNESS	APERTURE	FILLING		
81.8	HQ 9	100%	0%	80	Very poor quality, black, Shale of the Billings Formation		W2	3	BD	F	C	RP	O	SC		
									JN	D	C	RU	O	SC		
									JN	V	C	RP	O	SC		

STRENGTH (MPa)

Grade/Classification	Est. Strength (MPa)
R0 Extremely Week	0.25 - 1.0
R1 Very Weak	1.0 - 5.0
R2 Weak	5.0 - 25.0
R3 Medium Strong	25.0 - 50.0
R4 Strong	50.0 - 100.0
R5 Very Strong	100.0 - 250.0
R6 Extremely Strong	>250.0

JOINT TYPE

BD = Bedding
JN = Joint
FOL = Foliation
CON = Contact
FLT = Fault
VN = Vein

ORIENTATION

F = Flat = 0-20^0
D = Dipping = 20-50^0
V = n-Vertical = >50^0

FILLING

T = Tight, Hard
O = Oxidized
SA = Slightly Altered, Clay Free
S = Sandy, Clay Free
Si = Sandy, Silty, Minor Clay
NC = Non-softening Clay
SC = Swelling, Soft Clay

APERTURE

VT = Very Tight (<0.1mm)
T = Tight (0.1 - 0.25mm)
PO = Partly Open (0.25 - 0.5mm)
O = Open (0.5 - 2.5mm)
MW = Moderately Wide (2.5 - 10mm)
W = Wide (>10mm)
VW = Very Wide (1 - 10cm)
EW = Extremely Wide (10 - 100cm)
C = Cavernous (> 1m)

WEATHERING

Grade/Classification	Description
W1 Fresh	No Visible Signs of Weathering
W2 Slightly	Discoloration, Weathering on Discontinuities
W3 Moderately	<50% of Rock Material is Decomposed, Fresh Core Stones
W4 Highly	>50% Decomposed to soil: Fresh Core Stones
W5 Completely	100% Decomposed to Soil: Original Structure Intact
W6 Residual Soil	All Rock Converted to Soil, Structure and Fabric Destroyed

DISCONTINUITY SPACING

Spacing (mm)	
EW = >6000	Extremely Wide
VW = 2000 - 6000	Very Wide
W = 600 - 2000	Wide
M = 200 - 600	Moderate
C = 60 - 200	Close
VC = 20 - 60	Very Close
EC = <20	Extremely Close

JOINT ROUGHNESS

Jr	Description
4	DJ = Discontinuous Joints
3	RU = Rough, Irregular, Undulating
1.5	SU = Smooth, Undulating
1.5	LU = Slickensided, Undulating
1.0	RP = Rough or Irregular, Planar
0.5	SP = Smooth, Planar
2	LP = Slickensided, Planar

Bedrock Core Log

Client:	Sovima	**Project No.:**	2001055
Project:	800 Montreal Road, Ottawa, ON	**Date:**	13-May-20
Contractor:	Strata Drilling Ltd.	**Borehole No.:**	BH20-02
		Logger:	KSD/SR

ELEV. FROM (masl)	RUN NO.	% CORE RECOVERY	% RQD	ELEV. TO (masl)	GENERAL DESCRIPTION	STRENGTH	WEATHERING	DISCONTINUITIES							OCCASIONAL FEATURES	DRILLING OBSERVATIONS
								NO. OF SETS	TYPE/S	ORIENTATION	SPACING	ROUGHNESS	APERTURE	FILLING		
83.8	HQ5	100%	0%	83.5	Very poor quality, black, Shale of the Billings Formation		W2	1	JN	D	VC	RU	O	O	Sign sof oxidation between fractures	
83.5	HQ6	96%	0%	82	Very poor quality, black, Shale of the Billings Formation		W2	2	JN	D	VC	RP	O	O	Top 0.6 m contains sign sof oxidation	
									BD	F	VC	RU	O	O		
82.0	HQ7	100%	6%	80.3	Very poor quality, black, Shale of the Billings Formation		W2	2	JN	D	VC	RP	O	T		
									BD	F	VC	RU	O	T		
80.3	HQ8	100%	40%	78.8	Poor quality, black, Shale of the Billings Formation		W2	2	JN	D	VC-C	RP	O	T		
									BD	F		RU	O	SC		

STRENGTH (MPa)

Grade/Classification	Est. Strength (MPa)
R0 Extremely Week	0.25 - 1.0
R1 Very Weak	1.0 - 5.0
R2 Weak	5.0 - 25.0
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R4 Strong	50.0 - 100.0
R5 Very Strong	100.0 - 250.0
R6 Extremely Strong	>250.0

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CON = Contact
FLT = Fault
VN = Vein

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V = n-Vertical = >50^0

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Si = Sandy, Silty, Minor Clay
NC = Non-softening Clay
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T = Tight (0.1 - 0.25mm)
PO = Partly Open (0.25 - 0.5mm)
O = Open (0.5 - 2.5mm)
MW = Moderately Wide (2.5 - 10mm)
W = Wide (>10mm)
VW = Very Wide (1 - 10cm)
EW = Extremely Wide (10 - 100cm)
C = Cavernous (> 1m)

WEATHERING

Grade/Classification	Description
W1 Fresh	No Visible Signs of Weathering
W2 Slightly	Discoloration, Weathering on Discontinuities
W3 Moderately	<50% of Rock Material is Decomposed, Fresh Core Stones
W4 Highly	>50% Decomposed to soil: Fresh Core Stones
W5 Completely	100% Decomposed to Soil: Original Structure Intact
W6 Residual Soil	All Rock Converted to Soil, Structure and Fabric Destroyed

DISCONTINUITY SPACING

Spacing (mm)	
EW = >6000	Extremely Wide
VW = 2000 - 6000	Very Wide
W = 600 - 2000	Wide
M = 200 - 600	Moderate
C = 60 - 200	Close
VC = 20 - 60	Very Close
EC = <20	Extremely Close

JOINT ROUGHNESS

Jr	Description
4	DJ = Discontinuous Joints
3	RU = Rough, Irregular, Undulating
1.5	SU = Smooth, Undulating
1.5	LU = Slickensided, Undulating
1.0	RP = Rough or Irregular, Planar
0.5	SP = Smooth, Planar
2	LP = Slickensided, Planar

Bedrock Core Log

Client:	Sovima	**Project No.:**	2001055
Project:	800 Montreal Road, Ottawa, ON	**Date:**	13-May-20
Contractor:	Strata Drilling Ltd.	**Borehole No.:**	BH20-02
		Logger:	KSD/SR

ELEV. FROM (masl)	RUN NO.	% CORE RECOVERY	% RQD	ELEV. TO (masl)	GENERAL DESCRIPTION	STRENGTH	WEATHERING	DISCONTINUITIES							OCCASIONAL FEATURES	DRILLING OBSERVATIONS
								NO. OF SETS	TYPE/S	ORIENTATION	SPACING	ROUGHNESS	APERTURE	FILLING		
78.8	HQ9	100%	0%	77.8	Very poor quality, black, Shale of the Billings Formation		W2	3	JN	V	C	RP	O	T		
									JN	D	C	RU	O	T		
									BD	F	VC	RP	O	SC		

STRENGTH (MPa)

Grade/Classification	Est. Strength (MPa)
R0 Extremely Week	0.25 - 1.0
R1 Very Weak	1.0 - 5.0
R2 Weak	5.0 - 25.0
R3 Medium Strong	25.0 - 50.0
R4 Strong	50.0 - 100.0
R5 Very Strong	100.0 - 250.0
R6 Extremely Strong	>250.0

JOINT TYPE

BD = Bedding
JN = Joint
FOL = Foliation
CON = Contact
FLT = Fault
VN = Vein

ORIENTATION

F = Flat = 0-20^0
D = Dipping = 20-50^0
V = n-Vertical = >50^0

FILLING

T = Tight, Hard
O = Oxidized
SA = Slightly Altered, Clay Free
S = Sandy, Clay Free
Si = Sandy, Silty, Minor Clay
NC = Non-softening Clay
SC = Swelling, Soft Clay

APERTURE

VT = Very Tight (<0.1mm)
T = Tight (0.1 - 0.25mm)
PO = Partly Open (0.25 - 0.5mm)
O = Open (0.5 - 2.5mm)
MW = Moderately Wide (2.5 - 10mm)
W = Wide (>10mm)
VW = Very Wide (1 - 10cm)
EW = Extremely Wide (10 - 100cm)
C = Cavernous (> 1m)

WEATHERING

Grade/Classification	Description
W1 Fresh	No Visible Signs of Weathering
W2 Slightly	Discoloration, Weathering on Discontinuities
W3 Moderately	<50% of Rock Material is Decomposed, Fresh Core Stones
W4 Highly	>50% Decomposed to soil: Fresh Core Stones
W5 Completely	100% Decomposed to Soil: Original Structure Intact
W6 Residual Soil	All Rock Converted to Soil, Structure and Fabric Destroyed

DISCONTINUITY SPACING

Spacing (mm)	
EW = >6000	Extremely Wide
VW = 2000 - 6000	Very Wide
W = 600 - 2000	Wide
M = 200 - 600	Moderate
C = 60 - 200	Close
VC = 20 - 60	Very Close
EC = <20	Extremely Close

JOINT ROUGHNESS

Jr	Description
4	DJ = Discontinuous Joints
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1.5	SU = Smooth, Undulating
1.5	LU = Slickensided, Undulating
1.0	RP = Rough or Irregular, Planar
0.5	SP = Smooth, Planar
2	LP = Slickensided, Planar

Bedrock Core Log

Client:	Sovima	**Project No.:**	2001055
Project:	800 Montreal Road, Ottawa, ON	**Date:**	13-May-20
Contractor:	Strata Drilling Ltd.	**Borehole No.:**	MW20-03
		Logger:	KSD/SR

ELEV. FROM (masl)	RUN NO.	% CORE RECOVERY	% RQD	ELEV. TO (masl)	GENERAL DESCRIPTION	STRENGTH	WEATHERING	DISCONTINUITIES							OCCASIONAL FEATURES	DRILLING OBSERVATIONS
								NO. OF SETS	TYPE/S	ORIENTATION	SPACING	ROUGHNESS	APERTURE	FILLING		
85.6	HQ1	100%	37%	84.5	Poor quality, black, Shale of the Billings Formation		W2	2	BD J	F D	C M	RP RU	MW O	SC SC	Top 0.2m consist of gravel pieces	
84.5	HQ2	93%	38%	83.1	Poor quality, black, Shale of the Billings Formation		W2	2	BD J	F D	VC M	RP RU	O-MW O	NC NC		
83.1	HQ3	97%	23%	81.5	Very poor quality, black Shale of the Billings Formation		W2	2	BD J	F V	C C-M	RP RU	MW O	T T		
81.5	HQ4	100%	0%	80.5	Very poor, black, shale of the Billings Formation		W2	2	BD J	F D	C M	RP RU	O-MW MW	SC SC	Shale covered is in clay within top 0.5 m of run. Clay seam approx. 0.1 m down run	

STRENGTH (MPa)

Grade/Classification	Est. Strength (MPa)
R0 Extremely Week	0.25 - 1.0
R1 Very Weak	1.0 - 5.0
R2 Weak	5.0 - 25.0
R3 Medium Strong	25.0 - 50.0
R4 Strong	50.0 - 100.0
R5 Very Strong	100.0 - 250.0
R6 Extremely Strong	>250.0

JOINT TYPE

BD = Bedding
JN = Joint
FOL = Foliation
CON = Contact
FLT = Fault
VN = Vein

ORIENTATION

F = Flat = 0-20^0
D = Dipping = 20-50^0
V = n-Vertical = >50^0

FILLING

T = Tight, Hard
O = Oxidized
SA = Slightly Altered, Clay Free
S = Sandy, Clay Free
Si = Sandy, Silty, Minor Clay
NC = Non-softening Clay
SC = Swelling, Soft Clay

APERTURE

VT = Very Tight (<0.1mm)
T = Tight (0.1 - 0.25mm)
PO = Partly Open (0.25 - 0.5mm)
O = Open (0.5 - 2.5mm)
MW = Moderately Wide (2.5 - 10mm)
W = Wide (>10mm)
VW = Very Wide (1 - 10cm)
EW = Extremely Wide (10 - 100cm)
C = Cavernous (> 1m)

WEATHERING

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W1 Fresh	No Visible Signs of Weathering
W2 Slightly	Discoloration, Weathering on Discontinuities
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W6 Residual Soil	All Rock Converted to Soil, Structure and Fabric Destroyed

DISCONTINUITY SPACING

Spacing (mm)	
EW = >6000	Extremely Wide
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W = 600 - 2000	Wide
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JOINT ROUGHNESS

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Bedrock Core Log

Client:	Sovima	**Project No.:**	2001055
Project:	800 Montreal Road, Ottawa, ON	**Date:**	13-May-20
Contractor:	Strata Drilling Ltd.	**Borehole No.:**	MW20-04
		Logger:	KSD/SR

ELEV. FROM (masl)	RUN NO.	% CORE RECOVERY	% RQD	ELEV. TO (masl)	GENERAL DESCRIPTION	STRENGTH	WEATHERING	DISCONTINUITIES							OCCASIONAL FEATURES	DRILLING OBSERVATIONS
								NO. OF SETS	TYPE/S	ORIENTATION	SPACING	ROUGHNESS	APERTURE	FILLING		
84.5	HQ8	93%	12%	83.2	Very poor quality, black, Shale of the Billings Formation		W2	2	BD	F	VC-C	RP	O	T		Redrill area 0.5m down run
									JN	D	M	RU	O	T		
83.2	HQ9	100%	0%	82.2	Very poor quality, black, Shale of the Billings Formation		W2	2	BD	F	VC-C	RP	O	SC	Top 0.5m of run, shale covered in clay; Bottom 0.2m of run, shale covered in clay	Redrill area 0.8m down run
									JN	D	VC	RU	MW	SC		
82.2	HQ10	94%	65%	81.6	Fair quality, black, Shale of the Billings Formation		W2	2	BD	F	VC-C	RP	MW	SC		Short core run due to plugged casing
									JN	D	C	RU	MW	T		
81.6	HQ11	97%	14%	80.6	Very poor quality, black, Shale of the Billings Formation		W2	2	BD	F	VC	RP	O-MW	T		Brown wash water
									JN	D	M	RU	O	T		

STRENGTH (MPa)

Grade/Classification	Est. Strength (MPa)
R0 Extremely Week	0.25 - 1.0
R1 Very Weak	1.0 - 5.0
R2 Weak	5.0 - 25.0
R3 Medium Strong	25.0 - 50.0
R4 Strong	50.0 - 100.0
R5 Very Strong	100.0 - 250.0
R6 Extremely Strong	>250.0

JOINT TYPE

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T = Tight, Hard
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S = Sandy, Clay Free
Si = Sandy, Silty, Minor Clay
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1.0	RP = Rough or Irregular, Planar
0.5	SP = Smooth, Planar
2	LP = Slickensided, Planar

LOG OF BOREHOLE/MONITORING WELL BHMW14

DST REF. No.: **OE-OT-007807**
CLIENT: **Canada Lands Company**
PROJECT: **Phase II Environmental Site Assessment**
LOCATION: **800 Montreal Road, Ottawa, Ontario**
SURFACE ELEV.: **--/--**

Drilling Data
METHOD: **CME 75 Drill Rig**
DIAMETER: **200 mm**

DATE: **October 15 2008**

CCGD/PID * ○ RKI EAGLE (PPM) 20 40 60 80 □ *MINIRAE (PPM)* 5 10 15 20	PPM	SAMPLES No.	Type	SPT N-Value	SUBSURFACE PROFILE SYMBL	MATERIAL DESCRIPTION	DPTH m	ELEV m	WATER DATA	REMARKS
						SURFACE				
○	0 *0.0*	SS1		5		CONCRETE - crushed (4 inch minus) (fill)	0.5			
○	0 *0.3*	SS2		2			1.0			
○	0 *0.2*	SS3A		8		ASPHALT - black (fill) GRAVEL - trace sand, brown (fill)	1.5			
○	0 *0.1*	SS3B		8		SAND - coarse, brown (fill)	2.0			
□ ○	15 *0.3*	SS4		14						
□ >>○	140 *0.4*	SS5		>99		CONCRETE - 50 mm thick SAND - brown	2.5			
□ >>○	130 *0.9*	SS6		8		CONCRETE - 150 mm thick SAND - silty, some bedrock fragments, grey	3.0			
○ □	0 *1.9*	SS7		8			3.5			
○	0 *0.0*	SS8		>99		BEDROCK - weathered black shale, trace sand and silt	4.0			
						End of borehole at 4.27 m depth.				Auger refusal at 4.27 m depth.

GASTECBH (OTTAWA) BOREHOLES.GPJ DST_MIN.GDT 11/4/08

DST CONSULTING ENGINEERS

DST Consulting Engineers Inc.
203 - 2150 THURSTON DRIVE
OTTAWA, ONTARIO, K1G 5T9
PH: (613)748-1415
FX: (613)748-1356
Email: ottawa@dstgroup.com
Web: www.dstgroup.com

* Catalytic Combustible Gas Detector / Photo Ionization Detector

SAMPLE TYPE LEGEND

Auger Sample | Rock Core | Sand
Split Spoon Sample | Side Sampler | Bentonite Seal
Thin Wall Tube | Grab Sample | Native Soil

APPENDIX D

patersongroup

Consulting Engineers

28 Concourse Gate, Unit 1, Ottawa, ON K2E 7T7

SOIL PROFILE & TEST DATA

Groundwater Investigation
800 Montreal Road
Ottawa, Ontario

DATUM Referenced to finished floor slab, elevation = 88.393m (290')

FILE NO. PG0423

REMARKS N values corrected for weight of hammer

HOLE NO. BH 1

BORINGS BY Portable Drill

DATE 5 OCT 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	85.35
Concrete slab 0.23							
GLACIAL TILL: Brown sandy silt with gravel, cobbles, boulders and shale fragments 0.91		AU	1				
		RC	1	100	33	1	84.35
		RC	2	100	73		
BEDROCK: Fresh, dark grey to black shale		RC	3	77	35		
		RC	4	89	58	2	83.35
		RC	5	95	76		
		RC	6	100	69		
2.97 End of Borehole							
(GWL @ 0.13m-Oct. 27/04)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

Piezometer Construction

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

patersongroup

Consulting Engineers

28 Concourse Gate, Unit 1, Ottawa, ON K2E 7T7

SOIL PROFILE & TEST DATA

Groundwater Investigation
800 Montreal Road
Ottawa, Ontario

DATUM Referenced to finished floor slab, elevation = 88.393m (290')

FILE NO. PG0423

REMARKS

HOLE NO. BH 3

BORINGS BY CME 55 Power Auger

DATE 6 OCT 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	90.73
TOPSOIL 0.13							
FILL: Dark brown silty fine sand with gravel, cobbles and boulders		SS AU	1 2	56	50+		
0.97							
End of Borehole							
Practical refusal to augering @ 0.97m depth							
(BH dry upon completion)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

Piezometer Construction

patersongroup Consulting Engineers

28 Concourse Gate, Unit 1, Ottawa, ON K2E 7T7

SOIL PROFILE & TEST DATA

Groundwater Investigation
800 Montreal Road
Ottawa, Ontario

DATUM Referenced to finished floor slab, elevation = 88.393m (290')

FILE NO. PG0423

REMARKS

HOLE NO. BH 3A

BORINGS BY CME 55 Power Auger DATE 6 OCT 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	90.78		
TOPSOIL 0.13									
FILL: Brown silty fine sand, occasional gravel and shale fragments		SS	1	38	9	1	89.78		
		SS	2	25	20				
2.08						2	88.78		
GLACIAL TILL: Compact, dark brown silty fine sand with shale fragments 2.29		SS	3	67	50+				
Inferred shale BEDROCK 2.69									
End of Borehole									
Practical refusal to augering @ 2.69m depth									
(GWL @ 2.43m-Oct. 27/04)									

Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %

20 40 60 80

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

patersongroup

Consulting Engineers

28 Concourse Gate, Unit 1, Ottawa, ON K2E 7T7

SOIL PROFILE & TEST DATA

Groundwater Investigation
800 Montreal Road
Ottawa, Ontario

DATUM Referenced to finished floor slab, elevation = 88.393m (290')

FILE NO. PG0423

REMARKS

HOLE NO. BH 4

BORINGS BY CME 55 Power Auger

DATE 6 OCT 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	88.25
Asphaltic concrete 0.10							
FILL: Grey crushed stone 0.30		AU	1				
FILL: Brown silty fine sand with gravel							
0.86		SS	2	64	50+	1	87.25
		SS	3	62	50+		
Inferred shale BEDROCK						2	86.25
		AU	4			3	85.25
3.35							
End of Borehole							
Practical refusal to augering @ 3.35m depth							
(GWL @ 1.85m-Oct. 27/04)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone
○ Water Content %

20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

28 Concourse Gate, Unit 1, Ottawa, ON K2E 7T7

SOIL PROFILE & TEST DATA

Groundwater Investigation
800 Montreal Road
Ottawa, Ontario

DATUM Referenced to finished floor slab, elevation = 88.393m (290')

FILE NO. PG0423

REMARKS

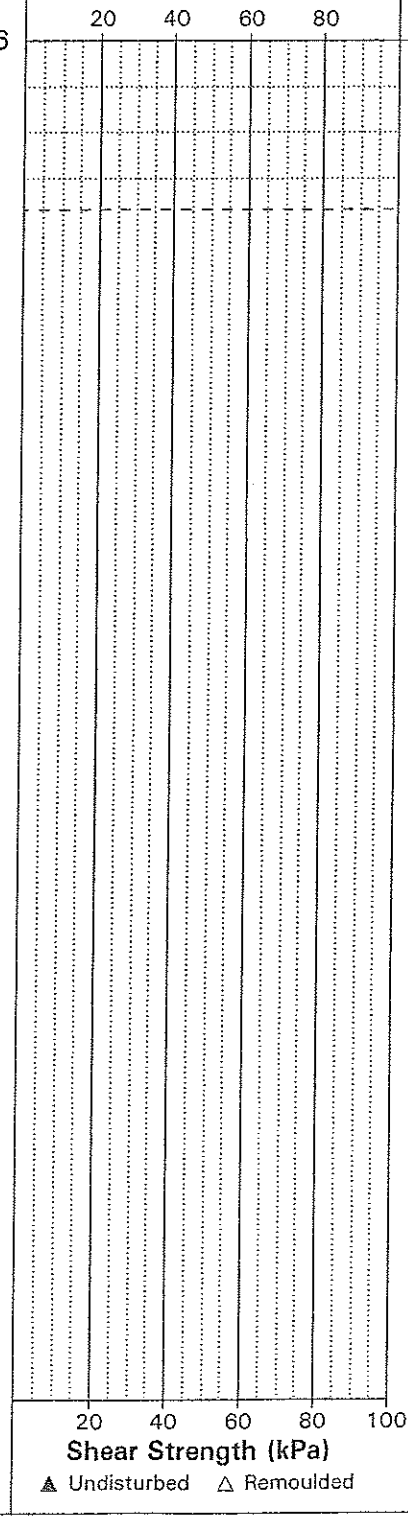
HOLE NO. BH 9

BORINGS BY CME 55 Power Auger DATE 6 OCT 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	90.46
TOPSOIL 0.13							
FILL: brown silty fine sand with gravel and shale fragments 0.74		AU	1				
End of Borehole							
Practical refusal to augering @ 0.74m depth							
(BH dry upon completion)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone
○ Water Content %

Piezometer Construction



patersongroup Consulting Engineers

28 Concourse Gate, Unit 1, Ottawa, ON K2E 7T7

SOIL PROFILE & TEST DATA

Groundwater Investigation
800 Montreal Road
Ottawa, Ontario

DATUM Referenced to finished floor slab, elevation = 88.393m (290')

FILE NO. PG0423

REMARKS

HOLE NO. BH 9A

BORINGS BY CME 55 Power Auger DATE 6 OCT 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	90.43
TOPSOIL 0.08							
FILL: Brown silty fine sand with gravel, cobbles and boulders		SS	1	43	50+		
0.91		AU	2			1	89.43
GLACIAL TILL: Dark brown sandy silt with shale fragments							
1.62		SS	3	33	50+		
Inferred shale BEDROCK 1.80							
End of Borehole							
Practical refusal to augering @ 1.80m depth							
(BH dry-Oct. 27/04)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone
○ Water Content %

20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup

Consulting Engineers

28 Concourse Gate, Unit 1, Ottawa, ON K2E 7T7

SOIL PROFILE & TEST DATA

Groundwater Investigation
800 Montreal Road
Ottawa, Ontario

DATUM Referenced to finished floor slab, elevation = 88.393m (290')

FILE NO. PG0423

REMARKS

HOLE NO. BH10

BORINGS BY CME 55 Power Auger

DATE 5 OCT 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	90.48
TOPSOIL 0.13							
FILL: Brown silty fine sand with shale fragments, gravel, trace brick pieces		AU	1				
0.84						1	89.48
		SS	2	71	11		
Compact, brown SILTY FINE SAND, trace gravel		SS	3	83	11	2	88.48
2.40		SS	4	44	50+		
		RC	1	89	39	3	87.48
BEDROCK: Fresh, dark grey to black shale with occasional mud seams		RC	2	100	48	4	86.48
		RC	3	100	72	5	85.48
						6	84.48

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

Piezometer Construction

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

APPENDIX D

GEOTECHNICAL LABORATORY TEST RESULTS

ROCK CORE PHOTOGRAPHS

Englobe

900, boul. de la Carrière, bur. 100
Gatineau, J8Y 6T5
Téléphone: (819) 778-3143

Testing on Soils, Aggregates and Other Materials

Client : DST Consulting Engineers inc.
Project : DST CONSULTING ENGINEERS INC.; Quality control - DST
Location : Divers - DST

Project # : B-0020688-1
Client ref. :
Report # : 52 **Rev.** 0
Page 1 **of** 1

Sampling

Sampling #	:	52
Your sampling #	:	
Material	:	Rock core
Source; location	:	Material on site
Sampling location	:	BH 20-2; 25' 6.5"

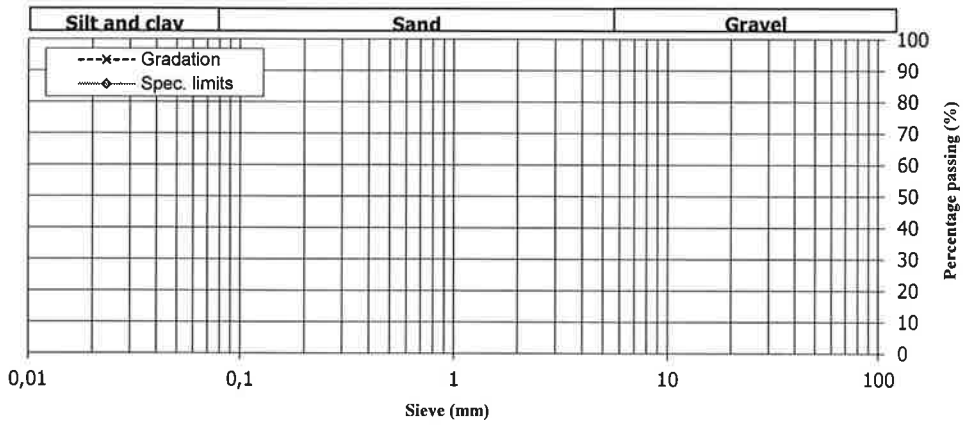
Specification # 6

Reference	:	
Use	:	
Calibre	:	
Class	:	

Sampling date	:	2020-06-11
By	:	the client
Date received	:	2020-06-12

Sieve analysis

SIEVE (mm)	% PASSING	
	REQUIREMENTS	RESULT



Cu :	Cc :	FM :	D_{10} :	D_{30} :	D_{60} :

Maximum dry density kg/m³	Optimum moisture %	Retained 5 mm %

Proportions from sieve analysis (%)

Cobble :	Sand :
Gravel :	Silt and clay :

Other testing	Required	Result
Unconfined compressive strength (ASTM D 7012) (MPa)		14,4
Unit weight (kN/m³)		25,6

Remarks

RESULTS WITH AN ASTERISK DO NOT MEET REQUIREMENTS.

Prepared by :	Date :	Approved by :	Date :
Rock Desjardins, tech.	2020-07-06	Rock Desjardins, tech.	20/07/06

This document cannot be reproduced, whether partially or totally, without the written authorization of a duly authorized representative of Englobe Corp. Test results presented herein are only valid for the sample described in this report.

Englobe

900, boul. de la Carrière, bur. 100
Gatineau, J8Y 6T5
Téléphone: (819) 778-3143

Testing on Soils, Aggregates and Other Materials

Client : DST Consulting Engineers inc.
Project : DST CONSULTING ENGINEERS INC.; Quality control - DST
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Project # : B-0020688-1
Client ref. :
Report # : 53 **Rev.** 0
Page 1 **of** 1

Sampling

Sampling #	:	53
Your sampling #	:	
Material	:	Rock core
Source; location	:	Material on site
Sampling location	:	BH 20-2; 26' 9.5"

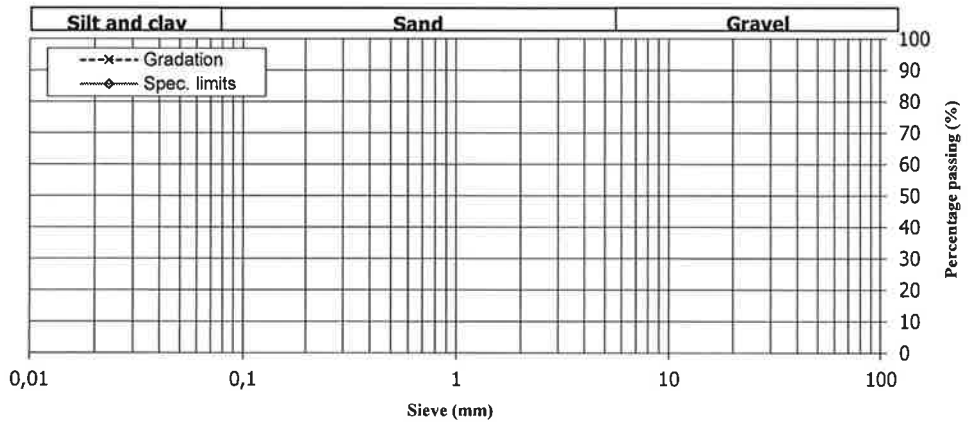
Specification # 6

Reference	:	
Use	:	
Calibre	:	
Class	:	

Sampling date	:	2020-06-11
By	:	the client
Date received	:	2020-06-12

Sieve analysis

SIEVE (mm)	% PASSING	
	REQUIREMENTS	RESULT



Cu : Cc : FM : D_{10} : D_{30} : D_{60} :

Maximum dry density kg/m³	Optimum moisture %	Retained 5 mm %

Proportions from sieve analysis (%)

Cobble : Sand :
Gravel : Silt and clay :

Other testing	Required	Result
Unconfined compressive strength (ASTM D 7012) (MPa)		22,1
Unit weight (kN/m³)		25,7

Remarks

RESULTS WITH AN ASTERISK DO NOT MEET REQUIREMENTS.

Prepared by : Rock Desjardins, tech. **Date :** 2020-07-06

Approved by : **Rock Desjardins, tech.** **Date :** 20/07/06

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Englobe

900, boul. de la Carrière, bur. 100
Gatineau, J8Y 6T5
Téléphone: (819) 778-3143

Testing on Soils, Aggregates and Other Materials

Client : DST Consulting Engineers inc.
Project : DST CONSULTING ENGINEERS INC.; Quality control - DST
Location : Divers - DST

Project # : B-0020688-1
Client ref. :
Report # : 54 **Rev.** 0
Page 1 **of** 1

Sampling

Sampling #	:	54
Your sampling #	:	
Material	:	Rock core
Source; location	:	Material on site
Sampling location	:	BH 20-3; 15'

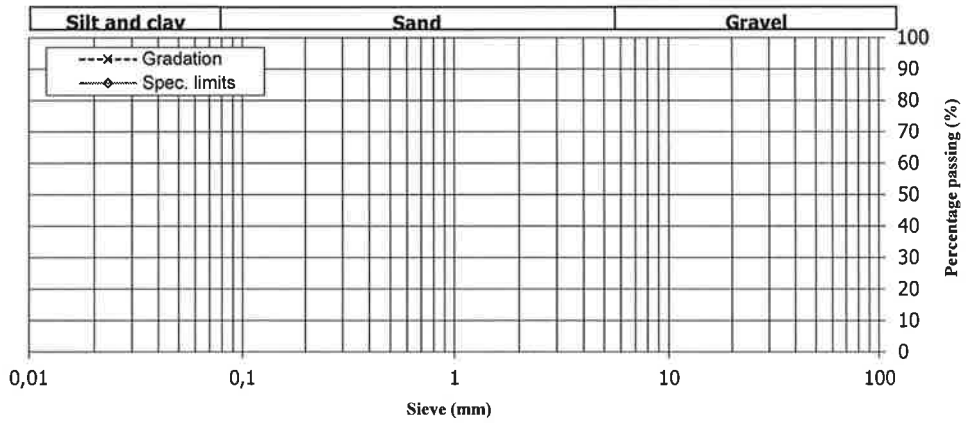
Specification # 6

Reference	:	
Use	:	
Calibre	:	
Class	:	

Sampling date	:	2020-06-11
By	:	the client
Date received	:	2020-06-12

Sieve analysis

SIEVE (mm)	% PASSING REQUIREMENTS	% PASSING RESULT



Cu :	Cc :	FM :	D_{10} :	D_{30} :	D_{60} :

Maximum dry density kg/m³	Optimum moisture %	Retained 5 mm %

Proportions from sieve analysis (%)

Cobble :	Sand :
Gravel :	Silt and clay :

Other testing	Required	Result
Unconfined compressive strength (ASTM D 7012) (MPa)		58,2
Unit weight (kN/m3)		26,3

Remarks

RESULTS WITH AN ASTERISK DO NOT MEET REQUIREMENTS.

Prepared by :	Date :	Approved by :	Date :
Rock Desjardins, tech.	2020-07-06	**Rock Desjardins, tech.**	2020-07-06

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Englobe

900, boul. de la Carrière, bur. 100
Gatineau, J8Y 6T5
Téléphone: (819) 778-3143

Testing on Soils, Aggregates and Other Materials

Client : DST Consulting Engineers inc.
Project : DST CONSULTING ENGINEERS INC.; Quality control - DST
Location : Divers - DST

Project # : B-0020688-1
Client ref. :
Report # : 55 **Rev.** 0
Page 1 **of** 1

Sampling

Sampling #	:	55
Your sampling #	:	
Material	:	Rock core
Source; location	:	Material on site
Sampling location	:	BH 20-3; 19' 5"

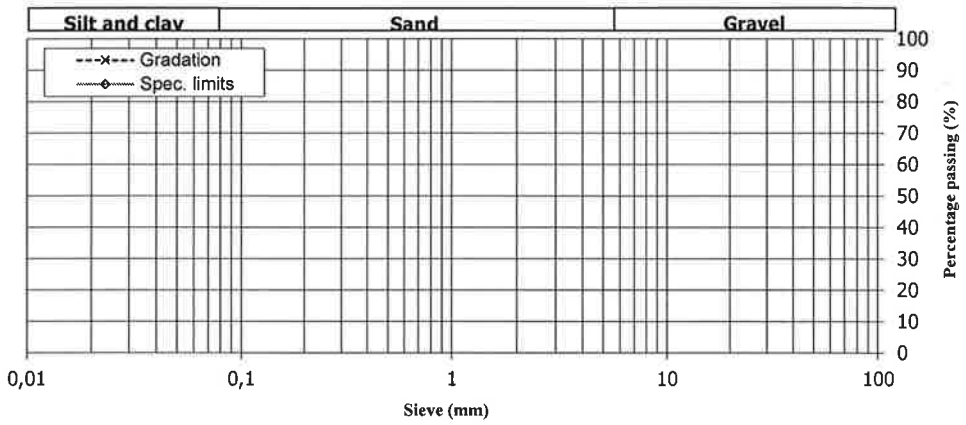
Specification # 6

Reference	:	
Use	:	
Calibre	:	
Class	:	

Sampling date	:	2020-06-11
By	:	the client
Date received	:	2020-06-12

Sieve analysis

SIEVE (mm)	% PASSING	
	REQUIREMENTS	RESULT



Cu : Cc : FM : D_{10} : D_{30} : D_{60} :

Maximum dry density kg/m³	Optimum moisture %	Retained 5 mm %

Proportions from sieve analysis (%)

Cobble : Sand :
Gravel : Silt and clay :

Other testing	Required	Result
Unconfined compressive strength (ASTM D 7012) (MPa)		39,3
Unit weight (kN/m3)		26,6

Remarks

RESULTS WITH AN ASTERISK DO NOT MEET REQUIREMENTS.

Prepared by : Rock Desjardins, tech. **Date :** 2020-07-06

Approved by : Rock Desjardins, tech. **Date :** 2020/07/06

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Englobe

900, boul. de la Carrière, bur. 100
Gatineau, J8Y 6T5
Téléphone: (819) 778-3143

Testing on Soils, Aggregates and Other Materials

Client : DST Consulting Engineers inc.
Project : DST CONSULTING ENGINEERS INC.; Quality control - DST
Location : Divers - DST

Project # : B-0020688-1
Client ref. :
Report # : 56 **Rev.** 0
Page 1 **of** 1

Sampling

Sampling #	:	56
Your sampling #	:	
Material	:	Rock core
Source; location	:	Material on site
Sampling location	:	BH 20-3; 25'

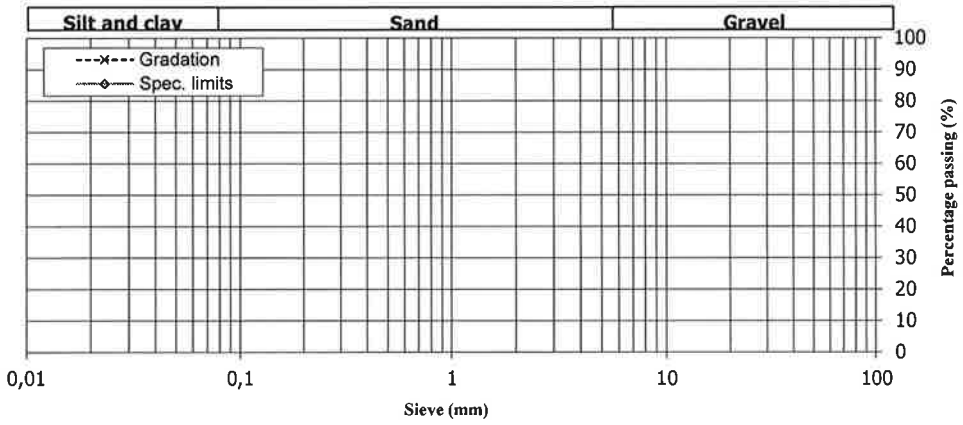
Specification # 6

Reference	:	
Use	:	
Calibre	:	
Class	:	

Sampling date	:	2020-06-11
By	:	the client
Date received	:	2020-06-12

Sieve analysis

SIEVE (mm)	% PASSING	
	REQUIREMENTS	RESULT



Cu : Cc : FM : D_{10} : D_{30} : D_{60} :

Maximum dry density kg/m³	Optimum moisture %	Retained 5 mm %

Proportions from sieve analysis (%)

Cobble : Sand :
Gravel : Silt and clay :

Other testing	Required	Result
Unconfined compressive strenght (ASTM D 7012) (MPa)		38,4
Unit weight (kN/m3)		25,3

Remarks

RESULTS WITH AN ASTERISK DO NOT MEET REQUIREMENTS.

Prepared by : Rock Desjardins, tech. **Date :** 2020-07-06

Approved by : Rock Desjardins, tech. **Date :** 2020/07/06

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Englobe

900, boul. de la Carrière, bur. 100
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Téléphone: (819) 778-3143

Testing on Soils, Aggregates and Other Materials

Client : DST Consulting Engineers inc.
Project : DST CONSULTING ENGINEERS INC.; Quality control - DST
Location : Divers - DST

Project # : B-0020688-1
Client ref. :
Report # : 57 **Rev.** 0
Page 1 **of** 1

Sampling

Sampling #	:	57
Your sampling #	:	
Material	:	Rock core
Source; location	:	Material on site
Sampling location	:	BH 20-4; 21' 3"

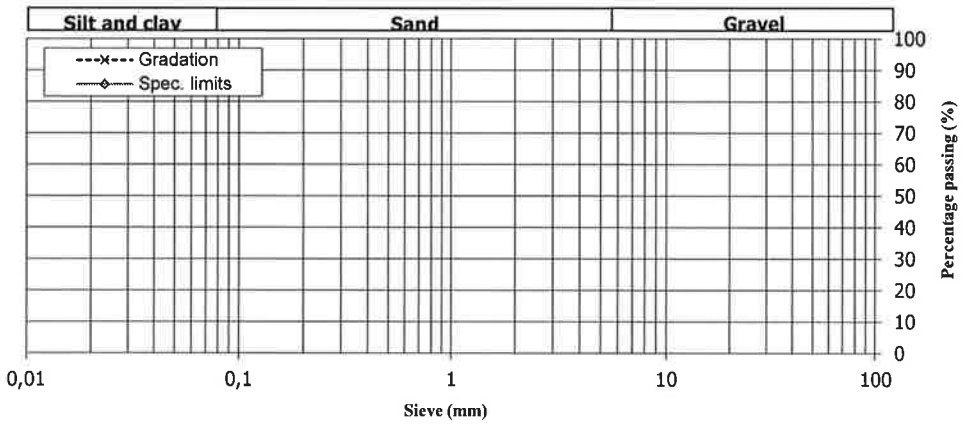
Specification # 6

Reference	:	
Use	:	
Calibre	:	
Class	:	

Sampling date	:	2020-06-11
By	:	the client
Date received	:	2020-06-12

Sieve analysis

SIEVE (mm)	% PASSING	
	REQUIREMENTS	RESULT



Cu : Cc : FM : D_{10} : D_{30} : D_{60} :

Maximum dry density kg/m³	Optimum moisture %	Retained 5 mm %

Proportions from sieve analysis (%)

Cobble : Sand :
Gravel : Silt and clay :

Other testing	Required	Result
Unconfined compressive strength (ASTM D 7012) (MPa)		79,8
Unit weight (kN/m³)		25,4

Remarks

RESULTS WITH AN ASTERISK DO NOT MEET REQUIREMENTS.

Prepared by : Rock Desjardins, tech. **Date :** 2020-07-06

Approved by : Rock Desjardins, tech. **Date :** 2020-07-06

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Englobe

900, boul. de la Carrière, bur. 100
Gatineau, J8Y 6T5
Téléphone: (819) 778-3143

Testing on Soils, Aggregates and Other Materials

Client : DST Consulting Engineers inc.
Project : DST CONSULTING ENGINEERS INC.; Quality control - DST
Location : Divers - DST

Project # : B-0020688-1
Client ref. :
Report # : 58 **Rev.** 0
Page 1 **of** 1

Sampling

Sampling #	:	58
Your sampling #	:	
Material	:	Rock core
Source; location	:	Material on site
Sampling location	:	BH 20-3; 22' 4"

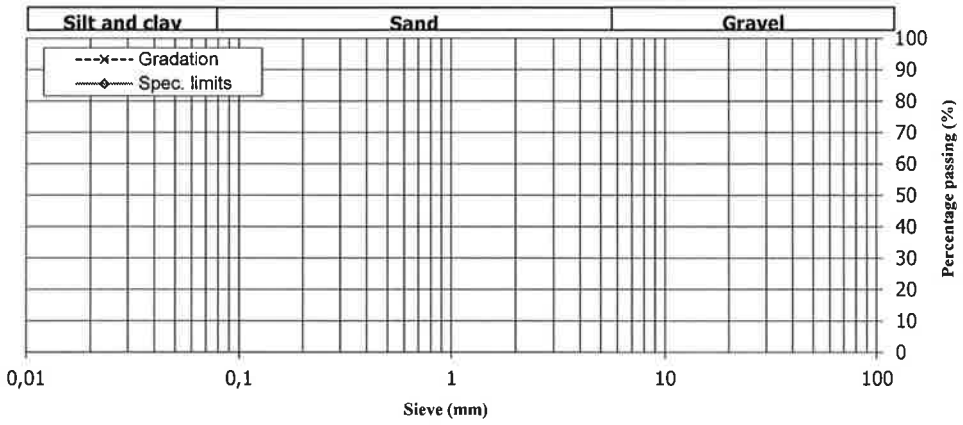
Specification # 6

Reference	:	
Use	:	
Calibre	:	
Class	:	

Sampling date	:	2020-06-11
By	:	the client
Date received	:	2020-06-12

Sieve analysis

SIEVE (mm)	% PASSING	
	REQUIREMENTS	RESULT



Cu : Cc : FM : D_{10} : D_{30} : D_{60} :

Maximum dry density kg/m³	Optimum moisture %	Retained 5 mm %

Proportions from sieve analysis (%)

Cobble : Sand :
Gravel : Silt and clay :

Other testing	Required	Result
Unconfined compressive strength (ASTM D 7012) (MPa)		50,7
Unit weight (kN/m³)		25,4

Remarks

RESULTS WITH AN ASTERISK DO NOT MEET REQUIREMENTS.

Prepared by : Rock Desjardins, tech. **Date :** 2020-07-06

Approved by : Rock Desjardins, tech. **Date :** 20/07/06

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Englobe

900, boul. de la Carrière, bur. 100
Gatineau, J8Y 6T5
Téléphone: (819) 778-3143

Testing on Soils, Aggregates and Other Materials

Client : DST Consulting Engineers inc.
Project : DST CONSULTING ENGINEERS INC.; Quality control - DST
Location : Divers - DST

Project # : B-0020688-1
Client ref. :
Report # : 59 **Rev.** 0
Page 1 **of** 1

Sampling

Sampling #	:	59
Your sampling #	:	
Material	:	Rock core
Source; location	:	Material on site
Sampling location	:	BH 20-4; 30' 11"

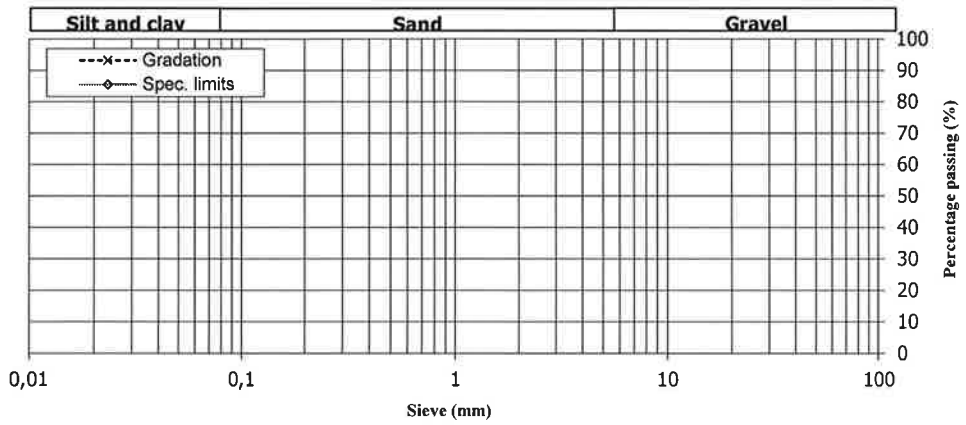
Specification # 6

Reference	:	
Use	:	
Calibre	:	
Class	:	

Sampling date	:	2020-06-11
By	:	the client
Date received	:	2020-06-12

Sieve analysis

SIEVE (mm)	% PASSING	
	REQUIREMENTS	RESULT



Cu : Cc : FM : D_{10} : D_{30} : D_{60} :

Maximum dry density kg/m³	Optimum moisture %	Retained 5 mm %

Proportions from sieve analysis (%)

Cobble : Sand :
Gravel : Silt and clay :

Other testing	Required	Result
Unconfined compressive strength (ASTM D 7012) (MPa)		63,2
Unit weight (kN/m³)		25,7

Remarks

RESULTS WITH AN ASTERISK DO NOT MEET REQUIREMENTS.

Prepared by : Rock Desjardins, tech. **Date :** 2020-07-06

Approved by : Rock Desjardins, tech. **Date :** 2020-07-06

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Ottawa, ON, K1G 4J8
1-800-749-1947
www.paracellabs.com

Certificate of Analysis

DST Consulting Engineers Inc. (Ottawa)

203-2150 Thurston Dr.
Ottawa, ON K1G 5T9
Attn: Hasan Yousef

Client PO:
Project: 2001055.00
Custody: 122463

Report Date: 18-Jun-2020
Order Date: 12-Jun-2020

Order #: 2024548

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
2024548-01	BH20-2 SS3
2024548-02	BH20-4 SS5
2024548-03	BH20-3 SS3

Approved By:

Dale Robertson, BSc
Laboratory Director

Any use of these results implies your agreement that our total liabilty in connection with this work, however arising, shall be limited to the amount paid by you for this work, and that our employees or agents shall not under any circumstances be liable to you in connection with this work.

Certificate of Analysis

Report Date: 18-Jun-2020

Client: DST Consulting Engineers Inc. (Ottawa)

Order Date: 12-Jun-2020

Client PO:

Project Description: 2001055.00

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Anions	EPA 300.1 - IC, water extraction	17-Jun-20	17-Jun-20
pH, soil	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	17-Jun-20	17-Jun-20
Resistivity	EPA 120.1 - probe, water extraction	17-Jun-20	17-Jun-20
Solids, %	Gravimetric, calculation	18-Jun-20	18-Jun-20

Certificate of Analysis

Report Date: 18-Jun-2020

Client: DST Consulting Engineers Inc. (Ottawa)

Order Date: 12-Jun-2020

Client PO:

Project Description: 2001055.00

	Client ID:	BH20-2 SS3	BH20-4 SS5	BH20-3 SS3	-
	Sample Date:	19-May-20 09:00	19-May-20 09:00	19-May-20 09:00	-
	Sample ID:	2024548-01	2024548-02	2024548-03	-
	MDL/Units	Soil	Soil	Soil	-
Physical Characteristics					
% Solids	0.1 % by Wt.	79.9	88.4	84.5	-
General Inorganics					
pH	0.05 pH Units	7.51	11.76	8.09	-
Resistivity	0.10 Ohm.m	61.1	7.60	32.2	-
Anions					
Chloride	5 ug/g dry	18	65	12	-
Sulphate	5 ug/g dry	82	2120	331	-

Certificate of Analysis

Report Date: 18-Jun-2020

Client: DST Consulting Engineers Inc. (Ottawa)

Order Date: 12-Jun-2020

Client PO:

Project Description: 2001055.00

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	ND	5	ug/g						
Sulphate	ND	5	ug/g						
General Inorganics									
Resistivity	ND	0.10	Ohm.m						

Certificate of Analysis

Client: DST Consulting Engineers Inc. (Ottawa)

Client PO:

Report Date: 18-Jun-2020

Order Date: 12-Jun-2020

Project Description: 2001055.00

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	11.2	5	ug/g dry	12.7			12.7	20	
Sulphate	216	5	ug/g dry	215			0.4	20	
General Inorganics									
pH	7.40	0.05	pH Units	7.45			0.7	2.3	
Resistivity	58.9	0.10	Ohm.m	61.1			3.7	20	
Physical Characteristics									
% Solids	87.0	0.1	% by Wt.	88.3			1.6	25	

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	116	5	ug/g	12.7	103	82-118			
Sulphate	329	5	ug/g	215	114	80-120			

Qualifier Notes:

None

Sample Data Revisions

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable
ND: Not Detected
MDL: Method Detection Limit
Source Result: Data used as source for matrix and duplicate samples
%REC: Percent recovery.
RPD: Relative percent difference.
NC: Not Calculated

Soil results are reported on a dry weight basis when the units are denoted with 'dry'.
Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

PARACEL LABORATORIES L

Paracel ID: 2024548

Head Office
300-2319 St. Laurent Blvd.
Ottawa, Ontario K1G 4J8
p: 1-800-749-1947
e: paracel@paracellabs.com

Chain of Custody
(Lab Use Only)
№ 122463

Page ___ of ___

Client Name: DST Consulting Engineers Inc.
Contact Name: Hasan / Shanti
Address: 2150 Thurston Drive, Ottawa, ON
Telephone: 343-549-6678

Project Reference: 2001055.00
Quote #
PO #
Email Address: hyousset@dstgroup.com
statmono@dstgroup.com

Turnaround Time:
☐ 1 Day ☐ 3 Day
☐ 2 Day ☑ Regular
Date Required: ___

Criteria: ☐ O. Reg. 153/04 (As Amended) Table __ ☐ RSC Filing ☐ O. Reg. 558/00 ☐ PWQO ☐ CCME ☐ SUB (Storm) ☐ SUB (Sanitary) Municipality: ___ ☐ Other: ___

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

Paracel Order Number: 2024548

Required Analyses

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken: Date	Sample Taken: Time	PHCs F1-F4+BTEX	VOCs	PAHs	Metals by ICP	Hg	CrVI	B (HWS)	pH	Sulphate	Sulphide	Chloride	Redox	Resistivity	
1	BH 20-2 SS3	S			05/19/20									✓	✓	✓	✓	✓	✓	
2	BH 20-4 SS5	S			05/19/20									✓	✓	✓	✓	✓	✓	
3	BH 20-3 SS3	S			05/19/20									✓	✓	✓	✓	✓	✓	
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Comments:

Method of Delivery: Drop Bot

Relinquished By (Sign):	Received by Driver/Depot:	Received at Lab:	Verified By:
Relinquished By (Print): Hasan Youssef	Date/Time:	Date/Time: 12 Jun 2020 1630	Date/Time: 12 Jun 2020 1641
Date/Time: June 12, 2020 3:56 PM	Temperature: °C	Temperature: 19.5 °C	pH Verified [ ] By:

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Subcontracted Analysis

DST Consulting Engineers Inc. (Ottawa)
203-2150 Thurston Dr.
Ottawa, ON K1G 5T9
Attn: Hasan Yousef

Tel: (343) 549-6678
Fax: (613) 748-1356

Paracel Report No. **2024548**
Client Project(s): **2001055.00**
Client PO:
Reference: **Standing Offer**
CoC Number: **122463**

Order Date: 12-Jun-20
Report Date: 8-Jul-20

Sample(s) from this project were subcontracted for the listed parameters. A copy of the subcontractor's report is attached

Paracel ID	Client ID	Analysis
2024548-01	BH20-2 SS3	Redox potential, soil Sulphide, solid
2024548-02	BH20-4 SS5	Redox potential, soil Sulphide, solid
2024548-03	BH20-3 SS3	Redox potential, soil Sulphide, solid

TESTMARK Laboratories Ltd.
Committed to Quality and Service

CERTIFICATE OF ANALYSIS

Client:	Dale Robertson	Work Order Number:	403103
Company:	Paracel Laboratories Ltd.- Ottawa	PO #:	
Address:	300-2319 St. Laurent Blvd. Ottawa, ON, K1G 4J8	Regulation: Project #:	Sewer Use By-Law - Ottawa (Table 1) Sanitary 2024548
Phone/Fax:	(613) 731-9577 / (613) 731-9064	DWS #:	
Email:	drobertson@paracellabs.com	Sampled By:	
Date Order Received:	6/16/2020	Analysis Started:	6/23/2020
Arrival Temperature:	19 °C	Analysis Completed:	6/23/2020

WORK ORDER SUMMARY

ANALYSES WERE PERFORMED ON THE FOLLOWING SAMPLES. THE RESULTS RELATE ONLY TO THE ITEMS TESTED.

Sample Description	Lab ID	Matrix	Type	Comments	Date Collected	Time Collected
BH20-2 SS3	1547162	Soil	None		5/19/2020	
BH20-4 SS5	1547163	Soil	None		5/19/2020	
BH20-3 SS3	1547164	Soil	None		5/19/2020	

METHODS AND INSTRUMENTATION

THE FOLLOWING METHODS WERE USED FOR YOUR SAMPLE(S):

Method	Lab	Description	Reference
RedOx - Soil (T06)	Mississauga	Determination of RedOx Potential of Soil	Modified from APHA-2580B

This report has been approved by:

Brad Halvorson, B.Sc.
Laboratory Director

7 Margaret Street, Garson, ON, P3L 1E1
Phone: (705) 693-1121 Fax: (705) 693-1124 Web: www.testmark.ca

CERTIFICATE OF ANALYSIS

Paracel Laboratories Ltd.- Ottawa

Work Order Number: 403103

WORK ORDER RESULTS

Sample Description	BH20 - 2 SS3		BH20 - 4 SS5		BH20 - 3 SS3			
Sample Date	5/19/2020 12:00 AM		5/19/2020 12:00 AM		5/19/2020 12:00 AM			
Lab ID	1547162		1547163		1547164			
General Chemistry	Result	MDL	Result	MDL	Result	MDL	Units	Criteria: Sewer Use By-Law - Ottawa (Table 1) Sanitary
RedOx (vs. S.H.E.)	311 [304]	N/A	156	N/A	299	N/A	mV	~

LEGEND

Dates: Dates are formatted as mm/dd/year throughout this report.

[rr]: After a parameter name indicates a re-run of that parameter. If multiple re-runs exist they are suffixed by a number. Sample may not have been handled according to the recommended temperature, hold time and head space requirements of the method after the initial analysis.

MDL: Method detection limit or minimum reporting limit.

[ ]: Results for laboratory replicates are shown in square brackets immediately below the associated sample result for ease of comparison.

~: In a criteria column indicates the criteria is not applicable for the parameter row.

Quality Control: All associated Quality Control data is available on request.

Exceedences: HIGHLIGHTED CELLS INDICATE THAT THE RESULT EXCEEDS A REGULATORY LIMIT. CALCULATED UNCERTAINTY ESTIMATIONS ARE NOT APPLIED FOR DETERMINING SAMPLE EXCEEDANCES.

Benzo(b)fluoranthene: Results for benzo(b)fluoranthene may include contributions from benzo(j)fluoranthene.

Field Data: Reports containing Field Parameters represent data that has been collected and provided by the client. Testmark is not responsible for the validity of this data which may be used in subsequent calculations.

Sample Condition Deviations: A noted sample condition deviation may affect the validity of the result. Results apply to the sample(s) as received.

7 Margaret Street, Garson, ON, P3L 1E1
Phone: (705) 693-1121 Fax: (705) 693-1124 Web: www.testmark.ca

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

08-July-2020

Paracel Laboratories
Attn : Dale Robertson

300-2319 St.Laurent Blvd.
Ottawa, ON
K1G 4K6, Canada

Phone: 613-731-9577
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Date Rec. : 17 June 2020
LR Report: **CA15401-JUN20**
Reference: Project#:2024548

Copy: #1

CERTIFICATE OF ANALYSIS

Final Report

Sample ID	Sample Date & Time	S %
9: BH20-2 SS3	19-May-20	0.01
10: BH20-4 SS5	19-May-20	0.41
11: BH20-3 SS3	19-May-20	0.02

Sample Age Exceeds Normal Limit - Past holding time when received; processed as per client's instructions. Results may be unreliable.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0002173873

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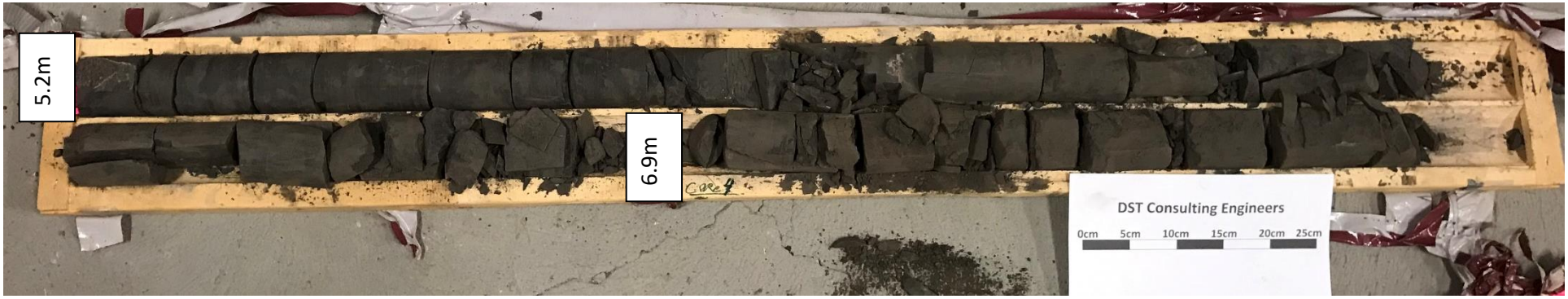
consulting engineers a division of Englobe	Rockcore Photographs 800 Montreal Road, Ottawa, ON	Project No.: 02001055.000

Rock Core Photo No.: 1	Borehole: BH 20-1	Depth: 2.4 to 5.2 m



Rock Core Photo No.: 2	Borehole: BH 20-1	Depth: 5.2 to 7.7

DST consulting engineers a division of Englobe	Rockcore Photographs 800 Montreal Road, Ottawa, ON	Project No.: 02001055.000

Rock Core Photo No.: 3	Borehole: BH 20-1	Depth: 7.7 to 10.1 m

Rock Core Photo No.: 4	Borehole: BH 20-2	Depth: 3.4 to 6.0

consulting engineers a division of Englobe	Rockcore Photographs 800 Montreal Road, Ottawa, ON	Project No.: 02001055.000

Rock Core Photo No.: 5	Borehole: BH 20-2	Depth: 6.0 to 8.4

Rock Core Photo No.: 6	Borehole: BH 20-2	Depth: 8.4 to 9.4 m

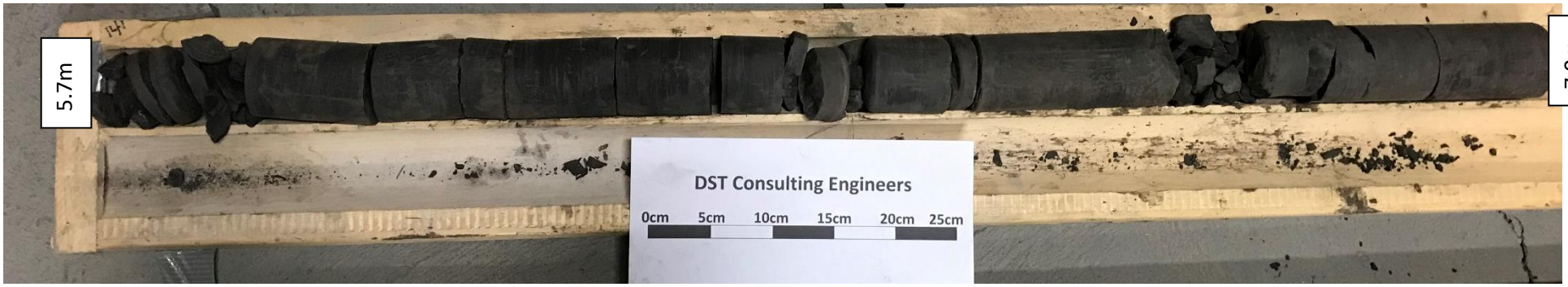
consulting engineers a division of Englobe	Rockcore Photographs 800 Montreal Road, Ottawa, ON	Project No.: 02001055.000

Rock Core Photo No.: 7	Borehole: BH 20-3	Depth: 3.9 to 6.6

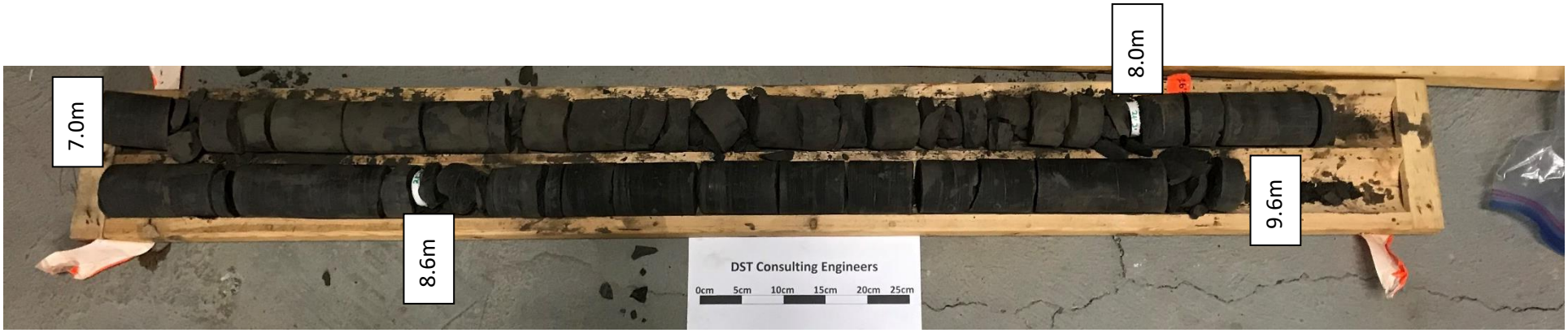
Rock Core Photo No.: 8	Borehole: BH 20-3	Depth: 6.6 to 9.2

Rockcore Photographs
800 Montreal Road, Ottawa, ON

Project No.: 02001055.000



Rock Core Photo No.: 9	Borehole: BH 20-4	Depth: 5.7 to 7.0



Rock Core Photo No.: 10	Borehole: BH 20-4	Depth: 7.0 to 9.6

APPENDIX E

2015 AERIAL VIEW

2015 Aerial View

APPENDIX F

SHEAR WAVE VELOCITY REPORT (GEOPHYSICS GPR INTERNATIONAL INC.)

2015 NATIONAL BUILDING CODE SEISMIC HAZARD CALCULATIONS

SHEAR WAVE VELOCITY CALCULATION

GEOPHYSICS GPR INTERNATIONAL INC.

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Canada J4K 3P7

Tel. : (450) 679-2400
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info@geophysicsgpr.com
www.geophysicsgpr.com

June 9th, 2019

Transmitted by email: sratmono@dstgroup.com
Our Ref.: GPR-20-02175

Mrs Shanti Ratmono, M.Eng., P.Eng.
Geotechnical Engineer
DST Consulting Engineers inc.
A division of Englobe Corp.
203 – 2150 Thurston Drive
Ottawa ON K1G 5T9

Subject: **Shear Wave Velocity Sounding for the Site Class Determination**
800, Montréal Road, Ottawa (ON)

Dear Madam,

Geophysics GPR International Inc. has been requested by DST Consulting Engineers inc. (Englobe Corp.) to carry out seismic shear wave surveys on a property located at 800 Montréal Road, in Ottawa (ON). The geophysical investigation used the Multi-channel Analysis of Surface Waves (MASW), the Extended Spatial AutoCorrelation (ESPAC), and the seismic refraction methods. From the subsequent results, the seismic shear wave velocities values were calculated for the soil and the rock, to determine the Site Class of the property.

The surveys were carried out on June 4th, by Mr. Mario Nucciarone, B.Sc. and Mr. Ange Alexandre Forestier, trainee. Figure 1 shows the regional location of the site and Figure 2 illustrates the location of the seismic spreads. Both figures are presented in the Appendix.

The following paragraphs briefly describe the survey design, the principles of the test methods, and the results in graphic and table format.

MASW PRINCIPLE

The *Multi-channel Analysis of Surface Waves* (MASW) and the *Extended SPatial AutoCorrelation* (ESPAC or MAM for *Microtremors Array Method*) are seismic methods used to evaluate the shear wave velocities of subsurface materials through the analysis of the dispersion properties of the Rayleigh surface waves ("ground roll"). The MASW is considered an "active" method, as the seismic signal is induced at known location and time in the geophones spread axis. Conversely, the ESPAC is considered a "passive" method, using the low frequency "signals" produced far away. The method can also be used with "active" seismic source records. The dispersion properties are expressed as a change of phase velocities with frequencies. Surface wave energy will decay exponentially with depth. Lower frequency surface waves will travel deeper and thus be more influenced by deeper velocity layering than the shallow higher frequency waves. The inversion of the Rayleigh wave dispersion curve yields a shear wave (V_S) velocity depth profile (sounding). Figure 3 schematically outlines the basic operating procedure for the MASW method.

Figure 4 illustrates an example of one of the MASW/ESPAC records, the corresponding spectrogram analysis and resulting 1D V_S model. The ESPAC method allows deeper Vs soundings, but generally with a lower resolution for the surface portion. Its dispersion curve can then be merged with the higher frequency one from the MASW to calculate a more complete inversion.

INTERPRETATION

The main processing sequence involved data inspection and edition when required; spectral analysis ("phase shift" for MASW, and "cross-correlation" for ESPAC); picking the fundamental mode; and 1D inversion of the MASW and ESPAC shot records using the SeisImagerSW™ software. The data inversions used a nonlinear least squares algorithm.

In theory, all the shot records for a given seismic spread should produce a similar shear-wave velocity profile. In practice, however, differences can arise due to energy dissipation, local surface seismic velocities variations, and/or dipping of overburden layers or rock. In general, the precision of the calculated seismic shear wave velocities (V_S) is of the order of 15% or better.

More detailed descriptions of these methods are presented in *Shear Wave Velocity Measurement Guidelines for Canadian Seismic Site Characterization in Soil and Rock*, Hunter, J.A., Crow, H.L., et al., Geological Surveys of Canada, General Information Product 110, 2015.

SURVEY DESIGN

The seismic acquisition spreads were laid out on the LeBoutillier Park. The geophone spacing for the main spread was 3 metres, using 24 geophones. Two shorter seismic spreads, with geophone spacing of 0.5 and 1.0 metre, were dedicated to the near surface materials.

The seismic records counted 4096 data, sampled at 1000 µs for the MASW surveys, and 50 µs for the seismic refraction. The records included a pre-trig portion of 10 ms. A stacking procedure was also used to improve the Signal / Noise ratio for the seismic records.

The shear wave depth sounding can be considered as the average of the bulk area within the geophone spread, especially for its central half-length. The seismic records were produced with a seismograph Terraloc MK6 (from ABEM Instrument), and the geophones were 4.5 Hz. An 8 kg sledgehammer was used as the energy source with impacts being recorded off both ends of the seismic spreads.

RESULTS

From the seismic refraction data, the rock was calculated between 4 metres deep (West) and 7 metres deep (East), with an accuracy of approximately ± 1 metre. Its seismic velocity was calculated between 1785 and 1800 m/s for its shallow portion (cf. Figure 5). The corresponding apparent seismic velocities are also characteristic of a rock dipping eastward. These results were used as initial parameters for the basic geophysical model, prior to the MASW dispersion curves modeling and inversions.

The MASW calculated V_S results are illustrated at Figure 6 and they are also presented at Table 1, for the $\overline{V}_{S30}$ calculation.

The $\overline{V}_{S30}$ value results from the harmonic mean of the shear wave velocities, from the surface to 30 metres deep. It is calculated by dividing the total depth of interest (30 metres) by the sum of the time spent in each velocity layer from the surface up to 30 metres, as:

$$\overline{V}_{S30} = \frac{\sum_{i=1}^{N} H_i}{\sum_{i=1}^{N} {H_i}/{V_i}} \quad | \quad \sum_{i=1}^{N} H_i = 30 \text{ m}$$

(N: number of layers; H_i : thickness of layer "i" ; V_i : V_S of layer "i")

Thus, the $\overline{V}_{S30}$ value represents the seismic shear wave velocity of an equivalent homogeneous single layer response, between the surface and 30 metres deep.

The calculated $\overline{V}_{S30}$ value of the actual site is 928.2 m/s (cf. Table 1), corresponding to the Site Class “B”. However, the site classes A and B are not to be used if there is 3 metres or more of unconsolidated material between the rock and the bottom of the spread footing or mat foundation.

In the case the foundation would be less than 3 metres from the rock surface, the minimal $\overline{V}_{S30}$* value would be 1227.5 m/s, allowing to use the Site Class “B”. If there would be 1.5 metre or less between the rock surface and the bottom of the foundation, the $\overline{V}_{S30}$* value would be greater than 1500 m/s, allowing to use the Class “A”.

CONCLUSION

Geophysical surveys were carried out at 800 Montréal Road, in Ottawa (ON). The seismic surveys used the MASW and ESPAC analysis, as well as seismic refraction method, to calculate the $\overline{V}_{S30}$ value for the Site Class determination. The $\overline{V}_{S30}$ calculation for the actual site is presented in Table 1.

The $\overline{V}_{S30}$ value of the actual site is 928 m/s, corresponding to the Site Class "B" ($760 < \overline{V}_{S30} \leq 1500$ m/s), as determined through the MASW, ESPAC and seismic refraction methods, Table 4.1.8.4.A of the NBC, and the Building Code, O. Reg. 332/12. However, the Site Classes "A" and "B" are not to be used if there is 3 metres or more of unconsolidated materials between the rock surface and the underside of the footing or mat foundation.

In the case the foundation would be less than 3 metres from the rock surface, the Site Class "B" could be used ($\overline{V}_{S30}{}^{*} \geq 1228$ m/s). In the case the foundation would be less than 1.5 metre from the rock surface, the Site Class "A" could be used ($\overline{V}_{S30}{}^{*} > 1500$ m/s).

It must be noted that other geotechnical information gleaned on site; including the presence of liquefiable soils, very soft clays, high moisture content etc. can supersede the Site Classification provided in this report based on the $\overline{V}_{S30}$ value.

The V_S values calculated are representative of the in-situ materials and are not corrected for the total and effective stresses.

Hoping the whole to your satisfaction, we remain yours truly.

Jean-Luc Arsenault, M.A.Sc., P.Eng.
Senior Project Manager

LICENSED PROFESSIONAL ENGINEER
J.-L. ARSENAULT
100148122
PROVINCE OF ONTARIO
2020-06-09

Figure 1: Regional location of the Site
(**source:** *OpenStreetMap©*)

Figure 2: Location of the seismic spreads
(**source: Google Earth™**)

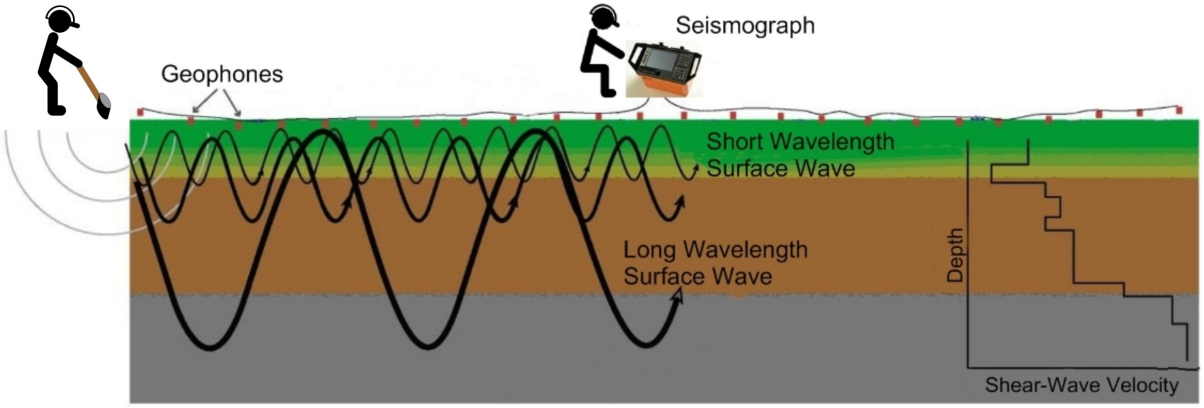


Figure 3: MASW Operating Principle

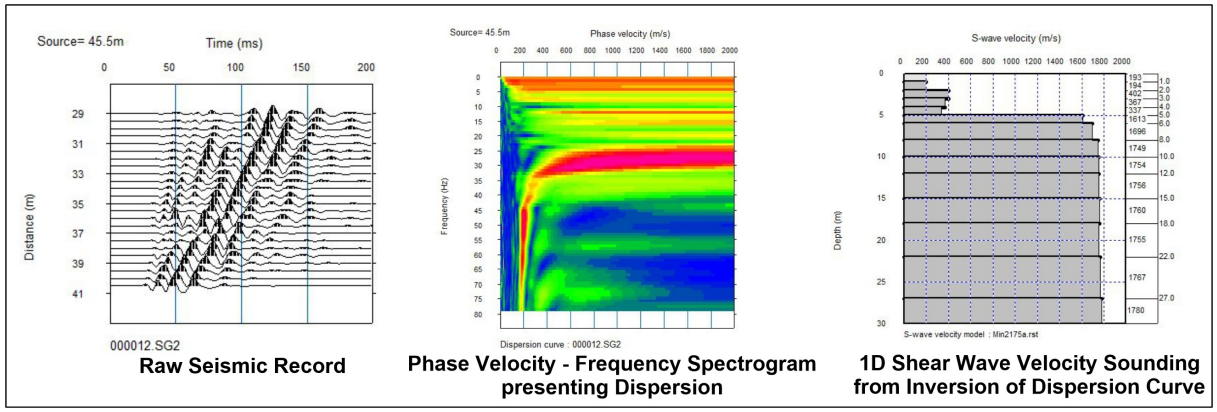
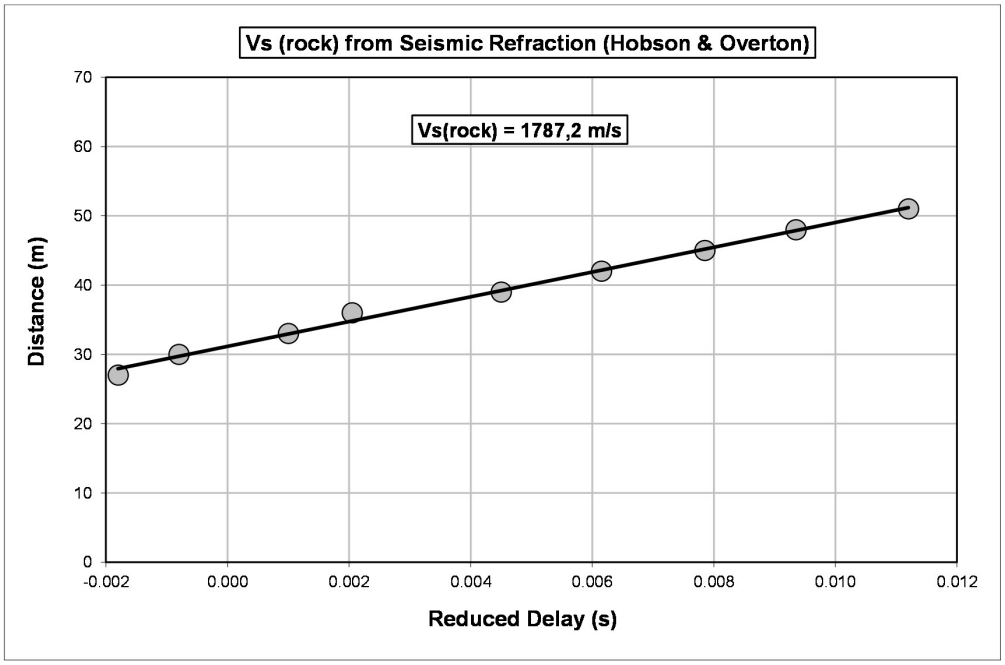


Figure 4: Example of a MASW/ESPAC record, Phase Velocity - Frequency curve and resulting 1D Shear Wave Velocity Model



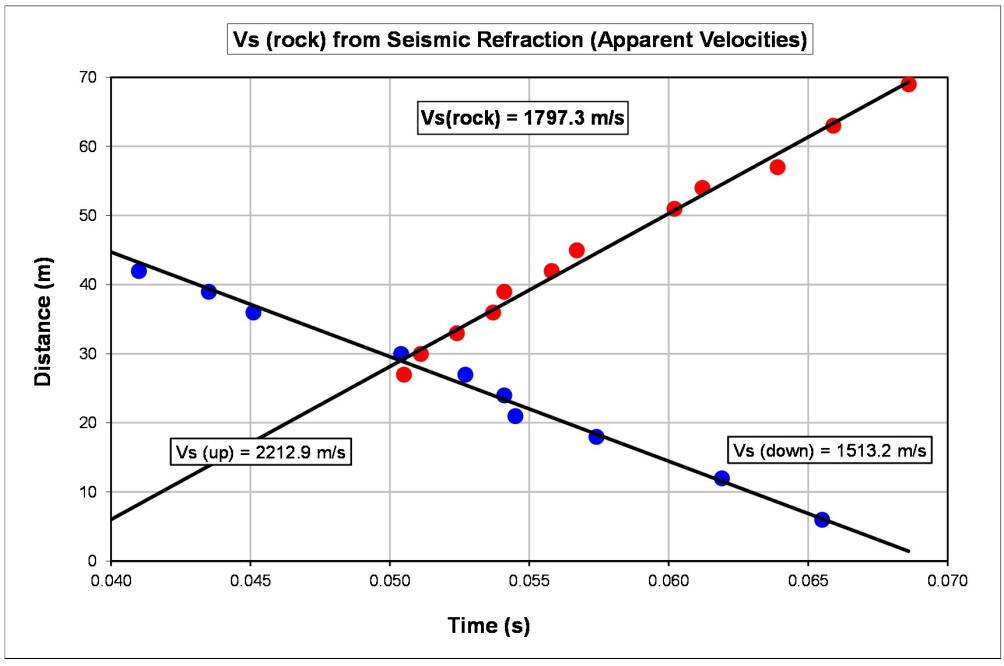


Figure 5: Rock V_S from Seismic Refraction

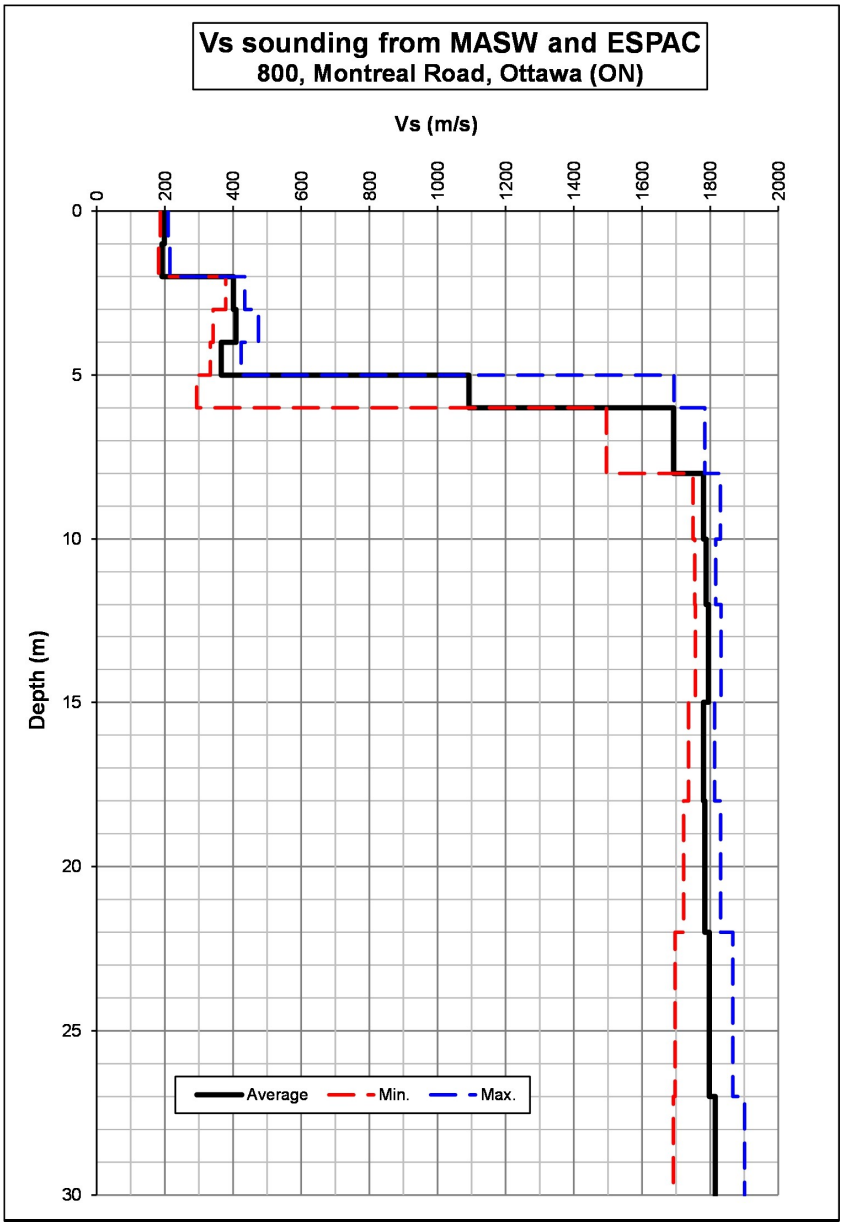


Figure 6: MASW Shear-Wave Velocities Sounding

TABLE 1
V_{S30} Calculation for the Site Class (actual site)

Depth	Vs			Thickness	Cumulative Thickness	Delay for Avg. Vs	Cumulative Delay	Vs at given Depth
	Min.	Average	Max.					
(m)	(m/s)	(m/s)	(m/s)	(m)	(m)	(s)	(s)	(m/s)
0	186.4	198.2	210.0	**Ground level while seismic surveys (June 4th, 2020)**				
1.0	181.9	191.3	214.7	1.00	1.00	0.005045	0.005045	198.2
2.0	378.9	401.1	434.5	1.00	2.00	0.005227	0.010272	194.7
3.0	341.8	409.0	474.7	1.00	3.00	0.002493	0.012765	235.0
4.0	333.7	365.2	423.9	1.00	4.00	0.002445	0.015210	263.0
5.0	293.0	1091.8	1694.1	1.00	5.00	0.002738	0.017948	278.6
6.0	1495.4	1692.7	1784.2	1.00	6.00	0.000916	0.018864	318.1
8.0	1749.5	1780.5	1829.8	2.00	8.00	0.001182	0.020046	399.1
10.0	1754.6	1788.2	1816.4	2.00	10.00	0.001123	0.021169	472.4
12.0	1756.8	1794.9	1831.7	2.00	12.00	0.001118	0.022287	538.4
15.0	1736.4	1780.6	1813.3	3.00	15.00	0.001671	0.023959	626.1
18.0	1722.3	1784.1	1830.8	3.00	18.00	0.001685	0.025644	701.9
22.0	1697.0	1797.1	1866.4	4.00	22.00	0.002242	0.027886	788.9
27.0	1692.0	1814.9	1900.7	5.00	27.00	0.002782	0.030668	880.4
30	1770.4	1852.5	1919.8	3.00	30.00	0.001653	0.032321	928.2

V_{S30} (m/s)	**928.2**
Class	**B (1)**

(1) The Site Classes A and B are not to be used if there is 3 metres or more of unconsolidated materials between the rock surface and the bottom of the foundation.

2015 National Building Code Seismic Hazard Calculation

INFORMATION: Eastern Canada English (613) 995-5548 français (613) 995-0600 Facsimile (613) 992-8836
Western Canada English (250) 363-6500 Facsimile (250) 363-6565

Site: 45.444N 75.635W

2020-07-10 19:06 UT

Probability of exceedance per annum	0.000404	0.001	0.0021	0.01
Probability of exceedance in 50 years	2 %	5 %	10 %	40 %
Sa (0.05)	0.456	0.253	0.152	0.045
Sa (0.1)	0.533	0.306	0.190	0.062
Sa (0.2)	0.446	0.259	0.164	0.056
Sa (0.3)	0.339	0.198	0.126	0.044
Sa (0.5)	0.240	0.140	0.089	0.031
Sa (1.0)	0.119	0.070	0.045	0.015
Sa (2.0)	0.056	0.033	0.021	0.006
Sa (5.0)	0.015	0.008	0.005	0.001
Sa (10.0)	0.005	0.003	0.002	0.001
PGA (g)	0.286	0.166	0.104	0.033
PGV (m/s)	0.199	0.112	0.069	0.021

Notes: Spectral (Sa(T), where T is the period in seconds) and peak ground acceleration (PGA) values are given in units of g (9.81 m/s^2). Peak ground velocity is given in m/s. Values are for "firm ground" (NBCC2015 Site Class C, average shear wave velocity 450 m/s). NBCC2015 and CSAS6-14 values are highlighted in yellow. Three additional periods are provided - their use is discussed in the NBCC2015 Commentary. Only 2 significant figures are to be used. **These values have been interpolated from a 10-km-spaced grid of points. Depending on the gradient of the nearby points, values at this location calculated directly from the hazard program may vary. More than 95 percent of interpolated values are within 2 percent of the directly calculated values.**

References

National Building Code of Canada 2015 NRCC no. 56190; Appendix C: Table C-3, Seismic Design Data for Selected Locations in Canada

Structural Commentaries (User's Guide - NBC 2015: Part 4 of Division B)
Commentary J: Design for Seismic Effects

Geological Survey of Canada Open File 7893 Fifth Generation Seismic Hazard Model for Canada: Grid values of mean hazard to be used with the 2015 National Building Code of Canada

See the websites www.EarthquakesCanada.ca and www.nationalcodes.ca for more information

Seismic Site Classification (Based on Vs, Table 1 of GPR Report)

Site Classification for Seismic Site Response Calculations (Commentary J)

Depth (m)	Layer Thickness H (m)	Vs *(Average)* (m/s)	H/Vs
5.0	1.0	1091.8	0.000916
6.0	1.0	1692.7	0.000591
8.0	2.0	1780.5	0.001123
10.0	2.0	1788.2	0.001118
12.0	2.0	1794.9	0.001114
15.0	3.0	1780.6	0.001685
18.0	3.0	1784.1	0.001682
22.0	4.0	1797.1	0.002226
27.0	5.0	1814.9	0.002755
30.0	7.0	1852.5	0.003779
Total=	30.0		**0.01699**

NOTES:
(1) The founding depth is set as 5.0 mbgs based on the rock depth in MW20-04.

The Vs30 is calculated by using the following formula:

$$\bar{V}_{S30} = \frac{\text{Total Thickness of all Layers}}{\sum \frac{\text{Layer Thickness (H)}}{\text{Layer Shear Wave Velocity (Vs)}}}$$

$$\bar{V}_{S30} = \frac{30.0}{0.0170}$$

$$\bar{V}_{S30} = \mathbf{1765.9}$$

The shear wave velocity of and equivalent homogeneous single layer response between the founded footing elevation and 30 meters deep is 1765.9 m/s.
∴ Seismic Site Class = 'A' based on average shear wave velocity

Hydrogeological Investigation Report
800 Montreal Road, Ottawa, Ontario

DST Ref. No.: 2001055.00

July 30, 2020

Prepared for:

Sovima Ottawa Inc.

Attn.: Mr. Pierre Couture, Ing.

100 Lansdowne, Suite 201 Saint-bruno-de-montarville, QC. J3V 0B3

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APPENDIX D CONSTRUCTION RELATED GROUNDWATER INFLOW ESTIMATES

APPENDIX E CERTIFICATES OF ANALYSES (GROUNDWATER)

APPENDIX F ECOLOG ERIS ENVIRONMENTAL DATABASE REPORT (2017)

1. INTRODUCTION AND PROJECT BACKGROUND

DST Consulting Engineers Inc., a division of Englobe Corporation, ("DST") was retained by Sovima Ottawa Inc. ("Sovima" or "the Client") to complete a preliminary pre-design hydrogeological investigation of the proposed multi-storey residential development at 800 Montreal Road, Ontario ("the Site").

Authorization to proceed with this work was issued by Mr. Pierre Couture of Sovima Ottawa Inc. in an email dated March 27, 2020. The location of the Site is shown on the attached Site Location Map in **Appendix A, Figure 1**. The borehole, and monitoring well locations, is shown on the attached Site Plans in **Appendix A, Figure 2**.

This report has been prepared specifically and solely for the project described herein. It presents the factual results of the field investigation and provides temporary dewatering estimates based on the assumed construction methodologies and construction duration.

The hydrogeological assessment results are presented in Sections 3, 4, 5, 6, and 7 of this report.

This Technical Study Report has been prepared for the sole use of Sovima. Any use or reliance on this report by another party is the responsibility of such a party. This report is also subject to the statement of limitations included in Section 9.

1.1 Background and Site Description

The Site is currently occupied with an asphalt parking lot and developed parkland. In 2016, DST was involved in the demolition of the Forintek campus located south of the Site. The Forintek Administration Building was constructed between 1956 and 1958. A DST memo entitled 'Demolition Inspection Report – December 13, 2016, indicates that Fortinek Administration Building was demolished, and the basement area was backfilled and compacted with crushed stone material. Another memo dated December 19 and 20, 2016, indicates that the top 1.5 meters of the excavation were backfilled and compacted with mostly clay material. The location of the former Forintek Administration Building is shown on Figure 2 'Borehole Location Plan' provided in **Appendix A**.

DST's understanding of the proposed project is based on a telephone call with the Client on March 25, 2020, a Site sketch provided at the time of the proposal, and the site survey drawing by Annis O'Sullivan, Vollebekk Ltd (Surveyor). We understand that the Site is located on Part 2 and Part 8 of Lot 24, which is an L-Shaped lot. The Project will consist of the design and construction of two new residential high-rise structures. One structure will consist of eight above-ground levels, and the second structure will consist of four above-ground levels. The structures will be joined by a single level of underground parking which extends approximately to the project boundaries. Based on the information provided by the Client, the footing elevation for the proposed buildings are planned to be at an approximate elevation near 85.5 m above sea level (masl).

DST has not been provided with any structural drawings of the proposed building or any civil drawings of the proposed Site. It is understood that the Project is currently in the pre-design stage. The Client provided information on the proposed infrastructure is limited to the extents of the underground garage on a sketch. No information on the other proposed infrastructure such as sewer or water main infrastructure that may require construction dewatering is available currently. Therefore, it is important to emphasize that this report should be considered preliminary. DST requests to be retained to review

the designs once they become available to review for conformance with the findings, conclusions, and recommendations provided within this report.

1.2 Scope of Work

DST's scope of the work was outlined in proposal Ref No: P2001055 dated March 12, 2020, and was agreed to by the Client on March 27, 2020. DST's scope of work consisted of the following items:

- Review readily and publicly available subsurface investigation reports near the Site.
- Review any provided drawings to determine the excavation dimensions and duration of temporary construction-related dewatering.
- Estimate groundwater inflow volumes for the different sections of structures including contingency volumes under the 100-year precipitation events.
- Evaluate the potential for geotechnical hazards during and after groundwater dewatering and develop recommendations for monitoring. This task would involve the review of estimated radii of influence of dewatering values and soil properties to develop an opinion of the potential for soil settlements and the provision of monitoring recommendations.
- Based on the review of groundwater sampling results, determine the suitability of groundwater for discharging into the City of Ottawa sanitary or storm/combined sewers. This would also involve the provision of recommendations concerning the control of total suspended solids and metals in water discharged to the City of Ottawa sewers.
- Prepare a technical report summarizing the results of field investigation and data analysis. The report will include the pertinent drawings, groundwater inflow calculations, estimates of radii of influence of construction dewatering, and monitoring recommendations.

2. METHODOLOGY

The hydrogeological investigation included drilling boreholes that were completed as monitoring wells, collecting select groundwater samples for laboratory analysis, completing surveys of monitoring well and groundwater level elevations, and estimation of temporary construction-related dewatering estimates. Methodologies or procedures applied to carry out these key hydrogeological investigation tasks are described in this Section.

2.1 Monitoring Well Installation

Before carrying out the field investigation, DST marked out the proposed borehole locations at the Site. DST then carried out public utility locates (through Ontario One Call) and private utility locates to obtain the utility clearances for each borehole locations.

During the field investigation, a total of four (4) boreholes were advanced at the Site, which was completed over a period between May 14 to May 27, 2020. Monitoring wells were installed in all boreholes. The boreholes were designated MW20-01 through MW20-04. Boreholes were drilled at depths ranging from approximately 9.2 to 10.1 mbgs terminating within the shale bedrock.

All boreholes for the hydrogeological investigation were advanced using a track-mounted D mobile drilling rig operated by Strata Drilling Ltd., a specialist drilling sub-contractor, under the full-time supervision of a DST Field Technician. The boreholes were advanced through the overburden using hollow-stem augers

and through the bedrock using wireline diamond coring methods. Within each augered borehole, soil samples were collected using a standard 50 mm outside diameter split-spoon sampler driven by an automatic Standard Penetration Test (SPT) hammer. The compaction of the cohesion-less soil was assessed using recorded SPT N-values.

Monitoring wells were installed with screens sealed into the bedrock in monitoring wells MW20-01 and MW20-03, and with a screen sealed in the fill overburden in monitoring well MW20-4. Monitoring wells and boreholes were backfilled with a combination of bentonite hole-plug and auger cuttings as necessary and the surface was repaired with asphalt cold patch.

The monitoring wells were constructed using Schedule 40, 50-mm diameter polyvinyl chloride (PVC) casings with a 0.254-mm machine-slotted screen. The well screen pipes were 1.5 m long. Each well was installed with an appropriate length of solid PVC riser pipe with threaded joint connections extending to grade. A sand-pack consisting of clean silica sand was placed within the annulus space surrounding the screened section of the wells and to a depth of approximately 0.3 m above the top of the well screen. A bentonite hole plug was used from the top of the sand layer to within approximately 0.6 m of the surface to minimize the potential for cross-contamination between aquifers. A locking J-Plug cap was placed at the top of each well pipe, and either a flush-mounted steel cover or a monument-style steel cover was cemented at the surface to protect the wells. No glues or lubricants were used in the construction of the monitoring wells, and new disposable nitrile gloves were donned before the handling of the well materials for each monitoring well.

Borehole and monitoring well locations are shown in **Appendix A, Figure 2** of this report. Monitoring well construction details are presented schematically on the borehole logs in **Appendix B** of this report.

2.2 Elevation Survey of Boreholes

The location and elevation of the boreholes were provided by the Client and surveyed by Annis O'Sullivan, Vollebekk Ltd., and are provided in the Borehole Location Plan provided in **Appendix A** and borehole logs provided in **Appendix B**.

2.3 Groundwater Depth Measurements

The groundwater depths were measured again by a DST technician on June 2, 2020, June 3, 2020, and July 9, 2020, in all newly installed groundwater monitoring wells. Groundwater depth measurements involved taking both water level and well depth measurements from the top of the well casing using a Solinst™ oil/water interface probe. Groundwater level readings were recorded to the nearest 0.01 m and converted into geodetic head elevations.

2.4 Hydraulic Conductivity Tests

A rising head hydraulic conductivity test was used to estimate the *in-situ* horizontal hydraulic conductivity of the geological materials intercepted at the well screens of MW20-01, MW20-03, and MW20-4 at the Site.

Rising head hydraulic conductivity tests were performed which involved lowering the groundwater levels and measuring the subsequent groundwater recovery using an electronic level logger. Groundwater from the monitoring wells was removed using a battery-operated the submersible pump (Stainless Steel Monsoon Pump). Water levels were recorded electronically and manually during the pumping phase and electronically during the recovery phase of the tests completed on June 2, 2020.

The hydraulic conductivity test results are provided in **Appendix C**.

2.5 Groundwater Sampling

After the installation of monitoring wells, monitoring wells were purged of a minimum of three casing volumes of water using a Waterra™ tubing equipped with inertial lift foot valves to remove any groundwater impacted by drilling activities and to reduce the amount of sediment within the wells.

Groundwater samples were collected from monitoring wells MW20-01 and MW20-03 on June 3, 2020. Groundwater was purged by applying low-flow techniques and a peristaltic pump (target flow rate approximately 200 – 300 mL/min) equipped with a flow-through cell fitted to allow the measurements of water quality parameters using a Horiba™ multi-parameter water quality meter. DST monitored water quality parameters including pH, conductivity, dissolved oxygen (DO), temperature, turbidity, and oxygen redox potential (ORP), and recorded each reading approximately every 5 minutes during purging. When three consecutive field parameters (focusing on temperature, conductivity, and pH) readings were within 10% of each other, the flow-through cell was removed, and the groundwater sample was collected directly from the dedicated tubing into appropriate laboratory-supplied containers.

Groundwater samples from MW20-01 and MW20-03 were submitted to Bureau Veritas Laboratories (BV) for laboratory analytical testing for the following chemical parameters:

- Dissolved and total metals;
- PHC fractions F1 to F4;
- Selected parameters listed within the City of Ottawa sewer discharge limits;
- Pesticides and herbicides; and
- Volatile organic compounds.

The laboratory Certificates of Analysis are provided in **Appendix E**.

2.6 Estimation of Groundwater Dewatering Rates

This section presents the methodology employed in estimating groundwater dewatering rates as well as the potential radius of drawdown during temporary dewatering. Based on the Site conditions and the proposed construction activities, groundwater is expected to be encountered in excavations associated with the construction of the two multi-storey developments on the Site and an underground garage encompassing the new multi-storey developments. The preliminary design drawings and details of all project elements requiring groundwater dewatering are not yet available. A hand-drawn sketch provided by the Client that depicts the lateral extents of the proposed underground garage was used to determine the length and width of the proposed underground garage.

An analytical approach based on the Dupuit-Forchheimer approximation for an unconfined aquifer (Powers et al., 2007) was used to estimate construction-related groundwater dewatering volumes for the underground garage excavation. For ease of the calculations, the footprint of the proposed underground garage was divided into two parts, namely, the NW-SE portion and the SW-NE portion. The NW-SE portion roughly corresponds to the portion of the underground garage below the proposed eight (8) storey building. The SW-NE portion roughly corresponds to the portion of the underground garage below the proposed four (4) storey building.

Based on the planned excavation dimensions for the underground garage excavations and the assumption that groundwater flows from both sides along the length of the excavation, and radially from the ends of the excavation, an estimate of groundwater inflows to the planned excavation can be obtained using the following equation:

$$Q = \frac{2xK\left(H^2 - {h_w}^2\right)}{2L} + \frac{\pi K\left(H^2 - {h_w}^2\right)}{ln\left(\frac{R_O}{R_s}\right)}$$

Where:

Q = groundwater extraction rate (m^3/s)

x = Length of excavation (m)

K = hydraulic conductivity (m/s)

H = initial groundwater level (m)

h_w = groundwater level at the base of the excavation (m)

L = equivalent radius of influence of a line source (m)

R_O = Radius of Influence for a radial flow structure (m)

R_s = Equivalent radius of the trench (m)

The lateral extent of groundwater drawdown or radius of influence associated with groundwater dewatering was estimated using the groundwater flow model and the Sichart and Kryieleis relationship (Powers et al., 2007):

$$R_o = R_s + 3000(H\text{-}h_w)\sqrt{K}$$

Where:

Ro = radius of influence for a radial flow structure (m)

R_s = Equivalent radius of the trench (m)

K = hydraulic conductivity (m/s)

H = initial groundwater level (m)

h_w = groundwater level at the base of excavation (m)

Based on the estimated value of R_o, equivalent radius of influence for a line source can be calculated based on the following equation:

$$L = \frac{R_o}{2}$$

Where:

L = equivalent radius of influence of a line source (m)

R_O = Radius of Influence for a radial flow structure (m)

The values of temporary groundwater dewatering were estimated using the preceding analytical approximations were based on the assumed construction methodologies, sequencing, and duration for the planned excavations.

Further, the preceding analytical approximation assumes an unlined vertically walled excavation and that the groundwater will be drawn down to the level of the base of the excavation or 0.5 m below the base of the excavation.

During construction, the contractor will have to manage water that accumulates in the open excavation during a rainfall event. These incidental precipitation volumes were calculated volumetrically based on a review of Intensity-duration-frequency (IDF) curves (Ontario Ministry of Transportation, March 2020) for the Site. The analysis determined the rainfall over a 24-hour period for 5-year, 10-year, 25-year, 50-year, and 100-year events was 68.5 mm, 79.6 mm, 93.4 mm, 103.9 mm, and 114.3 mm, respectively. A value of 114.3 mm was used to determine the incidental precipitation volumes to the proposed excavations.

The purpose of using the highest observed one-day rainfall event in the last 100 years is to ensure that the construction contractor is prepared to handle a similar rainfall event during construction without impeding the construction progress. Therefore, the daily maximum pumping rates include groundwater inflow volume estimates from the Dupuit-Forchheimer approximations plus the incidental precipitation volume estimates.

The following general assumptions were made when estimating temporary groundwater dewatering rates during the construction:

- It was assumed that the hydraulic conductivity of the geological materials is the same throughout the Site and does not vary by location (uniform conditions).
- Groundwater inflow rates were estimated based on the proposed multi-storey residential development as a stand-alone project, with no other groundwater pumping or dewatering activities in the area.
- The extent of construction dewatering will vary depending on the type of material encountered in the actual excavations, excavation dimensions, the depth to groundwater, and the required depth of dewatering. The groundwater dewatering estimates presented in this report are based on the assumptions regarding the excavation dimensions, construction method and sequencing, groundwater levels, and hydraulic conductivity.
- Groundwater inflow rates presented for the underground garage excavations were based on the hand-drawn sketch depicting the lateral extents of the proposed garage.
- Contractors bidding on the construction and dewatering services should make their own interpretation of the information presented in this report, and other project documents including bid design drawings, and draw their own conclusions as to how the conditions may affect their work or design.
- Changes in the design will require the recalculation of estimates presented in this report.
- Should significant water-bearing zones be encountered during the excavations, DST recommends that supplementary hydraulic conductivity testing of the newly encountered water-bearing permeable materials be completed to update the groundwater inflow estimates presented

in this report.

2.7 EcoLog™ Environmental Risk Database Search

In 2017, as part of a task associated with the completion of a Phase I Environmental Site Assessment, DST retained the services of Environmental Risk Information Services (ERIS) Ltd. to conduct a search of databases from federal, provincial, and private sources for the Site and report the results within an EcoLog™ Database Report. These databases may contain environmental and historical land-use related information about the Site and its neighbouring properties, such as reported spills, storage tanks, Certificates of Approval, Environmental Registry, Inventory of PCB Storage Sites, etc. The search area used by EcoLog was a 0.25-kilometre (km) radius from the centre of the Site. Only the databases that contained records and information regarding potential sources of contamination or spill events on the Sites and its neighbouring properties within the search radius are discussed in Section 6 below. For a copy of the EcoLog ERIS report, refer to **Appendix F** of this report.

3. DESCRIPTION OF SUBSURFACE CONDITIONS

3.1 Site Specific Stratigraphy

Details of the subsurface soil conditions encountered in the boreholes advanced as part of DST's geotechnical investigation and relevant historical reports are presented on the borehole logs in **Appendix B**. A general overview of the soil stratigraphy is provided in this section.

Considering the results of the field investigation, the following descriptions provide a generalized overview of the different subsoils and groundwater conditions encountered in the boreholes advanced at the Site:

Topsoil: Boreholes MW20-01 and MW20-04 encountered topsoil consisting of silty clayey sand to silty sand containing rootlets and organic material. Thickness of the topsoil ranged from 200 to 1500 mm.

it is important to note that the thickness and descriptions of the topsoil noted above is for planning purposes only. They should not be used for quality assessments or quantity take-offs.

FILL: Fill materials associated with the pavement and roadway structure was encountered below the asphalt in BH20-02 and at ground surface at MW20-03. The fill material at BH20-02 and MW20-03 borehole locations consisted of sand and gravel and silty sandy clay/silty clayey sand some gravel, respectively. Fill material was also encountered below the topsoil at MW20-04 and consisted of crushed material consisting of silty sand with gravel containing trace brick and concrete pieces. According to 2015 aerial photographs and DST demolition photos were taken in 2016, BH20-04 was advanced within the footprint of the former Forinktek Building. The location of the former Forintek Building is shown on the Borehole Location Plan provided in **Appendix A**.

Native Silt to Silty Sand: Underlying the fill layer, a native layer of silt or silty sand was identified in boreholes BH20-02 and MW20-03 extending to a depth of 2.3 mbgs or an approximate elevation near 84.9 and 87.4 masl respectively. The till generally comprised sandy clayey silt to silty clay with trace to some sand and gravel. This native silt to silty sand deposit was described as light brown to brown in color. The natural moisture content of this deposit varied between 8 and 20 % based on laboratory testing. The recorded SPT N-values for this native sand layer ranged from 5 to 15, indicating a loose to compact silt to silty sand deposit.

Shale Bedrock: Shale bedrock of Billings Formation was encountered within all boreholes at a depth ranging from approximately 1.5 to 5.7 mbgs, corresponding to approximate elevations near 84.5 to 88.6 masl. The augers were capable of penetration the top 0.9 to 1.8 m of the shale bedrock in boreholes MW20-01 to MW20-03 indicating the top of the bedrock to consist of highly weathered material, probable mudstone. All boreholes were cored beyond this layer using an HQ sized core bit starting at depths ranging from approximately 2.4 to 5.7 m bgs, corresponding to elevations 84.4 to 87.7 m. The intact portions of the bedrock consisted predominantly of black, moderately weathered shale. A Rock Quality Designation (RQD) ranged from 0 to 65% indicating the bedrock is in very poor to fair quality, but mainly very poor to poor quality. The boreholes were terminated within the shale bedrock at depths ranging from 9.2 to 10.1 m, corresponding to elevations 77.8 to 80.6 masl.

This formation of shale bedrock is known to swell when exposed to air. The poor and very poor quality of shale bedrock suggests fractured bedrock conditions and the initial groundwater inflows into the construction excavations could be significant if interconnected bedrock fractures are present.

The shale bedrock of Billings Formation is known to contain pyrite (iron sulphide) at variable quantities. The oxidation of pyrite when exposed to the air typically results in swelling of the walls and floors of the bedrock excavations. The lowering of groundwater level in excavation or peripheral drains around the building structure may help to trigger the oxidation of pyrite minerals and consequently the expansion of the shale bedrock.

3.2 Hydrogeology

Groundwater monitoring wells were installed at MW20-01, MW20-03, and MW20-04. **Table 3-1** summarizes the groundwater level readings taken at the monitoring wells installed during the field investigation.

The previous Groundwater Investigation conducted by Paterson Group, entitled ‘Groundwater Investigation and Preliminary Geotechnical Assessment, Forintek Building – 800 Montreal Road – Ottawa’, dated November 10, 2004, indicated that groundwater levels at the Site range from depths of 0.1 to 2.4 mbgs, this corresponds to approximate elevations near 85.2 masl to 88.4 masl in boreholes BH1, BH3A, and BH10 as reported on October 26, 2004.

It should be noted that the groundwater levels are transient and tend to fluctuate with the seasons and periods of precipitation, sometimes by up to 2 m or more. The groundwater conditions encountered during this investigation may not, therefore, be representative of the groundwater conditions during the construction period. Therefore, additional groundwater monitoring is recommended before the start of construction.

Table 3-1 Summary of Groundwater Level Measurements

Borehole ID	Borehole Surface Elevation (masl[1])	Screened Interval (masl[1])	Screened Stratigraphic Layer(s)	Groundwater Level (mbgs[2] / *masl*[1])		
				June 2, 2020	June 3, 2020	July 9, 2020
MW20-01	90.10	83.4 - 87.2	Moderately weathered Shale bedrock with RQD varying from 0% to 13%	2.9 / *87.2*	3.0 / *87.1*	3.33 / 86.8
MW20-03	89.70	81.5 – 85.0	Moderately weathered Shale bedrock with RQD varying from 23% to 38%	3.1 / 86.6	3.3 /86.4	3.7 / 86.0
MW20-04	90.20	87.8 – 84.7	Fill comprised of silty sand with gravel (construction debris)	4.9 /85.3	4.3 / 85.9	4.3 / 85.9

Notes: 1 Approximate elevation in metres above mean sea level (masl)
2 Metres below ground surface (mbgs)

Given the lack of long-term groundwater level data for the Site and to better determine the groundwater flow model parameters, a review of Intensity-duration-frequency (IDF) curves (Ontario Ministry of Transportation, September 2016) and long-term groundwater level data (MECP, 2015) was completed for the Site. The analysis determined the rainfall over 24 hours for 5-year, 10-year, 25-year, 50-year, and 100-year events was 68.5 mm, 79.6 mm, 93.4 mm, 103.9 mm, and 114.3 mm, respectively.

Groundwater levels from monitoring wells that are part of the Provincial Groundwater Monitoring Network (PGMN) Program were also reviewed for the period of available PGMN well data (W0000085-1). Direct observation of the hydraulic response in the overburden or bedrock to rainfall events with higher than a 10-year return period is not possible from available PGMN data. A review of temporal changes in groundwater levels during the wet and dry seasons in the period of January 2002 through 2018 indicated +2 m change in groundwater level to the wet weather conditions. Further, previous investigations completed by Paterson in 2004 at the Site indicated a groundwater level of 0.1 mbgs in BH1. Therefore, high groundwater levels and inflows should be anticipated during the wet weather conditions.

Hydraulic conductivity values of 2.5 x 10^{-7} m/s (2.5 x 10^{-5} cm/s), 2.50 x 10^{-7} m/s (2.5 x 10^{-5} cm/s), and 2.6 x 10^{-6} m/s (2.6 x 10^{-4} cm/s) were estimated for the stratigraphic units within the screened intervals of MW20-1, MW20-03, and MW20-04, respectively, based on the *in-situ* hydraulic conductivity testing carried out on June 3, 2020.

The hydraulic conductivity test results are provided in **Appendix C** and a summary is provided in **Table 3** below.

Table 3-2 Summary of Estimated Hydraulic Conductivity Values

Well/Borehole No.	Stratigraphic Unit	Hydraulic Conductivity (cm/s)	Hydraulic Conductivity (m/s)	Data Analysis Method
MW20-1	Moderately weathered Shale bedrock with RQD varying from 0% to 13%	2.5 x 10^{-5}	2.5 x 10^{-7}	Bouwer-Rice (1976)[1]

Well/Borehole No.	Stratigraphic Unit	Hydraulic Conductivity (cm/s)	Hydraulic Conductivity (m/s)	Data Analysis Method
MW20-03	Moderately weathered Shale bedrock with RQD varying from 23% to 38%	2.9×10^{-5}	2.9×10^{-7}	Bouwer-Rice (1976)[1]
MW20-04	Fill comprised of silty sand with gravel (construction debris)	6.4×10^{-4}	6.4×10^{-6}	Bouwer-Rice (1976)[1]

Notes: 1 Hydraulic conductivity data analysis was carried out using United States Geological Survey Aquifer Test Tools Package Version 1.2 (2016).

4. ASSUMED CONSTRUCTION-RELATED TEMPORARY DEWATERING PROGRAM

To facilitate the proposed construction of the two multi-storey residential developments on the Site and an underground garage encompassing the new multi-storey developments, excavations extending below the observed shallow groundwater level are anticipated to accommodate the construction of underground garage based on the sketch provided to DST during the proposal stage. Temporary and localized groundwater dewatering is anticipated to be required to complete construction. For ease of executing the dewatering estimate calculations, DST subdivided the proposed footprint of the underground garage excavation into following two excavations:

- **NW-SE Portion:** Generally corresponds to the portion of the underground garage below the 8 Level Building
- **SW-NE Portion:** Generally corresponds to the portion of the underground garage below the 4 Level Building

DST has assumed the groundwater level would be lowered to 0.5 m below the base of the excavation bottom for this work. **Table 4-1** details DST's assumptions for the construction method, sequencing, and the duration of dewatering.

Table 4-1 Assumed construction method and duration of dewatering

Approximate Location and Dimensions of Excavations	Assumed Method of Construction	Assumed Duration of Dewatering (days)
NW-SE Portion – 8 Level Building	58 m long and 40 m wide[1] excavation to 5.7 m below ground surface	120
SW-NE Portion – 4 Level Building	69 m long and 27 m wide[1] excavation to 5.8 m below ground surface	120

Notes: 1 The design engineer or contractor may elect to change the excavation design. Recalculation of groundwater inflow rates presented in this report will be required to accommodate the changes in excavation design.

Based on the Dupuit-Forchheimer approximation for an unconfined aquifer and following assumptions and parameters, groundwater inflow rates for two separate scenarios (expected case and assumed worst-case case scenario) were estimated for each portion of the underground garage excavation:

- For the expected case scenario, it was assumed that hydraulic conductivity of the geological materials would be the highest hydraulic conductivity value estimated from the *in-situ* hydraulic conductivity tests completed as part of this investigation (i.e., 6.4×10^{-4} cm/s or 6.4×10^{-6} m/s for the geologic materials encountered at MW20-04);

- For the assumed worst-case scenario, it was assumed that hydraulic conductivity of the geological materials would be an order of magnitude higher than the highest hydraulic conductivity value estimated from this investigation (i.e., 6.4 x 10^{-3} cm/s or 6.4 x 10^{-5} m/s);
- For the expected case scenario, highest groundwater level measured in the vicinity of the excavation (MW20-01 from June 2, 2020 for NW-SE portion; and MW20-03 from June 2 for SW-NE);
- For the assumed worst-case scenario for the proposed excavations associated with the underground garage, the groundwater level in the areas of the excavations was assumed to be equivalent to the ground surface (i.e., 0.1 mbgs at BH1 completed as part of the 2004 Paterson geotechnical investigation of the Site);
- The depth of the excavation was based on an assumed bottom elevation of the excavation of 84.4 masl, based on Section 6.1.1 of the Geotech report which provides the potential lowest founding elevation for the footings;
- For the ease of calculation, open excavation was assumed and upward seepage or pressure from the geological units is considered to be negligible (absence of artesian pressure);
- It was assumed that surface water will be diverted or bypassed before the commencement of dewatering and surface water contribution to the dewatering is assumed to be negligible; and
- A safety factor of 2 to account for the variabilities in the hydraulic properties.

Table 4-2 details estimates of the expected case, assumed worst-case, incidental precipitation volumes, and total daily volumes. Incidental precipitation into the excavation will need to be managed during construction. A 114-mm rain event (highest observed one-day precipitation amount in last 100 years in Ottawa) over 24 hours would increase groundwater taking rates by an order of an additional 265 m^3 per day for the NW-SE Portion of the proposed underground garage excavation and 213 m^3 per day for the SW-NE Portion of the proposed underground garage excavation.

Table 4-2 Estimates of Groundwater Taking Volumes

Approximate Location	Scenario	Steady-State Condition (m^3/day)	Incidental Precipitation[1] (m^3/day)	Total Daily Volumes (m^3/day)
NW-SE Portion – 8 Level Building	Expected Case	350	265	615
	Assumed Worst Case	2603	265	2868
SW-NE Portion – 4 Level Building	Expected Case	321	213	534
	Assumed Worst Case	2550	213	2763

Notes: **1** Volumetric estimate of water that could accumulate in an open excavation because of direct precipitation. Estimated based on the excavation dimensions and highest recorded 24-hour rainfall in the last 100 years (City of Ottawa).

Groundwater taking estimates are based on the assumed construction duration, excavation dimensions, construction sequencing, and methodology, therefore should there be changes in these items, revised groundwater taking volumes will be required. It is the dewatering contractor's responsibility to determine the type and extent of the dewatering system required.

The predicted radii of influence of groundwater taking associated with the construction activities are anticipated to range from 35 m (expected case scenario) to 166 m (assumed worst-case scenario) for the underground garage, within the shallow soils and bedrock.

Further details on the estimates of groundwater taking volumes are provided in **Appendix D.**

5. GROUNDWATER SAMPLING RESULTS AND DISCHARGE OF RECOVERED GROUNDWATER

Groundwater samples from MW20-01 and MW20-03 were submitted for analysis of selected parameters listed in Schedule A, Table 1 (Limits for Sanitary and Combined Sewer Discharge) and Table 2 (Limits for Storm Sewer Discharge) of the City of Ottawa Sewer Use By-Law No. 2003-514 (hereinafter referred to as the "Ottawa Sewer Use Bylaw"), generally including the following:

- Volatile organic compounds (VOCs);
- Petroleum hydrocarbon (PHC) fractions F1-F4;
- Organochlorine (OC) pesticides;
- Total metals;
- Dissolved metals; and,
- Selected inorganics (pH, total suspended solids (TSS), volatile suspended solids (VSS), total phosphorous, and total Kjeldahl nitrogen (TKN)).

A summary of the parameters exceeding the Ottawa Sewer Use By-Law for discharges to sanitary/combined sewer and storm sewer is presented in Table 5-1.

Table 5-1 Summary of Parameter Exceedances for Tested Groundwater Samples and Analyzed Parameters

Sample Location	Parameters Exceeding Limits for:	
	Ottawa Sewer Use Bylaw Limits for Sanitary and Combined Sewer [1]	Ottawa Sewer Use Bylaw Limits for Storm Sewer [2]
MW20-01	None[3]	None[3]
MW20-03	Total suspended solids (TSS), dissolved manganese, total manganese, chloroform.	TSS, dissolved manganese, total manganese.

Notes: 1 City of Ottawa Sewer Use By-law No. 2003-514, Schedule A, Table 1 - Limits for Sanitary Sewer and Combined Sewers Discharge.
2 City of Ottawa Sewer Use By-law No. 2003-514, Schedule A, Table 2 - Limits for Storm Sewer Discharge.
3 "None" indicates that none of the analyzed parameters exceeded the by-law limits

The Laboratory Certificates of Analysis for the groundwater samples are presented in **Appendix E**.

Groundwater sampling results indicated that the concentrations of manganese (dissolved and total) and TSS above the sewer use bylaw limits and treatment of groundwater to meet the sewer use bylaw is required prior to the discharge of groundwater. The source of chloroform detected in the groundwater sample from the MW20-03 could not be determined with the available information. A City sanitary sewer/storm sewer discharge permit would be required to discharge groundwater to the City sewers on the Montreal Road that meets the current City Sewer Discharge Criteria. It is recommended that the contractor to liaise with the City of Ottawa Sewer Program office to identify and confirm if groundwater

recovered from the construction can be discharged to the city sewers without any timing or sewer capacity restrictions.

The construction contractor has the responsibility to obtain a permit under the City of Ottawa Sewer Program and discharge of water to the sanitary or storm sewer. The City Sewer Use Program may require an assessment of parameters other than those sampled as part of this assessment. Based on the water quality results presented above, a provision should be made in the construction tender for the treatment of substances exceeding applicable discharge limits before discharge to the sanitary sewer or storm sewer.

6. POTENTIAL FOR POSSIBLE MOBILIZATION OF CONTAMINANTS

In 2017, DST completed a Phase One Environmental Site Assessment (ESA) Update for the Site and surrounding properties within approximately 250 m of the Site to identify issues of potential concern related to soil and groundwater contamination for the period of time from 2009 to 2017. The Phase One ESA Update consisted of the completion of a Site reconnaissance, review of available records (aerial photographs, city directories, and fire insurance plans), and a review of selected environmental databases (including spill records, fuel storage tank records, waste generation records, waste disposal site records, etc.). The environmental database review was completed by obtaining an EcoLog Environmental Risk Information Services (ERIS) report for an area with a radius of approximately 250 m from the boundaries of the Site. A copy of the EcoLog ERIS report included in 2017 DST Phase One ESA Update, is provided in **Appendix F**.

The Phase One ESA Update did not identify any potential environmental concerns for the Site for the period of time from 2009 to 2017. Additionally, based on a review of the EcoLog ERIS report include within this Phase One ESA Update, no significant spills or other suspected significant sources of groundwater contamination were identified at the Site or within the predicted radius of influence for the anticipated short-term construction-related dewatering.

Nevertheless, it is possible that an unknown source of groundwater contamination exists within the predicted radius of influence for the anticipated short-term construction-related dewatering. It is therefore recommended that periodic sampling of the dewatering discharge water and submission of collected samples for laboratory analysis of the parameters listing in the Ottawa Sewer Use Bylaw be completed to confirm compliance with the applicable standards. The terms of a discharge agreement to discharge the water to the sewer system may also specify the frequency of sampling and the parameters to be analyzed.

7. POTENTIAL IMPACTS TO THE EXISTING STRUCTURES FROM CONSTRUCTION DEWATERING

The estimated groundwater dewatering rates discussed above are based on observed groundwater level, hydraulic conductivity, assumed duration of dewatering, and produced an anticipated groundwater cone of depression associated with the water taking within the temporary excavations. Further, the groundwater dewatering estimates assume an unlined vertically walled excavation and that the groundwater will be drawn down to 0.5 m below the base of the excavation. The estimated area of influence or extent of groundwater drawdown varies from 35 m to 166 m depending on the groundwater levels, hydraulic conductivity, and required groundwater drawdown. For the majority of the predicted area

of influence, the underlying geology appears to be comprised of fill underlain by the shale of the Billings Formation.

The shale bedrock of Billings Formation is known to contain pyrite (iron sulphide) at variable quantities. The oxidation of pyrite when exposed to the air typically results in swelling of the walls and floors of the bedrock excavations. The lowering of groundwater level in excavation or peripheral drains around the building structure may help to trigger the oxidation of pyrite minerals and consequently the expansion of the shale bedrock. Thus, the incorporation of perimeter drainage systems to maintain lowered groundwater levels in the underground garage is not recommended.

It is recommended that the final approved bedrock bearing surface and excavation walls must be covered with lean mix concrete on the same day as they are exposed, to avoid future heaving. The walls of bedrock excavations must be covered with shotcrete to minimize air contact. This will require careful planning to ensure the sequence is properly achieved. Excavation Contractors should be selected that have experience with planning such excavations in Billings Formation Shale bedrock.

The existing area of influence of groundwater dewatering may be large enough to include nearby infrastructure and the potential for the occurrence of dewatering related settlements within the predicated area of groundwater drawdown cannot be ruled out. A settlement monitoring plan should be submitted by the contractor detailing the frequency of pre-construction /post-construction baseline data collection and daily readings during construction, monitoring on the tracks, monitoring locations, alert and review levels, and reporting process for the issue of survey data including the establishment of stop-work process and implementation of remedial measures.

8. CONCLUSIONS AND RECOMMENDATIONS

Based on the above, the following conclusions are provided:

- Dewatering volumes presented in this report are based on the assumed excavation dimensions and construction methods, duration, sequence, and schedule during the project pre-design stage and before the issue of bid-ready design and specifications. Therefore, changes in design, construction methods and duration, excavation dimension, and construction sequence may require recalculation of dewatering rates before construction.
- Based on the information available at the time of preparation of this report, the dewatering of various construction activities are anticipated as follows:
    - **Underground Garage NW-SE Portion Excavation:** Estimate of total daily groundwater takings from dewatering of a 58-m long by 40-m wide excavation for the NW-SE part of the proposed underground garage is estimated to vary from approximately 615 m^3/day (under an expected case) to 2868 m^3/day (under an assumed worst-case scenario).
    - **Underground Garage SW-NE Portion Excavation:** Estimate of total daily groundwater takings from the dewatering of a 69-m long by 27-wide excavation for the SW-NE part of the proposed underground garage is estimated to vary from approximately 534 m^3/day (under an expected case) to 2763 m^3/day (under an assumed worst-case scenario).
- The estimated area of influence or extent of groundwater drawdown associated with each part of the proposed underground garage excavation varies from 35 m to 166 m depending on the groundwater levels, hydraulic conductivity, and required groundwater drawdown. For the majority

of the predicted area of influence, the underlying geology appears to be comprised of fill underlain by the shale of the Billings Formation.

- Based on the estimated total daily groundwater takings associated construction excavations, a Category III Permit To Take Water (PTTW) from the MECP will be required in addition to supporting documentation (technical study report). Pre-consultations with the regional office of the MECP is recommended and confirmation of all construction elements requiring water taking before starting the PTTW process.

- Should significant water-bearing zones be encountered during excavation, DST recommends that supplementary hydraulic conductivity testing of the newly encountered water-bearing permeable materials be completed to update the groundwater inflow estimates presented in this report.

- A City sanitary sewer/storm sewer discharge permit would be required to discharge groundwater recovered from the construction excavations to the City sewers on the Montreal Road that meets the current City Sewer Discharge Criteria. The reported concentrations of several parameters (Chloroform, TSS, total manganese) were found to exceed the applicable City Sewer Discharge Criteria, on-Site treatment of groundwater to the Sewer Discharge Limits would be required before discharge. Based on the water quality results presented above, a provision should be made in the construction tender for the treatment of substances exceeding applicable discharge limits before discharge to the sanitary sewer or storm sewer. It is recommended that the contractor to liaise with the City of Ottawa Sewer Program office to identify and confirm if groundwater recovered from the construction excavations can be discharged to the city sewers without any timing or sewer capacity restrictions.
- The quality of the groundwater to be removed during the construction activities should be re-assessed before and during construction dewatering activities according to the requirements that would be established under the municipal sewer use discharge agreement. The municipal sewer use program approvals may require an assessment of chemical parameters other than and in addition to those parameters analyzed in this assessment; however, it is recommended that at minimum the groundwater samples be analyzed for the parameters listed in the City Sewer Discharge Limits.

- The shale bedrock of Billings Formation is known to contain pyrite (iron sulphide) at variable quantities. The oxidation of pyrite when exposed to the air typically results in swelling of the walls and floors of the bedrock excavations. The lowering of groundwater level in excavation or peripheral drains around the building structure may help to trigger the oxidation of pyrite minerals and consequently the expansion of the shale bedrock. Thus, the incorporation of perimeter drainage systems to maintain lowered groundwater levels in the underground garage is not recommended.
- It is recommended that the pyrite content of the select bedrock samples be determined in a laboratory in conjunction with the shale swelling tests. The results from these tests can be used to further refine the conclusions and recommendations included in this report.

- It is recommended that the final approved bedrock bearing surface and excavation walls must be covered with lean mix concrete on the same day as they are exposed, to avoid future heaving. The walls of bedrock excavations must be covered with shotcrete to minimize air contact. This will require careful planning to ensure the sequence is properly achieved. Excavation Contractors should be selected that have experience with planning such excavations in Billings Formation Shale bedrock.

- A settlement monitoring plan should be submitted by the contractor detailing the frequency of pre-construction / post-construction baseline data collection and daily readings during construction, monitoring on the tracks, monitoring locations, alert and review levels, and reporting process for the issue of survey data including the establishment of stop-work process and implementation of remedial measures.

9. LIMITATIONS

The information, conclusions, recommendations, and opinion regarding groundwater inflows given herein pertain specifically to this project and are intended for the sole use of Sovima Ottawa Inc. for the scope of work described herein. They may not be sufficient for other uses. DST does not accept responsibility for the use by third parties.

The data, conclusions, and recommendations which are presented in this study, and the quality thereof, are based on a scope of work authorized by the Sovima Ottawa Inc. Note, however, that no scope of work, no matter how exhaustive, can identify all conditions above and below ground. For example, conditions between different areas of the Site may differ from those discussed in this study and observed or measured conditions may change with time. This report, therefore, cannot warranty that all conditions on or off the site are represented in this study.

Any recommendations, conclusions, and opinion regarding groundwater inflows or precipitation provided that are based on conditions or assumptions reported herein will inherently include any uncertainty associated with those conditions or assumptions. In fact, many aspects involving professional judgment such as groundwater flow contain a degree of uncertainty which cannot be eliminated. This uncertainty should be managed by periodic review and refinement as additional information becomes available.

Note also that standards, guidelines, and practices related to this study supporting this document may change with time. Those which were applied at the time of this assignment may be obsolete or unacceptable at a later date.

The scope of work may not be sufficient to determine all of the factors that may affect construction or construction methods and costs. Contractors bidding on this project or undertaking the design of drainage systems or dewatering systems (including related permits) should, therefore, make their own interpretation of the factual information presented and draw their own conclusions as to how the conditions may affect their work. The report limitations should be read in conjunction with the assumptions presented in this report.

DST cannot warranty the accuracy of any results or data obtained from external sources such as analytical laboratories, provincial and federal agencies, or any other consultant reported herein.

10. CLOSURE

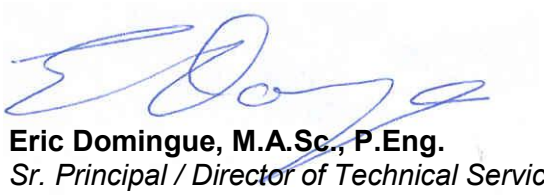
We trust this report meets your present requirements. Should you have any questions, please do not hesitate to contact our office.

Sincerely,

For DST CONSULTING ENGINEERS INC., A DIVISION OF ENGLOBE

Kevin Bailey, M.A.Sc., P.Eng.
Environmental Engineer

Sonny Sundaram, Ph.D., P.Geo.
Senior Hydrogeologist, Senior Associate



Eric Domingue, M.A.Sc., P.Eng.
Sr. Principal / Director of Technical Services

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APPENDIX A
FIGURES

Note

1. This drawing shall be read in conjunction with the associated technical report.

Revision	Date	Issue	Approval
A	06/30/2020	Preliminary	

Client

Site: 800 Montreal Road, Ottawa, ON

DST consulting engineers
a division of Englobe

Report Title: Hydrogeological Investigation

Drawing Title: Site Location Map

Designed By: S.R.	Date: July 2020
Drawn By: K.M.	Project No.: 02001055.000
Approved By:	Figure No.: 1
Scale: As shown	

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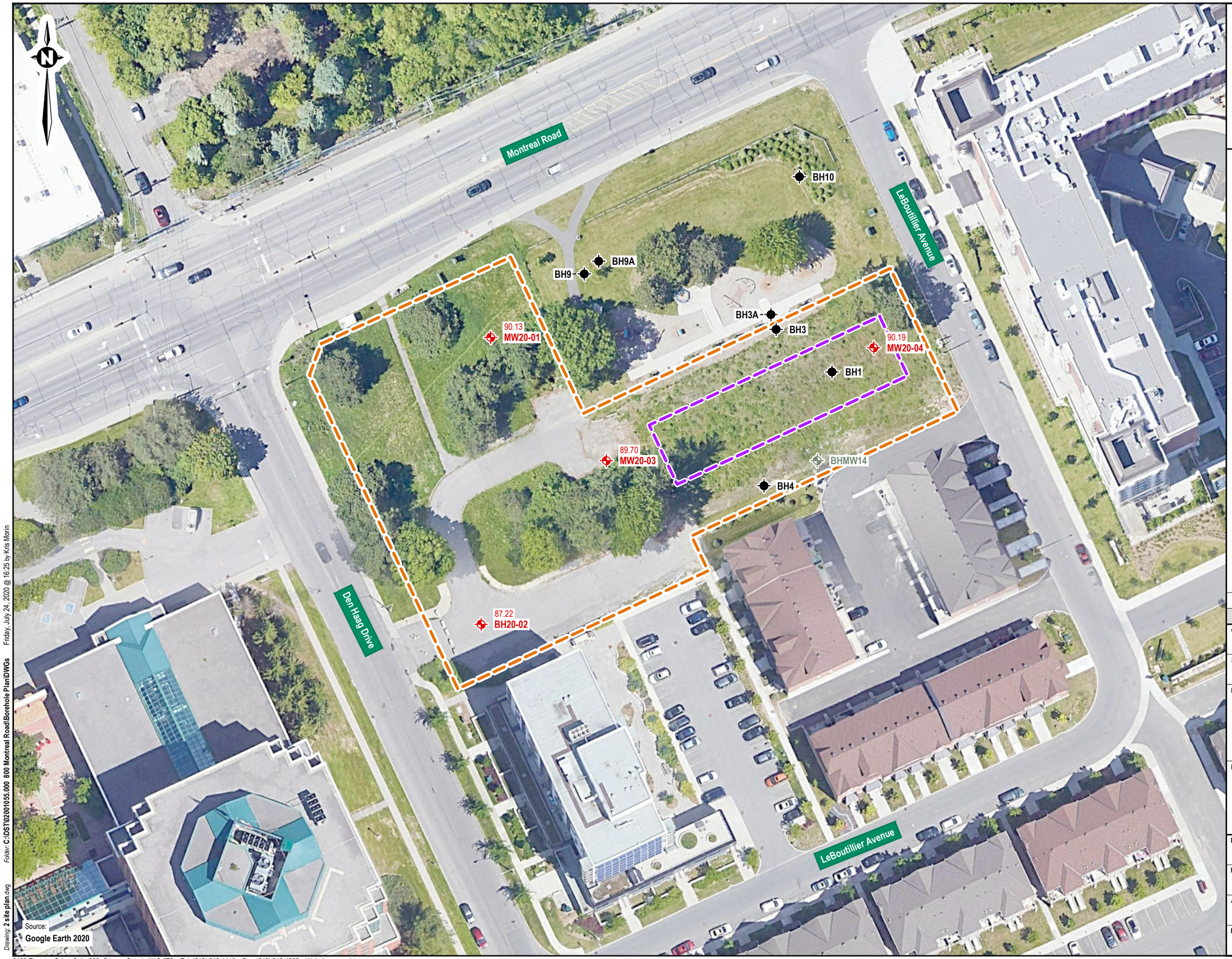
Drawing: 1 site location.dwg Folder: C:\DST\02001055.000 800 Montreal Road\Borehole Plan\DWGs Friday, July 24, 2020 @ 16:25 by Kris Morin



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a division of Englobe

Note

1. This drawing shall be read in conjunction with the associated technical report.
2. Location of monitoring well BHMW14 was referenced from the *PHASE I/II ENVIRONMENTAL SITE ASSESSMENT FORMER FORINTEK BUILDING 800 MONTREAL ROAD OTTAWA, ONTARIO* report (DST, 2009).
3. Location of boreholes drilled by Paterson was referenced from the *GROUNDWATER INVESTIGATION 800 MONTREAL ROAD* report (Paterson Group, 2004)

Legend

- Approximate location of borehole (Paterson, 2004)
- Approximate location of borehole/monitoring well (DST, 2020)
- Approximate location of monitoring well (DST, 2008)
- Previously demolished Forintek building
- Proposed multi-story residential development

1:750
0 5 10 20 30 m
0 1:1 5 cm
Scale accurate when printed at 100% using paper size ANSI full bleed B (11.0 x 17.0 Inches)

Revision	Date	Issue	Approval
A	06/30/2020	Preliminary	

Client

Site
800 Montreal Road, Ottawa, ON

Report Title
Hydrogeological Investigation

Drawing Title
Borehole Location Plan

Designed By	Scale
S.R.	As shown
Drawn By	**Date**
K.M.	July 2020
Approved By	**Project No.**
	02001055.000

Figure No.
2

Drawing: 2 site plan.dwg Folder: C:\DST\02001055.000 800 Montreal Road\Borehole Plan\DWGs Friday, July 24, 2020 @ 16:25 by Kris Morin

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APPENDIX B
BOREHOLE, ROCK CORE, AND MONITORING WELL LOGS (2020)
HISTORICAL BOREHOLE LOGS (2004 and 2008)

LIST OF SYMBOLS AND DEFINITIONS FOR GEOTECHNICAL SAMPLING AND COMMON LITHOLOGIES

The following is a reference sheet for commonly used symbols and definitions within this report and in any figures or appendices, including borehole logs and test results. Symbols and definitions conform to the standard proposed by the International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE) wherever possible. Discrepancies may exist when comparing to third-party results using the Unified Soil Classification System (USCS).

PART A – SOILS

Standard Penetration Test (SPT) 'N'

The number of blows required to drive a 50-mm (2 in) split barrel sampler 300 mm (12 in). The standard hammer has a mass of 63.5 kg (140 lbs) and is dropped vertically from a height of 760 mm (30 in). Additional information can be found in ASTM D1586-11 and in §4.5.2 of the CFEM 4th Ed.

For penetration less than 300 mm, 'N' is recorded with the penetration that was achieved.

Non-Cohesive Soils

The relative density of non-cohesive soils relates empirically to SPT 'N' as follows:

Relative Density	'N'
Very Loose	0 – 4
Loose	4 – 10
Compact	10 – 30
Dense	30 – 50
Very Dense	> 50

Cohesive Soils

The consistency and undrained shear strength of cohesive soils relates empirically to SPT 'N' as follows:

Consistency	Undrained Shear Strength (kPa)	'N'
Very Soft	< 12	0 – 2
Soft	12 – 25	2 – 4
Firm	25 – 50	4 – 8
Stiff	50 – 100	8 – 15
Very Stiff	100 – 200	15 – 30
Hard	> 200	> 30

PART B – ROCK

The following parameters are used to describe core recovery and to infer the quality of a rockmass.

Total Core Recovery, TCR (%)

The total length of solid drill core recovered, regardless of the quality or length of the pieces, taken as a percentage of the length of the core run.

Solid Core Recovery, SCR (%)

The total length of solid, full-diameter drill core recovered, taken as a percentage of the length of the core run.

Rock Quality Designation, RQD (%)

The sum of the lengths of solid drill core greater than 100 mm long, taken as a percentage of the length of the core run. RQD is commonly used to infer the quality of the rockmass, as follows:

Rockmass Quality	RQD (%)
Very Poor	< 25
Poor	25 – 50
Fair	50 – 75
Good	75 – 90
Excellent	> 90

Weathering

The terminology used to describe the degree of weathering for recovered rock core is defined as follows, as suggested by the *Geological Society of London*:

Completely weathered: All rock material is decomposed and/or disintegrated to soil. The original mass structure is largely intact.

Highly weathered: More than half the rock material is decomposed and/or disintegrated to soil. Fresh or discolored rock is present either as a discontinuous framework or as core stone.

Moderately weathered: Less than half the rock material is decomposed and/or disintegrates to soil. Fresh or discolored rock is present ether as a continuous framework or as core stone.

Slightly weathered: Discoloration indicates weathering of rock material and discontinuity of surfaces. All the rock material may be discolored by weathering and may be somewhat weaker than its fresh condition.

Fresh: No visible signs of weathering.

PART C – SAMPLING SYMBOLS

Symbol	Description
SS	Split spoon sample
TW	Thin-walled (Shelby Tube) sample
PH	Sampler advanced by hydraulic pressure
WH	Sampler advanced by static weight
SC	Soil core

PART D – IN-SITU AND LAB TESTING

SOIL NAMING CONVENTIONS

Particle sizes are described as follows:

Particle Size Descriptor		Size (mm)
Boulder		> 300
Cobble		75 – 300
Gravel	Coarse	19 – 75
	Fine	4.75 – 19
Sand	Coarse	2.0 – 4.75
	Medium	0.425 – 2.0
	Fine	0.075 – 0425
Silt		0.002 – 0.075
Clay		< 0.002

The principle constituent of a soil is written in uppercase. The minor constituents of a soil are written according to the following convention:

Descriptive Term	Proportion of Soil (%)
Trace	1 – 10
Some	10 – 20
(ey) or (y)	20 – 35
And	35 – 50

Eg.: A soil comprising 65% Silt, 21% Sand and 14% Clay would be described as a: Sandy SILT, Some Clay

LOG OF BOREHOLE MW20-01

DST REF. No.: **02001425**
CLIENT: **Sovima Ottawa Inc.**
PROJECT: **New Multi-Storey Residential Develpment**
LOCATION: **800 Montreal Road**
SURFACE ELEVATION: 90.10m

Drilling Data
METHOD: **Hollow Stem Augers and Casings**
DIAMETER:
DATE: **May 14, 2020**
COORDINATES: **5034216.2** m N, **372447.9** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l) 20 40 60 80	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) ✖ 20 40 60 80; SPT (N) □ Blows/0.3m DCPT ◆ 20 40 60 80	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
0.0	90				**TOPSOIL -** silty sand trace rootlets and organic material, brown, dry	SS1		8		
1.0	89				contains trace gravel and shale fragments below 0.8 m	SS2		9		
2.0	88				**Highly weathered SHALE (Probable Mud Stone) -** black	SS3		45		
						SS4		92/203mm		
3.0	87				**BEDROCK -** Shale, moderately weathered, very poor quality based on RQD - Refer to bedrock core logs for additional details	HQ5				RQD = 0%
4.0	86									
						HQ6				RQD = 13%
5.0	85									
6.0	84					HQ7				RQD = 7%
7.0	83									
						HQ8				RQD = 0%
8.0	82									
9.0	81					HQ9				RQD = 0%
10.0	80				End of Borehole at approximatley 10.1 m (~Elev. 80.0 m) within shale bedrock. Water level measured to be at 2.9 m (~Elev. 87.2 m) June 2, 2020. Water level measured to be at 3.0 m (~Elev. 87.1 m) June 3, 2020. Water level measured to be at 3.3 m (~Elev. 86.8 m) July 9, 2020.					
11.0	79									
12.0	78									

BOREHOLE (STANDARD) - OTTAWA 02001055 SOVIMA - 800 MONTREAL ROAD.GPJ DST_MIN.GDT 7/10/20

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Email: ottawa@dstgroup.com
Web: www.dstgroup.com

SAMPLE TYPE LEGEND

- Auger Sample
- Split Spoon Sample
- Bulk Sample
- Rock Core
- Hiller Peat Sampler
- 70mm Thin Wall Tube
- Bentonite
- Sand

ENCLOSURE 2

LOG OF BOREHOLE BH20-02

DST REF. No.: **02001425**
CLIENT: **Sovima Ottawa Inc.**
PROJECT: **New Multi-Storey Residential Develpment**
LOCATION: **800 Montreal Road**
SURFACE ELEVATION: 87.20m

Drilling Data
METHOD: **Hollow Stem Augers and Casings**
DIAMETER:
DATE: **May 19, 2020**
COORDINATES: **5034157.1** m N, **372446.9** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l)	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) ✖ / SPT (N) □ Blows/0.3m / DCPT ◆	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
	87				**100mm ASPHALT**					
					FILL - sand and gravel, very dense	SS1		31		
1.0	86				**SILTY SAND -**loose to compact, brown, moist	SS2		15		
2.0	85				51 mm thick coarse sand seam at 1.7 m	SS3		6		
					Highly weathered SHALE (Probable Mud Stone) - black	SS4		50/152mm		
3.0	84									
					BEDROCK - Shale, moderately weathered, very poor to poor quality based on RQD	HQ5				RQD = 0%
4.0	83				- Refer to bedrock core logs for additional details.	HQ6				RQD = 0%
5.0	82									RQD = 6%
6.0	81					HQ7				
7.0	80									RQD = 40%
						HQ9				
8.0	79									UCS = 14.1 MPa; Unit weight = 25.6 kN/m3 UCS = 22.1 MPa; Unit weight = 25.7 kN/m3
9.0	78					HQ10				RQD = 0%
					End of Borehole at approximatley 9.4 m (~Elev. 77.80 m) within shale bedrock.					
10.0	77									
11.0	76									
12.0	75									

BOREHOLE (STANDARD) - OTTAWA 02001055 SOVIMA - 800 MONTREAL ROAD.GPJ DST_MIN.GDT 7/10/20

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SAMPLE TYPE LEGEND

- Auger Sample
- Split Spoon Sample
- Bulk Sample
- Rock Core
- Hiller Peat Sampler
- 70mm Thin Wall Tube
- Bentonite
- Sand

ENCLOSURE 1

LOG OF BOREHOLE MW20-03

DST REF. No.: **02001425**
CLIENT: **Sovima Ottawa Inc.**
PROJECT: **New Multi-Storey Residential Develpment**
LOCATION: **800 Montreal Road**
SURFACE ELEVATION: 89.70m

Drilling Data
METHOD: **Hollow Stem Augers and Casings**
DIAMETER:
DATE: **May 27, 2020**
COORDINATES: **5034191.2** m N, **372472.1** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l) 20 40 60 80	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) ✖ 20 40 60 80; SPT (N) □ Blows/0.3m; DCPT ◆ 20 40 60 80	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
0	89				**FILL -** silty sandy clay, stiff	SS1		7		
1.0					**FILL -** silty clayey sand, some gravel, loose	SS2		5		
	88				**SILT to SILTY SAND -** loose, light brown, wet	SS3		5		
2.0						SS4		>99		
	87				**Highly weathered SHALE (Probable Mud Stone) -** black	HQ5				Cored from 2.5 to 3.2 - no recovery
3.0						SS6		61/152mm		
	86									
4.0					**BEDROCK -** Shale, moderately weathered, very poor to poor quality based on RQD	HQ7				UCS = 58.2 MPa; Unit weight = 26.3 kN/m3 RQD = 37%
5.0	85				- Refer to bedrock core logs for additional details.					
	84					HQ8				RQD = 38% UCS = 39.3 MPa; Unit weight = 26.6 kN/m3
6.0										
	83									UCS = 50.7 MPa; Unit weight = 25.4 kN/m3
7.0						HQ9				RQD = 23% UCS = 38.4 MPa; Unit weight = 25.3 kN/m3
	82									
8.0										
	81					HQ10				RQD = 0%
9.0					End of Borehole at approximatley 9.2 m (~Elev. 80.5 m) within shale bedrock.					
	80									
10.0					Water level measured to be 3.1 m (~Elev. 86.6 m) June 2, 2020.					
	79									
11.0					Water level measured to be at 3.3 m (~Elev. 86.4 m) June 3, 2020.					
	78									
12.0					Water level measured to be at 3.7 m (~Elev. 86.0 m) July 9, 2020.					
	77									

BOREHOLE (STANDARD) - OTTAWA 02001055 SOVIMA - 800 MONTREAL ROAD.GPJ DST_MIN.GDT 7/10/20

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SAMPLE TYPE LEGEND

- Auger Sample
- Split Spoon Sample
- Bulk Sample
- Rock Core
- Hiller Peat Sampler
- 70mm Thin Wall Tube
- Bentonite
- Sand

ENCLOSURE 3

LOG OF BOREHOLE MW20-04

DST REF. No.: **02001425**
CLIENT: **Sovima Ottawa Inc.**
PROJECT: **New Multi-Storey Residential Develpment**
LOCATION: **800 Montreal Road**
SURFACE ELEVATION: 90.20m

Drilling Data
METHOD: **Hollow Stem Augers and Casings**
DIAMETER:
DATE: **May 14, 2020**
COORDINATES: **5034215.4** m N, **37257** m E

DEPTH (m)	ELEV. (m)	Water Data	% MOISTURE (W_p W W_l) 20 40 60 80	Symbol	MATERIAL DESCRIPTION	SAMPLE #	SAMPLE TYPE	'N' VALUE	VANE (kPa) ✖ 20 40 60 80; SPT (N) □ Blows/0.3m; DCPT ◆ 20 40 60 80	REMARKS & GRAINSIZE DISTRIBUTION (%) GR SA SI CL
0.0	90				**TOPSOIL -** silty clayey sand, trace rootlets and organic material	SS1		7		
1.0	89				**FILL -** silty sand with gravel (consruction debris), loose to compact, brown, moist to dry Contains trace brick and concrete pieces	SS2		4		
2.0	88					SS3		22		
3.0	87					SS4		34		
4.0	86					SS5		19		
5.0	85				Very dense below 4. 1 m	SS6		50/127 mm		Conducted DCPT from 4.1 to 4.7 m
6.0	84				**BEDROCK -** Shale, moderately weathered, fair to very poor quality based on RQD - Refer to bedrock core logs for additional details.	SS7		20		
7.0	83					HQ8				RQD = 12% UCS = 79.8 MPa; Unit weight = 25.4 kN/m3
8.0	82					HQ9				RQD = 0%
9.0	81					HQ10				RQD = 65%
10.0	80				End of Borehole at approximatley 9.6 m (~Elev. 80.6 m) within shale bedrock. Water level measured to be at 4.9 (~Elev. 85.3 m) June 2, 2020.	HQ11				RQD = 14% UCS = 63.2 MPa; Unit weight = 25.7 kN/m3
11.0	79				Water level measured to be at 4.3 m (~Elev. 85.9 m) June 3, 2020.					
12.0	78				Water level measured to be at 4.3 m (~Elev. 85.9 m) July 9, 2020.					

BOREHOLE (STANDARD) - OTTAWA 02001055 SOVIMA - 800 MONTREAL ROAD.GPJ DST_MIN.GDT 7/10/20

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SAMPLE TYPE LEGEND

- Auger Sample
- Split Spoon Sample
- Bulk Sample
- Rock Core
- Hiller Peat Sampler
- 70mm Thin Wall Tube
- Bentonite
- Sand

ENCLOSURE 4

Bedrock Core Log

Client:	Sovima	**Project No.:**	2001055
Project:	800 Montreal Road, Ottawa, ON	**Date:**	13-May-20
Contractor:	Strata Drilling Ltd.	**Borehole No.:**	MW20-01
		Logger:	KSD/SR

ELEV. FROM (masl)	RUN NO.	% CORE RECOVERY	% RQD	ELEV. TO (masl)	GENERAL DESCRIPTION	STRENGTH	WEATHERING	DISCONTINUITIES							OCCASIONAL FEATURES	DRILLING OBSERVATIONS
								NO. OF SETS	TYPE/S	ORIENTATION	SPACING	ROUGHNESS	APERTURE	FILLING		
87.7	HQ5	100%	0%	86.1	Very poor quality, black, Shale of the Billings Formation		W2	3	BD	F	VC-C	RP	O	T	Top 0.4 m consited of mainly gravel sized pieces	
									JN	D	M	RU	O	T		
									JN	V	M	RP	O	T		
86.1	HQ6	100%	13%	84.9	Very poor quality, black Shale of the Billings Formation		W2	2	JN	D	VC-C	RU	O	T		
									BD	F	W	RP	O	T		
84.9	HQ7	100%	7%	83.2	Very poor quality, black, Shale of the Billings Formation		W2	3	BD	F	VC-C	RP	MW	T		
									JN	D	VC-M	RU	O	T		
									JN	V	M	RP	O	T		
83.2	HQ8	100%	0%	81.8	Very poor quality, black, Shale of the Billings Formation		W2	3	BD	F	VC	RP	O	SC	Top 0.5 m of core run is very clayey (breaks apart)	
									JN	V	VC	RP	O	SC		
									JN	F	VC	RU	VW	SC		

STRENGTH (MPa)

Grade/Classification	Est. Strength (MPa)
R0 Extremely Week	0.25 - 1.0
R1 Very Weak	1.0 - 5.0
R2 Weak	5.0 - 25.0
R3 Medium Strong	25.0 - 50.0
R4 Strong	50.0 - 100.0
R5 Very Strong	100.0 - 250.0
R6 Extremely Strong	>250.0

JOINT TYPE

BD = Bedding
JN = Joint
FOL = Foliation
CON = Contact
FLT = Fault
VN = Vein

ORIENTATION

F = Flat = 0-20^0
D = Dipping = 20-50^0
V = n-Vertical = >50^0

FILLING

T = Tight, Hard
O = Oxidized
SA = Slightly Altered, Clay Free
S = Sandy, Clay Free
Si = Sandy, Silty, Minor Clay
NC = Non-softening Clay
SC = Swelling, Soft Clay

APERTURE

VT = Very Tight (<0.1mm)
T = Tight (0.1 - 0.25mm)
PO = Partly Open (0.25 - 0.5mm)
O = Open (0.5 - 2.5mm)
MW = Moderately Wide (2.5 - 10mm)
W = Wide (>10mm)
VW = Very Wide (1 - 10cm)
EW = Extremely Wide (10 - 100cm)
C = Cavernous (> 1m)

WEATHERING

Grade/Classification	Description
W1 Fresh	No Visible Signs of Weathering
W2 Slightly	Discoloration, Weathering on Discontinuities
W3 Moderately	<50% of Rock Material is Decomposed, Fresh Core Stones
W4 Highly	>50% Decomposed to soil: Fresh Core Stones
W5 Completely	100% Decomposed to Soil: Original Structure Intact
W6 Residual Soil	All Rock Converted to Soil, Structure and Fabric Destroyed

DISCONTINUITY SPACING

Spacing (mm)	
EW = >6000	Extremely Wide
VW = 2000 - 6000	Very Wide
W = 600 - 2000	Wide
M = 200 - 600	Moderate
C = 60 - 200	Close
VC = 20 - 60	Very Close
EC = <20	Extremely Close

JOINT ROUGHNESS

Jr	Description
4	DJ = Discontinuous Joints
3	RU = Rough, Irregular, Undulating
1.5	SU = Smooth, Undulating
1.5	LU = Slickensided, Undulating
1.0	RP = Rough or Irregular, Planar
0.5	SP = Smooth, Planar
2	LP = Slickensided, Planar

Bedrock Core Log

Client:	Sovima	**Project No.:**	2001055
Project:	800 Montreal Road, Ottawa, ON	**Date:**	13-May-20
Contractor:	Strata Drilling Ltd.	**Borehole No.:**	MW20-01
		Logger:	KSD/SR

ELEV. FROM (masl)	RUN NO.	% CORE RECOVERY	% RQD	ELEV. TO (masl)	GENERAL DESCRIPTION	STRENGTH	WEATHERING	DISCONTINUITIES							OCCASIONAL FEATURES	DRILLING OBSERVATIONS
								NO. OF SETS	TYPE/S	ORIENTATION	SPACING	ROUGHNESS	APERTURE	FILLING		
81.8	HQ 9	100%	0%	80	Very poor quality, black, Shale of the Billings Formation		W2	3	BD	F	C	RP	O	SC		
									JN	D	C	RU	O	SC		
									JN	V	C	RP	O	SC		

STRENGTH (MPa)

Grade/Classification	Est. Strength (MPa)
R0 Extremely Week	0.25 - 1.0
R1 Very Weak	1.0 - 5.0
R2 Weak	5.0 - 25.0
R3 Medium Strong	25.0 - 50.0
R4 Strong	50.0 - 100.0
R5 Very Strong	100.0 - 250.0
R6 Extremely Strong	>250.0

JOINT TYPE

BD = Bedding
JN = Joint
FOL = Foliation
CON = Contact
FLT = Fault
VN = Vein

ORIENTATION

F = Flat = 0-20^0
D = Dipping = 20-50^0
V = n-Vertical = >50^0

FILLING

T = Tight, Hard
O = Oxidized
SA = Slightly Altered, Clay Free
S = Sandy, Clay Free
Si = Sandy, Silty, Minor Clay
NC = Non-softening Clay
SC = Swelling, Soft Clay

APERTURE

VT = Very Tight (<0.1mm)
T = Tight (0.1 - 0.25mm)
PO = Partly Open (0.25 - 0.5mm)
O = Open (0.5 - 2.5mm)
MW = Moderately Wide (2.5 - 10mm)
W = Wide (>10mm)
VW = Very Wide (1 - 10cm)
EW = Extremely Wide (10 - 100cm)
C = Cavernous (> 1m)

WEATHERING

Grade/Classification	Description
W1 Fresh	No Visible Signs of Weathering
W2 Slightly	Discoloration, Weathering on Discontinuities
W3 Moderately	<50% of Rock Material is Decomposed, Fresh Core Stones
W4 Highly	>50% Decomposed to soil: Fresh Core Stones
W5 Completely	100% Decomposed to Soil: Original Structure Intact
W6 Residual Soil	All Rock Converted to Soil, Structure and Fabric Destroyed

DISCONTINUITY SPACING

Spacing (mm)	
EW = >6000	Extremely Wide
VW = 2000 - 6000	Very Wide
W = 600 - 2000	Wide
M = 200 - 600	Moderate
C = 60 - 200	Close
VC = 20 - 60	Very Close
EC = <20	Extremely Close

JOINT ROUGHNESS

Jr	Description
4	DJ = Discontinuous Joints
3	RU = Rough, Irregular, Undulating
1.5	SU = Smooth, Undulating
1.5	LU = Slickensided, Undulating
1.0	RP = Rough or Irregular, Planar
0.5	SP = Smooth, Planar
2	LP = Slickensided, Planar

Bedrock Core Log

Client:	Sovima	**Project No.:**	2001055
Project:	800 Montreal Road, Ottawa, ON	**Date:**	13-May-20
Contractor:	Strata Drilling Ltd.	**Borehole No.:**	BH20-02
		Logger:	KSD/SR

ELEV. FROM (masl)	RUN NO.	% CORE RECOVERY	% RQD	ELEV. TO (masl)	GENERAL DESCRIPTION	STRENGTH	WEATHERING	DISCONTINUITIES							OCCASIONAL FEATURES	DRILLING OBSERVATIONS
								NO. OF SETS	TYPE/S	ORIENTATION	SPACING	ROUGHNESS	APERTURE	FILLING		
83.8	HQ5	100%	0%	83.5	Very poor quality, black, Shale of the Billings Formation		W2	1	JN	D	VC	RU	O	O	Sign sof oxidation between fractures	
83.5	HQ6	96%	0%	82	Very poor quality, black, Shale of the Billings Formation		W2	2	JN	D	VC	RP	O	O	Top 0.6 m contains sign sof oxidation	
									BD	F	VC	RU	O	O		
82.0	HQ7	100%	6%	80.3	Very poor quality, black, Shale of the Billings Formation		W2	2	JN	D	VC	RP	O	T		
									BD	F	VC	RU	O	T		
80.3	HQ8	100%	40%	78.8	Poor quality, black, Shale of the Billings Formation		W2	2	JN	D	VC-C	RP	O	T		
									BD	F		RU	O	SC		

STRENGTH (MPa)

Grade/Classification	Est. Strength (MPa)
R0 Extremely Week	0.25 - 1.0
R1 Very Weak	1.0 - 5.0
R2 Weak	5.0 - 25.0
R3 Medium Strong	25.0 - 50.0
R4 Strong	50.0 - 100.0
R5 Very Strong	100.0 - 250.0
R6 Extremely Strong	>250.0

JOINT TYPE

BD = Bedding
JN = Joint
FOL = Foliation
CON = Contact
FLT = Fault
VN = Vein

ORIENTATION

F = Flat = 0-20^0
D = Dipping = 20-50^0
V = n-Vertical = >50^0

FILLING

T = Tight, Hard
O = Oxidized
SA = Slightly Altered, Clay Free
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Si = Sandy, Silty, Minor Clay
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SC = Swelling, Soft Clay

APERTURE

VT = Very Tight (<0.1mm)
T = Tight (0.1 - 0.25mm)
PO = Partly Open (0.25 - 0.5mm)
O = Open (0.5 - 2.5mm)
MW = Moderately Wide (2.5 - 10mm)
W = Wide (>10mm)
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EW = Extremely Wide (10 - 100cm)
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WEATHERING

Grade/Classification	Description
W1 Fresh	No Visible Signs of Weathering
W2 Slightly	Discoloration, Weathering on Discontinuities
W3 Moderately	<50% of Rock Material is Decomposed, Fresh Core Stones
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W5 Completely	100% Decomposed to Soil: Original Structure Intact
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DISCONTINUITY SPACING

Spacing (mm)	
EW = >6000	Extremely Wide
VW = 2000 - 6000	Very Wide
W = 600 - 2000	Wide
M = 200 - 600	Moderate
C = 60 - 200	Close
VC = 20 - 60	Very Close
EC = <20	Extremely Close

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Jr	Description
4	DJ = Discontinuous Joints
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1.5	LU = Slickensided, Undulating
1.0	RP = Rough or Irregular, Planar
0.5	SP = Smooth, Planar
2	LP = Slickensided, Planar

Bedrock Core Log

Client:	Sovima	**Project No.:**	2001055
Project:	800 Montreal Road, Ottawa, ON	**Date:**	13-May-20
Contractor:	Strata Drilling Ltd.	**Borehole No.:**	BH20-02
		Logger:	KSD/SR

ELEV. FROM (masl)	RUN NO.	% CORE RECOVERY	% RQD	ELEV. TO (masl)	GENERAL DESCRIPTION	STRENGTH	WEATHERING	DISCONTINUITIES							OCCASIONAL FEATURES	DRILLING OBSERVATIONS
								NO. OF SETS	TYPE/S	ORIENTATION	SPACING	ROUGHNESS	APERTURE	FILLING		
78.8	HQ9	100%	0%	77.8	Very poor quality, black, Shale of the Billings Formation		W2	3	JN	V	C	RP	O	T		
									JN	D	C	RU	O	T		
									BD	F	VC	RP	O	SC		

STRENGTH (MPa)

Grade/Classification	Est. Strength (MPa)
R0 Extremely Week	0.25 - 1.0
R1 Very Weak	1.0 - 5.0
R2 Weak	5.0 - 25.0
R3 Medium Strong	25.0 - 50.0
R4 Strong	50.0 - 100.0
R5 Very Strong	100.0 - 250.0
R6 Extremely Strong	>250.0

JOINT TYPE

BD = Bedding
JN = Joint
FOL = Foliation
CON = Contact
FLT = Fault
VN = Vein

ORIENTATION

F = Flat = 0-20^0
D = Dipping = 20-50^0
V = n-Vertical = >50^0

FILLING

T = Tight, Hard
O = Oxidized
SA = Slightly Altered, Clay Free
S = Sandy, Clay Free
Si = Sandy, Silty, Minor Clay
NC = Non-softening Clay
SC = Swelling, Soft Clay

APERTURE

VT = Very Tight (<0.1mm)
T = Tight (0.1 - 0.25mm)
PO = Partly Open (0.25 - 0.5mm)
O = Open (0.5 - 2.5mm)
MW = Moderately Wide (2.5 - 10mm)
W = Wide (>10mm)
VW = Very Wide (1 - 10cm)
EW = Extremely Wide (10 - 100cm)
C = Cavernous (> 1m)

WEATHERING

Grade/Classification	Description
W1 Fresh	No Visible Signs of Weathering
W2 Slightly	Discoloration, Weathering on Discontinuities
W3 Moderately	<50% of Rock Material is Decomposed, Fresh Core Stones
W4 Highly	>50% Decomposed to soil: Fresh Core Stones
W5 Completely	100% Decomposed to Soil: Original Structure Intact
W6 Residual Soil	All Rock Converted to Soil, Structure and Fabric Destroyed

DISCONTINUITY SPACING

Spacing (mm)	
EW = >6000	Extremely Wide
VW = 2000 - 6000	Very Wide
W = 600 - 2000	Wide
M = 200 - 600	Moderate
C = 60 - 200	Close
VC = 20 - 60	Very Close
EC = <20	Extremely Close

JOINT ROUGHNESS

Jr	Description
4	DJ = Discontinuous Joints
3	RU = Rough, Irregular, Undulating
1.5	SU = Smooth, Undulating
1.5	LU = Slickensided, Undulating
1.0	RP = Rough or Irregular, Planar
0.5	SP = Smooth, Planar
2	LP = Slickensided, Planar

Bedrock Core Log

Client:	Sovima	**Project No.:**	2001055
Project:	800 Montreal Road, Ottawa, ON	**Date:**	13-May-20
Contractor:	Strata Drilling Ltd.	**Borehole No.:**	MW20-03
		Logger:	KSD/SR

ELEV. FROM (masl)	RUN NO.	% CORE RECOVERY	% RQD	ELEV. TO (masl)	GENERAL DESCRIPTION	STRENGTH	WEATHERING	DISCONTINUITIES							OCCASIONAL FEATURES	DRILLING OBSERVATIONS
								NO. OF SETS	TYPE/S	ORIENTATION	SPACING	ROUGHNESS	APERTURE	FILLING		
85.6	HQ1	100%	37%	84.5	Poor quality, black, Shale of the Billings Formation		W2	2	BD J	F D	C M	RP RU	MW O	SC SC	Top 0.2m consist of gravel pieces	
84.5	HQ2	93%	38%	83.1	Poor quality, black, Shale of the Billings Formation		W2	2	BD J	F D	VC M	RP RU	O-MW O	NC NC		
83.1	HQ3	97%	23%	81.5	Very poor quality, black Shale of the Billings Formation		W2	2	BD J	F V	C C-M	RP RU	MW O	T T		
81.5	HQ4	100%	0%	80.5	Very poor, black, shale of the Billings Formation		W2	2	BD J	F D	C M	RP RU	O-MW MW	SC SC	Shale covered is in clay within top 0.5 m of run. Clay seam approx. 0.1 m down run	

STRENGTH (MPa)

Grade/Classification	Est. Strength (MPa)
R0 Extremely Week	0.25 - 1.0
R1 Very Weak	1.0 - 5.0
R2 Weak	5.0 - 25.0
R3 Medium Strong	25.0 - 50.0
R4 Strong	50.0 - 100.0
R5 Very Strong	100.0 - 250.0
R6 Extremely Strong	>250.0

JOINT TYPE

BD = Bedding
JN = Joint
FOL = Foliation
CON = Contact
FLT = Fault
VN = Vein

ORIENTATION

F = Flat = 0-20^0
D = Dipping = 20-50^0
V = n-Vertical = >50^0

FILLING

T = Tight, Hard
O = Oxidized
SA = Slightly Altered, Clay Free
S = Sandy, Clay Free
Si = Sandy, Silty, Minor Clay
NC = Non-softening Clay
SC = Swelling, Soft Clay

APERTURE

VT = Very Tight (<0.1mm)
T = Tight (0.1 - 0.25mm)
PO = Partly Open (0.25 - 0.5mm)
O = Open (0.5 - 2.5mm)
MW = Moderately Wide (2.5 - 10mm)
W = Wide (>10mm)
VW = Very Wide (1 - 10cm)
EW = Extremely Wide (10 - 100cm)
C = Cavernous (> 1m)

WEATHERING

Grade/Classification	Description
W1 Fresh	No Visible Signs of Weathering
W2 Slightly	Discoloration, Weathering on Discontinuities
W3 Moderately	<50% of Rock Material is Decomposed, Fresh Core Stones
W4 Highly	>50% Decomposed to soil: Fresh Core Stones
W5 Completely	100% Decomposed to Soil: Original Structure Intact
W6 Residual Soil	All Rock Converted to Soil, Structure and Fabric Destroyed

DISCONTINUITY SPACING

Spacing (mm)	
EW = >6000	Extremely Wide
VW = 2000 - 6000	Very Wide
W = 600 - 2000	Wide
M = 200 - 600	Moderate
C = 60 - 200	Close
VC = 20 - 60	Very Close
EC = <20	Extremely Close

JOINT ROUGHNESS

Jr	Description
4	DJ = Discontinuous Joints
3	RU = Rough, Irregular, Undulating
1.5	SU = Smooth, Undulating
1.5	LU = Slickensided, Undulating
1.0	RP = Rough or Irregular, Planar
0.5	SP = Smooth, Planar
2	LP = Slickensided, Planar

Bedrock Core Log

Client:	Sovima	**Project No.:**	2001055
Project:	800 Montreal Road, Ottawa, ON	**Date:**	13-May-20
Contractor:	Strata Drilling Ltd.	**Borehole No.:**	MW20-04
		Logger:	KSD/SR

ELEV. FROM (masl)	RUN NO.	% CORE RECOVERY	% RQD	ELEV. TO (masl)	GENERAL DESCRIPTION	STRENGTH	WEATHERING	DISCONTINUITIES							OCCASIONAL FEATURES	DRILLING OBSERVATIONS
								NO. OF SETS	TYPE/S	ORIENTATION	SPACING	ROUGHNESS	APERTURE	FILLING		
84.5	HQ8	93%	12%	83.2	Very poor quality, black, Shale of the Billings Formation		W2	2	BD	F	VC-C	RP	O	T		Redrill area 0.5m down run
									JN	D	M	RU	O	T		
83.2	HQ9	100%	0%	82.2	Very poor quality, black, Shale of the Billings Formation		W2	2	BD	F	VC-C	RP	O	SC	Top 0.5m of run, shale covered in clay; Bottom 0.2m of run, shale covered in clay	Redrill area 0.8m down run
									JN	D	VC	RU	MW	SC		
82.2	HQ10	94%	65%	81.6	Fair quality, black, Shale of the Billings Formation		W2	2	BD	F	VC-C	RP	MW	SC		Short core run due to plugged casing
									JN	D	C	RU	MW	T		
81.6	HQ11	97%	14%	80.6	Very poor quality, black, Shale of the Billings Formation		W2	2	BD	F	VC	RP	O-MW	T		Brown wash water
									JN	D	M	RU	O	T		

STRENGTH (MPa)

Grade/Classification	Est. Strength (MPa)
R0 Extremely Week	0.25 - 1.0
R1 Very Weak	1.0 - 5.0
R2 Weak	5.0 - 25.0
R3 Medium Strong	25.0 - 50.0
R4 Strong	50.0 - 100.0
R5 Very Strong	100.0 - 250.0
R6 Extremely Strong	>250.0

JOINT TYPE

BD = Bedding
JN = Joint
FOL = Foliation
CON = Contact
FLT = Fault
VN = Vein

ORIENTATION

F = Flat = 0-20^0
D = Dipping = 20-50^0
V = n-Vertical = >50^0

FILLING

T = Tight, Hard
O = Oxidized
SA = Slightly Altered, Clay Free
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Si = Sandy, Silty, Minor Clay
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APERTURE

VT = Very Tight (<0.1mm)
T = Tight (0.1 - 0.25mm)
PO = Partly Open (0.25 - 0.5mm)
O = Open (0.5 - 2.5mm)
MW = Moderately Wide (2.5 - 10mm)
W = Wide (>10mm)
VW = Very Wide (1 - 10cm)
EW = Extremely Wide (10 - 100cm)
C = Cavernous (> 1m)

WEATHERING

Grade/Classification	Description
W1 Fresh	No Visible Signs of Weathering
W2 Slightly	Discoloration, Weathering on Discontinuities
W3 Moderately	<50% of Rock Material is Decomposed, Fresh Core Stones
W4 Highly	>50% Decomposed to soil: Fresh Core Stones
W5 Completely	100% Decomposed to Soil: Original Structure Intact
W6 Residual Soil	All Rock Converted to Soil, Structure and Fabric Destroyed

DISCONTINUITY SPACING

Spacing (mm)	
EW = >6000	Extremely Wide
VW = 2000 - 6000	Very Wide
W = 600 - 2000	Wide
M = 200 - 600	Moderate
C = 60 - 200	Close
VC = 20 - 60	Very Close
EC = <20	Extremely Close

JOINT ROUGHNESS

Jr	Description
4	DJ = Discontinuous Joints
3	RU = Rough, Irregular, Undulating
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1.5	LU = Slickensided, Undulating
1.0	RP = Rough or Irregular, Planar
0.5	SP = Smooth, Planar
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LOG OF BOREHOLE/MONITORING WELL BHMW14

DST REF. No.: **OE-OT-007807**
CLIENT: **Canada Lands Company**
PROJECT: **Phase II Environmental Site Assessment**
LOCATION: **800 Montreal Road, Ottawa, Ontario**
SURFACE ELEV.: **--/--**

Drilling Data
METHOD: **CME 75 Drill Rig**
DIAMETER: **200 mm**

DATE: **October 15 2008**

CCGD/PID * ○ RKI EAGLE (PPM) 20 40 60 80 □ *MINIRAE (PPM)* 5 10 15 20	PPM	SAMPLES No.	Type	SPT N-Value	SYMBL	SUBSURFACE PROFILE MATERIAL DESCRIPTION	DPTH m	ELEV m	WATER DATA	REMARKS
						SURFACE				
	0	SS1		5		CONCRETE - crushed (4 inch minus) (fill)				
	0.0						0.5			
	0	SS2		2						
	0.3						1.0			
	0	SS3A		8		ASPHALT - black (fill)				
	0.2					GRAVEL - trace sand, brown (fill)				
	0	SS3B		8		SAND - coarse, brown (fill)	1.5			
	0.1									
○	15	SS4		14			2.0			
	0.3									
>>○	140	SS5		>99		CONCRETE - 50 mm thick				
	0.4					SAND - brown	2.5			
>>○	130	SS6		8		CONCRETE - 150 mm thick				
	0.9					SAND - silty, some bedrock fragments, grey	3.0			
□	0	SS7		8						
	1.9						3.5			
	0	SS8		>99		BEDROCK - weathered black shale, trace sand and silt				
	0.0						4.0			
						End of borehole at 4.27 m depth.				Auger refusal at 4.27 m depth.

DST CONSULTING ENGINEERS

DST Consulting Engineers Inc.
203 - 2150 THURSTON DRIVE
OTTAWA, ONTARIO, K1G 5T9
PH: (613)748-1415
FX: (613)748-1356
Email: ottawa@dstgroup.com
Web: www.dstgroup.com

* Catalytic Combustible Gas Detector / Photo Ionization Detector

SAMPLE TYPE LEGEND

Auger Sample; Split Spoon Sample; Thin Wall Tube; Rock Core; Side Sampler; Grab Sample; Sand; Bentonite Seal; Native Soil

APPENDIX D

GASTECBH (OTTAWA) BOREHOLES.GPJ DST_MIN.GDT 11/4/08

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Consulting Engineers

28 Concourse Gate, Unit 1, Ottawa, ON K2E 7T7

SOIL PROFILE & TEST DATA

Groundwater Investigation
800 Montreal Road
Ottawa, Ontario

DATUM Referenced to finished floor slab, elevation = 88.393m (290')

FILE NO. PG0423

REMARKS N values corrected for weight of hammer

HOLE NO. BH 1

BORINGS BY Portable Drill

DATE 5 OCT 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	85.35
Concrete slab 0.23							
GLACIAL TILL: Brown sandy silt with gravel, cobbles, boulders and shale fragments 0.91		AU	1				
		RC	1	100	33	1	84.35
		RC	2	100	73		
BEDROCK: Fresh, dark grey to black shale		RC	3	77	35		
		RC	4	89	58	2	83.35
		RC	5	95	76		
		RC	6	100	69		
2.97 End of Borehole							
(GWL @ 0.13m-Oct. 27/04)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

Piezometer Construction

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

patersongroup

Consulting Engineers

28 Concourse Gate, Unit 1, Ottawa, ON K2E 7T7

SOIL PROFILE & TEST DATA

Groundwater Investigation
800 Montreal Road
Ottawa, Ontario

DATUM Referenced to finished floor slab, elevation = 88.393m (290')

FILE NO. PG0423

REMARKS

HOLE NO. BH 3

BORINGS BY CME 55 Power Auger

DATE 6 OCT 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	90.73
TOPSOIL 0.13							
FILL: Dark brown silty fine sand with gravel, cobbles and boulders		SS AU	1 2	56	50+		
0.97							
End of Borehole							
Practical refusal to augering @ 0.97m depth							
(BH dry upon completion)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

Piezometer Construction

patersongroup Consulting Engineers

28 Concourse Gate, Unit 1, Ottawa, ON K2E 7T7

SOIL PROFILE & TEST DATA

Groundwater Investigation
800 Montreal Road
Ottawa, Ontario

DATUM Referenced to finished floor slab, elevation = 88.393m (290')

FILE NO. PG0423

REMARKS

HOLE NO. BH 3A

BORINGS BY CME 55 Power Auger DATE 6 OCT 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %	Piezometer Construction
GROUND SURFACE						0	90.78		
TOPSOIL 0.13									
FILL: Brown silty fine sand, occasional gravel and shale fragments		SS	1	38	9	1	89.78		
		SS	2	25	20				
2.08						2	88.78		
GLACIAL TILL: Compact, dark brown silty fine sand with shale fragments 2.29		SS	3	67	50+				
Inferred shale BEDROCK 2.69									
End of Borehole									
Practical refusal to augering @ 2.69m depth									
(GWL @ 2.43m-Oct. 27/04)									

Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone ○ Water Content %

20 40 60 80

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

patersongroup

Consulting Engineers

28 Concourse Gate, Unit 1, Ottawa, ON K2E 7T7

SOIL PROFILE & TEST DATA

Groundwater Investigation
800 Montreal Road
Ottawa, Ontario

DATUM Referenced to finished floor slab, elevation = 88.393m (290')

FILE NO. PG0423

REMARKS

HOLE NO. BH 4

BORINGS BY CME 55 Power Auger

DATE 6 OCT 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	88.25
Asphaltic concrete 0.10							
FILL: Grey crushed stone 0.30		AU	1				
FILL: Brown silty fine sand with gravel							
0.86		SS	2	64	50+	1	87.25
		SS	3	62	50+		
Inferred shale BEDROCK						2	86.25
		AU	4			3	85.25
3.35							
End of Borehole							
Practical refusal to augering @ 3.35m depth							
(GWL @ 1.85m-Oct. 27/04)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone
○ Water Content %

20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup Consulting Engineers

28 Concourse Gate, Unit 1, Ottawa, ON K2E 7T7

SOIL PROFILE & TEST DATA

Groundwater Investigation
800 Montreal Road
Ottawa, Ontario

DATUM Referenced to finished floor slab, elevation = 88.393m (290')

FILE NO. PG0423

REMARKS

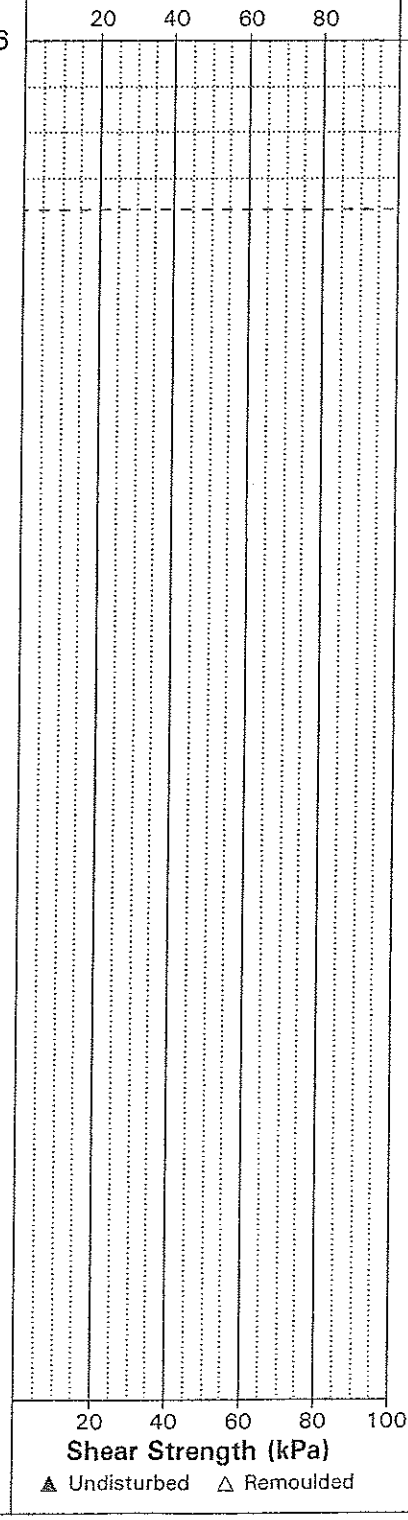
HOLE NO. BH 9

BORINGS BY CME 55 Power Auger DATE 6 OCT 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	90.46
TOPSOIL 0.13							
FILL: brown silty fine sand with gravel and shale fragments 0.74		AU	1				
End of Borehole							
Practical refusal to augering @ 0.74m depth							
(BH dry upon completion)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone
○ Water Content %

Piezometer Construction



patersongroup Consulting Engineers

28 Concourse Gate, Unit 1, Ottawa, ON K2E 7T7

SOIL PROFILE & TEST DATA

Groundwater Investigation
800 Montreal Road
Ottawa, Ontario

DATUM Referenced to finished floor slab, elevation = 88.393m (290')

FILE NO. PG0423

REMARKS

HOLE NO. BH 9A

BORINGS BY CME 55 Power Auger DATE 6 OCT 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	90.43
TOPSOIL 0.08							
FILL: Brown silty fine sand with gravel, cobbles and boulders		SS	1	43	50+		
0.91		AU	2			1	89.43
GLACIAL TILL: Dark brown sandy silt with shale fragments							
1.62		SS	3	33	50+		
Inferred shale BEDROCK 1.80							
End of Borehole							
Practical refusal to augering @ 1.80m depth							
(BH dry-Oct. 27/04)							

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone
○ Water Content %

20 40 60 80

Piezometer Construction

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

patersongroup

Consulting Engineers

28 Concourse Gate, Unit 1, Ottawa, ON K2E 7T7

SOIL PROFILE & TEST DATA

Groundwater Investigation
800 Montreal Road
Ottawa, Ontario

DATUM Referenced to finished floor slab, elevation = 88.393m (290')

FILE NO. PG0423

REMARKS

HOLE NO. BH10

BORINGS BY CME 55 Power Auger

DATE 5 OCT 04

SOIL DESCRIPTION	STRATA PLOT	SAMPLE TYPE	SAMPLE NUMBER	SAMPLE % RECOVERY	SAMPLE N VALUE or RQD	DEPTH (m)	ELEV. (m)
GROUND SURFACE						0	90.48
TOPSOIL 0.13							
FILL: Brown silty fine sand with shale fragments, gravel, trace brick pieces		AU	1				
0.84						1	89.48
		SS	2	71	11		
Compact, brown SILTY FINE SAND, trace gravel		SS	3	83	11	2	88.48
2.40		SS	4	44	50+		
		RC	1	89	39	3	87.48
BEDROCK: Fresh, dark grey to black shale with occasional mud seams		RC	2	100	48	4	86.48
		RC	3	100	72	5	85.48
						6	84.48

Pen. Resist. Blows/0.3m
● 50 mm Dia. Cone

○ Water Content %

20 40 60 80

Piezometer Construction

20 40 60 80 100

Shear Strength (kPa)

▲ Undisturbed △ Remoulded

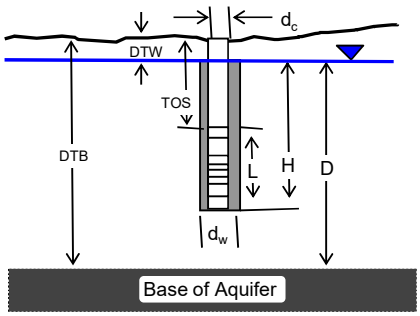
APPENDIX C
HYDRAULIC CONDUCTIVITY TEST RESULTS

WELL ID: MW20-1

Local ID: MW20-1
Date: 2020-06-02
Time: 0:00

INPUT

Construction:		
Casing dia. (d_c)	0.051	Meter
Annulus dia. (d_w)	0.108	Meter
Screen Length (L)	3	Meter
Depths to:		
water level (DTW)	2.92	Meter
top of screen (TOS)	3.35	Meter
Base of Aquifer (DTB)	10	Meter
Annular Fill:		
across screen --	Fine Sand	
above screen --	Bentonite	
Aquifer Material --	Shale	



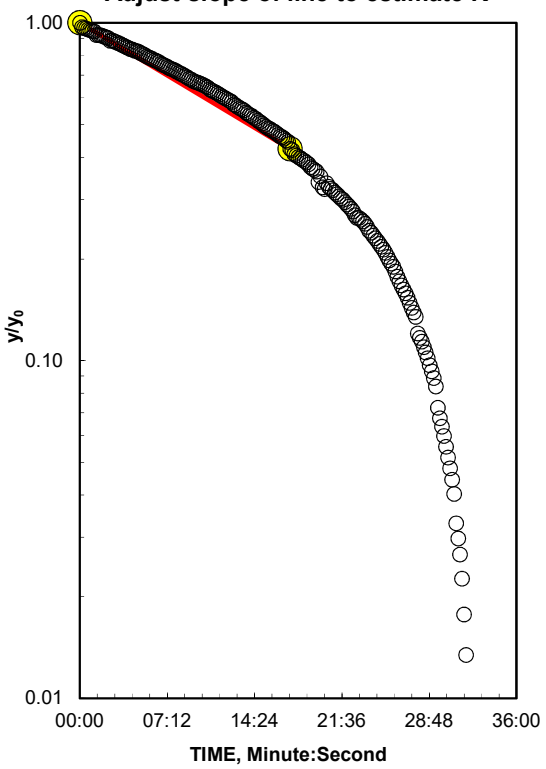
COMPUTED

L_{wetted}	3	Meter
D =	7.08	Meter
H =	3.43	Meter
L/r_w =	55.56	
$y_{0\text{-DISPLACEMENT}}$ =	0.50	Meter
$y_{0\text{-SLUG}}$ =	0.58	Meter
From look-up table using L/r_w		
Partial penetrate A =	3.285	
B =	0.530	
ln(Re/rw) =	2.745	
Re =	2.76	Meter
Slope =	0.000359066	$\log_{10}$/sec
$t_{90\%}$ recovery =	2785	sec

Input is consistent.

K = 2.50E-07 Meter/Second

Adjust slope of line to estimate K



REMARKS: Bouwer and Rice analysis of slug test, WRR 1976

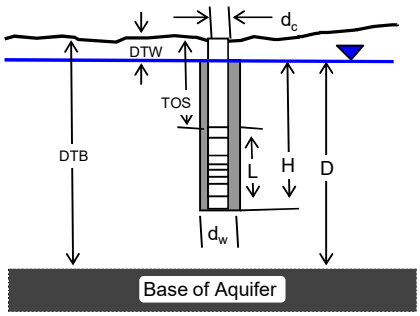
Short Duration Recovery Test. Completed at MW20-1 for 02001055.000.

WELL ID: MW20-3

Local ID: MW20-3
Date: 2020-06-02
Time: 0:00

INPUT

Construction:		
Casing dia. (d_c)	0.051	Meter
Annulus dia. (d_w)	0.108	Meter
Screen Length (L)	3	Meter
Depths to:		
water level (DTW)	3.14	Meter
top of screen (TOS)	5.03	Meter
Base of Aquifer (DTB)	10	Meter
Annular Fill:		
across screen --	Fine Sand	
above screen --	Bentonite	
Aquifer Material --	Shale	



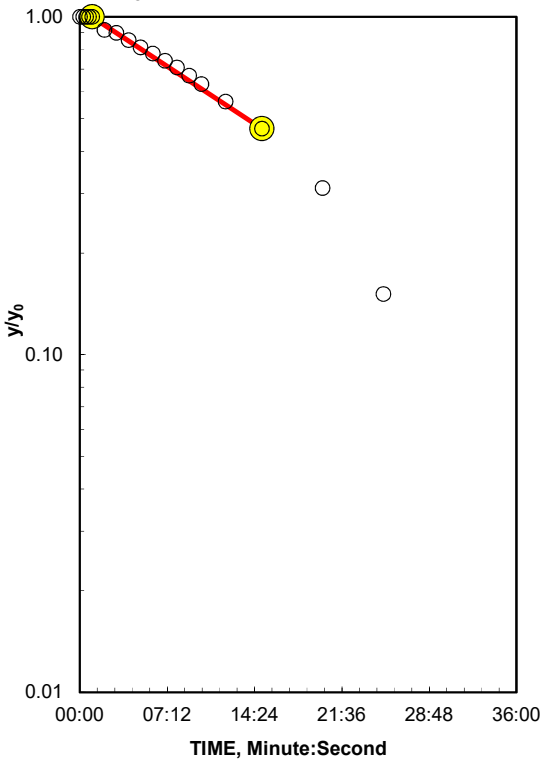
COMPUTED

L_{wetted}	3	Meter
D =	6.86	Meter
H =	4.89	Meter
L/r_w =	55.56	
$y_{0\text{-DISPLACEMENT}}$ =	1.06	Meter
$y_{0\text{-SLUG}}$ =	0.96	Meter
From look-up table using L/r_w		
Partial penetrate A =	3.285	
B =	0.530	
ln(Re/rw) =	2.963	
Re =	3.43	Meter
Slope =	0.000393691	$\log_{10}$/sec
$t_{90\%}$ recovery =	2540	sec

Input is consistent.

K =	2.90E-07	Meter/Second

Adjust slope of line to estimate K



REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

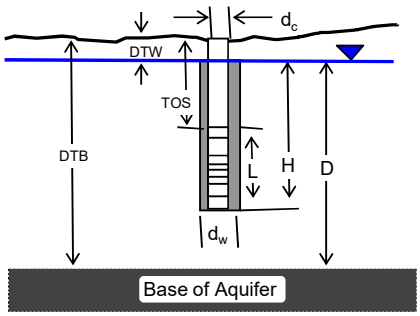
Short Duration Recovery Test. Completed at BHMW3 for 02001055.000.

WELL ID: MW20-4

Local ID: MW20-4
Date: 2020-06-02
Time: 0:00

INPUT

Construction:		
Casing dia. (d_c)	0.051	Meter
Annulus dia. (d_w)	0.108	Meter
Screen Length (L)	3	Meter
Depths to:		
water level (DTW)	4.9	Meter
top of screen (TOS)	2.4	Meter
Base of Aquifer (DTB)	10	Meter
Annular Fill:		
across screen --	Fine Sand	
above screen --	Bentonite	
Aquifer Material --	Fine Sand	



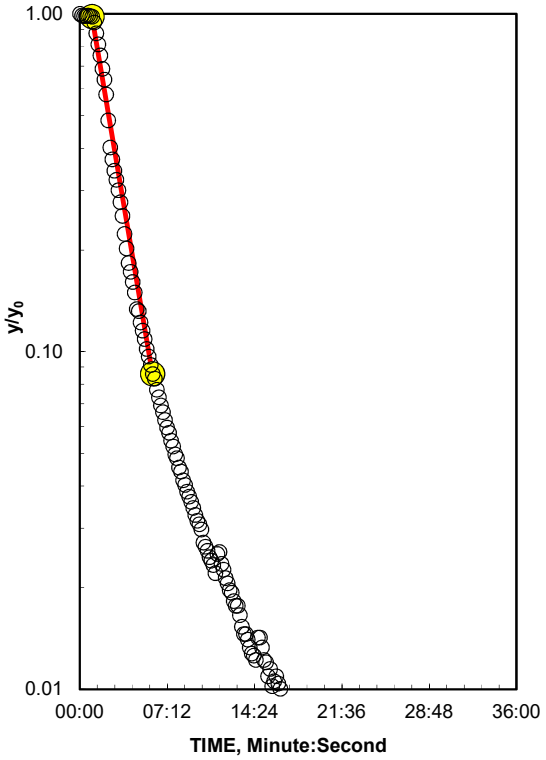
COMPUTED

L_{wetted}	0.5	Meter
D =	5.1	Meter
H =	0.5	Meter
L/r_w =	9.26	
$y_{0\text{-DISPLACEMENT}}$ =	0.55	Meter
$y_{0\text{-SLUG}}$ =	0.58	Meter
From look-up table using L/r_w		
Partial penetrate A =	1.854	
B =	0.266	
ln(Re/rw) =	1.216	
Re =	0.60	Meter
Slope =	0.003526409	$\log_{10}$/sec
$t_{90\%}$ recovery =	284	sec

Input is consistent.

K =	6.40E-06	Meter/Second

Adjust slope of line to estimate K



REMARKS:

Bouwer and Rice analysis of slug test, WRR 1976

Short Duration Recovery Test. Completed at BHMW3 for 02001055.000.

APPENDIX D
CONSTRUCTION RELATED GROUNDWATER INFLOW ESTIMATES

Underground Parking Garage - Northwest-to-Southeast Portion
Method: Dupuit Forcheimer Equation - Expected Case Estimates

To calculate flow from a **line source** in an unconfined aquifer.

Equation	$Q = \frac{2xK(H^2 - h_w^2)}{2L} + \frac{\pi K(H^2 - h_w^2)}{\ln \frac{R_o}{R_s}}$

Where:

Q =	Pumping Rate (m^3/s)
K =	Hydraulic Conductivity (m/s)
H =	Hydraulic head of the original water table (m)
h_w =	Hydraullic head at maximum dewatering (m)
x =	Length of the excavation (m)
L =	Equivalent radius of influence for a line source (m)
R_O =	Radius of influence of Well or Point Source (m)
R_s =	Equivalent radius of the trench (m)

To calculate the equivalent radius of influence for a Well or Point Source. (Approximated using the Sichart and Kryieleis Method)

Equation	$R_O = R_s + 3000(H - h_W)\sqrt{K}$

Where:

R_o =	Radius of Influence for a radial flow structure (m)
R_s =	Equivalent radius of the trench (m)
K =	Hydraulic Conductivity (m/s)
H =	Initial Groundwater Level (m)
h_w =	Groundwater Level at the Base of the Excavation (m)

To calculate the equivalent radius of influence for a line source.

Equation	$L = \frac{R_O}{2}$

Where:

L =	Equivalent radius of influence for a line source (m)
R_o =	Radius of Influence for a radial flow structure (m)

Parameters

Excavation Parameters				**Aquifer Parameters**			**Calcuated Parameters**				
Length, x (m)	Width, b (m)	Depth (m bgs)	Depth Requiring Dewatering (m bgs)	Depth to Aquitard (m bgs)	Groundwater Level (m bgs)	K (m/s)	H (m)	h_w (m)	R_s (m)	R_o (m)	L (m)
58	40	5.7	6.2	12	2.9	6.40E-06	9.1	5.8	20	45.05	22.52

Dewatering Calculations			
Q =	0.002028	m^3/s	GW Flow Rate per Second
Q =	175.22	m^3/day	GW Flow Rate per day
Q =	175,218.57	L/day	GW Flow Rate
2 Q =	350,437.13	L/day	GW Flow Rate with 2x Safety Factor
Q =	615,613.13	L/day	Total Volumes with Incidental Precipitation Volume

Incidental Precipitation	
Precipitation (m)	0.1143
Excavation Area (m^2)	2320
Precipitation Volume (m^3/day)	265.176
Precipitation Volume (L/day)	265,176.00

Underground Parking Garage - Northwest-to-Southeast Portion
Method: Dupuit Forcheimer Equation - Worst Case Estimates

To calculate flow from a **line source** in an unconfined aquifer.

Equation	$Q = \frac{2xK(H^2 - h_w^2)}{2L} + \frac{\pi K(H^2 - h_w^2)}{\ln \frac{R_o}{R_s}}$

Where:

Q =	Pumping Rate (m^3/s)
K =	Hydraulic Conductivity (m/s)
H =	Hydraulic head of the original water table (m)
h_w =	Hydraullic head at maximum dewatering (m)
x =	Length of the excavation (m)
L =	Equivalent radius of influence for a line source (m)
R_O =	Radius of influence of Well or Point Source (m)
R_s =	Equivalent radius of the trench (m)

To calculate the equivalent radius of influence for a Well or Point Source. (Approximated using the Sichart and Kryieleis Method)

Equation	$R_O = R_s + 3000(H - h_W)\sqrt{K}$

Where:

R_o =	Radius of Influence for a radial flow structure (m)
R_s =	Equivalent radius of the trench (m)
K =	Hydraulic Conductivity (m/s)
H =	Initial Groundwater Level (m)
h_w =	Groundwater Level at the Base of the Excavation (m)

To calculate the equivalent radius of influence for a line source.

Equation	$L = \frac{R_O}{2}$

Where:

L =	Equivalent radius of influence for a line source (m)
R_o =	Radius of Influence for a radial flow structure (m)

Parameters

Excavation Parameters				**Aquifer Parameters**			**Calcuated Parameters**				
Length, x (m)	Width, b (m)	Depth (m bgs)	Depth Requiring Dewatering (m bgs)	Depth to Aquitard (m bgs)	Groundwater Level (m bgs)	K (m/s)	H (m)	h_w (m)	R_s (m)	R_o (m)	L (m)
58	40	5.7	6.2	12	0.1	6.40E-05	11.9	5.8	20	166.40	83.20

Dewatering Calculations			
Q =	0.015064	m^3/s	GW Flow Rate per Second
Q =	1,301.49	m^3/day	GW Flow Rate per day
Q =	1,301,488.22	L/day	GW Flow Rate
2 Q =	2,602,976.43	L/day	GW Flow Rate with 2x Safety Factor
Q =	2,868,152.43	L/day	Total Volumes with Incidental Precipitation Volume

Incidental Precipitation	
Precipitation (m)	0.1143
Excavation Area (m^2)	2320
Precipitation Volume (m^3/day)	265.176
Precipitation Volume (L/day)	265,176.00

Underground Parking Garage - Southwest-to-Northeast Portion
Method: Dupuit Forcheimer Equation - Expected Case Estimates

To calculate flow from a **line source** in an unconfined aquifer.

Equation	$Q = \frac{2xK(H^2 - h_w^2)}{2L} + \frac{\pi K(H^2 - h_w^2)}{\ln \frac{R_o}{R_s}}$

Where:

Q =	Pumping Rate (m^3/s)
K =	Hydraulic Conductivity (m/s)
H =	Hydraulic head of the original water table (m)
h_w =	Hydraullic head at maximum dewatering (m)
x =	Length of the excavation (m)
L =	Equivalent radius of influence for a line source (m)
R_O =	Radius of influence of Well or Point Source (m)
R_s =	Equivalent radius of the trench (m)

To calculate the equivalent radius of influence for a Well or Point Source. (Approximated using the Sichart and Kryieleis Method)

Equation	$R_O = R_s + 3000(H - h_W)\sqrt{K}$

Where:

R_o =	Radius of Influence for a radial flow structure (m)
R_s =	Equivalent radius of the trench (m)
K =	Hydraulic Conductivity (m/s)
H =	Initial Groundwater Level (m)
h_w =	Groundwater Level at the Base of the Excavation (m)

To calculate the equivalent radius of influence for a line source.

Equation	$L = \frac{R_O}{2}$

Where:

L =	Equivalent radius of influence for a line source (m)
R_o =	Radius of Influence for a radial flow structure (m)

Parameters

Excavation Parameters				**Aquifer Parameters**			**Calcuated Parameters**				
Length, x (m)	Width, b (m)	Depth (m bgs)	Depth Requiring Dewatering (m bgs)	Depth to Aquitard (m bgs)	Groundwater Level (m bgs)	K (m/s)	H (m)	h_w (m)	R_s (m)	R_o (m)	L (m)
69	27	5.8	6.3	12	3.5	6.40E-06	8.5	5.7	14	34.75	17.38

Dewatering Calculations			
Q =	0.001856	m^3/s	GW Flow Rate per Second
Q =	160.36	m^3/day	GW Flow Rate per day
Q =	160,359.84	L/day	GW Flow Rate
2 Q =	320,719.69	L/day	GW Flow Rate with 2x Safety Factor
Q =	533,660.59	L/day	Total Volumes with Incidental Precipitation Volume

Incidental Precipitation	
Precipitation (m)	0.1143
Excavation Area (m^2)	1863
Precipitation Volume (m^3/day)	212.9409
Precipitation Volume (L/day)	212,940.90

Underground Parking Garage - Southwest-to-Northeast Portion
Method: Dupuit Forcheimer Equation - Worst Case Estimates

To calculate flow from a line **source** in an unconfined aquifer.

Equation	$Q = \frac{2xK(H^2 - h_w^2)}{2L} + \frac{\pi K(H^2 - h_w^2)}{\ln \frac{R_o}{R_s}}$

Where:

Q =	Pumping Rate (m^3/s)
K =	Hydraulic Conductivity (m/s)
H =	Hydraulic head of the original water table (m)
h_w =	Hydraullic head at maximum dewatering (m)
x =	Length of the excavation (m)
L =	Equivalent radius of influence for a line source (m)
R_O =	Radius of influence of Well or Point Source (m)
R_s =	Equivalent radius of the trench (m)

To calculate the equivalent radius of influence for a Well or Point Source. (Approximated using the Sichart and Kryieleis Method)

Equation	$R_O = R_s + 3000(H - h_W)\sqrt{K}$

Where:

R_o =	Radius of Influence for a radial flow structure (m)
R_s =	Equivalent radius of the trench (m)
K =	Hydraulic Conductivity (m/s)
H =	Initial Groundwater Level (m)
h_w =	Groundwater Level at the Base of the Excavation (m)

To calculate the equivalent radius of influence for a line source.

Equation	$L = \frac{R_O}{2}$

Where:

L =	Equivalent radius of influence for a line source (m)
R_o =	Radius of Influence for a radial flow structure (m)

Parameters

Excavation Parameters				**Aquifer Parameters**			**Calcuated Parameters**				
Length, x (m)	Width, b (m)	Depth (m bgs)	Depth Requiring Dewatering (m bgs)	Depth to Aquitard (m bgs)	Groundwater Level (m bgs)	K (m/s)	H (m)	h_w (m)	R_s (m)	R_o (m)	L (m)
69	27	5.8	6.3	12	0.1	6.40E-05	11.9	5.7	14	162.30	81.15

Dewatering Calculations			
Q =	0.014761	m^3/s	GW Flow Rate per Second
Q =	1,275.33	m^3/day	GW Flow Rate per day
Q =	1,275,328.95	L/day	GW Flow Rate
2 Q =	2,550,657.90	L/day	GW Flow Rate with 2x Safety Factor
Q =	2,763,598.80	L/day	Total Volumes with Incidental Precipitation Volume

Incidental Precipitation	
Precipitation (m)	0.1143
Excavation Area (m^2)	1863
Precipitation Volume (m^3/day)	212.9409
Precipitation Volume (L/day)	212,940.90

APPENDIX E
CERTIFICATES OF ANALYSES (GROUNDWATER)

Your Project #: 2001055
Site Location: 800 MONTREAL ROAD
Your C.O.C. #: 775377-01-01

Attention: Shane Dunstan

DST Consulting Engineers Inc
Ottawa - Standing Offer
2150 Thurston Dr
Unit 203
Ottawa, ON
CANADA K1G 5T9

Report Date: 2020/07/27
Report #: R6262371
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C0D8066
Received: 2020/06/04, 13:17

Sample Matrix: Water
Samples Received: 2

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
1,3-Dichloropropene Sum (1)	2	N/A	2020/06/10		EPA 8260C m
Acid Extractables by GC/MS (1)	1	2020/06/08	2020/06/09	CAM SOP-00332	EPA 8270 m
Acid Extractables by GC/MS (1)	1	2020/06/10	2020/06/11	CAM SOP-00332	EPA 8270 m
Petroleum Hydrocarbons F2-F4 in Water (1, 2)	2	2020/06/06	2020/06/07	CAM SOP-00316	CCME PHC-CWS m
Mercury in Water by CVAA (1)	2	2020/06/08	2020/06/09	CAM SOP-00453	EPA 7470A m
Dissolved Metals by ICPMS (1)	2	N/A	2020/06/08	CAM SOP-00447	EPA 6020B m
Total Metals Analysis by ICPMS (1)	2	N/A	2020/06/08	CAM SOP-00447	EPA 6020B m
OC Pesticides (Selected) & PCB (1, 3)	2	2020/06/08	2020/06/09	CAM SOP-00307	EPA 8081A/8082B m
OC Pesticides Summed Parameters (1)	2	N/A	2020/06/08	CAM SOP-00307	EPA 8081A/8082B m
pH (1)	2	2020/06/05	2020/06/08	CAM SOP-00413	SM 4500H+ B m
Total Kjeldahl Nitrogen in Water (1)	2	2020/06/08	2020/06/09	CAM SOP-00938	OMOE E3516 m
Total Phosphorus (Colourimetric) (1)	2	2020/06/08	2020/06/09	CAM SOP-00407	SM 23 4500 P B H m
Low Level Total Suspended Solids (1)	2	2020/06/08	2020/06/09	CAM SOP-00428	SM 23 2540D m
Volatile Organic Compounds and F1 PHCs (1)	2	N/A	2020/06/08	CAM SOP-00230	EPA 8260C m
Low Level Volatile Suspended Solids (1)	2	2020/06/08	2020/06/09	CAM SOP-00428	SM 23 2540

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope

Your Project #: 2001055
Site Location: 800 MONTREAL ROAD
Your C.O.C. #: 775377-01-01

Attention: Shane Dunstan

DST Consulting Engineers Inc
Ottawa - Standing Offer
2150 Thurston Dr
Unit 203
Ottawa, ON
CANADA K1G 5T9

Report Date: 2020/07/27
Report #: R6262371
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C0D8066
Received: 2020/06/04, 13:17

dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Laboratories Mississauga
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following "Alberta Environment's Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003". Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.
(3) Chlordane (Total) = Alpha Chlordane + Gamma Chlordane

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Katherine Szozda, Project Manager
Email: Katherine.Szozda@bvlabs.com
Phone# (613) 274-0573
==========
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: C0D8066
Report Date: 2020/07/27

DST Consulting Engineers Inc
Client Project #: 2001055
Site Location: 800 MONTREAL ROAD
Sampler Initials: KS

RESULTS OF ANALYSES OF WATER

BV Labs ID			MUK538			MUK538			MUK539		
Sampling Date			2020/06/03 13:30			2020/06/03 13:30			2020/06/03 15:40		
COC Number			775377-01-01			775377-01-01			775377-01-01		
	UNITS	Criteria	MW20-1	RDL	QC Batch	MW20-1 Lab-Dup	RDL	QC Batch	MW20-3	RDL	QC Batch
Inorganics											
Total Kjeldahl Nitrogen (TKN)	mg/L	-	0.55	0.10	6775614				0.47	0.10	6775614
pH	pH	**6:9**	7.57		6772731				7.72		6772731
Total Phosphorus	mg/L	**0.4**	0.025	0.020	6775148				<0.020	0.020	6775148
Total Suspended Solids	mg/L	**15**	**96**	2	6775455	**95**	2	6775455	**32**	1	6775455
Volatile Suspended Solids	mg/L	**-**	13	2	6775463	13	2	6775463	3	1	6775463

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ottawa Storm Sewer Discharge Limits

BV Labs Job #: C0D8066
Report Date: 2020/07/27

DST Consulting Engineers Inc
Client Project #: 2001055
Site Location: 800 MONTREAL ROAD
Sampler Initials: KS

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

BV Labs ID			MUK538	MUK539			MUK539		
Sampling Date			2020/06/03 13:30	2020/06/03 15:40			2020/06/03 15:40		
COC Number			775377-01-01	775377-01-01			775377-01-01		
	UNITS	Criteria	MW20-1	MW20-3	RDL	QC Batch	MW20-3 Lab-Dup	RDL	QC Batch
Metals									
Mercury (Hg)	mg/L	**0.0004**	<0.00010	<0.00010	0.00010	6776801			
Dissolved Aluminum (Al)	ug/L	-	<4.9	7.0	4.9	6773694	7.5	4.9	6773694
Total Aluminum (Al)	ug/L	-	590	600	4.9	6775350			
Dissolved Antimony (Sb)	ug/L	-	0.99	0.90	0.50	6773694	1.0	0.50	6773694
Total Antimony (Sb)	ug/L	-	0.89	0.95	0.50	6775350			
Dissolved Arsenic (As)	ug/L	**20**	<1.0	<1.0	1.0	6773694	<1.0	1.0	6773694
Total Arsenic (As)	ug/L	**20**	<1.0	<1.0	1.0	6775350			
Dissolved Barium (Ba)	ug/L	-	120	100	2.0	6773694	100	2.0	6773694
Dissolved Beryllium (Be)	ug/L	-	<0.40	<0.40	0.40	6773694	<0.40	0.40	6773694
Dissolved Bismuth (Bi)	ug/L	-	<1.0	<1.0	1.0	6773694	<1.0	1.0	6773694
Total Bismuth (Bi)	ug/L	-	<1.0	<1.0	1.0	6775350			
Dissolved Boron (B)	ug/L	-	110	290	10	6773694	290	10	6773694
Total Boron (B)	ug/L	-	110	310	10	6775350			
Dissolved Cadmium (Cd)	ug/L	**8**	<0.090	<0.090	0.090	6773694	<0.090	0.090	6773694
Total Cadmium (Cd)	ug/L	**8**	<0.090	<0.090	0.090	6775350			
Dissolved Calcium (Ca)	ug/L	-	220000	99000	200	6773694	98000	200	6773694
Dissolved Chromium (Cr)	ug/L	**80**	<5.0	<5.0	5.0	6773694	<5.0	5.0	6773694
Total Chromium (Cr)	ug/L	**80**	<5.0	<5.0	5.0	6775350			
Dissolved Cobalt (Co)	ug/L	-	1.2	<0.50	0.50	6773694	<0.50	0.50	6773694
Total Cobalt (Co)	ug/L	-	2.0	0.85	0.50	6775350			
Dissolved Copper (Cu)	ug/L	**40**	6.9	<0.90	0.90	6773694	<0.90	0.90	6773694
Total Copper (Cu)	ug/L	**40**	3.1	2.3	0.90	6775350			
Dissolved Iron (Fe)	ug/L	-	<100	<100	100	6773694	<100	100	6773694
Dissolved Lead (Pb)	ug/L	**120**	0.79	<0.50	0.50	6773694	<0.50	0.50	6773694
Total Lead (Pb)	ug/L	**120**	1.2	0.80	0.50	6775350			
Dissolved Lithium (Li)	ug/L	-	30	49	5.0	6773694	49	5.0	6773694
Dissolved Magnesium (Mg)	ug/L	-	67000	47000	50	6773694	46000	50	6773694
Dissolved Manganese (Mn)	ug/L	**50**	**160**	**58**	2.0	6773694	**57**	2.0	6773694
Total Manganese (Mn)	ug/L	**50**	**200**	**70**	2.0	6775350			
Dissolved Molybdenum (Mo)	ug/L	-	4.6	4.8	0.50	6773694	4.7	0.50	6773694
Total Molybdenum (Mo)	ug/L	-	5.1	5.4	0.50	6775350			
Dissolved Nickel (Ni)	ug/L	**80**	11	3.6	1.0	6773694	3.5	1.0	6773694

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ottawa Storm Sewer Discharge Limits

BV Labs Job #: C0D8066
Report Date: 2020/07/27

DST Consulting Engineers Inc
Client Project #: 2001055
Site Location: 800 MONTREAL ROAD
Sampler Initials: KS

ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

BV Labs ID			MUK538	MUK539			MUK539		
Sampling Date			2020/06/03 13:30	2020/06/03 15:40			2020/06/03 15:40		
COC Number			775377-01-01	775377-01-01			775377-01-01		
	UNITS	Criteria	MW20-1	MW20-3	RDL	QC Batch	MW20-3 Lab-Dup	RDL	QC Batch
Total Nickel (Ni)	ug/L	**80**	14	5.9	1.0	6775350			
Dissolved Phosphorus (P)	ug/L	**400**	<100	<100	100	6773694	<100	100	6773694
Dissolved Potassium (K)	ug/L	-	6400	5600	200	6773694	5500	200	6773694
Dissolved Selenium (Se)	ug/L	**20**	<2.0	<2.0	2.0	6773694	<2.0	2.0	6773694
Total Selenium (Se)	ug/L	**20**	<2.0	<2.0	2.0	6775350			
Dissolved Silicon (Si)	ug/L	-	7700	7000	50	6773694	6900	50	6773694
Dissolved Silver (Ag)	ug/L	**120**	<0.090	<0.090	0.090	6773694	<0.090	0.090	6773694
Total Silver (Ag)	ug/L	**120**	<0.090	<0.090	0.090	6775350			
Dissolved Sodium (Na)	ug/L	-	23000	57000	100	6773694	56000	100	6773694
Dissolved Strontium (Sr)	ug/L	-	2700	4200	1.0	6773694	4100	1.0	6773694
Dissolved Tellurium (Te)	ug/L	-	<1.0	<1.0	1.0	6773694	<1.0	1.0	6773694
Dissolved Thallium (Tl)	ug/L	-	<0.050	0.070	0.050	6773694	0.060	0.050	6773694
Dissolved Tin (Sn)	ug/L	-	<1.0	<1.0	1.0	6773694	<1.0	1.0	6773694
Total Tin (Sn)	ug/L	-	<1.0	<1.0	1.0	6775350			
Dissolved Titanium (Ti)	ug/L	-	<5.0	<5.0	5.0	6773694	<5.0	5.0	6773694
Total Titanium (Ti)	ug/L	-	18	16	5.0	6775350			
Dissolved Tungsten (W)	ug/L	-	7.0	7.9	1.0	6773694	8.1	1.0	6773694
Dissolved Uranium (U)	ug/L	-	3.6	2.4	0.10	6773694	2.4	0.10	6773694
Dissolved Vanadium (V)	ug/L	-	<0.50	<0.50	0.50	6773694	<0.50	0.50	6773694
Total Vanadium (V)	ug/L	-	2.8	2.5	0.50	6775350			
Dissolved Zinc (Zn)	ug/L	**40**	11	<5.0	5.0	6773694	<5.0	5.0	6773694
Total Zinc (Zn)	ug/L	**40**	12	<5.0	5.0	6775350			
Dissolved Zirconium (Zr)	ug/L	-	<1.0	<1.0	1.0	6773694	<1.0	1.0	6773694

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ottawa Storm Sewer Discharge Limits

DST Consulting Engineers Inc
Client Project #: 2001055
Site Location: 800 MONTREAL ROAD
Sampler Initials: KS

SEMI-VOLATILE ORGANICS BY GC-MS (WATER)

BV Labs ID		MUK538		MUK539		
Sampling Date		2020/06/03 13:30		2020/06/03 15:40		
COC Number		775377-01-01		775377-01-01		
	UNITS	MW20-1	QC Batch	MW20-3	RDL	QC Batch
Phenolics						
2-Chlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
2,3,4,6-Tetrachlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
2,3,5-Trichlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
2,4-Dichlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
2,4-Dimethylphenol	ug/L	<1	6780032	<1	1	6774738
2,4,6-Trichlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
2,6-Dichlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
4-Chloro-3-Methylphenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
4-Nitrophenol	ug/L	<1	6780032	<1	1	6774738
m/p-Cresol	ug/L	<0.5	6780032	<0.5	0.5	6774738
o-Cresol	ug/L	<0.5	6780032	<0.5	0.5	6774738
Pentachlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
Phenol	ug/L	<0.5	6780032	<0.5	0.5	6774738
2,3,4,5-Tetrachlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
2,3,5,6-Tetrachlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
2,3,4-Trichlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
2,3,6-Trichlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
2,4,5-Trichlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
3,4,5-Trichlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
2,4-Dinitrophenol	ug/L	<1	6780032	<1	1	6774738
2,3-Dichlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
2,5-Dichlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
3,4-Dichlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
3,5-Dichlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
4,6-Dinitro-2-methylphenol	ug/L	<1	6780032	<1	1	6774738
3 & 4-Chlorophenol	ug/L	<0.1	6780032	<0.1	0.1	6774738
2-Nitrophenol	ug/L	<1	6780032	<1	1	6774738
Surrogate Recovery (%)						
2,4,6-Tribromophenol	%	109	6780032	99		6774738
2-Fluorophenol	%	81	6780032	109		6774738
D5-Phenol	%	20 (1)	6780032	69		6774738

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) Surrogate recovery was below the lower control limit due to matrix interference. This may represent a lower bias in some results.

O.REG 153 OC PESTICIDES (WATER)

BV Labs ID			MUK538	MUK539		
Sampling Date			2020/06/03 13:30	2020/06/03 15:40		
COC Number			775377-01-01	775377-01-01		
	UNITS	Criteria	MW20-1	MW20-3	RDL	QC Batch
Calculated Parameters						
Chlordane (Total)	ug/L	-	<0.005	<0.005	0.005	6772550
o,p-DDD + p,p-DDD	ug/L	-	<0.005	<0.005	0.005	6772550
o,p-DDE + p,p-DDE	ug/L	-	<0.005	<0.005	0.005	6772550
o,p-DDT + p,p-DDT	ug/L	-	<0.005	<0.005	0.005	6772550
Total Endosulfan	ug/L	-	<0.005	<0.005	0.005	6772550
Total PCB	ug/L	**0.4**	<0.05	<0.05	0.05	6772550
Pesticides & Herbicides						
Aldrin	ug/L	-	<0.005	<0.005	0.005	6774824
Dieldrin	ug/L	-	<0.005	<0.005	0.005	6774824
a-Chlordane	ug/L	-	<0.005	<0.005	0.005	6774824
g-Chlordane	ug/L	-	<0.005	<0.005	0.005	6774824
o,p-DDD	ug/L	-	<0.005	<0.005	0.005	6774824
p,p-DDD	ug/L	-	<0.005	<0.005	0.005	6774824
o,p-DDE	ug/L	-	<0.005	<0.005	0.005	6774824
p,p-DDE	ug/L	-	<0.005	<0.005	0.005	6774824
o,p-DDT	ug/L	-	<0.005	<0.005	0.005	6774824
p,p-DDT	ug/L	-	<0.005	<0.005	0.005	6774824
Lindane	ug/L	-	<0.003	<0.003	0.003	6774824
Endosulfan I (alpha)	ug/L	-	<0.005	<0.005	0.005	6774824
Endosulfan II (beta)	ug/L	-	<0.005	<0.005	0.005	6774824
Endrin	ug/L	-	<0.005	<0.005	0.005	6774824
Heptachlor	ug/L	-	<0.005	<0.005	0.005	6774824
Heptachlor epoxide	ug/L	-	<0.005	<0.005	0.005	6774824
Hexachlorobenzene	ug/L	**0.04**	<0.005	<0.005	0.005	6774824
Hexachlorobutadiene	ug/L	-	<0.009	<0.009	0.009	6774824
Hexachloroethane	ug/L	-	<0.01	<0.01	0.01	6774824
Methoxychlor	ug/L	-	<0.01	<0.01	0.01	6774824
Aroclor 1242	ug/L	-	<0.05	<0.05	0.05	6774824
Aroclor 1248	ug/L	-	<0.05	<0.05	0.05	6774824
Aroclor 1254	ug/L	-	<0.05	<0.05	0.05	6774824
Aroclor 1260	ug/L	-	<0.05	<0.05	0.05	6774824
Surrogate Recovery (%)						
2,4,5,6-Tetrachloro-m-xylene	%	-	60	58		6774824

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ottawa Storm Sewer Discharge Limits

O.REG 153 OC PESTICIDES (WATER)

BV Labs ID			MUK538	MUK539		
Sampling Date			2020/06/03 13:30	2020/06/03 15:40		
COC Number			775377-01-01	775377-01-01		
	UNITS	Criteria	MW20-1	MW20-3	RDL	QC Batch
Decachlorobiphenyl	%	-	80	78		6774824

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ottawa Storm Sewer Discharge Limits

O.REG 153 VOCS BY HS & F1-F4 (WATER)

BV Labs ID			MUK538	MUK539			MUK539		
Sampling Date			2020/06/03 13:30	2020/06/03 15:40			2020/06/03 15:40		
COC Number			775377-01-01	775377-01-01			775377-01-01		
	UNITS	Criteria	MW20-1	MW20-3	RDL	QC Batch	MW20-3 Lab-Dup	RDL	QC Batch
Calculated Parameters									
1,3-Dichloropropene (cis+trans)	ug/L	-	<0.50	<0.50	0.50	6772385			
Volatile Organics									
Acetone (2-Propanone)	ug/L	-	<10	<10	10	6773935			
Benzene	ug/L	**2**	<0.20	<0.20	0.20	6773935			
Bromodichloromethane	ug/L	-	<0.50	<0.50	0.50	6773935			
Bromoform	ug/L	-	<1.0	<1.0	1.0	6773935			
Bromomethane	ug/L	-	<0.50	<0.50	0.50	6773935			
Carbon Tetrachloride	ug/L	-	<0.20	<0.20	0.20	6773935			
Chlorobenzene	ug/L	-	<0.20	<0.20	0.20	6773935			
Chloroform	ug/L	**2**	**2.1**	1.3	0.20	6773935			
Dibromochloromethane	ug/L	-	<0.50	<0.50	0.50	6773935			
1,2-Dichlorobenzene	ug/L	**5.6**	<0.50	<0.50	0.50	6773935			
1,3-Dichlorobenzene	ug/L	-	<0.50	<0.50	0.50	6773935			
1,4-Dichlorobenzene	ug/L	**6.8**	<0.50	<0.50	0.50	6773935			
Dichlorodifluoromethane (FREON 12)	ug/L	-	<1.0	<1.0	1.0	6773935			
1,1-Dichloroethane	ug/L	-	<0.20	<0.20	0.20	6773935			
1,2-Dichloroethane	ug/L	-	<0.50	<0.50	0.50	6773935			
1,1-Dichloroethylene	ug/L	-	<0.20	<0.20	0.20	6773935			
cis-1,2-Dichloroethylene	ug/L	**5.6**	<0.50	<0.50	0.50	6773935			
trans-1,2-Dichloroethylene	ug/L	-	<0.50	<0.50	0.50	6773935			
1,2-Dichloropropane	ug/L	-	<0.20	<0.20	0.20	6773935			
cis-1,3-Dichloropropene	ug/L	-	<0.30	<0.30	0.30	6773935			
trans-1,3-Dichloropropene	ug/L	**5.6**	<0.40	<0.40	0.40	6773935			
Ethylbenzene	ug/L	**2**	<0.20	<0.20	0.20	6773935			
Ethylene Dibromide	ug/L	-	<0.20	<0.20	0.20	6773935			
Hexane	ug/L	-	<1.0	<1.0	1.0	6773935			
Methylene Chloride(Dichloromethane)	ug/L	**5.2**	<2.0	<2.0	2.0	6773935			
Methyl Ethyl Ketone (2-Butanone)	ug/L	-	<10	<10	10	6773935			
Methyl Isobutyl Ketone	ug/L	-	<5.0	<5.0	5.0	6773935			
Methyl t-butyl ether (MTBE)	ug/L	-	<0.50	<0.50	0.50	6773935			
Styrene	ug/L	-	<0.50	<0.50	0.50	6773935			
1,1,1,2-Tetrachloroethane	ug/L	-	<0.50	<0.50	0.50	6773935			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ottawa Storm Sewer Discharge Limits

BV Labs Job #: C0D8066
Report Date: 2020/07/27

DST Consulting Engineers Inc
Client Project #: 2001055
Site Location: 800 MONTREAL ROAD
Sampler Initials: KS

O.REG 153 VOCS BY HS & F1-F4 (WATER)

BV Labs ID			MUK538	MUK539			MUK539		
Sampling Date			2020/06/03 13:30	2020/06/03 15:40			2020/06/03 15:40		
COC Number			775377-01-01	775377-01-01			775377-01-01		
	UNITS	Criteria	MW20-1	MW20-3	RDL	QC Batch	MW20-3 Lab-Dup	RDL	QC Batch
1,1,2,2-Tetrachloroethane	ug/L	**17**	<0.50	<0.50	0.50	6773935			
Tetrachloroethylene	ug/L	**4.4**	<0.20	<0.20	0.20	6773935			
Toluene	ug/L	**2**	<0.20	<0.20	0.20	6773935			
1,1,1-Trichloroethane	ug/L	-	<0.20	<0.20	0.20	6773935			
1,1,2-Trichloroethane	ug/L	-	<0.50	<0.50	0.50	6773935			
Trichloroethylene	ug/L	**7.6**	<0.20	<0.20	0.20	6773935			
Trichlorofluoromethane (FREON 11)	ug/L	-	<0.50	<0.50	0.50	6773935			
Vinyl Chloride	ug/L	-	<0.20	<0.20	0.20	6773935			
p+m-Xylene	ug/L	-	<0.20	<0.20	0.20	6773935			
o-Xylene	ug/L	-	<0.20	<0.20	0.20	6773935			
Total Xylenes	ug/L	**4.4**	<0.20	<0.20	0.20	6773935			
F1 (C6-C10)	ug/L	-	<25	<25	25	6773935			
F1 (C6-C10) - BTEX	ug/L	-	<25	<25	25	6773935			
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/L	-	<100	<100	100	6774131	<100	100	6774131
F3 (C16-C34 Hydrocarbons)	ug/L	-	<200	<200	200	6774131	<200	200	6774131
F4 (C34-C50 Hydrocarbons)	ug/L	-	<200	<200	200	6774131	<200	200	6774131
Reached Baseline at C50	ug/L	-	Yes	Yes		6774131	Yes		6774131
Surrogate Recovery (%)									
o-Terphenyl	%	-	102	103		6774131	102		6774131
4-Bromofluorobenzene	%	-	86	87		6773935			
D4-1,2-Dichloroethane	%	-	105	103		6773935			
D8-Toluene	%	-	95	94		6773935			

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ottawa Storm Sewer Discharge Limits

BV Labs Job #: C0D8066
Report Date: 2020/07/27

DST Consulting Engineers Inc
Client Project #: 2001055
Site Location: 800 MONTREAL ROAD
Sampler Initials: KS

TEST SUMMARY

BV Labs ID: MUK538
Sample ID: MW20-1
Matrix: Water

Collected: 2020/06/03
Shipped:
Received: 2020/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6772385	N/A	2020/06/10	Automated Statchk
Acid Extractables by GC/MS	GC/MS	6780032	2020/06/10	2020/06/11	Thoai Truyen Huynh
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6774131	2020/06/06	2020/06/07	Jeevaraj Jeevaratrnam
Mercury in Water by CVAA	CV/AA	6776801	2020/06/08	2020/06/09	Meghaben Patel
Dissolved Metals by ICPMS	ICP/MS	6773694	N/A	2020/06/08	Azita Fazaeli
Total Metals Analysis by ICPMS	ICP/MS	6775350	N/A	2020/06/08	Azita Fazaeli
OC Pesticides (Selected) & PCB	GC/ECD	6774824	2020/06/08	2020/06/09	Li Peng
OC Pesticides Summed Parameters	CALC	6772550	N/A	2020/06/08	Automated Statchk
pH	AT	6772731	2020/06/05	2020/06/08	Neil Dassanayake
Total Kjeldahl Nitrogen in Water	SKAL	6775614	2020/06/08	2020/06/09	Rajni Tyagi
Total Phosphorus (Colourimetric)	LACH/P	6775148	2020/06/08	2020/06/09	Shivani Shivani
Low Level Total Suspended Solids	BAL	6775455	2020/06/08	2020/06/09	Massarat Jan
Volatile Organic Compounds and F1 PHCs	GC/MSFD	6773935	N/A	2020/06/08	Xueming Jiang
Low Level Volatile Suspended Solids	BAL	6775463	2020/06/08	2020/06/09	Massarat Jan

BV Labs ID: MUK538 Dup
Sample ID: MW20-1
Matrix: Water

Collected: 2020/06/03
Shipped:
Received: 2020/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Low Level Total Suspended Solids	BAL	6775455	2020/06/08	2020/06/09	Massarat Jan
Low Level Volatile Suspended Solids	BAL	6775463	2020/06/08	2020/06/09	Massarat Jan

BV Labs ID: MUK539
Sample ID: MW20-3
Matrix: Water

Collected: 2020/06/03
Shipped:
Received: 2020/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6772385	N/A	2020/06/10	Automated Statchk
Acid Extractables by GC/MS	GC/MS	6774738	2020/06/08	2020/06/09	Thoai Truyen Huynh
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6774131	2020/06/06	2020/06/07	Jeevaraj Jeevaratrnam
Mercury in Water by CVAA	CV/AA	6776801	2020/06/08	2020/06/09	Meghaben Patel
Dissolved Metals by ICPMS	ICP/MS	6773694	N/A	2020/06/08	Azita Fazaeli
Total Metals Analysis by ICPMS	ICP/MS	6775350	N/A	2020/06/08	Azita Fazaeli
OC Pesticides (Selected) & PCB	GC/ECD	6774824	2020/06/08	2020/06/09	Li Peng
OC Pesticides Summed Parameters	CALC	6772550	N/A	2020/06/08	Automated Statchk
pH	AT	6772731	2020/06/05	2020/06/08	Neil Dassanayake
Total Kjeldahl Nitrogen in Water	SKAL	6775614	2020/06/08	2020/06/09	Rajni Tyagi
Total Phosphorus (Colourimetric)	LACH/P	6775148	2020/06/08	2020/06/09	Shivani Shivani
Low Level Total Suspended Solids	BAL	6775455	2020/06/08	2020/06/09	Massarat Jan
Volatile Organic Compounds and F1 PHCs	GC/MSFD	6773935	N/A	2020/06/08	Xueming Jiang
Low Level Volatile Suspended Solids	BAL	6775463	2020/06/08	2020/06/09	Massarat Jan

BV Labs Job #: C0D8066
Report Date: 2020/07/27

DST Consulting Engineers Inc
Client Project #: 2001055
Site Location: 800 MONTREAL ROAD
Sampler Initials: KS

TEST SUMMARY

BV Labs ID: MUK539 Dup
Sample ID: MW20-3
Matrix: Water

Collected: 2020/06/03
Shipped:
Received: 2020/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6774131	2020/06/06	2020/06/07	Jeevaraj Jeevaratrnam
Dissolved Metals by ICPMS	ICP/MS	6773694	N/A	2020/06/08	Azita Fazaeli

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.3°C

Results relate only to the items tested.

BV Labs Job #: C0D8066
Report Date: 2020/07/27

QUALITY ASSURANCE REPORT

DST Consulting Engineers Inc
Client Project #: 2001055
Site Location: 800 MONTREAL ROAD
Sampler Initials: KS

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6773935	4-Bromofluorobenzene	2020/06/08	100	70 - 130	105	70 - 130	91	%				
6773935	D4-1,2-Dichloroethane	2020/06/08	100	70 - 130	102	70 - 130	101	%				
6773935	D8-Toluene	2020/06/08	98	70 - 130	102	70 - 130	95	%				
6774131	o-Terphenyl	2020/06/06	105	60 - 130	103	60 - 130	102	%				
6774738	2,4,6-Tribromophenol	2020/06/08	101	50 - 130	100	50 - 130	95	%				
6774738	2-Fluorophenol	2020/06/08	100	50 - 130	105	50 - 130	109	%				
6774738	D5-Phenol	2020/06/08	72	30 - 130	79	30 - 130	72	%				
6774824	2,4,5,6-Tetrachloro-m-xylene	2020/06/08	78	50 - 130	64	50 - 130	68	%				
6774824	Decachlorobiphenyl	2020/06/08	126	50 - 130	96	50 - 130	102	%				
6780032	2,4,6-Tribromophenol	2020/06/11	112	50 - 130	105	50 - 130	106	%				
6780032	2-Fluorophenol	2020/06/11	71	50 - 130	92	50 - 130	91	%				
6780032	D5-Phenol	2020/06/11	38	30 - 130	42	30 - 130	48	%				
6772731	pH	2020/06/08			102	98 - 103			0.023	N/A		
6773694	Dissolved Aluminum (Al)	2020/06/08	117	80 - 120	101	80 - 120	<4.9	ug/L	6.8	20		
6773694	Dissolved Antimony (Sb)	2020/06/08	119	80 - 120	101	80 - 120	<0.50	ug/L	14	20		
6773694	Dissolved Arsenic (As)	2020/06/08	117	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
6773694	Dissolved Barium (Ba)	2020/06/08	114	80 - 120	99	80 - 120	<2.0	ug/L	1.4	20		
6773694	Dissolved Beryllium (Be)	2020/06/08	118	80 - 120	100	80 - 120	<0.40	ug/L	NC	20		
6773694	Dissolved Bismuth (Bi)	2020/06/08	112	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
6773694	Dissolved Boron (B)	2020/06/08	112	80 - 120	97	80 - 120	<10	ug/L	1.0	20		
6773694	Dissolved Cadmium (Cd)	2020/06/08	115	80 - 120	99	80 - 120	<0.090	ug/L	NC	20		
6773694	Dissolved Calcium (Ca)	2020/06/08	NC	80 - 120	104	80 - 120	<200	ug/L	1.0	20		
6773694	Dissolved Chromium (Cr)	2020/06/08	111	80 - 120	96	80 - 120	<5.0	ug/L	NC	20		
6773694	Dissolved Cobalt (Co)	2020/06/08	118	80 - 120	101	80 - 120	<0.50	ug/L	NC	20		
6773694	Dissolved Copper (Cu)	2020/06/08	120	80 - 120	104	80 - 120	<0.90	ug/L	NC	20		
6773694	Dissolved Iron (Fe)	2020/06/08	115	80 - 120	99	80 - 120	<100	ug/L	NC	20		
6773694	Dissolved Lead (Pb)	2020/06/08	117	80 - 120	97	80 - 120	<0.50	ug/L	NC	20		
6773694	Dissolved Lithium (Li)	2020/06/08	115	80 - 120	103	80 - 120	<5.0	ug/L	0.44	20		
6773694	Dissolved Magnesium (Mg)	2020/06/08	NC	80 - 120	101	80 - 120	<50	ug/L	1.5	20		
6773694	Dissolved Manganese (Mn)	2020/06/08	115	80 - 120	99	80 - 120	<2.0	ug/L	1.5	20		
6773694	Dissolved Molybdenum (Mo)	2020/06/08	122 (1)	80 - 120	99	80 - 120	<0.50	ug/L	2.1	20		
6773694	Dissolved Nickel (Ni)	2020/06/08	111	80 - 120	98	80 - 120	<1.0	ug/L	4.3	20		

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6773694	Dissolved Phosphorus (P)	2020/06/08	118	80 - 120	111	80 - 120	<100	ug/L	NC	20		
6773694	Dissolved Potassium (K)	2020/06/08	121 (1)	80 - 120	105	80 - 120	<200	ug/L	1.4	20		
6773694	Dissolved Selenium (Se)	2020/06/08	113	80 - 120	97	80 - 120	<2.0	ug/L	NC	20		
6773694	Dissolved Silicon (Si)	2020/06/08	119	80 - 120	103	80 - 120	<50	ug/L	1.9	20		
6773694	Dissolved Silver (Ag)	2020/06/08	115	80 - 120	100	80 - 120	<0.090	ug/L	NC	20		
6773694	Dissolved Sodium (Na)	2020/06/08	NC	80 - 120	101	80 - 120	<100	ug/L	1.8	20		
6773694	Dissolved Strontium (Sr)	2020/06/08	NC	80 - 120	94	80 - 120	<1.0	ug/L	1.4	20		
6773694	Dissolved Tellurium (Te)	2020/06/08	116	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
6773694	Dissolved Thallium (Tl)	2020/06/08	119	80 - 120	103	80 - 120	<0.050	ug/L	15	20		
6773694	Dissolved Tin (Sn)	2020/06/08	117	80 - 120	99	80 - 120	<1.0	ug/L	NC	20		
6773694	Dissolved Titanium (Ti)	2020/06/08	116	80 - 120	99	80 - 120	<5.0	ug/L	NC	20		
6773694	Dissolved Tungsten (W)	2020/06/08	117	80 - 120	99	80 - 120	<1.0	ug/L	2.5	20		
6773694	Dissolved Uranium (U)	2020/06/08	116	80 - 120	99	80 - 120	<0.10	ug/L	0.62	20		
6773694	Dissolved Vanadium (V)	2020/06/08	115	80 - 120	98	80 - 120	<0.50	ug/L	NC	20		
6773694	Dissolved Zinc (Zn)	2020/06/08	114	80 - 120	98	80 - 120	<5.0	ug/L	NC	20		
6773694	Dissolved Zirconium (Zr)	2020/06/08	120	80 - 120	103	80 - 120	<1.0	ug/L	NC	20		
6773935	1,1,1,2-Tetrachloroethane	2020/06/08	98	70 - 130	106	70 - 130	<0.50	ug/L	NC	30		
6773935	1,1,1-Trichloroethane	2020/06/08	92	70 - 130	95	70 - 130	<0.20	ug/L	NC	30		
6773935	1,1,2,2-Tetrachloroethane	2020/06/08	101	70 - 130	110	70 - 130	<0.50	ug/L	NC	30		
6773935	1,1,2-Trichloroethane	2020/06/08	94	70 - 130	102	70 - 130	<0.50	ug/L	NC	30		
6773935	1,1-Dichloroethane	2020/06/08	96	70 - 130	98	70 - 130	<0.20	ug/L	NC	30		
6773935	1,1-Dichloroethylene	2020/06/08	97	70 - 130	99	70 - 130	<0.20	ug/L	NC	30		
6773935	1,2-Dichlorobenzene	2020/06/08	93	70 - 130	96	70 - 130	<0.50	ug/L	NC	30		
6773935	1,2-Dichloroethane	2020/06/08	90	70 - 130	94	70 - 130	<0.50	ug/L	NC	30		
6773935	1,2-Dichloropropane	2020/06/08	91	70 - 130	94	70 - 130	<0.20	ug/L	NC	30		
6773935	1,3-Dichlorobenzene	2020/06/08	91	70 - 130	93	70 - 130	<0.50	ug/L	NC	30		
6773935	1,4-Dichlorobenzene	2020/06/08	100	70 - 130	104	70 - 130	<0.50	ug/L	NC	30		
6773935	Acetone (2-Propanone)	2020/06/08	96	60 - 140	104	60 - 140	<10	ug/L	NC	30		
6773935	Benzene	2020/06/08	99	70 - 130	101	70 - 130	<0.20	ug/L	NC	30		
6773935	Bromodichloromethane	2020/06/08	91	70 - 130	94	70 - 130	<0.50	ug/L	NC	30		
6773935	Bromoform	2020/06/08	97	70 - 130	106	70 - 130	<1.0	ug/L	NC	30		
6773935	Bromomethane	2020/06/08	94	60 - 140	99	60 - 140	<0.50	ug/L	NC	30		

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6773935	Carbon Tetrachloride	2020/06/08	92	70 - 130	94	70 - 130	<0.20	ug/L	NC	30		
6773935	Chlorobenzene	2020/06/08	89	70 - 130	95	70 - 130	<0.20	ug/L	2.8	30		
6773935	Chloroform	2020/06/08	92	70 - 130	95	70 - 130	<0.20	ug/L	NC	30		
6773935	cis-1,2-Dichloroethylene	2020/06/08	95	70 - 130	97	70 - 130	<0.50	ug/L	NC	30		
6773935	cis-1,3-Dichloropropene	2020/06/08	87	70 - 130	86	70 - 130	<0.30	ug/L	NC	30		
6773935	Dibromochloromethane	2020/06/08	99	70 - 130	107	70 - 130	<0.50	ug/L	NC	30		
6773935	Dichlorodifluoromethane (FREON 12)	2020/06/08	80	60 - 140	87	60 - 140	<1.0	ug/L	NC	30		
6773935	Ethylbenzene	2020/06/08	79	70 - 130	84	70 - 130	<0.20	ug/L	NC	30		
6773935	Ethylene Dibromide	2020/06/08	98	70 - 130	107	70 - 130	<0.20	ug/L	NC	30		
6773935	F1 (C6-C10) - BTEX	2020/06/08					<25	ug/L	NC	30		
6773935	F1 (C6-C10)	2020/06/08	95	60 - 140	95	60 - 140	<25	ug/L	NC	30		
6773935	Hexane	2020/06/08	94	70 - 130	97	70 - 130	<1.0	ug/L	NC	30		
6773935	Methyl Ethyl Ketone (2-Butanone)	2020/06/08	97	60 - 140	105	60 - 140	<10	ug/L	NC	30		
6773935	Methyl Isobutyl Ketone	2020/06/08	85	70 - 130	91	70 - 130	<5.0	ug/L	NC	30		
6773935	Methyl t-butyl ether (MTBE)	2020/06/08	80	70 - 130	83	70 - 130	<0.50	ug/L	NC	30		
6773935	Methylene Chloride(Dichloromethane)	2020/06/08	99	70 - 130	103	70 - 130	<2.0	ug/L	NC	30		
6773935	o-Xylene	2020/06/08	84	70 - 130	90	70 - 130	<0.20	ug/L	NC	30		
6773935	p+m-Xylene	2020/06/08	82	70 - 130	87	70 - 130	<0.20	ug/L	NC	30		
6773935	Styrene	2020/06/08	83	70 - 130	90	70 - 130	<0.50	ug/L	NC	30		
6773935	Tetrachloroethylene	2020/06/08	94	70 - 130	99	70 - 130	<0.20	ug/L	NC	30		
6773935	Toluene	2020/06/08	85	70 - 130	91	70 - 130	<0.20	ug/L	NC	30		
6773935	Total Xylenes	2020/06/08					<0.20	ug/L	NC	30		
6773935	trans-1,2-Dichloroethylene	2020/06/08	102	70 - 130	104	70 - 130	<0.50	ug/L	NC	30		
6773935	trans-1,3-Dichloropropene	2020/06/08	87	70 - 130	90	70 - 130	<0.40	ug/L	NC	30		
6773935	Trichloroethylene	2020/06/08	100	70 - 130	102	70 - 130	<0.20	ug/L	NC	30		
6773935	Trichlorofluoromethane (FREON 11)	2020/06/08	98	70 - 130	100	70 - 130	<0.50	ug/L	NC	30		
6773935	Vinyl Chloride	2020/06/08	94	70 - 130	98	70 - 130	<0.20	ug/L	NC	30		
6774131	F2 (C10-C16 Hydrocarbons)	2020/06/07	112	50 - 130	108	60 - 130	<100	ug/L	NC	30		
6774131	F3 (C16-C34 Hydrocarbons)	2020/06/07	115	50 - 130	112	60 - 130	<200	ug/L	NC	30		
6774131	F4 (C34-C50 Hydrocarbons)	2020/06/07	112	50 - 130	110	60 - 130	<200	ug/L	NC	30		
6774738	2,3,4,5-Tetrachlorophenol	2020/06/08	90	10 - 130	89	10 - 130	<0.1	ug/L	NC	40		
6774738	2,3,4,6-Tetrachlorophenol	2020/06/08	100	10 - 130	103	10 - 130	<0.1	ug/L	NC	40		

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6774738	2,3,4-Trichlorophenol	2020/06/08	104	10 - 130	106	10 - 130	<0.1	ug/L	NC	40		
6774738	2,3,5,6-Tetrachlorophenol	2020/06/08	105	10 - 130	110	10 - 130	<0.1	ug/L	NC	40		
6774738	2,3,5-Trichlorophenol	2020/06/08	97	10 - 130	101	10 - 130	<0.1	ug/L	NC	40		
6774738	2,3,6-Trichlorophenol	2020/06/08	96	30 - 130	102	30 - 130	<0.1	ug/L	NC	40		
6774738	2,3-Dichlorophenol	2020/06/08	103	10 - 130	114	10 - 130	<0.1	ug/L	NC	40		
6774738	2,4,5-Trichlorophenol	2020/06/08	95	50 - 130	99	50 - 130	<0.1	ug/L	NC	30		
6774738	2,4,6-Trichlorophenol	2020/06/08	92	10 - 130	100	10 - 130	<0.1	ug/L	NC	30		
6774738	2,4-Dichlorophenol	2020/06/08	98	50 - 130	110	50 - 130	<0.1	ug/L	NC	30		
6774738	2,4-Dimethylphenol	2020/06/08	90	30 - 130	105	30 - 130	<1	ug/L	NC	30		
6774738	2,4-Dinitrophenol	2020/06/08	109	30 - 130	103	30 - 130	<1	ug/L	NC	30		
6774738	2,5-Dichlorophenol	2020/06/08	102	10 - 130	114	10 - 130	<0.1	ug/L	NC	40		
6774738	2,6-Dichlorophenol	2020/06/08	97	10 - 130	113	10 - 130	<0.1	ug/L	NC	40		
6774738	2-Chlorophenol	2020/06/08	86	50 - 130	96	50 - 130	<0.1	ug/L	NC	30		
6774738	2-Nitrophenol	2020/06/08	92	10 - 130	97	10 - 130	<1	ug/L	NC	40		
6774738	3 & 4-Chlorophenol	2020/06/08	108	10 - 130	113	10 - 130	<0.1	ug/L	NC	40		
6774738	3,4,5-Trichlorophenol	2020/06/08	97	10 - 130	99	10 - 130	<0.1	ug/L	NC	40		
6774738	3,4-Dichlorophenol	2020/06/08	105	10 - 130	104	10 - 130	<0.1	ug/L	NC	40		
6774738	3,5-Dichlorophenol	2020/06/08	90	10 - 130	98	10 - 130	<0.1	ug/L	NC	40		
6774738	4,6-Dinitro-2-methylphenol	2020/06/08	105	10 - 130	106	10 - 130	<1	ug/L	NC	40		
6774738	4-Chloro-3-Methylphenol	2020/06/08	84	10 - 130	107	10 - 130	<0.1	ug/L	NC	40		
6774738	4-Nitrophenol	2020/06/08	102	10 - 130	104	10 - 130	<1	ug/L	NC	40		
6774738	m/p-Cresol	2020/06/08	100	10 - 130	115	10 - 130	<0.5	ug/L	NC	40		
6774738	o-Cresol	2020/06/08	99	10 - 130	109	10 - 130	<0.5	ug/L	NC	40		
6774738	Pentachlorophenol	2020/06/08	99	50 - 130	101	50 - 130	<0.1	ug/L	NC	30		
6774738	Phenol	2020/06/08	82	30 - 130	89	30 - 130	<0.5	ug/L	NC	30		
6774824	a-Chlordane	2020/06/09	94	50 - 130	83	50 - 130	<0.005	ug/L	NC	30		
6774824	Aldrin	2020/06/09	80	50 - 130	71	50 - 130	<0.005	ug/L	NC	30		
6774824	Aroclor 1242	2020/06/09					<0.05	ug/L	NC	30		
6774824	Aroclor 1248	2020/06/09					<0.05	ug/L	NC	30		
6774824	Aroclor 1254	2020/06/09					<0.05	ug/L	NC	30		
6774824	Aroclor 1260	2020/06/09					<0.05	ug/L	NC	30		
6774824	Dieldrin	2020/06/09	109	50 - 130	98	50 - 130	<0.005	ug/L	NC	30		

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6774824	Endosulfan I (alpha)	2020/06/09	87	50 - 130	79	50 - 130	<0.005	ug/L	NC	30		
6774824	Endosulfan II (beta)	2020/06/09	88	50 - 130	77	50 - 130	<0.005	ug/L	NC	30		
6774824	Endrin	2020/06/09	96	50 - 130	86	50 - 130	<0.005	ug/L	NC	30		
6774824	g-Chlordane	2020/06/09	95	50 - 130	85	50 - 130	<0.005	ug/L	NC	30		
6774824	Heptachlor epoxide	2020/06/09	88	50 - 130	82	50 - 130	<0.005	ug/L	NC	30		
6774824	Heptachlor	2020/06/09	72	50 - 130	67	50 - 130	<0.005	ug/L	NC	30		
6774824	Hexachlorobenzene	2020/06/09	88	50 - 130	83	50 - 130	<0.005	ug/L	NC	30		
6774824	Hexachlorobutadiene	2020/06/08	79	50 - 130	81	50 - 130	<0.009	ug/L	5.9	30		
6774824	Hexachloroethane	2020/06/08	64	50 - 130	64	50 - 130	<0.01	ug/L	0.20	30		
6774824	Lindane	2020/06/09	80	50 - 130	78	50 - 130	<0.003	ug/L	NC	30		
6774824	Methoxychlor	2020/06/09	100	50 - 130	83	50 - 130	<0.01	ug/L	NC	30		
6774824	o,p-DDD	2020/06/09	100	50 - 130	86	50 - 130	<0.005	ug/L	NC	30		
6774824	o,p-DDE	2020/06/09	93	50 - 130	81	50 - 130	<0.005	ug/L	NC	30		
6774824	o,p-DDT	2020/06/09	91	50 - 130	75	50 - 130	<0.005	ug/L	NC	30		
6774824	p,p-DDD	2020/06/09	96	50 - 130	81	50 - 130	<0.005	ug/L	NC	30		
6774824	p,p-DDE	2020/06/09	97	50 - 130	80	50 - 130	<0.005	ug/L	NC	30		
6774824	p,p-DDT	2020/06/09	105	50 - 130	86	50 - 130	<0.005	ug/L	NC	30		
6775148	Total Phosphorus	2020/06/09	92	80 - 120	93	80 - 120	<0.020	mg/L	5.2	20	93	80 - 120
6775350	Total Aluminum (Al)	2020/06/08	101	80 - 120	104	80 - 120	<4.9	ug/L				
6775350	Total Antimony (Sb)	2020/06/08	100	80 - 120	101	80 - 120	<0.50	ug/L				
6775350	Total Arsenic (As)	2020/06/08	98	80 - 120	100	80 - 120	<1.0	ug/L				
6775350	Total Bismuth (Bi)	2020/06/08	96	80 - 120	99	80 - 120	<1.0	ug/L				
6775350	Total Boron (B)	2020/06/08	88	80 - 120	92	80 - 120	<10	ug/L				
6775350	Total Cadmium (Cd)	2020/06/08	97	80 - 120	99	80 - 120	<0.090	ug/L				
6775350	Total Chromium (Cr)	2020/06/08	95	80 - 120	97	80 - 120	<5.0	ug/L				
6775350	Total Cobalt (Co)	2020/06/08	98	80 - 120	102	80 - 120	<0.50	ug/L				
6775350	Total Copper (Cu)	2020/06/08	103	80 - 120	105	80 - 120	<0.90	ug/L				
6775350	Total Lead (Pb)	2020/06/08	98	80 - 120	101	80 - 120	<0.50	ug/L				
6775350	Total Manganese (Mn)	2020/06/08	95	80 - 120	98	80 - 120	<2.0	ug/L				
6775350	Total Molybdenum (Mo)	2020/06/08	99	80 - 120	98	80 - 120	<0.50	ug/L				
6775350	Total Nickel (Ni)	2020/06/08	95	80 - 120	97	80 - 120	<1.0	ug/L				
6775350	Total Selenium (Se)	2020/06/08	99	80 - 120	102	80 - 120	<2.0	ug/L				

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6775350	Total Silver (Ag)	2020/06/08	98	80 - 120	99	80 - 120	<0.090	ug/L				
6775350	Total Tin (Sn)	2020/06/08	96	80 - 120	98	80 - 120	<1.0	ug/L				
6775350	Total Titanium (Ti)	2020/06/08	97	80 - 120	99	80 - 120	<5.0	ug/L				
6775350	Total Vanadium (V)	2020/06/08	96	80 - 120	97	80 - 120	<0.50	ug/L				
6775350	Total Zinc (Zn)	2020/06/08	98	80 - 120	101	80 - 120	<5.0	ug/L				
6775455	Total Suspended Solids	2020/06/09					<1	mg/L	0.70	25	100	85 - 115
6775463	Volatile Suspended Solids	2020/06/09					<1	mg/L	0	25		
6775614	Total Kjeldahl Nitrogen (TKN)	2020/06/09	110	80 - 120	102	80 - 120	<0.10	mg/L	NC	20	103	80 - 120
6776801	Mercury (Hg)	2020/06/09	97	75 - 125	95	80 - 120	<0.00010	mg/L	NC	20		
6780032	2,3,4,5-Tetrachlorophenol	2020/06/11	94	10 - 130	89	10 - 130	<0.1	ug/L	NC	40		
6780032	2,3,4,6-Tetrachlorophenol	2020/06/11	105	10 - 130	94	10 - 130	<0.1	ug/L	NC	40		
6780032	2,3,4-Trichlorophenol	2020/06/11	111	10 - 130	108	10 - 130	<0.1	ug/L	NC	40		
6780032	2,3,5,6-Tetrachlorophenol	2020/06/11	121	10 - 130	110	10 - 130	<0.1	ug/L	NC	40		
6780032	2,3,5-Trichlorophenol	2020/06/11	102	10 - 130	100	10 - 130	<0.1	ug/L	NC	40		
6780032	2,3,6-Trichlorophenol	2020/06/11	99	30 - 130	100	30 - 130	<0.1	ug/L	NC	40		
6780032	2,3-Dichlorophenol	2020/06/11	94	10 - 130	103	10 - 130	<0.1	ug/L	NC	40		
6780032	2,4,5-Trichlorophenol	2020/06/11	101	50 - 130	99	50 - 130	<0.1	ug/L	NC	30		
6780032	2,4,6-Trichlorophenol	2020/06/11	111	10 - 130	97	10 - 130	<0.1	ug/L	NC	30		
6780032	2,4-Dichlorophenol	2020/06/11	89	50 - 130	101	50 - 130	<0.1	ug/L	NC	30		
6780032	2,4-Dimethylphenol	2020/06/11	90	30 - 130	94	30 - 130	<1	ug/L	NC	30		
6780032	2,4-Dinitrophenol	2020/06/11	88	30 - 130	109	30 - 130	<1	ug/L	NC	30		
6780032	2,5-Dichlorophenol	2020/06/11	95	10 - 130	103	10 - 130	<0.1	ug/L	NC	40		
6780032	2,6-Dichlorophenol	2020/06/11	95	10 - 130	102	10 - 130	<0.1	ug/L	NC	40		
6780032	2-Chlorophenol	2020/06/11	73	50 - 130	88	50 - 130	<0.1	ug/L	NC	30		
6780032	2-Nitrophenol	2020/06/11	66	10 - 130	80	10 - 130	<1	ug/L	NC	40		
6780032	3 & 4-Chlorophenol	2020/06/11	84	10 - 130	96	10 - 130	<0.1	ug/L	NC	40		
6780032	3,4,5-Trichlorophenol	2020/06/11	105	10 - 130	102	10 - 130	<0.1	ug/L	NC	40		
6780032	3,4-Dichlorophenol	2020/06/11	97	10 - 130	109	10 - 130	<0.1	ug/L	NC	40		
6780032	3,5-Dichlorophenol	2020/06/11	90	10 - 130	94	10 - 130	<0.1	ug/L	NC	40		
6780032	4,6-Dinitro-2-methylphenol	2020/06/11	111	10 - 130	105	10 - 130	<1	ug/L	NC	40		
6780032	4-Chloro-3-Methylphenol	2020/06/11	83	10 - 130	80	10 - 130	<0.1	ug/L	NC	40		
6780032	4-Nitrophenol	2020/06/11	71	10 - 130	80	10 - 130	<1	ug/L	NC	40		

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6780032	m/p-Cresol	2020/06/11	85	10 - 130	89	10 - 130	<0.5	ug/L	NC	40		
6780032	o-Cresol	2020/06/11	85	10 - 130	89	10 - 130	<0.5	ug/L	NC	40		
6780032	Pentachlorophenol	2020/06/11	105	50 - 130	100	50 - 130	<0.1	ug/L	NC	30		
6780032	Phenol	2020/06/11	42	30 - 130	47	30 - 130	<0.5	ug/L	NC	30		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

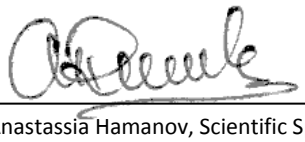
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

BV Labs Job #: C0D8066
Report Date: 2020/07/27

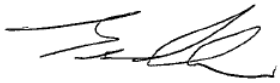
DST Consulting Engineers Inc
Client Project #: 2001055
Site Location: 800 MONTREAL ROAD
Sampler Initials: KS

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Anastassia Hamanov, Scientific Specialist



Brad Newman, Scientific Service Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvlabs.com

IMMEDIATE

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free 800-563-6266 Fax:(905) 817-5777 www.bvlabs.com

Page of

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#3824 DST Consulting Engineers Inc	Company Name:		Quotation #:	B82715	BV Labs Job #:	Bottle Order #:
Attention:	Accounts Payable	Attention:	Shane Dunstan	P.O. #:			775377
Address:	2150 Thurston Dr Unit 203	Address:		Project:	2001055	COC #:	Project Manager:
	Ottawa ON K1G 5T9			Project Name:		C#775377-01-01	Katherine Szozda
Tel:	(613) 748-1415 Fax: (613) 748-1356	Tel:	Fax:	Site #:	800 Montreal Road		
Email:	ap@dstgroup.com	Email:	sdunstan@dstgroup.com	Sampled By:	KS		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☐ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☐ Table 3 ☐ Agri/Other ☐ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☐ Sanitary Sewer Bylaw
- ☐ Reg 558 ☒ Storm Sewer Bylaw
- ☐ MISA Municipality Ottawa
- ☐ PWQO
- ☐ Other

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT:
(will be assumed if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 VOCs by HS & F1-F4	O.Reg 153 OC Pesticides (Water)	Acid Extractables by GC/MS	Total Metals Analysis by ICPMS	Mercury in Water by CVAA	pH, Low level TSS, Low Level VSS	Total Phosphorus, TKN	D.S.Solved Metals			# of Bottles	Comments
1		MW 20-1	6/3/20	1:30	GW	Y	2	2	2	2	2	2	2	2				
2		MW 20-3	6/3/20	3:40	GW	Y	2	2	2	2	2	2	2	2				
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

04-Jun-20 13:17
Katherine Szozda
C0D8066
FCN ENV-951

ON ICE

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Kelly Ann Dennis Kelly ST Dennis	20/6/4	11:32 am	Katie Szozda Katie Szozda	20/06/04	13:17	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal Present	Yes	No
	6/5/5	Intact	X	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

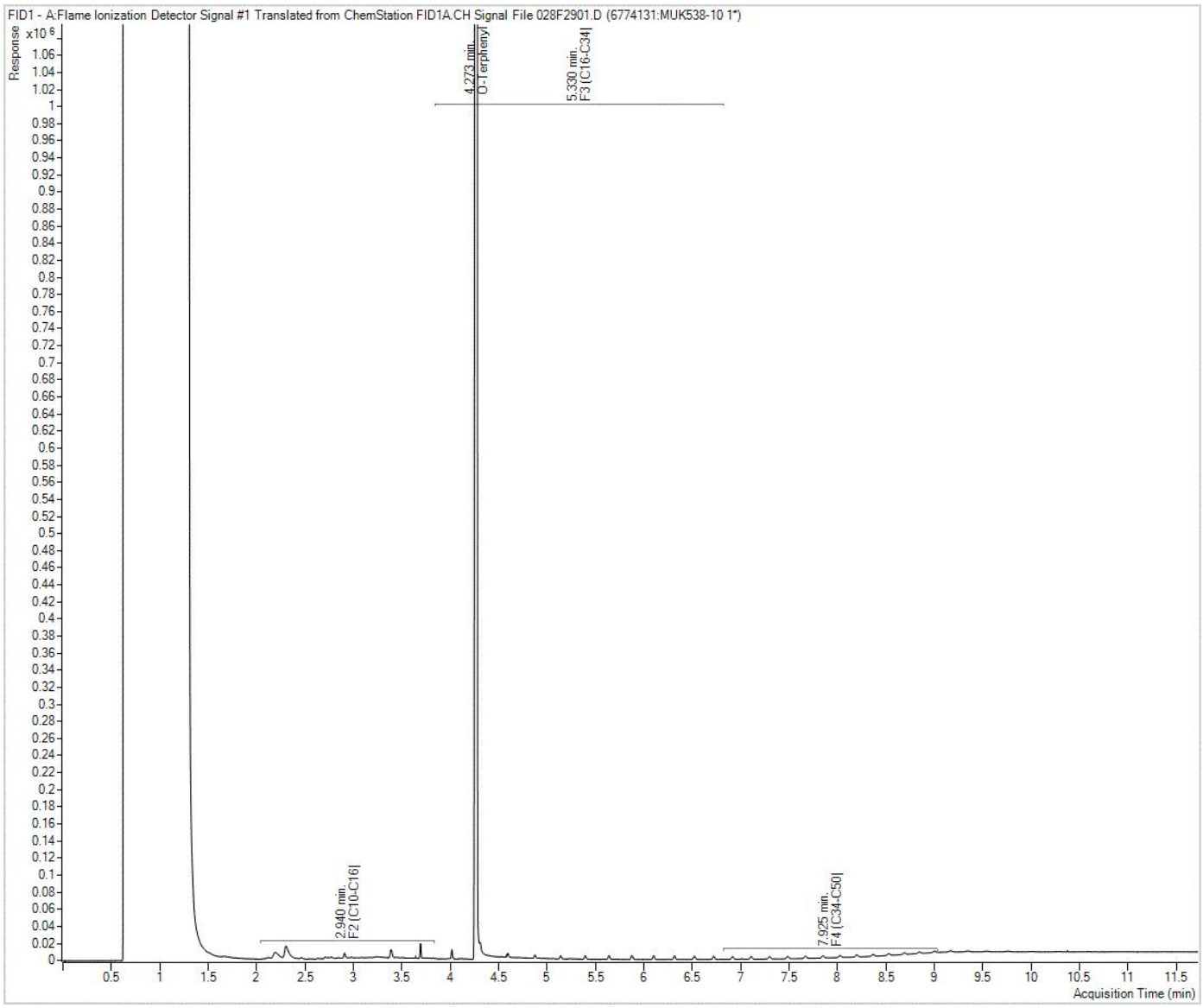
White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

BV Labs Job #: C0D8066
Report Date: 2020/07/27
BV Labs Sample: MUK538

DST Consulting Engineers Inc
Client Project #: 2001055
Project name: 800 MONTREAL ROAD
Client ID: MW20-1

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

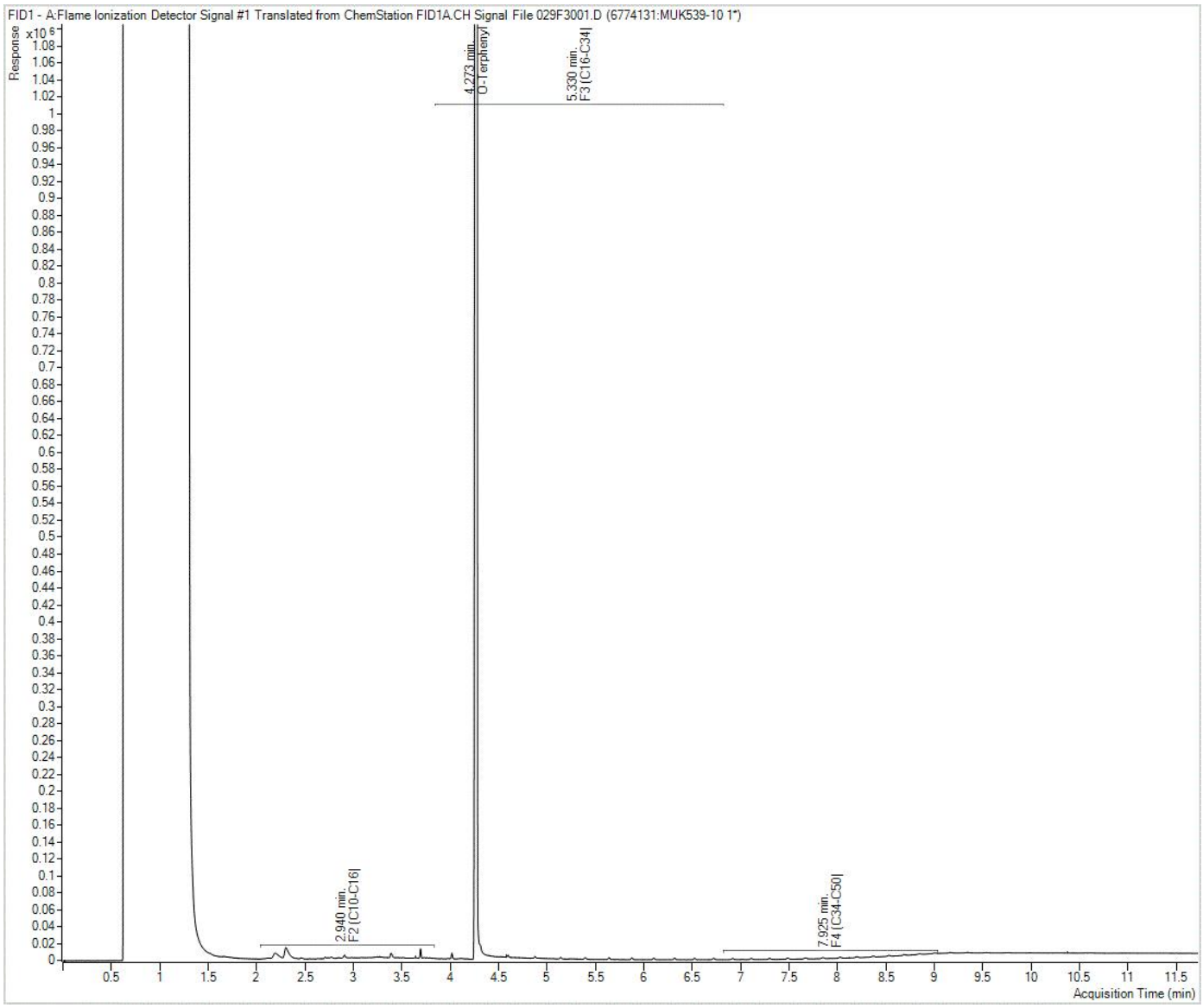


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C0D8066
Report Date: 2020/07/27
BV Labs Sample: MUK539

DST Consulting Engineers Inc
Client Project #: 2001055
Project name: 800 MONTREAL ROAD
Client ID: MW20-3

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

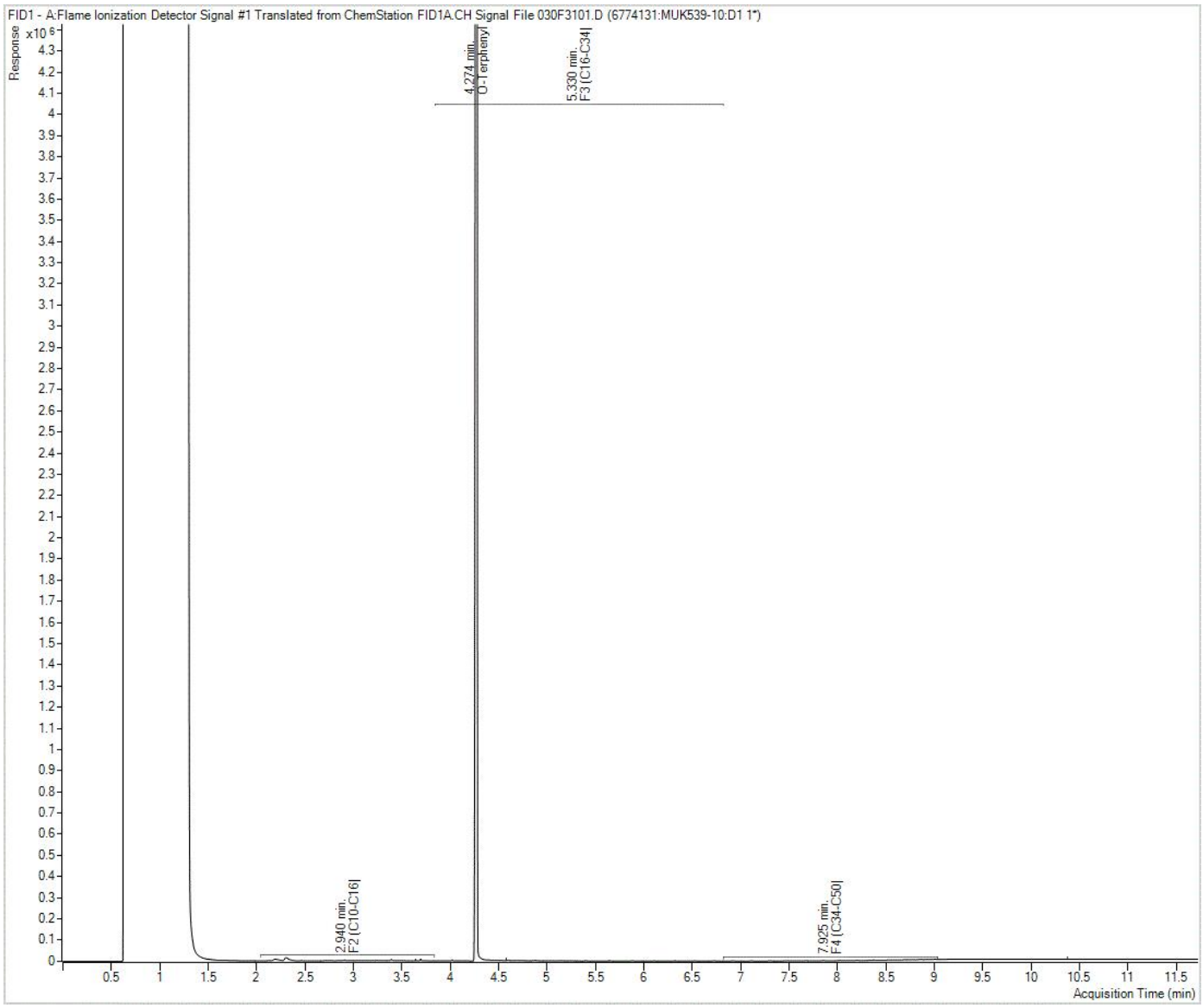


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C0D8066
Report Date: 2020/07/27
BV Labs Sample: MUK539 Lab-Dup

DST Consulting Engineers Inc
Client Project #: 2001055
Project name: 800 MONTREAL ROAD
Client ID: MW20-3

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

APPENDIX F
ECOLOG ERIS ENVIRONMENTAL DATABASE REPORT

ENVIRONMENTAL RISK INFORMATION SERVICES

DATABASE REPORT

Project Property:	*Phase I ESA Update* *800 Montreal Rd* *Ottawa ON K1K1V1*
Project No:	
Report Type:	*RSC Report (Urban)*
Order No:	*20170531104*
Requested by:	*DST Consulting Engineers Inc.*
Date Completed:	*June 6, 2017*

Environmental Risk Information Services
A division of Glacier Media Inc.
P: 1.866.517.5204
E: info@erisinfo.com

www.erisinfo.com

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Executive Summary

Property Information:

Project Property:	*Phase I ESA Update* *800 Montreal Rd Ottawa ON K1K1V1*
Project No:	

Order Information:

Order No:	*20170531104*
Date Requested:	*May 31, 2017*
Requested by:	*DST Consulting Engineers Inc.*
Report Type:	*RSC Report (Urban)*

Additional Products:

City Directory Search	*Subject Site plus 10 Adjacent Properties*
Topographic Map	*ANSI Map & Ontario Base Map (OBM)*
Topographic Map	*Ontario Base Map (OBM)*

Executive Summary: Report Summary

Database	Name	Searched	Project Property	Boundary to 0.30km	Total
AAGR	***Abandoned Aggregate Inventory***	*Y*	*0*	*0*	*0*
AGR	***Aggregate Inventory***	*Y*	*0*	*0*	*0*
AMIS	***Abandoned Mine Information System***	*Y*	*0*	*2*	*2*
ANDR	***Anderson's Waste Disposal Sites***	*Y*	*0*	*0*	*0*
AUWR	***Automobile Wrecking & Supplies***	*Y*	*0*	*0*	*0*
BORE	***Borehole***	*Y*	*0*	*17*	*17*
CA	***Certificates of Approval***	*Y*	*1*	*9*	*10*
CFOT	***Commercial Fuel Oil Tanks***	*Y*	*0*	*0*	*0*
CHEM	***Chemical Register***	*Y*	*0*	*0*	*0*
CNG	***Compressed Natural Gas Stations***	*Y*	*0*	*0*	*0*
COAL	***Inventory of Coal Gasification Plants and Coal Tar Sites***	*Y*	*0*	*0*	*0*
CONV	***Compliance and Convictions***	*Y*	*0*	*0*	*0*
CPU	***Certificates of Property Use***	*Y*	*0*	*0*	*0*
DRL	***Drill Hole Database***	*Y*	*0*	*0*	*0*
EASR	***Environmental Activity and Sector Registry***	*Y*	*1*	*0*	*1*
EBR	***Environmental Registry***	*Y*	*0*	*0*	*0*
ECA	***Environmental Compliance Approval***	*Y*	*0*	*0*	*0*
EEM	***Environmental Effects Monitoring***	*Y*	*0*	*0*	*0*
EHS	***ERIS Historical Searches***	*Y*	*4*	*9*	*13*
EIIS	***Environmental Issues Inventory System***	*Y*	*0*	*0*	*0*
EMHE	***Emergency Management Historical Event***	*Y*	*0*	*0*	*0*
EXP	***List of TSSA Expired Facilities***	*Y*	*0*	*0*	*0*
FCON	***Federal Convictions***	*Y*	*0*	*0*	*0*
FCS	***Contaminated Sites on Federal Land***	*Y*	*0*	*0*	*0*
FOFT	***Fisheries & Oceans Fuel Tanks***	*Y*	*0*	*0*	*0*
FST	***Fuel Storage Tank***	*Y*	*0*	*0*	*0*
FSTH	***Fuel Storage Tank - Historic***	*Y*	*0*	*0*	*0*
GEN	***Ontario Regulation 347 Waste Generators Summary***	*Y*	*14*	*30*	*44*
GHG	***Greenhouse Gas Emissions from Large Facilities***	*Y*	*0*	*0*	*0*
HINC	***TSSA Historic Incidents***	*Y*	*0*	*0*	*0*
IAFT	***Indian & Northern Affairs Fuel Tanks***	*Y*	*0*	*0*	*0*
INC	***TSSA Incidents***	*Y*	*0*	*0*	*0*
LIMO	***Landfill Inventory Management Ontario***	*Y*	*0*	*0*	*0*
MINE	***Canadian Mine Locations***	*Y*	*0*	*0*	*0*
MNR	***Mineral Occurrences***	*Y*	*0*	*2*	*2*
NATE	***National Analysis of Trends in Emergencies System (NATES)***	*Y*	*0*	*0*	*0*

Database	Name	Searched	Project Property	Boundary to 0.30km	Total
NCPL	Non-Compliance Reports	Y	0	0	0
NDFT	National Defense & Canadian Forces Fuel Tanks	Y	0	0	0
NDSP	National Defense & Canadian Forces Spills	Y	0	0	0
NDWD	National Defence & Canadian Forces Waste Disposal Sites	Y	0	0	0
NEBI	National Energy Board Pipeline Incidents	Y	0	0	0
NEBW	National Energy Board Wells	Y	0	0	0
NEES	National Environmental Emergencies System (NEES)	Y	0	0	0
NPCB	National PCB Inventory	Y	0	2	2
NPRI	National Pollutant Release Inventory	Y	0	0	0
OGW	Oil and Gas Wells	Y	0	0	0
OOGW	Ontario Oil and Gas Wells	Y	0	0	0
OPCB	Inventory of PCB Storage Sites	Y	0	0	0
ORD	Orders	Y	0	0	0
PAP	Canadian Pulp and Paper	Y	0	0	0
PCFT	Parks Canada Fuel Storage Tanks	Y	0	0	0
PES	Pesticide Register	Y	0	0	0
PINC	TSSA Pipeline Incidents	Y	0	0	0
PRT	Private and Retail Fuel Storage Tanks	Y	0	0	0
PTTW	Permit to Take Water	Y	0	0	0
REC	Ontario Regulation 347 Waste Receivers Summary	Y	0	0	0
RSC	Record of Site Condition	Y	1	7	8
RST	Retail Fuel Storage Tanks	Y	0	0	0
SCT	Scott's Manufacturing Directory	Y	0	0	0
SPL	Ontario Spills	Y	2	2	4
SRDS	Wastewater Discharger Registration Database	Y	0	0	0
TANK	Anderson's Storage Tanks	Y	0	0	0
TCFT	Transport Canada Fuel Storage Tanks	Y	0	0	0
VAR	TSSA Variances for Abandonment of Underground Storage Tanks	Y	0	1	1
WDS	Waste Disposal Sites - MOE CA Inventory	Y	0	0	0
WDSH	Waste Disposal Sites - MOE 1991 Historical Approval Inventory	Y	0	0	0
WWIS	Water Well Information System	Y	5	43	48
	Total:		28	124	152

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev diff (m)	Page Number
1	WWIS		ON	-/0.0	-0.27	25
2	CA	Canada Lands Company CLC Limited	800 Montreal Rd Part of lot 24, concession 1, part 6, reference plan 4R-25131 Ottawa ON K1K 1V1	-/0.0	-0.20	25
2	EASR	DELSAN-A.I.M. ENVIRONMENTAL SERVICES INC./ LES SERVICES ENVIRONNEMENTAUX	DELSAN-A.I.M. INC. 800 MONTREAL OTTAWA ON	-/0.0	-0.20	26
2	EHS		800 montreal road ottawa ON K1G 5T9	-/0.0	-0.20	26
2	EHS		800 Montreal Road, Part 3 Ottawa ON K1K 1V1	-/0.0	-0.20	26
2	EHS		800 Montreal Rd Ottawa ON K1K 1V1	-/0.0	-0.20	26
2	GEN	GVT. OF CAN. - PUBLIC WORKS CANADA	CHP FORINTER INT. 800 MONTREAL ROAD OTTAWA ON K1A 0M3	-/0.0	-0.20	27
2	GEN	GVT. OF CAN. - PUBLIC WORKS CANADA	CHP FORINTER INT 800 MONTREAL ROAD OTTAWA ON K1A 0M3	-/0.0	-0.20	27
2	GEN	GVT. OF CAN. - PUBLIC WORKS CANADA17-351	CHP FORINTER INT. 800 MONTREAL ROAD OTTAWA ON K1A 0M3	-/0.0	-0.20	27
2	GEN	Canada Lands Company	800 montreal st Ottawa ON K1K 1V1	-/0.0	-0.20	28
2	GEN	FORINTEK (SEE & USE 17605122)	800 MONTREAL ROAD OTTAWA ON K1G 3Z5	-/0.0	-0.20	28
2	GEN	FORINTEK CANADA CORP.	800 MONTREAL RD. OTTAWA ON K1G 3Z5	-/0.0	-0.20	29
2	GEN	FORINTEK (SEE & USE 17605122) 15-065	800 MONTREAL RD. OTTAWA ON K1G 3Z5	-/0.0	-0.20	30
2	GEN	Public Works and Government Service Canada	800 Montreal road Ottawa ON K1G 1Z5	-/0.0	-0.20	30
2	GEN	FORINTEK CANADA CORP. 15-065	800 MONTREAL RD. OTTAWA ON K1G 3Z5	-/0.0	-0.20	31
2	GEN	FORINTEK (SEE & USE 17605122)	800 MONTREAL ROAD OTTAWA ON K1G 3Z5	-/0.0	-0.20	31

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev diff (m)	Page Number
2	GEN	FORINTEK CANADA CORP	800 MONTREAL RD. OTTAWA ON K1G 3Z5	-/0.0	-0.20	32
2	GEN	PUBLIC WORKS CANADA_	CHP FORINTER INT 800 MONTREAL ROAD OTTAWA ON	-/0.0	-0.20	32
2	GEN	CLC Lands	800 Montreal Road Ottawa ON K1A O04	-/0.0	-0.20	33
2	GEN	PUBLIC WORKS CANADA	CHP FORINTER INT 800 MONTREAL ROAD OTTAWA ON	-/0.0	-0.20	33
2	RSC	Canada Lands Company CLC Limited / Societe Immobiliere du Canada CLC Limitee	800 MONTREAL RD, OTTAWA, ON, K1K 1V1 OTTAWA ON K1K 1V1	-/0.0	-0.20	34
2	SPL		800 Montreal Rd Part of lot 24 concession 1 part 6 reference plan 4R-25131 Ottawa ON	-/0.0	-0.20	34
2	SPL	Pomerleau Inc.	800 Montreal Road, Ottawa Ottawa ON	-/0.0	-0.20	34
3	WWIS		ON	-/0.0	-1.26	35
4	WWIS		lot 24 con 1 OTTAWA ON	-/0.0	-0.76	35
5	WWIS		Ottawa ON	-/0.0	-0.21	37
6	WWIS		ON	-/0.0	-0.56	47
9	EHS		800 Montreal Rd Ottawa ON K1K1V1	E/9.9	1.04	50

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
7	WWIS		ON	SW/1.8	-1.38	51
8	BORE		ON	S/4.2	-2.87	51
10	WWIS		lot 26 con 1 OTTAWA ON	SSE/37.2	-3.05	52
11	BORE		ON	WSW/42.8	-2.28	54
12	BORE		ON	SSW/49.3	-4.01	55
13	CA	LANDRY GAUTHIER & ASSOCIES INC.	682 MONTREAL ROAD OTTAWA CITY ON	W/61.7	-0.91	55
13	CA	CMHC/RAMPARTS - EMERGENCY GENERATORS	682 MONTREAL RD. OTTAWA CITY ON	W/61.7	-0.91	56
13	CA	CMHC/RAMPARTS LTD.	682 MONTREAL ROAD OTTAWA CITY ON	W/61.7	-0.91	56
13	CA	CMHC/RAMPARTS - GAS FIRED BOILERS	682 MONTREAL ROAD OTTAWA CITY ON	W/61.7	-0.91	56
13	GEN	CANADA MORTGAGE & HOUSING CORP.	682 MONTREAL ROAD OTTAWA ON K1A 0P7	W/61.7	-0.91	57
13	GEN	CANADA MORTGAGE & HOUSING CORP.	682 MONTREAL ROAD OTTAWA ON K1A 0P7	W/61.7	-0.91	57
14	EHS		807 & 811 Montreal Road Ottawa ON K1K 0S9	NNW/65.3	6.80	57
15	EHS		753 Montreal Road Ottawa ON K1K 0T1	WNW/70.9	-0.67	58
16	BORE		ON	E/79.4	2.12	58
17	BORE		ON	SW/80.9	-2.70	58
18	GEN	Pharmx Rexall Drug Stores Ltd.	753 Montreal Road Ottawa ON	WNW/89.1	0.39	59
18	GEN	Pharmx Rexall Drug Stores Ltd.	753 Montreal Road Ottawa ON K1K 0T1	WNW/89.1	0.39	59
19	EHS		789 Montreal Rd Ottawa ON K1K 0S9	N/89.9	8.23	60
19	GEN	Hydro OTTAWA LIMITED	789 MONTREAL RD OTTAWA ON K1K 0S9	N/89.9	8.23	60
20	CA	ERSKINE BUILDING CORP. MONTREAL RD.	C.M.H.C. NATIONAL OFFICE. OTTAWA CITY ON	W/90.5	-1.43	60
20	CA	ERSKINE BUILDING CORP. MONTREAL RD.	C.M.H.C. NATIONAL OFFICE OTTAWA CITY ON	W/90.5	-1.43	60
21	WWIS		ON	NW/91.5	6.57	61
22	WWIS		ON	N/101.8	9.03	63

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
23	BORE		ON	WSW/106.3	-2.32	65
24	BORE		ON	SSE/120.4	-2.77	65
25	GEN	CANADA MORTGAGE AND HOUSING CORPORATION	700 Montreal Road Ottawa ON K1A 0P7	SW/126.5	-3.76	66
25	GEN	CANADA MORTGAGE AND HOUSING CORPORATION	700 Montreal Road Ottawa ON K1A 0P7	SW/126.5	-3.76	67
25	GEN	CANADA MORTGAGE AND HOUSING CORPORATION	700 Montreal Road Ottawa ON K1A 0P7	SW/126.5	-3.76	68
25	GEN	CANADA MORTGAGE & HOUSING CORP. 08-299	700 MONTREAL ROAD OTTAWA ON K1A 0P7	SW/126.5	-3.76	69
25	GEN	CANADA MORTGAGE AND HOUSING CORPORATION	700 Montreal Road Ottawa ON K1A 0P7	SW/126.5	-3.76	69
25	GEN	CANADA MORTGAGE AND HOUSING CORPORATION	700 Montreal Road Ottawa ON K1A 0P7	SW/126.5	-3.76	70
25	GEN	CANADA HOUSING & MORTAGE CORPORATION	700 MONTREAL ROAD OTTAWA ON K1A 0P7	SW/126.5	-3.76	72
25	NPCB	CANADA MORTGAGE & HOUSING CORP.	700 MONTREAL ROAD OTTAWA ON K1A 0P7	SW/126.5	-3.76	72
25	NPCB	CANADA MORTGAGE & HOUSING CORP.	700 MONTREAL RD OTTAWA ON K1A 0P7	SW/126.5	-3.76	73
25	SPL	Canada Mortgage and Housing Corporation	700 Montreal Road Ottawa ON K1A 0P7	SW/126.5	-3.76	73
26	EHS		825 Montreal Road Ottawa ON K1K 0S9	NE/129.8	9.51	73
27	GEN	LA COLOMBE PHARMACY	745-B MONTREAL ROAD OTTAWA ON K1K 0T1	WNW/131.0	-1.39	73
27	GEN	Equipe de sante familiale academique Montfort	745 chemin Montreal pièce 101B Ottawa ON K1K 0T1	WNW/131.0	-1.39	74
28	GEN	Equipe de sante familiale academique Montfort	745 chemin Montreal pièce 101B Ottawa ON K1K 0T1	WNW/133.2	-1.53	74
28	GEN	Equipe de santÚ familiale acadÚmique Montfort	745 chemin Montreal piÞce 101B Ottawa ON	WNW/133.2	-1.53	74
28	GEN	Equipe de santÚ familiale acadÚmique Montfort	745 chemin Montreal piÞce 101B Ottawa ON	WNW/133.2	-1.53	75
29	WWIS		ON	WSW/138.0	-2.52	75
30	WWIS		ON	NNE/142.5	11.34	77
31	WWIS		OTTAWA ON	NW/155.9	1.21	79
32	VAR	CLARIDGE HOMES (ROCKCLIFFE MEWS) INC	840 MONTREAL RD OTTAWA ON K1K 4W3	ENE/156.2	9.99	81
33	GEN	CANADA MORTGAGE AND HOUSING CORPORATION	700 Montreal Road Ottawa ON K1A 0P7	SSW/156.5	-4.73	81
33	SPL	McQuay Factory Service<UNOFFICIAL>	700 Montreal Rd Ottawa ON	SSW/156.5	-4.73	82
34	WWIS		Ottawa ON	S/169.2	-5.43	83
35	EHS		550 Langs Road Ottawa ON	NW/171.7	4.20	88

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
36	WWIS		Ottawa ON	NW/176.0	1.28	88
37	WWIS		ON	NNE/176.1	13.98	90
38	WWIS		ON	NNE/177.9	13.15	92
39	WWIS		ON	NE/188.4	13.00	95
40	WWIS		OTTAWA ON	N/191.4	13.29	97
41	WWIS		ON	NW/196.4	3.12	102
42	WWIS		ON	NW/197.4	8.89	104
43	EHS		550 Langs Rd Ottawa ON K1K4C2	NW/203.3	2.69	106
44	WWIS		OTTAWA ON	WNW/205.2	1.59	106
45	WWIS		ON	NE/205.7	14.77	108
46	RSC		701-711 Montreal Road Ottawa ON K1K 0T1	W/210.0	-2.92	110
46	RSC		701-711 Montreal Rd Part Lots 24&25, Conc.1 Ottawa ON K1K 0T1	W/210.0	-2.92	111
47	WWIS		OTTAWA ON	NW/212.5	2.64	111
48	WWIS		ON	NNE/214.6	14.61	113
49	AMIS	LAURENTIAN STONE CO.	GLOUCESTER ON	W/214.8	-3.36	115
49	MNR	LAURENTIAN #2	ON	W/214.8	-3.33	116
50	WWIS		con 6 OTTAWA ON	NW/220.8	2.78	116
50	WWIS		lot 2 con 6 GLOUCESTER ON	NW/220.8	2.78	118
51	WWIS		ON	N/223.2	13.86	121
52	WWIS		ON	N/226.9	15.09	123
53	WWIS		OTTAWA ON	WNW/227.0	2.16	125
54	AMIS	KIRK & WINNING QUA.	GLOUCESTER ON	ENE/227.1	10.27	127
54	MNR	KIRK AND WINNING	ON	ENE/227.1	10.24	127
55	WWIS		ON	NNE/228.9	15.94	128
56	WWIS		OTTAWA ON	WNW/233.7	2.39	130
57	BORE		ON	NNE/239.9	15.75	132

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
58	WWIS		Ottawa ON	NW/241.2	2.52	133
59	WWIS		ON	NW/248.0	2.67	149
60	WWIS		Ottawa ON	WNW/253.6	2.78	151
61	WWIS		ON	NNE/255.6	17.03	153
62	EHS		860 Blackthorne Avenue Ottawa ON K1K 3Y7	NE/257.4	16.86	155
63	WWIS		con 6 OTTAWA ON	NW/259.8	3.18	155
64	WWIS		Ottawa ON	WNW/260.5	3.24	157
65	WWIS		ON	NW/260.5	2.96	159
66	GEN	Conseil des ecoles catholique du Centre-Est CECCE	704 CHEMIN CARSON OTTAWA ON K1K 2H3	SE/263.7	-3.36	161
66	GEN	Conseil des Úcoles catholique du Centre-Est	704 CHEMIN CARSON OTTAWA ON	SE/263.7	-3.36	162
67	BORE		ON	NE/265.9	16.93	163
68	BORE		ON	NW/267.7	2.39	163
68	WWIS		ON	NW/267.7	2.43	164
69	WWIS		ON	NW/274.5	2.84	166
70	BORE		ON	W/275.5	-4.40	168
71	BORE		ON	WSW/276.1	-5.02	169
72	BORE		ON	WSW/276.4	-4.72	169
73	WWIS		ON	NE/276.5	16.69	170
74	GEN	CONSEIL DES ECOLES CATHOLIQUES DE LANGUE	COLLEGE CATHOLIQUE SAMUEL-GENEST 704 CHEMIN CARSON OTTAWA ON K1K 2H3	SE/279.2	-3.43	172
74	GEN	Conseil des Úcoles catholique du Centre-Est	704 CHEMIN CARSON OTTAWA ON K1K 2H3	SE/279.2	-3.43	173
74	GEN	Conseil des Úcoles catholique du Centre-Est	704 CHEMIN CARSON OTTAWA ON	SE/279.2	-3.43	173
74	GEN	Conseil des ecoles catholique du Centre-Est CECCE	704 CHEMIN CARSON OTTAWA ON K1K 2H3	SE/279.2	-3.43	174
74	GEN	Conseil des Úcoles catholique du Centre-Est	704 CHEMIN CARSON OTTAWA ON	SE/279.2	-3.43	175
74	GEN	Conseil des Úcoles catholique du Centre-Est	704 CHEMIN CARSON OTTAWA ON	SE/279.2	-3.43	176
74	GEN	SIR WILFRID LAURIER HIGH SCHOOL	704 CARSON RD OTTAWA ON K1K 2H3	SE/279.2	-3.44	176
74	GEN	CARLETON (OUT OF BUSINESS) 08-902	SIR WILFRED LAURIER HIGH SCHOOL 704 CARSON ROAD	SE/279.2	-3.44	176

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
			OTTAWA ON K1K 2H3			
74	GEN	CONSEIL DES ECOLES CATHOLIQUES DE LANGUE	704 CHEMIN CARSON OTTAWA ON K1K 2H3	SE/279.2	-3.44	177
74	GEN	CONSEIL DES ECOLES CATHOLIQUES DE LANGUE	COLLEGE CATHOLIQUE SAMUEL-GENEST 704, CHEMIN CARSON OTTAWA ON K1K 2H3	SE/279.2	-3.44	177
75	WWIS		ON	N/280.8	10.42	178
76	EHS		528 Langs Road GLOUCESTER ON	NW/281.2	5.13	180
77	CA	519078 ONTARIO INC.	651-655 CARSON'S ROAD (SWM) OTTAWA CITY ON K1K 2G9	E/281.7	3.13	18
78	WWIS		ON	N/282.1	15.94	180
79	BORE		ON	W/283.5	-4.54	182
80	BORE		ON	WSW/287.8	-5.06	183
81	CA	MALHOTRA DEV. INC.-PT.LOT 23/CONC. 1	MONTREAL RD./CARSON'S RD. OTTAWA CITY ON	NE/288.7	13.53	18
81	CA	MALHOTRA DEV. INC.-PT.LOT 23, CONC. 1	MONTREAL RD./CARSON'S RD. OTTAWA CITY ON	NE/288.7	13.53	18
81	RSC		Carsons Road && Montreal Rd. Lot 1 -99 (Former) Ottawa ON	NE/288.7	13.53	184
81	RSC		Carson's Rd && Montreal Rd Lots 1-99 and Block 100, Plan 4M-1031 and Block 1, Plan 4M-1032, Ottawa ON	NE/288.7	13.53	184
81	RSC		Carson's Road && Montreal Road Ottawa ON	NE/288.7	13.53	185
81	RSC		Carson's Road && Montreal Road Ottawa ON	NE/288.7	13.53	185
81	RSC		Montreal Road && Carson's Rd Concession 1 Gloucester ON	NE/288.7	13.53	186
82	WWIS		lot 24 OTTAWA ON	NW/290.0	2.75	186
83	BORE		ON	W/292.1	-4.80	188
84	WWIS		lot 6 con 3 GREELY ON	NW/292.7	3.10	189
85	WWIS		lot 24 OTTAWA ON	NW/293.0	3.15	194
86	WWIS		Ottawa ON	N/294.0	16.23	196
87	BORE		ON	NNE/298.1	17.87	198
88	WWIS		ON	WNW/299.2	1.69	198

Executive Summary: Summary By Data Source

AMIS - Abandoned Mine Information System

A search of the AMIS database, dated 1800-Nov 2016 has found that there are 2 AMIS site(s) within approximately 0.30 kilometers of the project property.

Site	Address	Distance (m)	Map Key
LAURENTIAN STONE CO.	GLOUCESTER ON	214.8	49
KIRK & WINNING QUA.	GLOUCESTER ON	227.1	54

BORE - Borehole

A search of the BORE database, dated 1875-Jul 2014 has found that there are 17 BORE site(s) within approximately 0.30 kilometers of the project property.

Site	Address	Distance (m)	Map Key
	ON	4.2	8
	ON	42.8	11
	ON	49.3	12
	ON	79.4	16
	ON	80.9	17
	ON	106.3	23
	ON	120.4	24
	ON	239.9	57
	ON	265.9	67
	ON	267.7	68
	ON	275.5	70
	ON	276.1	71
	ON	276.4	72

Site	Address	Distance (m)	Map Key
	ON	283.5	79
	ON	287.8	80
	ON	292.1	83
	ON	298.1	87

CA - Certificates of Approval

A search of the CA database, dated 1985-Oct 30, 2011* has found that there are 10 CA site(s) within approximately 0.30 kilometers of the project property.

Site	Address	Distance (m)	Map Key
Canada Lands Company CLC Limited	800 Montreal Rd Part of lot 24, concession 1, part 6, reference plan 4R-25131 Ottawa ON K1K 1V1	0.0	2
CMHC/RAMPARTS - GAS FIRED BOILERS	682 MONTREAL ROAD OTTAWA CITY ON	61.7	13
CMHC/RAMPARTS - EMERGENCY GENERATORS	682 MONTREAL RD. OTTAWA CITY ON	61.7	13
LANDRY GAUTHIER & ASSOCIES INC.	682 MONTREAL ROAD OTTAWA CITY ON	61.7	13
CMHC/RAMPARTS LTD.	682 MONTREAL ROAD OTTAWA CITY ON	61.7	13
ERSKINE BUILDING CORP. MONTREAL RD.	C.M.H.C. NATIONAL OFFICE OTTAWA CITY ON	90.5	20
ERSKINE BUILDING CORP. MONTREAL RD.	C.M.H.C. NATIONAL OFFICE. OTTAWA CITY ON	90.5	20
519078 ONTARIO INC.	651-655 CARSON'S ROAD (SWM) OTTAWA CITY ON K1K 2G9	281.7	77
MALHOTRA DEV. INC.-PT.LOT 23/CONC. 1	MONTREAL RD./CARSON'S RD. OTTAWA CITY ON	288.7	81
MALHOTRA DEV. INC.-PT.LOT 23, CONC. 1	MONTREAL RD./CARSON'S RD. OTTAWA CITY ON	288.7	81

EASR - Environmental Activity and Sector Registry

A search of the EASR database, dated Oct 2011-Mar 2017 has found that there are 1 EASR site(s) within approximately 0.30 kilometers of the project property.

Site	Address	Distance (m)	Map Key
DELSAN-A.I.M. ENVIRONMENTAL SERVICES INC./ LES SERVICES ENVIRONNEMENTAUX	DELSAN-A.I.M. INC. 800 MONTREAL OTTAWA ON	0.0	2

EHS - ERIS Historical Searches

A search of the EHS database, dated 1999-Aug 2016 has found that there are 12 EHS site(s) within approximately 0.30 kilometers of the project property.

Site	Address	Distance (m)	Map Key
	800 Montreal Rd Ottawa ON K1K 1V1	0.0	2
	800 Montreal Road, Part 3 Ottawa ON K1K 1V1	0.0	2
	800 montreal road ottawa ON K1G 5T9	0.0	2
	800 Montreal Rd Ottawa ON K1K1V1	9.9	9
	807 & 811 Montreal Road Ottawa ON K1K 0S9	65.3	14
	753 Montreal Road Ottawa ON K1K 0T1	70.9	15
	789 Montreal Rd Ottawa ON K1K 0S9	89.9	19
	825 Montreal Road Ottawa ON K1K 0S9	129.8	26
	550 Langs Road Ottawa ON	171.7	35
	550 Langs Rd Ottawa ON K1K4C2	203.3	43
	860 Blackthorne Avenue Ottawa ON K1K 3Y7	257.4	62
	528 Langs Road GLOUCESTER ON	281.2	76

GEN - Ontario Regulation 347 Waste Generators Summary

A search of the GEN database, dated 1986-Sep 2016 has found that there are 44 GEN site(s) within approximately 0.30 kilometers of the project property.

Site	Address	Distance (m)	Map Key
GVT. OF CAN. - PUBLIC WORKS CANADA	CHP FORINTER INT. 800 MONTREAL ROAD OTTAWA ON K1A 0M3	0.0	2
GVT. OF CAN. - PUBLIC WORKS CANADA	CHP FORINTER INT 800 MONTREAL ROAD OTTAWA ON K1A 0M3	0.0	2
GVT. OF CAN. - PUBLIC WORKS CANADA17-351	CHP FORINTER INT. 800 MONTREAL ROAD OTTAWA ON K1A 0M3	0.0	2
Canada Lands Company	800 montreal st Ottawa ON K1K 1V1	0.0	2
FORINTEK (SEE & USE 17605122)	800 MONTREAL ROAD OTTAWA ON K1G 3Z5	0.0	2

Site	Address	Distance (m)	Map Key
FORINTEK CANADA CORP.	800 MONTREAL RD. OTTAWA ON K1G 3Z5	0.0	2
FORINTEK (SEE & USE 17605122) 15-065	800 MONTREAL RD. OTTAWA ON K1G 3Z5	0.0	2
Public Works and Government Service Canada	800 Montreal road Ottawa ON K1G 1Z5	0.0	2
FORINTEK CANADA CORP. 15-065	800 MONTREAL RD. OTTAWA ON K1G 3Z5	0.0	2
FORINTEK (SEE & USE 17605122)	800 MONTREAL ROAD OTTAWA ON K1G 3Z5	0.0	2
FORINTEK CANADA CORP	800 MONTREAL RD. OTTAWA ON K1G 3Z5	0.0	2
PUBLIC WORKS CANADA_	CHP FORINTER INT 800 MONTREAL ROAD OTTAWA ON	0.0	2
CLC Lands	800 Montreal Road Ottawa ON K1A O04	0.0	2
PUBLIC WORKS CANADA	CHP FORINTER INT 800 MONTREAL ROAD OTTAWA ON	0.0	2
CANADA MORTGAGE & HOUSING CORP.	682 MONTREAL ROAD OTTAWA ON K1A 0P7	61.7	13
CANADA MORTGAGE & HOUSING CORP.	682 MONTREAL ROAD OTTAWA ON K1A 0P7	61.7	13
Pharmx Rexall Drug Stores Ltd.	753 Montreal Road Ottawa ON	89.1	18
Pharmx Rexall Drug Stores Ltd.	753 Montreal Road Ottawa ON K1K 0T1	89.1	18
Hydro OTTAWA LIMITED	789 MONTREAL RD OTTAWA ON K1K 0S9	89.9	19
CANADA MORTGAGE AND HOUSING CORPORATION	700 Montreal Road Ottawa ON K1A 0P7	126.5	25
CANADA MORTGAGE AND HOUSING CORPORATION	700 Montreal Road Ottawa ON K1A 0P7	126.5	25
CANADA MORTGAGE AND HOUSING CORPORATION	700 Montreal Road Ottawa ON K1A 0P7	126.5	25
CANADA MORTGAGE & HOUSING CORP. 08-299	700 MONTREAL ROAD OTTAWA ON K1A 0P7	126.5	25
CANADA MORTGAGE AND HOUSING CORPORATION	700 Montreal Road Ottawa ON K1A 0P7	126.5	25
CANADA MORTGAGE AND HOUSING CORPORATION	700 Montreal Road Ottawa ON K1A 0P7	126.5	25
CANADA HOUSING & MORTAGE CORPORATION	700 MONTREAL ROAD OTTAWA ON K1A 0P7	126.5	25
LA COLOMBE PHARMACY	745-B MONTREAL ROAD OTTAWA ON K1K 0T1	131.0	27
Equipe de sante familiale academique Montfort	745 chemin Montreal pièce 101B Ottawa ON K1K 0T1	131.0	27

Site	Address	Distance (m)	Map Key
Equipe de sante familiale academique Montfort	745 chemin Montreal pièce 101B Ottawa ON K1K 0T1	133.2	28
Equipe de santÚ familiale acadÚmique Montfort	745 chemin Montreal piÞce 101B Ottawa ON	133.2	28
Equipe de santÚ familiale acadÚmique Montfort	745 chemin Montreal piÞce 101B Ottawa ON	133.2	28
CANADA MORTGAGE AND HOUSING CORPORATION	700 Montreal Road Ottawa ON K1A 0P7	156.5	33
Conseil des ecoles catholique du Centre-Est CECCE	704 CHEMIN CARSON OTTAWA ON K1K 2H3	263.7	66
Conseil des Úcoles catholique du Centre-Est	704 CHEMIN CARSON OTTAWA ON	263.7	66
CONSEIL DES ECOLES CATHOLIQUES DE LANGUE	COLLEGE CATHOLIQUE SAMUEL-GENEST 704, CHEMIN CARSON OTTAWA ON K1K 2H3	279.2	74
CONSEIL DES ECOLES CATHOLIQUES DE LANGUE	COLLEGE CATHOLIQUE SAMUEL-GENEST 704 CHEMIN CARSON OTTAWA ON K1K 2H3	279.2	74
Conseil des Úcoles catholique du Centre-Est	704 CHEMIN CARSON OTTAWA ON K1K 2H3	279.2	74
Conseil des Úcoles catholique du Centre-Est	704 CHEMIN CARSON OTTAWA ON	279.2	74
Conseil des ecoles catholique du Centre-Est CECCE	704 CHEMIN CARSON OTTAWA ON K1K 2H3	279.2	74
Conseil des Úcoles catholique du Centre-Est	704 CHEMIN CARSON OTTAWA ON	279.2	74
Conseil des Úcoles catholique du Centre-Est	704 CHEMIN CARSON OTTAWA ON	279.2	74
SIR WILFRID LAURIER HIGH SCHOOL	704 CARSON RD OTTAWA ON K1K 2H3	279.2	74
CARLETON (OUT OF BUSINESS) 08-902	SIR WILFRED LAURIER HIGH SCHOOL 704 CARSON ROAD OTTAWA ON K1K 2H3	279.2	74
CONSEIL DES ECOLES CATHOLIQUES DE LANGUE	704 CHEMIN CARSON OTTAWA ON K1K 2H3	279.2	74

MNR - Mineral Occurrences

A search of the MNR database, dated 1846-Feb 2017 has found that there are 2 MNR site(s) within approximately 0.30 kilometers of the project property.

Site	Address	Distance (m)	Map Key
LAURENTIAN #2	ON	214.8	49
KIRK AND WINNING	ON	227.1	54

NPCB - National PCB Inventory

A search of the NPCB database, dated 1988-2008* has found that there are 2 NPCB site(s) within approximately 0.30 kilometers of the project property.

Site	Address	Distance (m)	Map Key
CANADA MORTGAGE & HOUSING CORP.	700 MONTREAL RD OTTAWA ON K1A 0P7	126.5	25
CANADA MORTGAGE & HOUSING CORP.	700 MONTREAL ROAD OTTAWA ON K1A 0P7	126.5	25

RSC - Record of Site Condition

A search of the RSC database, dated 1997-Sept 2001, Oct 2004-Apr 2017 has found that there are 8 RSC site(s) within approximately 0.30 kilometers of the project property.

Site	Address	Distance (m)	Map Key
Canada Lands Company CLC Limited / Societe Immobiliere du Canada CLC Limitee	800 MONTREAL RD, OTTAWA, ON, K1K 1V1 OTTAWA ON K1K 1V1	0.0	2
	701-711 Montreal Rd Part Lots 24&25, Conc.1 Ottawa ON K1K 0T1	210.0	46
	701-711 Montreal Road Ottawa ON K1K 0T1	210.0	46
	Carsons Road && Montreal Rd. Lot 1 -99 (Former) Ottawa ON	288.7	81
	Carson's Rd && Montreal Rd Lots 1-99 and Block 100, Plan 4M-1031 and Block 1, Plan 4M-1032, Ottawa ON	288.7	81
	Carson's Road && Montreal Road Ottawa ON	288.7	81
	Montreal Road && Carson's Rd Concession 1 Gloucester ON	288.7	81
	Carson's Road && Montreal Road Ottawa ON	288.7	81

SPL - Ontario Spills

A search of the SPL database, dated 1988-Dec 2016 has found that there are 4 SPL site(s) within approximately 0.30 kilometers of the project property.

Site	Address	Distance (m)	Map Key
Pomerleau Inc.	800 Montreal Road, Ottawa Ottawa ON	0.0	2
	800 Montreal Rd Part of lot 24 concession 1 part 6 reference plan 4R-25131 Ottawa ON	0.0	2
Canada Mortgage and Housing Corporation	700 Montreal Road Ottawa ON K1A 0P7	126.5	25
McQuay Factory Service<UNOFFICIAL>	700 Montreal Rd Ottawa ON	156.5	33

VAR - TSSA Variances for Abandonment of Underground Storage Tanks

A search of the VAR database, dated Feb 28, 2017 has found that there are 1 VAR site(s) within approximately 0.30 kilometers of the project property.

Site	Address	Distance (m)	Map Key
CLARIDGE HOMES (ROCKCLIFFE MEWS) INC	840 MONTREAL RD OTTAWA ON K1K 4W3	156.2	32

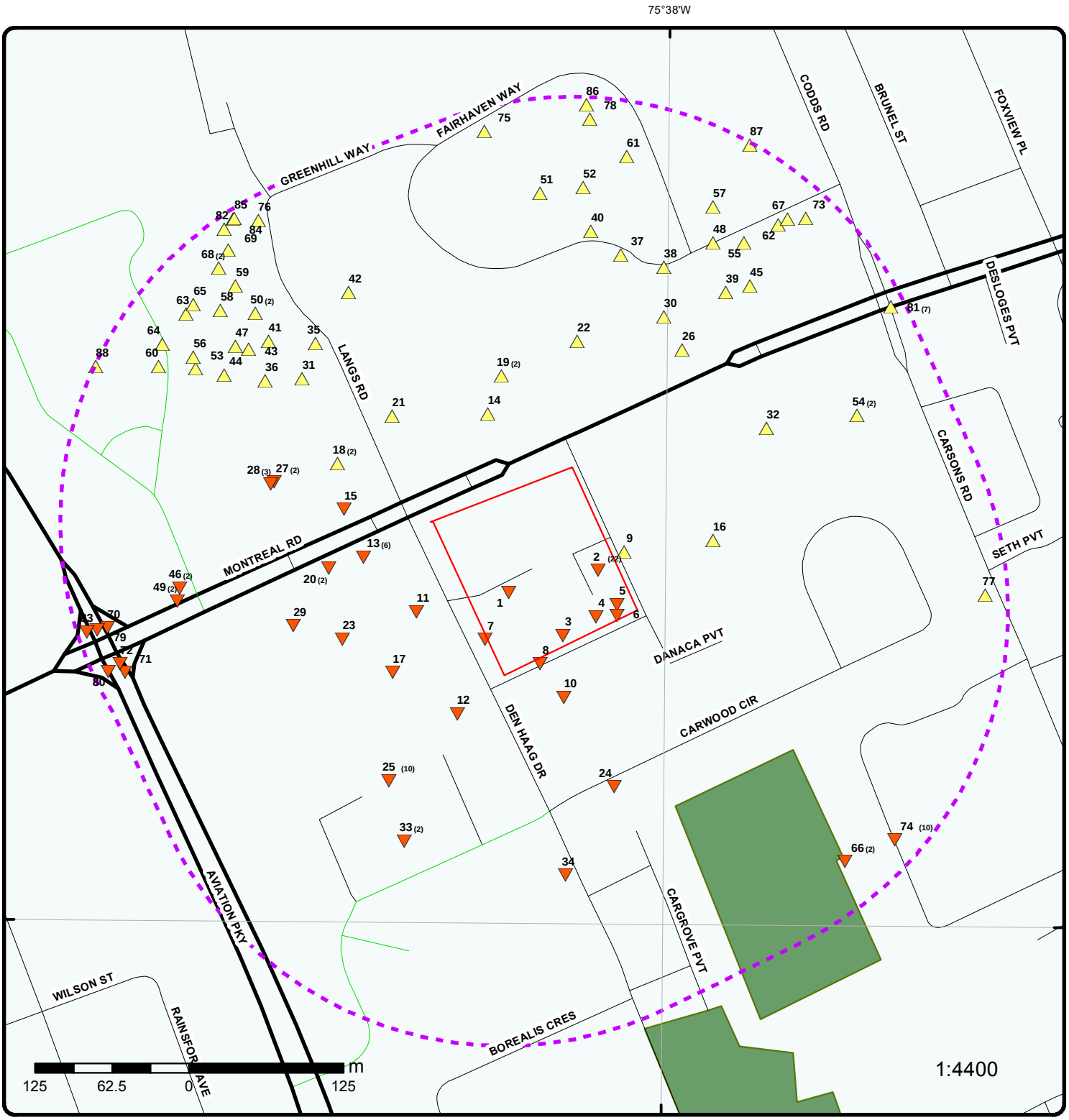
WWIS - Water Well Information System

A search of the WWIS database, dated Jun 30, 2016 has found that there are 48 WWIS site(s) within approximately 0.30 kilometers of the project property.

Site	Address	Distance (m)	Map Key
	ON	0.0	1
	ON	0.0	3
	lot 24 con 1 OTTAWA ON	0.0	4
	Ottawa ON	0.0	5
	ON	0.0	6
	ON	1.8	7
	lot 26 con 1 OTTAWA ON	37.2	10
	ON	91.5	21
	ON	101.8	22
	ON	138.0	29
	ON	142.5	30
	OTTAWA ON	155.9	31
	Ottawa ON	169.2	34
	Ottawa ON	176.0	36
	ON	176.1	37
	ON	177.9	38

Site	Address	Distance (m)	Map Key
	ON	188.4	39
	OTTAWA ON	191.4	40
	ON	196.4	41
	ON	197.4	42
	OTTAWA ON	205.2	44
	ON	205.7	45
	OTTAWA ON	212.5	47
	ON	214.6	48
	con 6 OTTAWA ON	220.8	50
	lot 2 con 6 GLOUCESTER ON	220.8	50
	ON	223.2	51
	ON	226.9	52
	OTTAWA ON	227.0	53
	ON	228.9	55
	OTTAWA ON	233.7	56
	Ottawa ON	241.2	58
	ON	248.0	59
	Ottawa ON	253.6	60
	ON	255.6	61
	con 6 OTTAWA ON	259.8	63
	Ottawa ON	260.5	64
	ON	260.5	65
	ON	267.7	68

Site	Address	Distance (m)	Map Key
	ON	274.5	69
	ON	276.5	73
	ON	280.8	75
	ON	282.1	78
	lot 24 OTTAWA ON	290.0	82
	lot 6 con 3 GREELY ON	292.7	84
	lot 24 OTTAWA ON	293.0	85
	Ottawa ON	294.0	86
	ON	299.2	88



Map : 0.3 Kilometer Radius

Order No: 20170531104

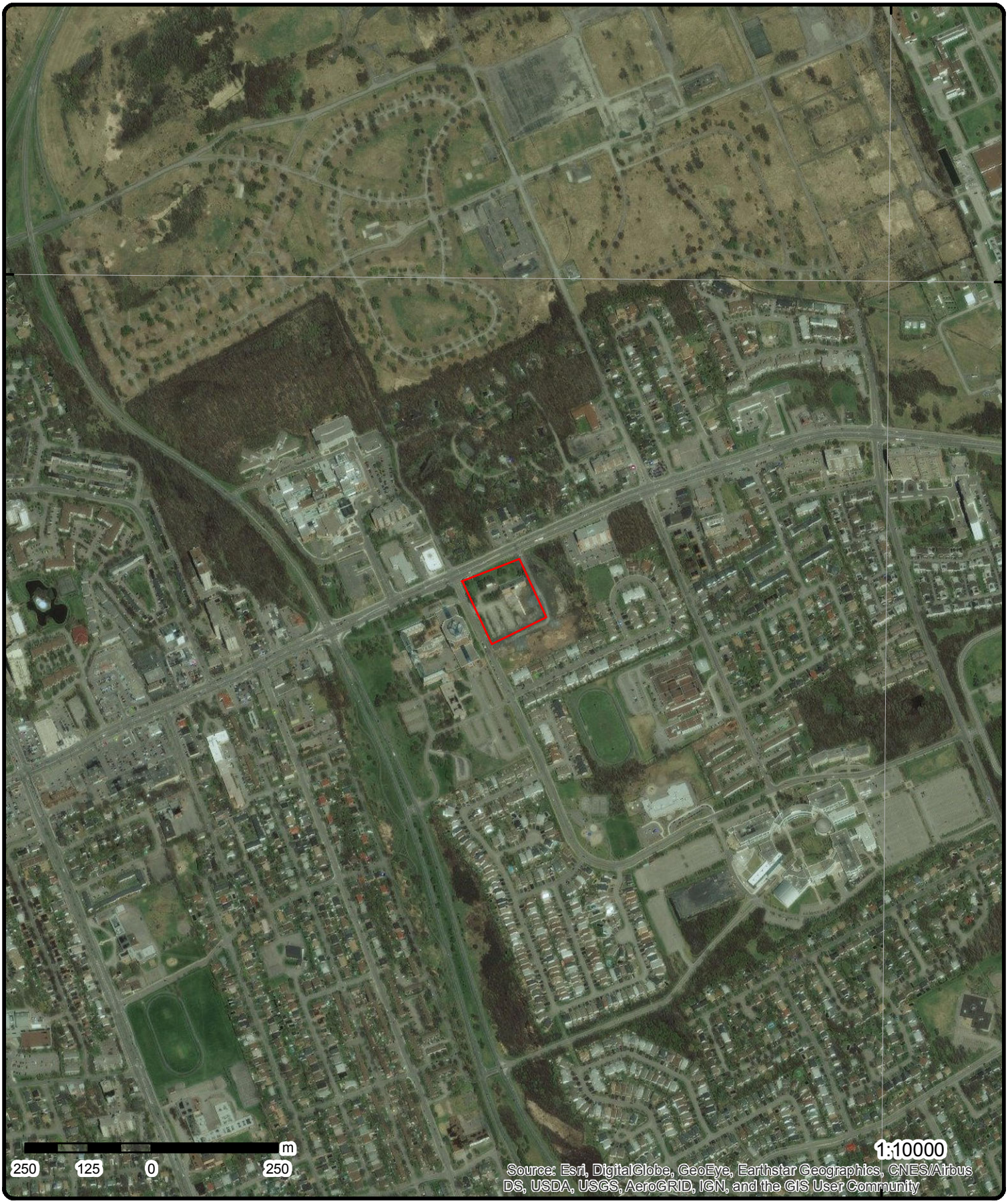
Address: 800 Montreal Rd, Ottawa, ON, K1K1V1

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- Expressway
- Principal Highway
- Secondary Highway
- Major Road
- Local road
- Trail
- Proposed Road
- Ferry Route/Ice Road
- Industrial and Resource - Regions
- Main Line
- Sidetrack
- Transit Line
- Abandoned Line
- National Park
- Provincial or Territorial Park
- Other Park
- Golf Course or Driving Range
- Park or Sports Field
- Other Recreation Area

Source: © 2015 DMTI Spatial Inc.

© ERIS Information Limited Partnership



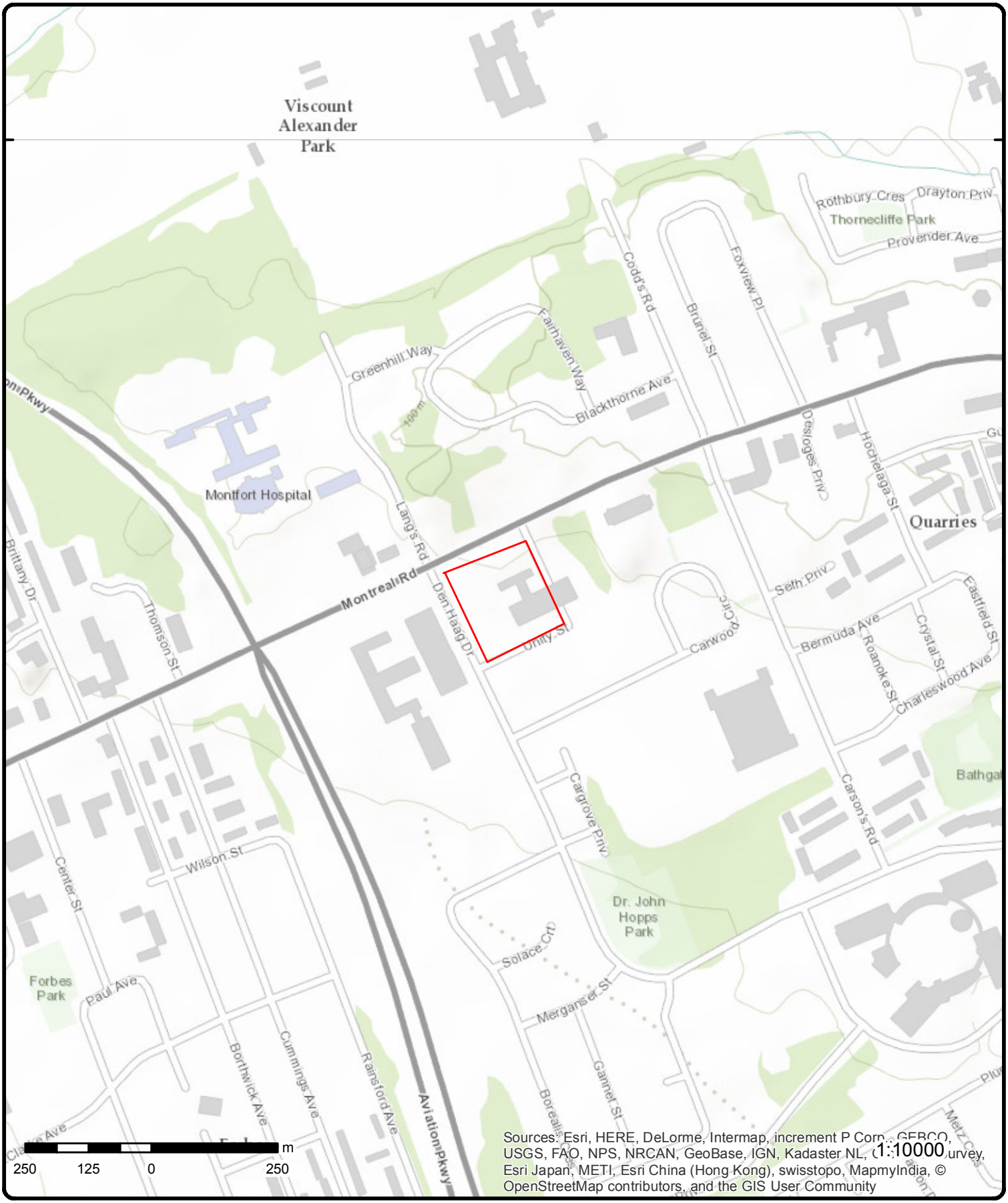
Aerial

Order No: 20170531104

Address: 800 Montreal Rd, Ottawa, ON, K1K1V1

Source: ESRI World Imagery

© ERIS Information Limited Partnership



Topographic Map

Address: 800 Montreal Rd, Ottawa, ON, K1K1V1

Source: ESRI World Topographic Map

Order No: 20170531104

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES

© ERIS Information Limited Partnership

Detail Report

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
1	1 of 1	-/0.0	87.6	ON	WWIS

Well ID:	7192983	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::		**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::		**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	GLOUCESTER TOWNSHIP	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	1004216360
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	24-MAY-12
Remarks:	
Zone:	18
East 83:	450345
North 83:	5032480
UTMRC:	4
UTMRC Description:	margin of error : 30 m - 100 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
--	--

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
2	1 of 22	-/0.0	87.7	Canada Lands Company CLC Limited 800 Montreal Rd Part of lot 24, concession 1, part 6, reference plan 4R-25131 Ottawa ON K1K 1V1	CA

Certificate #:	4991-8GZQVD
Application Year:	2011
Issue Date:	5/24/2011
Approval Type:	Municipal and Private Sewage Works
Status:	Approved
Application Type:	
Client Name::	
Client Address::	
Client City::	
Client Postal Code::	

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
Project Description::					
Contaminants::					
Emission Control::					

2	2 of 22	-/0.0	87.7	**DELSAN-A.I.M. ENVIRONMENTAL SERVICES INC./ LES SERVICES ENVIRONNEMENTAUX** **DELSAN-A.I.M. INC. 800 MONTREAL** **OTTAWA ON**	EASR

Approval No:	R-009-8668666682
Project Type:	Water Taking - Construction Dewatering
Date:	10/17/2016
Status:	Registered
Longitude:	-75.6344444444444
Latitude:	45.4444444444444
Record Type:	EASR
Pdf URL:	http://www.accessenvironment.ene.gov.on.ca/AEWeb/ae/ViewDocument.action?documentRefID=2026181

2	3 of 22	-/0.0	87.7	**800 montreal road** **ottawa ON K1G 5T9**	EHS

Postal Code:	
City:	
Address2:	
Address1:	
Provstate:	
Order No.:	20080508029
Addit. Info Ordered::	City Directory
Report Date:	5/20/2008
Report Type:	Complete Report
Search Radius (km):	0.25

2	4 of 22	-/0.0	87.7	**800 Montreal Road, Part 3** **Ottawa ON K1K 1V1**	EHS

Postal Code:	
City:	
Address2:	
Address1:	
Provstate:	
Order No.:	20120306034
Addit. Info Ordered::	City Directory
Report Date:	3/15/2012
Report Type:	Custom Report
Search Radius (km):	0.25

2	5 of 22	-/0.0	87.7	**800 Montreal Rd** **Ottawa ON K1K 1V1**	EHS

Postal Code:	
City:	
Address2:	
Address1:	
Provstate:	
Order No.:	20130403051
Addit. Info Ordered::	
Report Date:	12-APR-13
Report Type:	Standard Report

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
Search Radius (km):		.25			

2	6 of 22	-/0.0	87.7	GVT. OF CAN. - PUBLIC WORKS CANADA CHP FORINTER INT. 800 MONTREAL ROAD OTTAWA ON K1A 0M3	GEN

PO Box Num:
Status:
Country:
Generator #: ON0144763
Approval Yrs:: 90
SIC Code: 8159
SIC Description: OTHER GEN. ADMIN.

--Details--
Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

2	7 of 22	-/0.0	87.7	GVT. OF CAN. - PUBLIC WORKS CANADA CHP FORINTER INT 800 MONTREAL ROAD OTTAWA ON K1A 0M3	GEN

PO Box Num:
Status:
Country:
Generator #: ON0144763
Approval Yrs:: 92,93,97
SIC Code: 8159
SIC Description: OTHER GEN. ADMIN.

--Details--
Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

2	8 of 22	-/0.0	87.7	GVT. OF CAN. - PUBLIC WORKS CANADA17-351 CHP FORINTER INT. 800 MONTREAL ROAD OTTAWA ON K1A 0M3	GEN

PO Box Num:
Status:
Country:
Generator #: ON0144763
Approval Yrs:: 94,95,96
SIC Code: 8159
SIC Description: OTHER GEN. ADMIN.

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

--Details--
Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

2	***9 of 22***	***-/0.0***	***87.7***	***Canada Lands Company*** ***800 montreal st*** ***Ottawa ON K1K 1V1***	***GEN***

PO Box Num:
Status:
Country:
Generator #: ON4545706
Approval Yrs:: 2009
SIC Code: 339990
SIC Description: All Other Miscellaneous Manufacturing

--Details--
Waste Code: 221
Waste Description: LIGHT FUELS

2	***10 of 22***	***-/0.0***	***87.7***	***FORINTEK (SEE & USE 17605122)*** ***800 MONTREAL ROAD*** ***OTTAWA ON K1G 3Z5***	***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0081600
Approval Yrs:: 98,03
SIC Code: 7759
SIC Description: OTHER SCI./TECH. OF.

--Details--
Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 114
Waste Description: OTHER INORGANIC ACID WASTES

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 232
Waste Description: POLYMERIC RESINS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 242
Waste Description: HALOGENATED PESTICIDES

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 266
Waste Description: PHENOLIC WASTES

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
2	11 of 22	-/0.0	87.7	FORINTEK CANADA CORP. 800 MONTREAL RD. OTTAWA ON K1G 3Z5	GEN

PO Box Num:
Status:
Country:
Generator #: ON0081600
Approval Yrs:: 88,89,90
SIC Code: 7759
SIC Description: OTHER SCI./TECH. OF.

--Details--
Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 114
Waste Description: OTHER INORGANIC ACID WASTES

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 232
Waste Description: POLYMERIC RESINS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 242
Waste Description: HALOGENATED PESTICIDES

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 266
Waste Description: PHENOLIC WASTES

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
2	12 of 22	-/0.0	87.7	FORINTEK (SEE & USE 17605122) 15-065 800 MONTREAL RD. OTTAWA ON K1G 3Z5	GEN

PO Box Num:
Status:
Country:
Generator #: ON0081600
Approval Yrs:: 92,93,95,96,97
SIC Code: 7759
SIC Description: OTHER SCI./TECH. OF.

--Details--
Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 114
Waste Description: OTHER INORGANIC ACID WASTES

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 232
Waste Description: POLYMERIC RESINS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 242
Waste Description: HALOGENATED PESTICIDES

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 266
Waste Description: PHENOLIC WASTES

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
2	13 of 22	-/0.0	87.7	Public Works and Government Service Canada 800 Montreal road Ottawa ON K1G 1Z5	GEN

PO Box Num:
Status:
Country:
Generator #: ON5670409
Approval Yrs:: 02,03,04
SIC Code:
SIC Description:

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site		DB

--Details--
Waste Code: 146
Waste Description: OTHER SPECIFIED INORGANICS

Waste Code: 243
Waste Description: PCB'S

2	***14 of 22***	***-/0.0***	***87.7***	***FORINTEK CANADA CORP.*** ***800 MONTREAL RD.*** ***OTTAWA ON K1G 3Z5***	***15-065***	***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0081600
Approval Yrs:: 94
SIC Code: 7759
SIC Description: OTHER SCI./TECH. OF.

--Details--
Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 114
Waste Description: OTHER INORGANIC ACID WASTES

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 232
Waste Description: POLYMERIC RESINS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 242
Waste Description: HALOGENATED PESTICIDES

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 266
Waste Description: PHENOLIC WASTES

2	***15 of 22***	***-/0.0***	***87.7***	***FORINTEK (SEE & USE 17605122)*** ***800 MONTREAL ROAD*** ***OTTAWA ON K1G 3Z5***		***GEN***

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

PO Box Num:
Status:
Country:
Generator #: ON0081600
Approval Yrs:: 04
SIC Code:
SIC Description:

2	***16 of 22***	***-/0.0***	***87.7***	***FORINTEK CANADA CORP*** ***800 MONTREAL RD.*** ***OTTAWA ON K1G 3Z5***	***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0081600
Approval Yrs:: 86,87
SIC Code: 7759
SIC Description: OTHER SCI./TECH. OF.

--Details--
Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 232
Waste Description: POLYMERIC RESINS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 242
Waste Description: HALOGENATED PESTICIDES

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 266
Waste Description: PHENOLIC WASTES

Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 114
Waste Description: OTHER INORGANIC ACID WASTES

2	***17 of 22***	***-/0.0***	***87.7***	***PUBLIC WORKS CANADA_*** ***CHP FORINTER INT 800 MONTREAL ROAD*** ***OTTAWA ON***	***GEN***

PO Box Num:
Status:

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

Country:
Generator #: ON0144763
Approval Yrs:: 98
SIC Code: 8159
SIC Description: OTHER GEN. ADMIN.

--Details--
Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

2	***18 of 22***	***-/0.0***	***87.7***	***CLC Lands*** ***800 Montreal Road*** ***Ottawa ON K1A O04***	***GEN***

PO Box Num:
Status:
Country:
Generator #: ON7145661
Approval Yrs:: 07,08
SIC Code: 238990
SIC Description: All Other Specialty Trade Contractors

--Details--
Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

2	***19 of 22***	***-/0.0***	***87.7***	***PUBLIC WORKS CANADA*** ***CHP FORINTER INT 800 MONTREAL ROAD*** ***OTTAWA ON***	***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0144763
Approval Yrs:: 99,00,01
SIC Code: 8159
SIC Description: OTHER GEN. ADMIN.

--Details--
Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
2	20 of 22	-/0.0	87.7	Canada Lands Company CLC Limited / Societe Immobiliere du Canada CLC Limitee 800 MONTREAL RD, OTTAWA, ON, K1K 1V1 OTTAWA ON K1K 1V1	RSC

Registration No: 68310
RSC Type:
Restoration Type:
Date Submitted: 19-Jan-10
Date Acknowledg.:
Certification Date: 21-Oct-09
Date Returned:
Soil Type:
Criteria:
Current Property Use: Commercial
Certificate Prop Use No: No CPU
Intended Prop Use: Residential
Applicable Standards: Full Depth Site Conditions Standard, with Nonpotable Ground Water, Coarse Textured Soil, for Residential/Parkland/Institutional property use
Stratified (Y/N):
Consultant:
District Office: OTTAWA
Property Municipal Address: 800 MONTREAL RD, OTTAWA, ON, K1K 1V1
Legal Description: Part of Lot 24, Concession 1, Ottawa Front, being Parts 2 & 3 on Plan 5R-10187, subject to an easement over Part 3 in favour of The Bell Telephone Company of Canada as set out in instrument CT227694, in the City of Ottawa (formerly Township of Gloucester)
Prop. Identification No: 04269-0137 (LT)
Entire legal prop. (y/n): Yes
UTM Coordinates: NAD83 18-450408-5032467
Latitude & Longitude: 45.44396710N 75.63413450W (converted from UTM)
Accuracy Estimate: 2 to 5 meters
Measurement Method: Global Positioning System
CPU Issued Sect 1686: No

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
2	21 of 22	-/0.0	87.7	800 Montreal Rd Part of lot 24 concession 1 part 6 reference plan 4R-25131 Ottawa ON	SPL

Ref No: 5861-9LNPD5
Contaminant Code: 38
Contaminant Name: REFRIGERANT GAS, N.O.S.
Contaminant Quantity: 215 lb
Incident Cause: Leak/Break
Incident Dt: 2014/07/03
Incident Reason: Material Failure - Poor Design/Substandard Material
Incident Summary: Ottawa - 215 lbs R410 to air from chiller
MOE Reported Dt: 2014/07/03
Environmental Impact: Confirmed
Nature of Impact: Air Pollution
Receiving Medium:
SAC Action Class: Air Spills - Gases and Vapours
Sector Source Type: Pipeline/Components
Receiving Environment:
Incident Event:
Site Municipality: Ottawa

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
2	22 of 22	-/0.0	87.7	Pomerleau Inc. 800 Montreal Road, Ottawa Ottawa ON	SPL

Ref No: 8274-9XCN98
Contaminant Code: 15

Contaminant Name:	HYDRAULIC OIL
Contaminant Quantity:	10 L
Incident Cause:	Leak/Break
Incident Dt:	6/10/2015
Incident Reason:	Equipment Failure
Incident Summary:	Pomerleau Inc: 10 L of hydraulic oil to grnd
MOE Reported Dt:	6/10/2015
Environmental Impact:	
Nature of Impact:	Land
Receiving Medium:	
SAC Action Class:	Land Spills
Sector Source Type:	
Receiving Environment:	
Incident Event:	
Site Municipality:	Ottawa

---

3 | ***1 of 1*** | ***-/0.0*** | ***86.6*** | ***ON*** | ***WWIS***

Well ID:	7188526	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::		**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::		**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	GLOUCESTER TOWNSHIP	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	1004196186
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	29-MAR-12
Remarks:	
Zone:	18
East 83:	450389
North 83:	5032445
UTMRC:	4
UTMRC Description:	margin of error : 30 m - 100 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
--	--

---

4 | ***1 of 1*** | ***-/0.0*** | ***87.1*** | ***lot 24 con 1 OTTAWA ON*** | ***WWIS***

Well ID:	7234778	**Lot:**	024
Construction Date::		**Concession:**	01
Primary Water Use::		**Concession Name:**	OF
Sec. Water Use::		**Easting NAD83::**	

Final Well Status::	Abandoned-Other	***Northing NAD83::***	
Specific Capacity::		***Zone::***	
Municipality:	GLOUCESTER TOWNSHIP	***UTM Reliability::***	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	1005268913
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	16-OCT-14
Remarks:	
Zone:	18
East 83:	450416
North 83:	5032460
UTMRC:	4
UTMRC Description:	margin of error : 30 m - 100 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	1005489151
Layer:	
General Color:	
Most Common Material:	
Other Materials:	
Other Materials:	
Formation Top Depth:	
Formation End Depth:	
Formation End Depth UOM:	ft
--	--

Annular Space/Abandonment Sealing Record

--	--
Plug ID:	1005489158
Layer:	1
Plug From:	13.5
Plug To:	9.5
Plug Depth UOM:	ft
--	--
Plug ID:	1005489157
Layer:	1
Plug From:	0
Plug To:	13.5
Plug Depth UOM:	ft
--	--
Plug ID:	1005489159
Layer:	2
Plug From:	9.5
Plug To:	7.5
Plug Depth UOM:	ft
--	--
Plug ID:	1005489160

Layer:	3
Plug From:	7.5
Plug To:	0
Plug Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1005489156
Method Construction Code:	
Method Construction:	
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	1005489150
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1005489154
Layer:	
Open Hole or Material:	
Depth From:	
Depth To:	
Casing Diameter:	
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1005489155
Layer:	
Slot:	
Screen Top Depth:	
Screen End Depth:	
Screen Material:	
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	
--	--
Hole Diameter	
--	--
Hole ID:	1005489152
Diameter:	
Depth From:	
Depth To:	
Hole Depth UOM:	ft
Hole Diameter UOM:	inch
--	--
--	--

5 | ***1 of 1*** | ***-/0.0*** | ***87.7*** | ***Ottawa ON*** | ***WWIS***

Well ID:	7112296	***Lot:***	
Construction Date::		***Concession:***	
Primary Water Use::	Monitoring	***Concession Name:***	
Sec. Water Use::		***Easting NAD83::***	
Final Well Status::	Test Hole	***Northing NAD83::***	
Specific Capacity::		***Zone::***	
Municipality:	OTTAWA CITY	***UTM Reliability::***	

County:	OTTAWA-CARLETON
Bore Hole Information	
--	--
Bore Hole ID:	1002680358
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	21-MAY-08
Remarks:	
Zone:	
East 83:	
North 83:	
UTMRC:	9
UTMRC Description:	unknown UTM
Location Method:	na
Org CS:	
Elevation:	
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002680361
Method Construction Code:	
Method Construction:	
Other Method Construction:	AUGER
--	--
Pipe Information	
--	--
Pipe ID:	1002680362
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002680364
Layer:	
Open Hole or Material:	PLASTIC
Depth From:	
Depth To:	1
Casing Diameter:	
Casing Diameter UOM:	
Casing Depth UOM:	m
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1002680363
Layer:	
Slot:	
Screen Top Depth:	1
Screen End Depth:	1.5
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	
Screen Diameter:	

--	--
Well Yield Testing	
--	--
Pump Test ID:	1002680365
Pump Set At:	
Static Level:	
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	
Rate UOM:	
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	
--	--
Hole Diameter	
--	--
Hole ID:	1002680360
Diameter:	20
Depth From:	
Depth To:	1.5
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
--	--
Bore Hole ID:	1002680350
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	21-MAY-08
Remarks:	
Zone:	
East 83:	
North 83:	
UTMRC:	9
UTMRC Description:	unknown UTM
Location Method:	na
Org CS:	
Elevation:	
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002680353
Method Construction Code:	
Method Construction:	
Other Method Construction:	AUGER
--	--
Pipe Information	
--	--
Pipe ID:	1002680354
Casing Number:	0

Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002680356
Layer:	
Open Hole or Material:	PLASTIC
Depth From:	
Depth To:	
Casing Diameter:	
Casing Diameter UOM:	
Casing Depth UOM:	m
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1002680355
Layer:	
Slot:	
Screen Top Depth:	
Screen End Depth:	1
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	
Screen Diameter:	
--	--
Well Yield Testing	
--	--
Pump Test ID:	1002680357
Pump Set At:	
Static Level:	
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	
Rate UOM:	
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	
--	--
Hole Diameter	
--	--
Hole ID:	1002680352
Diameter:	20
Depth From:	
Depth To:	1
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
--	--
Bore Hole ID:	1002680342
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	21-MAY-08
Remarks:	
Zone:	
East 83:	
North 83:	

UTMRC:	9
UTMRC Description:	unknown UTM
Location Method:	na
Org CS:	
Elevation:	
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002680345
Method Construction Code:	
Method Construction:	
Other Method Construction:	AUGER
--	--
Pipe Information	
--	--
Pipe ID:	1002680346
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002680348
Layer:	
Open Hole or Material:	PLASTIC
Depth From:	
Depth To:	
Casing Diameter:	
Casing Diameter UOM:	
Casing Depth UOM:	m
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1002680347
Layer:	
Slot:	
Screen Top Depth:	
Screen End Depth:	.86
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	
Screen Diameter:	
--	--
Well Yield Testing	
--	--
Pump Test ID:	1002680349
Pump Set At:	
Static Level:	
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	
Rate UOM:	
Water State After Test Code:	

Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	
--	--
Hole Diameter	
--	--
Hole ID:	1002680344
Diameter:	20
Depth From:	
Depth To:	.86
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
--	--
Bore Hole ID:	1002680334
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	21-MAY-08
Remarks:	
Zone:	
East 83:	
North 83:	
UTMRC:	9
UTMRC Description:	unknown UTM
Location Method:	na
Org CS:	
Elevation:	
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002680337
Method Construction Code:	
Method Construction:	
Other Method Construction:	AUGER
--	--
Pipe Information	
--	--
Pipe ID:	1002680338
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002680340
Layer:	
Open Hole or Material:	PLASTIC
Depth From:	
Depth To:	1.2
Casing Diameter:	
Casing Diameter UOM:	
Casing Depth UOM:	m
--	--

--	--
Construction Record - Screen	
--	--
Screen ID:	1002680339
Layer:	
Slot:	
Screen Top Depth:	1.2
Screen End Depth:	2.8
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	
Screen Diameter:	
--	--
Well Yield Testing	
--	--
Pump Test ID:	1002680341
Pump Set At:	
Static Level:	
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	
Rate UOM:	
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	
--	--
Hole Diameter	
--	--
Hole ID:	1002680336
Diameter:	20
Depth From:	
Depth To:	2.8
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
--	--
Bore Hole ID:	1002680326
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	20-MAY-08
Remarks:	
Zone:	18
East 83:	450433
North 83:	5032470
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	88.19
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Method of Construction & Well Use
-- --
Method Construction ID: 1002680329
Method Construction Code:
Method Construction:
Other Method Construction: HSA
-- --
Pipe Information
-- --
Pipe ID: 1002680330
Casing Number: 0
Comment:
Alt Name:
-- --
Construction Record - Casing
-- --
Casing ID: 1002680332
Layer:
Open Hole or Material: PLASTIC
Depth From:
Depth To: 1.3
Casing Diameter:
Casing Diameter UOM:
Casing Depth UOM: m
-- --
-- --
Construction Record - Screen
-- --
Screen ID: 1002680331
Layer:
Slot:
Screen Top Depth: 1.3
Screen End Depth: 3.6
Screen Material:
Screen Depth UOM: m
Screen Diameter UOM:
Screen Diameter:
-- --
Well Yield Testing
-- --
Pump Test ID: 1002680333
Pump Set At:
Static Level:
Final Level After Pumping:
Recommended Pump Depth:
Pumping Rate:
Flowing Rate:
Recommended Pump Rate:
Levels UOM:
Rate UOM:
Water State After Test Code:
Water State After Test:
Pumping Test Method:
Pumping Duration HR:
Pumping Duration MIN:
Flowing:
-- --
Hole Diameter
-- --
Hole ID: 1002680328
Diameter: 20
Depth From:
Depth To: 3.6
Hole Depth UOM: m
Hole Diameter UOM: cm

--	--
--	--
Bore Hole ID:	1001820152
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	N
Date Completed:	20-MAY-08
Remarks:	
Zone:	18
East 83:	450408
North 83:	5032467
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	88.04
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	1002680368
Layer:	1
General Color:	
Most Common Material:	
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	.1
Formation End Depth UOM:	m
--	--
Formation ID:	1002680369
Layer:	2
General Color:	BROWN
Most Common Material:	FILL
Other Materials:	SAND
Other Materials:	GRAVEL
Formation Top Depth:	.1
Formation End Depth:	1.3
Formation End Depth UOM:	m
--	--
Formation ID:	1002680370
Layer:	3
General Color:	BROWN
Most Common Material:	SAND
Other Materials:	SILT
Other Materials:	
Formation Top Depth:	1.3
Formation End Depth:	1.8
Formation End Depth UOM:	m
--	--
Formation ID:	1002680371
Layer:	4
General Color:	GREY
Most Common Material:	CLAY
Other Materials:	SILT
Other Materials:	
Formation Top Depth:	1.8

Formation End Depth:	3.4
Formation End Depth UOM:	m
--	--
Formation ID:	1002680372
Layer:	5
General Color:	BLACK
Most Common Material:	ROCK
Other Materials:	SHALE
Other Materials:	WEATHERED
Formation Top Depth:	3.4
Formation End Depth:	4
Formation End Depth UOM:	m
--	--
Formation ID:	1002680373
Layer:	6
General Color:	GREY
Most Common Material:	SAND
Other Materials:	SILT
Other Materials:	CLAY
Formation Top Depth:	4
Formation End Depth:	4.6
Formation End Depth UOM:	m
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002680375
Layer:	1
Plug From:	0
Plug To:	1.3
Plug Depth UOM:	m
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002680380
Method Construction Code:	F
Method Construction:	H.S.A.
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	1002680366
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002680377
Layer:	1
Open Hole or Material:	PLASTIC
Depth From:	0
Depth To:	4.6
Casing Diameter:	5.1
Casing Diameter UOM:	cm
Casing Depth UOM:	m
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1002680378
Layer:	1
Slot:	10
Screen Top Depth:	
Screen End Depth:	

Screen Material:	5
Screen Depth UOM:	m
Screen Diameter UOM:	cm
Screen Diameter:	5.8
--	--
Well Yield Testing	
--	--
Pump Test ID:	1002680367
Pump Set At:	
Static Level:	1.7
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	m
Rate UOM:	
Water State After Test Code:	0
Water State After Test:	
Pumping Test Method:	0
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	
--	--
Hole Diameter	
--	--
Hole ID:	1002680374
Diameter:	20
Depth From:	0
Depth To:	4.6
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
--	--

6 | ***1 of 1*** | ***-/0.0*** | ***87.3*** | ***ON*** | ***WWIS***

Well ID:	7122122	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::		**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::		**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information	
--	--
Bore Hole ID:	1002761516
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	
Remarks:	
Zone:	18
East 83:	450433
North 83:	5032461
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	88.04
Elevrc:	

Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002761519
Method Construction Code:	
Method Construction:	
Other Method Construction:	
--	--
Hole Diameter	
--	--
Hole ID:	1002761518
Diameter:	
Depth From:	
Depth To:	1.5
Hole Depth UOM:	m
Hole Diameter UOM:	
--	--
--	--
Bore Hole ID:	1002761512
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	
Remarks:	
Zone:	18
East 83:	450422
North 83:	5032480
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	88.33
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002761515
Method Construction Code:	
Method Construction:	
Other Method Construction:	
--	--
Hole Diameter	
--	--
Hole ID:	1002761514
Diameter:	
Depth From:	
Depth To:	1
Hole Depth UOM:	m
Hole Diameter UOM:	

--	--
--	--
Bore Hole ID:	1002761508
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	
Remarks:	
Zone:	18
East 83:	450390
North 83:	5032471
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	88.02
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002761511
Method Construction Code:	
Method Construction:	
Other Method Construction:	
--	--
Hole Diameter	
--	--
Hole ID:	1002761510
Diameter:	
Depth From:	
Depth To:	.5
Hole Depth UOM:	m
Hole Diameter UOM:	
--	--
--	--
Bore Hole ID:	1002761504
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	
Remarks:	
Zone:	18
East 83:	450416
North 83:	5032483
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	88.39
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

Spatial Status:	
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002761507
Method Construction Code:	
Method Construction:	
Other Method Construction:	
--	--
Hole Diameter	
--	--
Hole ID:	1002761506
Diameter:	
Depth From:	
Depth To:	2.5
Hole Depth UOM:	m
Hole Diameter UOM:	
--	--
--	--
Bore Hole ID:	1002417182
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	21-MAY-08
Remarks:	
Zone:	18
East 83:	450416
North 83:	5032483
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	88.39
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002761520
Method Construction Code:	
Method Construction:	
Other Method Construction:	
--	--
--	--

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
9	1 of 1	E/9.9	88.9	800 Montreal Rd Ottawa ON K1K1V1	EHS

Postal Code:	
City:	
Address2:	
Address1:	
Provstate:	
Order No.:	20130712024
Addit. Info Ordered::	City Directory
Report Date:	16-JUL-13

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

Report Type: Custom Report
Search Radius (km): .25

---

7 **1 of 1** **SW/1.8** **86.5** **ON** **WWIS**

Well ID: 7163093
Construction Date::
Primary Water Use::
Sec. Water Use::
Final Well Status::
Specific Capacity::
Municipality: OTTAWA CITY
County: OTTAWA-CARLETON
Lot:
Concession:
Concession Name:
Easting NAD83::
Northing NAD83::
Zone::
UTM Reliability::

Bore Hole Information

-- --
Bore Hole ID: 1003509250
DP2BR:
Code OB:
Code OB Description:
Open Hole:
Date Completed: 09-MAR-11
Remarks:
Zone: 18
East 83: 450326
North 83: 5032442
UTMRC: 3
UTMRC Description: margin of error : 10 - 30 m
Location Method: wwr
Org CS: UTM83
Elevation:
Elevrc:
Elevrc Description:
Location Source Date:
Source Revision Comment:
Improvement Location Source:
Improvement Location Method:
Supplier Comment:
Spatial Status:
-- --
-- --

---

8 **1 of 1** **S/4.2** **85.0** **ON** **BORE**

Borehole ID: 615188
Use:
Drill Method::
Easting:: 450371
Location Accuracy::
Elev. Reliability Note::
Total Depth m:: -999
Township::
Lot::
Completion Date:: FEB-1968
Primary Water Use::
Type: Borehole
Status::
UTM Zone:: 18
Northing:: 5032422
Orig. Ground Elev m:: 87.6
DEM Ground Elev m:: 87.1
Primary Name::
Concession::
Municipality:
Static Water Level:: -999.9
Sec. Water Use::

--Details--

Stratum ID: 218400763
Bottom Depth(m): 0.4
Top Depth(m): 0.0
Stratum Desc: FILL.

Stratum ID:	218400764	**Top Depth(m):**	0.4
Bottom Depth(m):	1.2	**Stratum Desc:**	SILT. BROWN,COMPACT.
Stratum ID:	218400765	**Top Depth(m):**	1.2
Bottom Depth(m):	2.3	**Stratum Desc:**	SAND. BROWN,LOOSE.
Stratum ID:	218400766	**Top Depth(m):**	2.3
Bottom Depth(m):		**Stratum Desc:**	BEDROCK. GREY,WEATHERED. ED. BEDROCK. WEATHERED. BEDROCK. BEDROCK. 00010 020 00025

10 | **1 of 1** | **SSE/37.2** | **84.8** | **lot 26 con 1 OTTAWA ON** | **WWIS**

Well ID:	1536020	**Lot:**	026
Construction Date::		**Concession:**	01
Primary Water Use::	Not Used	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Test Hole	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information	
--	--
Bore Hole ID:	11316559
DP2BR:	9
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	08-NOV-05
Remarks:	
Zone:	18
East 83:	450390
North 83:	5032395
UTMRC:	
UTMRC Description:	
Location Method:	wwr
Org CS:	UTM83
Elevation:	85.66
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	932997800
Layer:	1
General Color:	BROWN
Most Common Material:	FILL
Other Materials:	SAND
Other Materials:	SILTY
Formation Top Depth:	0
Formation End Depth:	.1
Formation End Depth UOM:	m
--	--
Formation ID:	932997801
Layer:	2

General Color:	YELLOW
Most Common Material:	FILL
Other Materials:	SAND
Other Materials:	SILT
Formation Top Depth:	.1
Formation End Depth:	1.04
Formation End Depth UOM:	m
--	--
Formation ID:	932997802
Layer:	3
General Color:	GREEN
Most Common Material:	FILL
Other Materials:	SAND
Other Materials:	SILTY
Formation Top Depth:	1.04
Formation End Depth:	1.62
Formation End Depth UOM:	m
--	--
Formation ID:	932997803
Layer:	4
General Color:	YELLOW
Most Common Material:	FILL
Other Materials:	SAND
Other Materials:	SILT
Formation Top Depth:	1.62
Formation End Depth:	2.13
Formation End Depth UOM:	m
--	--
Formation ID:	932997804
Layer:	5
General Color:	BROWN
Most Common Material:	SAND
Other Materials:	
Other Materials:	SILT
Formation Top Depth:	2.13
Formation End Depth:	2.8
Formation End Depth UOM:	m
--	--
Formation ID:	932997805
Layer:	6
General Color:	BLACK
Most Common Material:	SHALE
Other Materials:	
Other Materials:	WEATHERED
Formation Top Depth:	2.8
Formation End Depth:	3.8
Formation End Depth UOM:	m
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	933281129
Layer:	1
Plug From:	.66
Plug To:	0
Plug Depth UOM:	m
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	961536020
Method Construction Code:	6
Method Construction:	Boring
Other Method Construction:	
--	--
Pipe Information	

--	--
Pipe ID:	11331414
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930856089
Layer:	1
Open Hole or Material:	PLASTIC
Depth From:	0
Depth To:	.76
Casing Diameter:	5
Casing Diameter UOM:	cm
Casing Depth UOM:	m
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	933415504
Layer:	1
Slot:	10
Screen Top Depth:	.76
Screen End Depth:	3.8
Screen Material:	5
Screen Depth UOM:	m
Screen Diameter UOM:	cm
Screen Diameter:	5.3
--	--
Water Details	
--	--
Water ID:	934067609
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	
Water Found Depth UOM:	m
--	--
Hole Diameter	
--	--
Hole ID:	11534193
Diameter:	10
Depth From:	0
Depth To:	3.8
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
--	--

11 **1 of 1** **WSW/42.8** **85.6** **ON** **BORE**

Borehole ID:	804524	**Type:**	Borehole
Use:	Geotechnical/Geological Investigation	**Status::**	
Drill Method::	Hollow stem auger	**UTM Zone::**	18
Easting::	450270.43	**Northing::**	5032464.12
Location Accuracy::		**Orig. Ground Elev m::**	85
Elev. Reliability Note::		**DEM Ground Elev m::**	86.2
Total Depth m::	9.5	**Primary Name::**	BH.101
Township::		**Concession::**	
Lot::		**Municipality:**	
Completion Date::	23-SEP-1988	**Static Water Level::**	-999.9
Primary Water Use::		**Sec. Water Use::**	

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

--Details--

Stratum ID:	218580951	***Top Depth(m):***	0.3
Bottom Depth(m):	5.4	***Stratum Desc:***	Brown Silt - Sand TO FINE TO COARSE SAND, TRACE TO SOME SILT
Stratum ID:	218580952	***Top Depth(m):***	5.4
Bottom Depth(m):	6.5	***Stratum Desc:***	Dark Grey Compact Till sand silt With: Gr Trace: Cl
Stratum ID:	218580953	***Top Depth(m):***	6.5
Bottom Depth(m):	9.5	***Stratum Desc:***	Dark Grey Bedrock Shale
Stratum ID:	218580949	***Top Depth(m):***	0.0
Bottom Depth(m):	0.1	***Stratum Desc:***	Asphalt
Stratum ID:	218580950	***Top Depth(m):***	0.1
Bottom Depth(m):	0.3	***Stratum Desc:***	Grey Fill-Misc Sand - Gravel

---

12 ***1 of 1*** ***SSW/49.3*** ***83.9*** ***ON*** ***BORE***

Borehole ID:	804526	***Type:***	Borehole
Use:	Geotechnical/Geological Investigation	***Status::***	
Drill Method::	Hollow stem auger	***UTM Zone::***	18
Easting::	450303.45	***Northing::***	5032381.52
Location Accuracy::		***Orig. Ground Elev m::***	84.4
Elev. Reliability Note::		***DEM Ground Elev m::***	85.5
Total Depth m::	11.2	***Primary Name::***	BH.102
Township::		***Concession::***	
Lot::		***Municipality:***	
Completion Date::	24-SEP-1988	***Static Water Level::***	-999.9
Primary Water Use::		***Sec. Water Use::***	

--Details--

Stratum ID:	218580963	***Top Depth(m):***	8.3
Bottom Depth(m):	11.2	***Stratum Desc:***	Dark Grey Bedrock Shale
Stratum ID:	218580959	***Top Depth(m):***	0.0
Bottom Depth(m):	0.0	***Stratum Desc:***	Asphalt
Stratum ID:	218580960	***Top Depth(m):***	0.0
Bottom Depth(m):	0.4	***Stratum Desc:***	Grey Fill-Misc Sand - Gravel
Stratum ID:	218580961	***Top Depth(m):***	0.4
Bottom Depth(m):	7.7	***Stratum Desc:***	Grey-Brown Sand
Stratum ID:	218580962	***Top Depth(m):***	7.7
Bottom Depth(m):	8.3	***Stratum Desc:***	Black Dense Till sand silt With: Gr

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13 ***1 of 6*** ***W/61.7*** ***87.0***

LANDRY GAUTHIER & ASSOCIES INC.
682 MONTREAL ROAD
OTTAWA CITY ON

CA

Certificate #:	8-4153-90-
Application Year:	90
Issue Date:	5/1/1991
Approval Type:	Industrial air
Status:	Cancelled
Application Type:	
Client Name::	
Client Address::	

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
Client City::					
Client Postal Code::					
Project Description::		COMPUTER ROOM DIESEL GENERATOR			
Contaminants::					
Emission Control::					

13	***2 of 6***	***W/61.7***	***87.0***	***CMHC/RAMPARTS - EMERGENCY GENERATORS*** ***682 MONTREAL RD.*** ***OTTAWA CITY ON***	***CA***
Certificate #:		8-4130-90-000			
Application Year:		90			
Issue Date:		5/5/92			
Approval Type:		Industrial air			
Status:		Application Cancelled			
Application Type:					
Client Name::					
Client Address::					
Client City::					
Client Postal Code::					
Project Description::		EMERGENCY DIESEL GENERATOR			
Contaminants::					
Emission Control::					

13	***3 of 6***	***W/61.7***	***87.0***	***CMHC/RAMPARTS LTD.*** ***682 MONTREAL ROAD*** ***OTTAWA CITY ON***	***CA***
Certificate #:		8-4130-90-000			
Application Year:		90			
Issue Date:		12/10/92			
Approval Type:		Industrial air			
Status:		Application Cancelled			
Application Type:					
Client Name::					
Client Address::					
Client City::					
Client Postal Code::					
Project Description::		DIESEL GENERATOR NOISE LEVELS			
Contaminants::					
Emission Control::					

13	***4 of 6***	***W/61.7***	***87.0***	***CMHC/RAMPARTS - GAS FIRED BOILERS*** ***682 MONTREAL ROAD*** ***OTTAWA CITY ON***	***CA***
Certificate #:		8-4118-90-000			
Application Year:		90			
Issue Date:		5/5/92			
Approval Type:		Industrial air			
Status:		Application Cancelled			
Application Type:					
Client Name::					
Client Address::					
Client City::					
Client Postal Code::					
Project Description::		3 GAS FIRED BOILERS AND DIESEL GENERATOR			
Contaminants::					
Emission Control::					

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
13	5 of 6	W/61.7	87.0	CANADA MORTGAGE & HOUSING CORP. 682 MONTREAL ROAD OTTAWA ON K1A 0P7	GEN

PO Box Num:
Status:
Country:
Generator #: ON0784100
Approval Yrs:: 89,90
SIC Code: 8174
SIC Description: HOUSING ADMIN.

--Details--
Waste Code: 122
Waste Description: ALKALINE WASTES - OTHER METALS

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
13	6 of 6	W/61.7	87.0	CANADA MORTGAGE & HOUSING CORP. 682 MONTREAL ROAD OTTAWA ON K1A 0P7	GEN

PO Box Num:
Status:
Country:
Generator #: ON0784100
Approval Yrs:: 86,87,88
SIC Code: 8174
SIC Description: HOUSING ADMIN.

--Details--
Waste Code: 122
Waste Description: ALKALINE WASTES - OTHER METALS

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
14	1 of 1	NNW/65.3	94.7	807 & 811 Montreal Road Ottawa ON K1K 0S9	EHS

Postal Code:
City:
Address2:
Address1:
Provstate:

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

Order No.: 20120424019
Addit. Info Ordered::
Report Date: 5/3/2012 12:22:21 PM
Report Type: Standard Report
Search Radius (km): 0.25

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15 | **1 of 1** | **WNW/70.9** | **87.2** | **753 Montreal Road Ottawa ON K1K 0T1** | **EHS**

Postal Code:
City:
Address2:
Address1:
Provstate:
Order No.: 20080908014
Addit. Info Ordered:: Fire Insur. Maps and/or Site Plans
Report Date: 9/11/2008
Report Type: Standard Report
Search Radius (km): 0.25

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16 | **1 of 1** | **E/79.4** | **90.0** | **ON** | **BORE**

Borehole ID: 615194
Use:
Drill Method::
Easting:: 450511
Location Accuracy::
Elev. Reliability Note::
Total Depth m:: -999
Township::
Lot::
Completion Date::
Primary Water Use::
Type: Borehole
Status::
UTM Zone:: 18
Northing:: 5032522
Orig. Ground Elev m:: 87.5
DEM Ground Elev m:: 89.9
Primary Name::
Concession::
Municipality:
Static Water Level:: 6.3
Sec. Water Use::

--Details--

Stratum ID: 218400792
Bottom Depth(m): 0.6
Top Depth(m): 0.0
Stratum Desc: SILT. LOOSE.

Stratum ID: 218400793
Bottom Depth(m): 2.1
Top Depth(m): 0.6
Stratum Desc: SAND. COMPACT.

Stratum ID: 218400794
Bottom Depth(m): 5.2
Top Depth(m): 2.1
Stratum Desc: GRAVEL.

Stratum ID: 218400795
Bottom Depth(m): 6.4
Top Depth(m): 5.2
Stratum Desc: SHALE. LOOSE.

Stratum ID: 218400796
Bottom Depth(m):
Top Depth(m): 6.4
Stratum Desc: BEDROCK. 10DROCK. BEDROCK. BEDROCK. WATER STABLE AT 266.4 FEET.BEDROCK. 00050 015

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17 | **1 of 1** | **SW/80.9** | **85.2** | **ON** | **BORE**

Borehole ID: 804529
Use: Geotechnical/Geological Investigation
Drill Method:: Hollow stem auger
Easting:: 450251.3
Type: Borehole
Status::
UTM Zone:: 18
Northing:: 5032414.99

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

Location Accuracy::		***Orig. Ground Elev m::***	84.5
Elev. Reliability Note::		***DEM Ground Elev m::***	86
Total Depth m::	11.7	***Primary Name::***	BH.103
Township::		***Concession::***	
Lot::		***Municipality:***	
Completion Date::	23-SEP-1988	***Static Water Level::***	-999.9
Primary Water Use::		***Sec. Water Use::***	

--Details--

Stratum ID:	218580975	***Top Depth(m):***	0.0
Bottom Depth(m):	0.2	***Stratum Desc:***	Asphalt
Stratum ID:	218580976	***Top Depth(m):***	0.2
Bottom Depth(m):	0.3	***Stratum Desc:***	Grey Fill-Misc Sand - Gravel
Stratum ID:	218580977	***Top Depth(m):***	0.3
Bottom Depth(m):	8.0	***Stratum Desc:***	Grey-Brown Compact to Loose Sand With: Si W Gr
Stratum ID:	218580978	***Top Depth(m):***	8.0
Bottom Depth(m):	8.8	***Stratum Desc:***	Grey-Brown to Grey Compact Till sand silt With: Gr
Stratum ID:	218580979	***Top Depth(m):***	8.8
Bottom Depth(m):	11.7	***Stratum Desc:***	Dark Grey Bedrock Shale

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18	***1 of 2***	***WNW/89.1***	***88.3***	***Pharmx Rexall Drug Stores Ltd.*** ***753 Montreal Road*** ***Ottawa ON***	***GEN***

PO Box Num:	
Status:	
Country:	
Generator #:	ON9799793
Approval Yrs::	As of May 2015
SIC Code:	
SIC Description:	

--Details--

Waste Code:	312
Waste Description:	Pathological wastes

18	***2 of 2***	***WNW/89.1***	***88.3***	***Pharmx Rexall Drug Stores Ltd.*** ***753 Montreal Road*** ***Ottawa ON K1K 0T1***	***GEN***

PO Box Num:	
Status:	Registered
Country:	Canada
Generator #:	ON9799793
Approval Yrs::	As of Sep 2016
SIC Code:	
SIC Description:	

--Details--

Waste Code:	261 A
Waste Description:	Pharmaceuticals
Waste Code:	312 P
Waste Description:	Pathological wastes

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
19	1 of 2	N/89.9	96.1	789 Montreal Rd Ottawa ON K1K 0S9	EHS

Postal Code:
City:
Address2:
Address1:
Provstate:
Order No.: 20021204007
Addit. Info Ordered::
Report Date: 12/6/02
Report Type: Site Report
Search Radius (km): 0.25

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
19	2 of 2	N/89.9	96.1	Hydro OTTAWA LIMITED 789 MONTREAL RD OTTAWA ON K1K 0S9	GEN

PO Box Num:
Status:
Country:
Generator #: ON8287750
Approval Yrs:: 05
SIC Code: 221122
SIC Description: Electric Power Distribution

--Details--
Waste Code: 243
Waste Description: PCB'S

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
20	1 of 2	W/90.5	86.5	ERSKINE BUILDING CORP. MONTREAL RD. C.M.H.C. NATIONAL OFFICE. OTTAWA CITY ON	CA

Certificate #: 7-2032-88-
Application Year: 88
Issue Date: 12/28/1988
Approval Type: Municipal water
Status: Approved
Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
20	2 of 2	W/90.5	86.5	ERSKINE BUILDING CORP. MONTREAL RD. C.M.H.C. NATIONAL OFFICE OTTAWA CITY ON	CA

Certificate #: 3-2389-88-
Application Year: 88
Issue Date: 12/28/1988
Approval Type: Municipal sewage
Status: Approved

Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

---

21 | 1 of 1 | NW/91.5 | 94.5 | ON | WWIS

Well ID:	1508822	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Domestic	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Water Supply	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	10030856
DP2BR:	2
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	05-APR-50
Remarks:	
Zone:	18
East 83:	450250.7
North 83:	5032623
UTMRC:	5
UTMRC Description:	margin of error : 100 m - 300 m
Location Method:	p5
Org CS:	
Elevation:	95.2
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	931010694
Layer:	1
General Color:	
Most Common Material:	TOPSOIL
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	2
Formation End Depth UOM:	ft
--	--
Formation ID:	931010695
Layer:	2
General Color:	BLUE
Most Common Material:	SHALE

Other Materials:	
Other Materials:	
Formation Top Depth:	2
Formation End Depth:	6
Formation End Depth UOM:	ft
--	--
Formation ID:	931010696
Layer:	3
General Color:	WHITE
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	6
Formation End Depth:	60
Formation End Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	961508822
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	10579426
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930054343
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	15
Casing Diameter:	5
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930054344
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	60
Casing Diameter:	5
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508822
Pump Set At:	
Static Level:	8
Final Level After Pumping:	15
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1

Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933463509
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	55
Water Found Depth UOM:	ft
--	--
--	--

---

22 **1 of 1** **N/101.8** **96.9** **ON** **WWIS**

Well ID:	1508528	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Domestic	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Water Supply	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information	
--	--
Bore Hole ID:	10030562
DP2BR:	13
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	15-SEP-50
Remarks:	
Zone:	18
East 83:	450400.7
North 83:	5032683
UTMRC:	9
UTMRC Description:	unknown UTM
Location Method:	p9
Org CS:	
Elevation:	98.2
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	931009894
Layer:	1
General Color:	
Most Common Material:	CLAY
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	9
Formation End Depth UOM:	ft

--	--
Formation ID:	931009895
Layer:	2
General Color:	
Most Common Material:	GRAVEL
Other Materials:	
Other Materials:	
Formation Top Depth:	9
Formation End Depth:	13
Formation End Depth UOM:	ft
--	--
Formation ID:	931009896
Layer:	3
General Color:	WHITE
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	13
Formation End Depth:	85
Formation End Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	961508528
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	10579132
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930053766
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	18
Casing Diameter:	6
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930053767
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	85
Casing Diameter:	6
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508528
Pump Set At:	
Static Level:	15
Final Level After Pumping:	24
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	

Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933463062
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	75
Water Found Depth UOM:	ft
--	--
--	--

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23 **1 of 1** **WSW/106.3** **85.6** **ON** **BORE**

Borehole ID:	615192	**Type:**	Borehole
Use:		**Status::**	
Drill Method::		**UTM Zone::**	18
Easting::	450211	**Northing::**	5032442
Location Accuracy::		**Orig. Ground Elev m::**	115
Elev. Reliability Note::		**DEM Ground Elev m::**	87
Total Depth m::	-999	**Primary Name::**	
Township::		**Concession::**	
Lot::		**Municipality:**	
Completion Date::		**Static Water Level::**	.6
Primary Water Use::		**Sec. Water Use::**	

--Details--

Stratum ID:	218400787	**Top Depth(m):**	0.0
Bottom Depth(m):	0.6	**Stratum Desc:**	SAND.
Stratum ID:	218400788	**Top Depth(m):**	0.6
Bottom Depth(m):	8.2	**Stratum Desc:**	GRAVEL. WATER STABLE AT 376.0 FEET.
Stratum ID:	218400789	**Top Depth(m):**	8.2
Bottom Depth(m):		**Stratum Desc:**	BEDROCK. BLACK. 00110DROCK. BEDROCK. BEDROCK. WATER STABLE AT 266.4 FEET.BEDROCK. 0

---

24 **1 of 1** **SSE/120.4** **85.1** **ON** **BORE**

Borehole ID:	615175	**Type:**	Borehole
Use:		**Status::**	
Drill Method::		**UTM Zone::**	18
Easting::	450431	**Northing::**	5032322
Location Accuracy::		**Orig. Ground Elev m::**	86.3
Elev. Reliability Note::		**DEM Ground Elev m::**	85
Total Depth m::	-999	**Primary Name::**	
Township::		**Concession::**	
Lot::		**Municipality:**	
Completion Date::	FEB-1968	**Static Water Level::**	-999.9
Primary Water Use::		**Sec. Water Use::**	

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

--Details--

Stratum ID:	218400695	***Top Depth(m):***	0.0
Bottom Depth(m):	1.2	***Stratum Desc:***	SILT. BROWN.
Stratum ID:	218400696	***Top Depth(m):***	1.2
Bottom Depth(m):		***Stratum Desc:***	BEDROCK. GREY. 8.9 FEET.BROWN,DENSE. BEDROCK. WEATHERED. BEDROCK. BLACK,SOUND. 000080

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25 | ***1 of 10*** | ***SW/126.5*** | ***84.1*** | ***CANADA MORTGAGE AND HOUSING CORPORATION*** ***700 Montreal Road*** ***Ottawa ON K1A 0P7*** | ***GEN***

PO Box Num:	
Status:	
Country:	
Generator #:	ON0784100
Approval Yrs::	02,03,04,05,06,07,08
SIC Code:	
SIC Description:	

--Details--

Waste Code:	146
Waste Description:	OTHER SPECIFIED INORGANICS
Waste Code:	243
Waste Description:	PCB'S
Waste Code:	112
Waste Description:	ACID WASTE - HEAVY METALS
Waste Code:	113
Waste Description:	ACID WASTE - OTHER METALS
Waste Code:	121
Waste Description:	ALKALINE WASTES - HEAVY METALS
Waste Code:	122
Waste Description:	ALKALINE WASTES - OTHER METALS
Waste Code:	145
Waste Description:	PAINT/PIGMENT/COATING RESIDUES
Waste Code:	211
Waste Description:	AROMATIC SOLVENTS
Waste Code:	212
Waste Description:	ALIPHATIC SOLVENTS
Waste Code:	213
Waste Description:	PETROLEUM DISTILLATES
Waste Code:	221
Waste Description:	LIGHT FUELS
Waste Code:	241
Waste Description:	HALOGENATED SOLVENTS
Waste Code:	251
Waste Description:	OIL SKIMMINGS & SLUDGES

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 331
Waste Description: WASTE COMPRESSED GASES

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25 | ***2 of 10*** | ***SW/126.5*** | ***84.1*** | ***CANADA MORTGAGE AND HOUSING CORPORATION***
700 Montreal Road
Ottawa ON K1A 0P7 | ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0784100
Approval Yrs:: 2012
SIC Code: 561210
SIC Description: Facilities Support Services

--Details--
Waste Code: 146
Waste Description: OTHER SPECIFIED INORGANICS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 243
Waste Description: PCBS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 122
Waste Description: ALKALINE WASTES - OTHER METALS

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 331
Waste Description: WASTE COMPRESSED GASES

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 252

Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 113
Waste Description: ACID WASTE - OTHER METALS

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25 | **3 of 10** | **SW/126.5** | **84.1** | **CANADA MORTGAGE AND HOUSING CORPORATION**
700 Montreal Road
Ottawa ON K1A 0P7 | **GEN**

PO Box Num:
Status:
Country:
Generator #: ON0784100
Approval Yrs:: 2009
SIC Code: 561210
SIC Description: Facilities Support Services

--Details--
Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 113
Waste Description: ACID WASTE - OTHER METALS

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 122
Waste Description: ALKALINE WASTES - OTHER METALS

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 146
Waste Description: OTHER SPECIFIED INORGANICS

Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 243
Waste Description: PCBS

Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 331
Waste Description: WASTE COMPRESSED GASES

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25 | ***4 of 10*** | ***SW/126.5*** | ***84.1*** | ***CANADA MORTGAGE & HOUSING CORP. 08-299***
700 MONTREAL ROAD
OTTAWA ON K1A 0P7 | ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0784100
Approval Yrs:: 92,93,94,95,96,97,98
SIC Code: 8174
SIC Description: HOUSING ADMIN.

--Details--
Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 122
Waste Description: ALKALINE WASTES - OTHER METALS

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

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25 | ***5 of 10*** | ***SW/126.5*** | ***84.1*** | ***CANADA MORTGAGE AND HOUSING CORPORATION***
700 Montreal Road
Ottawa ON K1A 0P7 | ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0784100
Approval Yrs:: 2010
SIC Code: 561210
SIC Description: Facilities Support Services

--Details--
Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 113
Waste Description: ACID WASTE - OTHER METALS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 146
Waste Description: OTHER SPECIFIED INORGANICS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 331
Waste Description: WASTE COMPRESSED GASES

Waste Code: 122
Waste Description: ALKALINE WASTES - OTHER METALS

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 243
Waste Description: PCBS

Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

25	*6 of 10*	*SW/126.5*	*84.1*	***CANADA MORTGAGE AND HOUSING CORPORATION***	***GEN***

700 Montreal Road
Ottawa ON K1A 0P7

PO Box Num:
Status:
Country:
Generator #: ON0784100
Approval Yrs:: 2011
SIC Code: 561210
SIC Description: Facilities Support Services

--Details--
Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 331
Waste Description: WASTE COMPRESSED GASES

Waste Code: 122
Waste Description: ALKALINE WASTES - OTHER METALS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 243
Waste Description: PCBS

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 113
Waste Description: ACID WASTE - OTHER METALS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 146
Waste Description: OTHER SPECIFIED INORGANICS

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
25	7 of 10	SW/126.5	84.1	CANADA HOUSING & MORTAGE CORPORATION 700 MONTREAL ROAD OTTAWA ON K1A 0P7	GEN

PO Box Num:
Status:
Country:
Generator #: ON0784100
Approval Yrs:: 99,00,01
SIC Code: 8174
SIC Description: HOUSING ADMIN.

--Details--
Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 113
Waste Description: ACID WASTE - OTHER METALS

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 122
Waste Description: ALKALINE WASTES - OTHER METALS

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 331
Waste Description: WASTE COMPRESSED GASES

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
25	8 of 10	SW/126.5	84.1	CANADA MORTGAGE & HOUSING CORP. 700 MONTREAL ROAD OTTAWA ON K1A 0P7	NPCB

Company Code: O3306
Industry: Other Federally Regulated Business
Site Status:

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
Transaction Date:		1/31/1996			
Inspection Date:		10/23/1995			

25	9 of 10	SW/126.5	84.1	CANADA MORTGAGE & HOUSING CORP. 700 MONTREAL RD OTTAWA ON K1A 0P7	NPCB

Company Code:	O3306
Industry:	OTHER FEDERALLY REGULATED BUS.
Site Status:	DELETED FEDERAL SITES
Transaction Date:	6/21/1999
Inspection Date:	2/22/1999

25	10 of 10	SW/126.5	84.1	Canada Mortgage and Housing Corporation 700 Montreal Road Ottawa ON K1A 0P7	SPL

Ref No:	4785-8TGJKR
Contaminant Code:	38
Contaminant Name:	HYDROCHLOROFLUOROCARBON (HCFC)
Contaminant Quantity:	
Incident Cause:	
Incident Dt:	18-APR-12
Incident Reason:	
Incident Summary:	CMHC- 250 lbs of R123 to air
MOE Reported Dt:	18-APR-12
Environmental Impact:	Not Anticipated
Nature of Impact:	
Receiving Medium:	Sewage - Municipal/Private and Commercial
SAC Action Class:	Primary Assessment of Incident
Sector Source Type:	Other
Receiving Environment:	
Incident Event:	
Site Municipality:	Ottawa

26	1 of 1	NE/129.8	97.4	825 Montreal Road Ottawa ON K1K 0S9	EHS

Postal Code:	
City:	
Address2:	
Address1:	
Provstate:	
Order No.:	20100924001
Addit. Info Ordered::	Fire Insur. Maps and/or Site Plans
Report Date:	10/4/2010
Report Type:	Standard Report
Search Radius (km):	0.25

27	1 of 2	WNW/131.0	86.5	LA COLOMBE PHARMACY 745-B MONTREAL ROAD OTTAWA ON K1K 0T1	GEN

PO Box Num:	
Status:	
Country:	
Generator #:	ON2607100
Approval Yrs::	00,01
SIC Code:	6031

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
SIC Description:		PHARMACIES			
--Details--					
Waste Code:		261			
Waste Description:		PHARMACEUTICALS			
Waste Code:		312			
Waste Description:		PATHOLOGICAL WASTES			
27	2 of 2	WNW/131.0	86.5	Equipe de sante familiale academique Montfort 745 chemin Montreal pièce 101B Ottawa ON K1K 0T1	GEN
PO Box Num:					
Status:					
Country:					
Generator #:		ON3799873			
Approval Yrs::		As of May 2015			
SIC Code:					
SIC Description:					
--Details--					
Waste Code:		261			
Waste Description:		Pharmaceuticals			
Waste Code:		312			
Waste Description:		Pathological wastes			
28	1 of 3	WNW/133.2	86.4	Equipe de sante familiale academique Montfort 745 chemin Montreal pièce 101B Ottawa ON K1K 0T1	GEN
PO Box Num:					
Status:		Registered			
Country:		Canada			
Generator #:		ON3799873			
Approval Yrs::		As of Sep 2016			
SIC Code:					
SIC Description:					
--Details--					
Waste Code:		312 P			
Waste Description:		Pathological wastes			
Waste Code:		261 A			
Waste Description:		Pharmaceuticals			
28	2 of 3	WNW/133.2	86.4	Equipe de santÚ familiale acadÚmique Montfort 745 chemin Montreal piÞce 101B Ottawa ON	GEN
PO Box Num:					
Status:					
Country:					
Generator #:		ON3799873			
Approval Yrs::		2012			
SIC Code:		621110, 621390			
SIC Description:		Offices of Physicians, Offices of All Other Health Practitioners			

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
28	3 of 3	WNW/133.2	86.4	Equipe de santÚ familiale acadÚmique Montfort 745 chemin Montreal piÞce 101B Ottawa ON	GEN

PO Box Num:
Status:
Country:
Generator #: ON3799873
Approval Yrs:: 2013
SIC Code: 621110, 621390
SIC Description: OFFICES OF PHYSICIANS, OFFICES OF ALL OTHER HEALTH PRACTITIONERS

--Details--
Waste Code: 312
Waste Description: PATHOLOGICAL WASTES

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
29	1 of 1	WSW/138.0	85.4	ON	WWIS

Well ID: 1508536
Construction Date::
Primary Water Use:: Industrial
Sec. Water Use:: Public
Final Well Status:: Water Supply
Specific Capacity::
Municipality: OTTAWA CITY
County: OTTAWA-CARLETON

Lot:
Concession:
Concession Name:
Easting NAD83::
Northing NAD83::
Zone::
UTM Reliability::

Bore Hole Information
-- --
Bore Hole ID: 10030570
DP2BR: 38
Code OB: r
Code OB Description: Bedrock
Open Hole:
Date Completed: 05-MAY-52
Remarks:
Zone: 18
East 83: 450170.7
North 83: 5032453
UTMRC: 9
UTMRC Description: unknown UTM
Location Method: p9
Org CS:
Elevation: 86.91
Elevrc:
Elevrc Description:
Location Source Date:
Source Revision Comment:
Improvement Location Source:
Improvement Location Method:
Supplier Comment:
Spatial Status:
-- --
Overburden and Bedrock Materials Interval
-- --
Formation ID: 931009920
Layer: 1
General Color:

Most Common Material:	MEDIUM SAND
Other Materials:	GRAVEL
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	38
Formation End Depth UOM:	ft
--	--
Formation ID:	931009921
Layer:	2
General Color:	BLACK
Most Common Material:	SHALE
Other Materials:	
Other Materials:	
Formation Top Depth:	38
Formation End Depth:	62
Formation End Depth UOM:	ft
--	--
Formation ID:	931009922
Layer:	3
General Color:	
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	62
Formation End Depth:	387
Formation End Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	961508536
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	10579140
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930053782
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	38
Casing Diameter:	8
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930053783
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	387
Casing Diameter:	8
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508536
Pump Set At:	

Static Level:	20
Final Level After Pumping:	35
Recommended Pump Depth:	
Pumping Rate:	53
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	72
Pumping Duration MIN:	0
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933463071
Layer:	1
Kind Code:	3
Kind:	SULPHUR
Water Found Depth:	387
Water Found Depth UOM:	ft
--	--
--	--

30 **1 of 1** **NNE/142.5** **99.2** **ON** **WWIS**

Well ID:	1508531	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Domestic	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Water Supply	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	10030565
DP2BR:	22
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	25-OCT-50
Remarks:	
Zone:	18
East 83:	450470.7
North 83:	5032703
UTMRC:	5
UTMRC Description:	margin of error : 100 m - 300 m
Location Method:	p5
Org CS:	
Elevation:	100.44
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock	

Materials Interval
-- --
Formation ID: 931009904
Layer: 1
General Color:
Most Common Material: GRAVEL
Other Materials:
Other Materials:
Formation Top Depth: 0
Formation End Depth: 22
Formation End Depth UOM: ft
-- --
Formation ID: 931009905
Layer: 2
General Color: WHITE
Most Common Material: LIMESTONE
Other Materials:
Other Materials:
Formation Top Depth: 22
Formation End Depth: 75
Formation End Depth UOM: ft
-- --
Method of Construction & Well Use
-- --
Method Construction ID: 961508531
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:
-- --
Pipe Information
-- --
Pipe ID: 10579135
Casing Number: 1
Comment:
Alt Name:
-- --
Construction Record - Casing
-- --
Casing ID: 930053772
Layer: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 26
Casing Diameter: 6
Casing Diameter UOM: inch
Casing Depth UOM: ft
-- --
Casing ID: 930053773
Layer: 2
Open Hole or Material: OPEN HOLE
Depth From:
Depth To: 75
Casing Diameter: 6
Casing Diameter UOM: inch
Casing Depth UOM: ft
-- --
Well Yield Testing
-- --
Pump Test ID: 991508531
Pump Set At:
Static Level: 7
Final Level After Pumping: 11
Recommended Pump Depth:
Pumping Rate:
Flowing Rate:

Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933463065
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	65
Water Found Depth UOM:	ft
--	--
--	--

31 **1 of 1** **NW/155.9** **89.1** **OTTAWA ON** **WWIS**

Well ID:	7154156	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Monitoring and Test Hole	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::		**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information	
--	--
Bore Hole ID:	1003362657
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	01-OCT-10
Remarks:	
Zone:	18
East 83:	450178
North 83:	5032653
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	93.26
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	1003484199
Layer:	1
General Color:	BROWN

Most Common Material:	TOPSOIL
Other Materials:	
Other Materials:	LOOSE
Formation Top Depth:	0
Formation End Depth:	.61
Formation End Depth UOM:	ft
--	--
Formation ID:	1003484200
Layer:	2
General Color:	BROWN
Most Common Material:	SAND
Other Materials:	STONES
Other Materials:	SOFT
Formation Top Depth:	.61
Formation End Depth:	3.05
Formation End Depth UOM:	ft
--	--
Formation ID:	1003484201
Layer:	3
General Color:	GREY
Most Common Material:	SILT
Other Materials:	SAND
Other Materials:	SOFT
Formation Top Depth:	3.05
Formation End Depth:	5.18
Formation End Depth UOM:	ft
--	--
Formation ID:	1003484202
Layer:	4
General Color:	BROWN
Most Common Material:	SAND
Other Materials:	STONES
Other Materials:	DENSE
Formation Top Depth:	5.18
Formation End Depth:	6.71
Formation End Depth UOM:	ft
--	--
Formation ID:	1003484203
Layer:	5
General Color:	GREY
Most Common Material:	CLAY
Other Materials:	SILT
Other Materials:	WATER-BEARING
Formation Top Depth:	6.71
Formation End Depth:	8.84
Formation End Depth UOM:	ft
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1003484205
Layer:	1
Plug From:	0
Plug To:	.31
Plug Depth UOM:	ft
--	--
Plug ID:	1003484206
Layer:	2
Plug From:	.31
Plug To:	3.96
Plug Depth UOM:	ft
--	--
Plug ID:	1003484207
Layer:	3
Plug From:	3.96
Plug To:	8.84

Plug Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1003484213
Method Construction Code:	B
Method Construction:	Other Method
Other Method Construction:	DIRECT PUSH
--	--
Pipe Information	
--	--
Pipe ID:	1003484198
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1003484209
Layer:	1
Open Hole or Material:	PLASTIC
Depth From:	0
Depth To:	4.26
Casing Diameter:	3.81
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1003484210
Layer:	1
Slot:	10
Screen Top Depth:	4.26
Screen End Depth:	8.84
Screen Material:	5
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	
--	--
Hole Diameter	
--	--
Hole ID:	1003484204
Diameter:	8.25
Depth From:	0
Depth To:	8.84
Hole Depth UOM:	ft
Hole Diameter UOM:	inch
--	--
--	--

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
32	*1 of 1*	*ENE/156.2*	*97.9*	***CLARIDGE HOMES (ROCKCLIFFE MEWS) INC*** ***840 MONTREAL RD*** ***OTTAWA ON K1K 4W3***	*VAR*

Incident No:	186042
Status:	Variance Approved
Task Name:	FS-Variance Review
Attribute:	Abandon UST

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
33	*1 of 2*	*SSW/156.5*	*83.2*	***CANADA MORTGAGE AND HOUSING CORPORATION***	*GEN*

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
				700 Montreal Road Ottawa ON K1A 0P7	

PO Box Num:
Status: Registered
Country: Canada
Generator #: ON0784100
Approval Yrs:: As of Sep 2016
SIC Code:
SIC Description:

--Details--
Waste Code: 112 C
Waste Description: Acid solutions - containing heavy metals

Waste Code: 113 C
Waste Description: Acid solutions - containing other metals and non-metals

Waste Code: 122 C
Waste Description: Alkaline slutions - containing other metals and non-metals (not cyanide)

Waste Code: 145 I
Waste Description: Wastes from the use of pigments, coatings and paints

Waste Code: 146 T
Waste Description: Other specified inorganic sludges, slurries or solids

Waste Code: 251 L
Waste Description: Waste oils/sludges (petroleum based)

Waste Code: 252 L
Waste Description: Waste crankcase oils and lubricants

Waste Code: 212 L
Waste Description: Aliphatic solvents and residues

Waste Code: 213 I
Waste Description: Petroleum distillates

Waste Code: 331 I
Waste Description: Waste compressed gases including cylinders

Waste Code: 242 A
Waste Description: Halogenated pesticides and herbicides

Waste Code: 263 L
Waste Description: Misc. waste organic chemicals

Waste Code: 263 I
Waste Description: Misc. waste organic chemicals

Waste Code: 263 C
Waste Description: Misc. waste organic chemicals

Waste Code: 263 B
Waste Description: Misc. waste organic chemicals

33	2 of 2	SSW/156.5	83.2	McQuay Factory Service<UNOFFICIAL> 700 Montreal Rd Ottawa ON	SPL

Ref No: 8613-943RZ7
Contaminant Code: 38

Contaminant Name:	HYDROCHLOROFLUOROCARBON (HCFC)
Contaminant Quantity:	0 other - see incident description
Incident Cause:	Leak/Break
Incident Dt:	18-JAN-13
Incident Reason:	Material Failure ¿ Poor Design/Substandard Material
Incident Summary:	Leak of HCFC from unit at CMHC
MOE Reported Dt:	18-JAN-13
Environmental Impact:	Confirmed
Nature of Impact:	Air Pollution
Receiving Medium:	
SAC Action Class:	Air Spills - Gases and Vapours
Sector Source Type:	Valve/Fitting/Piping
Receiving Environment:	
Incident Event:	
Site Municipality:	Ottawa

34 **1 of 1** **S/169.2** **82.5** **Ottawa ON** **WWIS**

Well ID:	7118841	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Dewatering	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Dewatering	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information	
--	--
Bore Hole ID:	1001980394
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	08-JAN-09
Remarks:	
Zone:	18
East 83:	450391
North 83:	5032251
UTMRC:	4
UTMRC Description:	margin of error : 30 m - 100 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	83.7
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	1002464559
Layer:	1
General Color:	GREY
Most Common Material:	FILL
Other Materials:	
Other Materials:	
Formation Top Depth:	0

Formation End Depth:	1.83
Formation End Depth UOM:	m
--	--
Formation ID:	1002464560
Layer:	2
General Color:	GREY
Most Common Material:	SHALE
Other Materials:	
Other Materials:	
Formation Top Depth:	1.83
Formation End Depth:	4
Formation End Depth UOM:	m
--	--
Formation ID:	1002464561
Layer:	3
General Color:	GREY
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	4
Formation End Depth:	4.1
Formation End Depth UOM:	m
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002464563
Layer:	1
Plug From:	1.52
Plug To:	2.44
Plug Depth UOM:	m
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002464595
Method Construction Code:	A
Method Construction:	Digging
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	1002464557
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002464565
Layer:	1
Open Hole or Material:	PLASTIC
Depth From:	-.46
Depth To:	4.05
Casing Diameter:	43.18
Casing Diameter UOM:	cm
Casing Depth UOM:	m
--	--
Casing ID:	1002464566
Layer:	2
Open Hole or Material:	
Depth From:	
Depth To:	
Casing Diameter:	
Casing Diameter UOM:	cm
Casing Depth UOM:	m

--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1002464567
Layer:	
Slot:	
Screen Top Depth:	
Screen End Depth:	
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	cm
Screen Diameter:	
--	--
Well Yield Testing	
--	--
Pump Test ID:	1002464558
Pump Set At:	3.8
Static Level:	2.37
Final Level After Pumping:	2.47
Recommended Pump Depth:	3.8
Pumping Rate:	54
Flowing Rate:	
Recommended Pump Rate:	35
Levels UOM:	m
Rate UOM:	LPM
Water State After Test Code:	0
Water State After Test:	
Pumping Test Method:	0
Pumping Duration HR:	1
Pumping Duration MIN:	0
Flowing:	
--	--
Draw Down & Recovery	
--	--
Pump Test Detail ID:	1002464568
Pump Test ID:	1002464558
Test Type:	Draw Down
Test Duration:	1
Test Level:	2.39
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464569
Pump Test ID:	1002464558
Test Type:	Recovery
Test Duration:	1
Test Level:	2.45
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464570
Pump Test ID:	1002464558
Test Type:	Draw Down
Test Duration:	2
Test Level:	2.395
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464571
Pump Test ID:	1002464558
Test Type:	Recovery
Test Duration:	2
Test Level:	2.43
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464572
Pump Test ID:	1002464558
Test Type:	Draw Down

Test Duration:	3
Test Level:	2.4
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464573
Pump Test ID:	1002464558
Test Type:	Recovery
Test Duration:	3
Test Level:	2.425
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464574
Pump Test ID:	1002464558
Test Type:	Draw Down
Test Duration:	4
Test Level:	2.405
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464575
Pump Test ID:	1002464558
Test Type:	Recovery
Test Duration:	4
Test Level:	2.425
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464576
Pump Test ID:	1002464558
Test Type:	Draw Down
Test Duration:	5
Test Level:	2.405
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464577
Pump Test ID:	1002464558
Test Type:	Recovery
Test Duration:	5
Test Level:	2.425
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464578
Pump Test ID:	1002464558
Test Type:	Draw Down
Test Duration:	10
Test Level:	2.41
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464579
Pump Test ID:	1002464558
Test Type:	Recovery
Test Duration:	10
Test Level:	2.425
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464580
Pump Test ID:	1002464558
Test Type:	Draw Down
Test Duration:	15
Test Level:	2.42
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464581
Pump Test ID:	1002464558
Test Type:	Recovery
Test Duration:	15
Test Level:	2.42
Test Level UOM:	m

--	--
Pump Test Detail ID:	1002464582
Pump Test ID:	1002464558
Test Type:	Draw Down
Test Duration:	20
Test Level:	2.43
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464583
Pump Test ID:	1002464558
Test Type:	Recovery
Test Duration:	20
Test Level:	2.415
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464584
Pump Test ID:	1002464558
Test Type:	Draw Down
Test Duration:	25
Test Level:	2.44
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464585
Pump Test ID:	1002464558
Test Type:	Recovery
Test Duration:	25
Test Level:	2.415
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464586
Pump Test ID:	1002464558
Test Type:	Draw Down
Test Duration:	30
Test Level:	2
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464587
Pump Test ID:	1002464558
Test Type:	Recovery
Test Duration:	30
Test Level:	2.41
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464588
Pump Test ID:	1002464558
Test Type:	Draw Down
Test Duration:	40
Test Level:	2.46
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464589
Pump Test ID:	1002464558
Test Type:	Recovery
Test Duration:	40
Test Level:	2.41
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464590
Pump Test ID:	1002464558
Test Type:	Draw Down
Test Duration:	50
Test Level:	2.47
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464591
Pump Test ID:	1002464558

Test Type:	Recovery
Test Duration:	50
Test Level:	2.41
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464592
Pump Test ID:	1002464558
Test Type:	Draw Down
Test Duration:	60
Test Level:	2.47
Test Level UOM:	m
--	--
Pump Test Detail ID:	1002464593
Pump Test ID:	1002464558
Test Type:	Recovery
Test Duration:	60
Test Level:	2.41
Test Level UOM:	m
--	--
--	--
Water Details	
--	--
Water ID:	1002464564
Layer:	1
Kind Code:	8
Kind:	Untested
Water Found Depth:	2.4
Water Found Depth UOM:	m
--	--
Hole Diameter	
--	--
Hole ID:	1002464562
Diameter:	3
Depth From:	0
Depth To:	4.1
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
--	--

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35 | ***1 of 1*** | ***NW/171.7*** | ***92.1*** | ***550 Langs Road Ottawa ON*** | ***EHS***

Postal Code:	
City:	
Address2:	
Address1:	
Provstate:	
Order No.:	20100630020
Addit. Info Ordered::	
Report Date:	7/13/2010
Report Type:	Standard Report
Search Radius (km):	0.25

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36 | ***1 of 1*** | ***NW/176.0*** | ***89.2*** | ***Ottawa ON*** | ***WWIS***

Well ID:	7154714	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Monitoring and Test Hole	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Test Hole	**Northing NAD83::**	
Specific Capacity::		**Zone::**	

Municipality:	OTTAWA CITY	***UTM Reliability::***	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	1003410782
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	21-OCT-10
Remarks:	
Zone:	18
East 83:	450148
North 83:	5032651
UTMRC:	5
UTMRC Description:	margin of error : 100 m - 300 m
Location Method:	gcode
Org CS:	UTM83
Elevation:	
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	1003548567
Layer:	1
General Color:	GREY
Most Common Material:	CLAY
Other Materials:	
Other Materials:	SOFT
Formation Top Depth:	0
Formation End Depth:	13
Formation End Depth UOM:	ft
--	--
Formation ID:	1003548568
Layer:	2
General Color:	GREY
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	LAYERED
Formation Top Depth:	13
Formation End Depth:	26
Formation End Depth UOM:	ft
--	--

Annular Space/Abandonment Sealing Record

--	--
Plug ID:	1003548571
Layer:	1
Plug From:	0
Plug To:	15
Plug Depth UOM:	ft
--	--
Plug ID:	1003548572
Layer:	2
Plug From:	15
Plug To:	26
Plug Depth UOM:	ft

--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1003548578
Method Construction Code:	5
Method Construction:	Air Percussion
Other Method Construction:	BORING
--	--
Pipe Information	
--	--
Pipe ID:	1003548566
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1003548574
Layer:	1
Open Hole or Material:	PLASTIC
Depth From:	0
Depth To:	16
Casing Diameter:	2
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1003548575
Layer:	1
Slot:	.1
Screen Top Depth:	16
Screen End Depth:	26
Screen Material:	5
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	2.25
--	--
Hole Diameter	
--	--
Hole ID:	1003548569
Diameter:	8
Depth From:	0
Depth To:	13
Hole Depth UOM:	ft
Hole Diameter UOM:	inch
--	--
Hole ID:	1003548570
Diameter:	4
Depth From:	13
Depth To:	26
Hole Depth UOM:	ft
Hole Diameter UOM:	inch
--	--
--	--

37	1 of 1	NNE/176.1	101.9	ON	WWIS

Well ID:	1508173	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Domestic	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	

Final Well Status::	Water Supply	***Northing NAD83::***	
Specific Capacity::		***Zone::***	
Municipality:	OTTAWA CITY	***UTM Reliability::***	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	10030208
DP2BR:	4
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	16-OCT-51
Remarks:	
Zone:	18
East 83:	450435.7
North 83:	5032753
UTMRC:	9
UTMRC Description:	unknown UTM
Location Method:	p9
Org CS:	
Elevation:	101.65
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	931008979
Layer:	1
General Color:	
Most Common Material:	TOPSOIL
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	4
Formation End Depth UOM:	ft
--	--
Formation ID:	931008980
Layer:	2
General Color:	WHITE
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	4
Formation End Depth:	138
Formation End Depth UOM:	ft
--	--

Method of Construction & Well Use

--	--
Method Construction ID:	961508173
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--

Pipe Information

--	--
Pipe ID:	10578778
Casing Number:	1

Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930053074
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	20
Casing Diameter:	5
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930053075
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	138
Casing Diameter:	5
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508173
Pump Set At:	
Static Level:	29
Final Level After Pumping:	33
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933462572
Layer:	1
Kind Code:	5
Kind:	Not stated
Water Found Depth:	90
Water Found Depth UOM:	ft
--	--
Water ID:	933462573
Layer:	2
Kind Code:	5
Kind:	Not stated
Water Found Depth:	120
Water Found Depth UOM:	ft
--	--
--	--

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
38	1 of 1	NNE/177.9	101.0	ON	WWIS

Well ID:	1508530	**Lot:**	
Construction Date::		**Concession:**	

Primary Water Use::	Domestic	***Concession Name:***	
Sec. Water Use::		***Easting NAD83::***	
Final Well Status::	Water Supply	***Northing NAD83::***	
Specific Capacity::		***Zone::***	
Municipality:	OTTAWA CITY	***UTM Reliability::***	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	10030564
DP2BR:	11
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	15-OCT-50
Remarks:	
Zone:	18
East 83:	450470.7
North 83:	5032743
UTMRC:	5
UTMRC Description:	margin of error : 100 m - 300 m
Location Method:	p5
Org CS:	
Elevation:	101.52
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	931009901
Layer:	1
General Color:	
Most Common Material:	CLAY
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	5
Formation End Depth UOM:	ft
--	--
Formation ID:	931009902
Layer:	2
General Color:	
Most Common Material:	GRAVEL
Other Materials:	
Other Materials:	
Formation Top Depth:	5
Formation End Depth:	11
Formation End Depth UOM:	ft
--	--
Formation ID:	931009903
Layer:	3
General Color:	WHITE
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	11
Formation End Depth:	90
Formation End Depth UOM:	ft
--	--

Method of Construction & Well Use	
--	--
Method Construction ID:	961508530
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	10579134
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930053770
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	15
Casing Diameter:	5
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930053771
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	90
Casing Diameter:	5
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508530
Pump Set At:	
Static Level:	13
Final Level After Pumping:	18
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933463064
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	82
Water Found Depth UOM:	ft
--	--
--	--

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
39	1 of 1	NE/188.4	100.9	ON	WWIS

Well ID: 1508534
Construction Date::
Primary Water Use:: Domestic
Sec. Water Use::
Final Well Status:: Water Supply
Specific Capacity::
Municipality: OTTAWA CITY
County: OTTAWA-CARLETON

Lot:
Concession:
Concession Name:
Easting NAD83::
Northing NAD83::
Zone::
UTM Reliability::

Bore Hole Information

--	--
Bore Hole ID:	10030568
DP2BR:	4
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	22-AUG-51
Remarks:	
Zone:	18
East 83:	450520.7
North 83:	5032723
UTMRC:	9
UTMRC Description:	unknown UTM
Location Method:	p9
Org CS:	
Elevation:	101.24
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	931009914
Layer:	1
General Color:	
Most Common Material:	CLAY
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	4
Formation End Depth UOM:	ft
--	--
Formation ID:	931009915
Layer:	2
General Color:	
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	4
Formation End Depth:	15
Formation End Depth UOM:	ft
--	--
Formation ID:	931009916
Layer:	3
General Color:	
Most Common Material:	LIMESTONE
Other Materials:	

Other Materials:	
Formation Top Depth:	15
Formation End Depth:	75
Formation End Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	961508534
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	10579138
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930053778
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	10
Casing Diameter:	4
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930053779
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	75
Casing Diameter:	4
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508534
Pump Set At:	
Static Level:	35
Final Level After Pumping:	37
Recommended Pump Depth:	
Pumping Rate:	8
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	0
Pumping Duration MIN:	20
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933463068
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	50

Water Found Depth UOM:	ft
--	--
Water ID:	933463069
Layer:	2
Kind Code:	1
Kind:	FRESH
Water Found Depth:	75
Water Found Depth UOM:	ft
--	--
--	--

40 ***1 of 1*** ***N/191.4*** ***101.2*** ***OTTAWA ON*** ***WWIS***

Well ID:	7213938	***Lot:***	
Construction Date::		***Concession:***	
Primary Water Use::	Domestic	***Concession Name:***	
Sec. Water Use::		***Easting NAD83::***	
Final Well Status::	Water Supply	***Northing NAD83::***	
Specific Capacity::		***Zone::***	
Municipality:	OTTAWA CITY	***UTM Reliability::***	
County:	OTTAWA-CARLETON		

Bore Hole Information	
--	--
Bore Hole ID:	1004675258
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	11-DEC-13
Remarks:	
Zone:	18
East 83:	450412
North 83:	5032772
UTMRC:	4
UTMRC Description:	margin of error : 30 m - 100 m
Location Method:	gis
Org CS:	UTM83
Elevation:	
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	1004991746
Layer:	1
General Color:	
Most Common Material:	SAND
Other Materials:	STONES
Other Materials:	PACKED
Formation Top Depth:	0
Formation End Depth:	6
Formation End Depth UOM:	ft
--	--
Formation ID:	1004991747
Layer:	2
General Color:	

Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	6
Formation End Depth:	180
Formation End Depth UOM:	ft
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1004991782
Layer:	1
Plug From:	0
Plug To:	22
Plug Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1004991781
Method Construction Code:	2
Method Construction:	Rotary (Convent.)
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	1004991744
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1004991752
Layer:	1
Open Hole or Material:	STEEL
Depth From:	-2
Depth To:	22
Casing Diameter:	6.125
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1004991753
Layer:	
Slot:	
Screen Top Depth:	
Screen End Depth:	
Screen Material:	
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	
--	--
Well Yield Testing	
--	--
Pump Test ID:	1004991745
Pump Set At:	160
Static Level:	31
Final Level After Pumping:	59
Recommended Pump Depth:	160
Pumping Rate:	5
Flowing Rate:	
Recommended Pump Rate:	5
Levels UOM:	ft

Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	0
Pumping Duration HR:	1
Pumping Duration MIN:	0
Flowing:	
--	--
Draw Down & Recovery	
--	--
Pump Test Detail ID:	1004991754
Pump Test ID:	1004991745
Test Type:	Draw Down
Test Duration:	1
Test Level:	31
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991755
Pump Test ID:	1004991745
Test Type:	Recovery
Test Duration:	1
Test Level:	59
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991756
Pump Test ID:	1004991745
Test Type:	Draw Down
Test Duration:	2
Test Level:	32
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991757
Pump Test ID:	1004991745
Test Type:	Recovery
Test Duration:	2
Test Level:	58
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991758
Pump Test ID:	1004991745
Test Type:	Draw Down
Test Duration:	3
Test Level:	33
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991759
Pump Test ID:	1004991745
Test Type:	Recovery
Test Duration:	3
Test Level:	56
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991760
Pump Test ID:	1004991745
Test Type:	Draw Down
Test Duration:	4
Test Level:	35
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991761
Pump Test ID:	1004991745
Test Type:	Recovery
Test Duration:	4
Test Level:	55
Test Level UOM:	ft
--	--

Pump Test Detail ID:	1004991762
Pump Test ID:	1004991745
Test Type:	Draw Down
Test Duration:	5
Test Level:	37
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991763
Pump Test ID:	1004991745
Test Type:	Recovery
Test Duration:	5
Test Level:	54
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991764
Pump Test ID:	1004991745
Test Type:	Draw Down
Test Duration:	10
Test Level:	41
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991765
Pump Test ID:	1004991745
Test Type:	Recovery
Test Duration:	10
Test Level:	50
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991766
Pump Test ID:	1004991745
Test Type:	Draw Down
Test Duration:	15
Test Level:	49
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991767
Pump Test ID:	1004991745
Test Type:	Recovery
Test Duration:	15
Test Level:	47
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991768
Pump Test ID:	1004991745
Test Type:	Draw Down
Test Duration:	20
Test Level:	53
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991769
Pump Test ID:	1004991745
Test Type:	Recovery
Test Duration:	20
Test Level:	42
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991770
Pump Test ID:	1004991745
Test Type:	Draw Down
Test Duration:	25
Test Level:	59
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991771
Pump Test ID:	1004991745
Test Type:	Recovery

Test Duration:	25
Test Level:	36
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991772
Pump Test ID:	1004991745
Test Type:	Draw Down
Test Duration:	30
Test Level:	59
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991773
Pump Test ID:	1004991745
Test Type:	Recovery
Test Duration:	30
Test Level:	31
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991774
Pump Test ID:	1004991745
Test Type:	Draw Down
Test Duration:	40
Test Level:	59
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991775
Pump Test ID:	1004991745
Test Type:	Recovery
Test Duration:	40
Test Level:	31
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991776
Pump Test ID:	1004991745
Test Type:	Draw Down
Test Duration:	50
Test Level:	59
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991777
Pump Test ID:	1004991745
Test Type:	Recovery
Test Duration:	50
Test Level:	31
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991778
Pump Test ID:	1004991745
Test Type:	Draw Down
Test Duration:	60
Test Level:	59
Test Level UOM:	ft
--	--
Pump Test Detail ID:	1004991779
Pump Test ID:	1004991745
Test Type:	Recovery
Test Duration:	60
Test Level:	31
Test Level UOM:	ft
--	--
--	--
Water Details	
--	--
Water ID:	1004991750
Layer:	1
Kind Code:	1

Kind:	FRESH
Water Found Depth:	130
Water Found Depth UOM:	ft
--	--
Water ID:	1004991751
Layer:	2
Kind Code:	1
Kind:	FRESH
Water Found Depth:	160
Water Found Depth UOM:	ft
--	--
Hole Diameter	
--	--
Hole ID:	1004991748
Diameter:	10.625
Depth From:	0
Depth To:	22
Hole Depth UOM:	ft
Hole Diameter UOM:	inch
--	--
Hole ID:	1004991749
Diameter:	6.125
Depth From:	22
Depth To:	180
Hole Depth UOM:	ft
Hole Diameter UOM:	inch
--	--
--	--

41 **1 of 1** **NW/196.4** **91.0** **ON** **WWIS**

Well ID:	1508416	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Domestic	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Water Supply	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	10030450
DP2BR:	17
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	18-NOV-54
Remarks:	
Zone:	18
East 83:	450150.7
North 83:	5032683
UTMRC:	5
UTMRC Description:	margin of error : 100 m - 300 m
Location Method:	p5
Org CS:	
Elevation:	92.04
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	

Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	931009612
Layer:	1
General Color:	
Most Common Material:	MEDIUM SAND
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	17
Formation End Depth UOM:	ft
--	--
Formation ID:	931009613
Layer:	2
General Color:	
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	17
Formation End Depth:	53
Formation End Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	961508416
Method Construction Code:	7
Method Construction:	Diamond
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	10579020
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930053548
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	21
Casing Diameter:	2
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930053549
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	53
Casing Diameter:	2
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508416
Pump Set At:	
Static Level:	6
Final Level After Pumping:	25

Recommended Pump Depth:	
Pumping Rate:	10
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	3
Pumping Duration MIN:	0
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933462911
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	53
Water Found Depth UOM:	ft
--	--
--	--

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42 **1 of 1** **NW/197.4** **96.8** **ON** **WWIS**

Well ID:	1508435	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Domestic	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Water Supply	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information	
--	--
Bore Hole ID:	10030469
DP2BR:	0
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	15-OCT-62
Remarks:	
Zone:	18
East 83:	450215.7
North 83:	5032723
UTMRC:	5
UTMRC Description:	margin of error : 100 m - 300 m
Location Method:	p5
Org CS:	
Elevation:	95.79
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--

Formation ID:	931009659
Layer:	1
General Color:	
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	192
Formation End Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	961508435
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	10579039
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930053586
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	20
Casing Diameter:	6
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930053587
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	192
Casing Diameter:	6
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508435
Pump Set At:	
Static Level:	30
Final Level After Pumping:	180
Recommended Pump Depth:	180
Pumping Rate:	4
Flowing Rate:	
Recommended Pump Rate:	4
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	2
Pumping Duration MIN:	0
Flowing:	N
--	--
Water Details	
--	--

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

Water ID:	933462932
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	150
Water Found Depth UOM:	ft
--	--
Water ID:	933462933
Layer:	2
Kind Code:	1
Kind:	FRESH
Water Found Depth:	192
Water Found Depth UOM:	ft
--	--
--	--

---

43 | **1 of 1** | **NW/203.3** | **90.6** | **550 Langs Rd Ottawa ON K1K4C2** | **EHS**

Postal Code:	K1K4C2
City:	Ottawa
Address2:	
Address1:	550 Langs Rd
Provstate:	ON
Order No.:	20160211003
Addit. Info Ordered::	
Report Date:	17-FEB-16
Report Type:	Custom Report
Search Radius (km):	.25

---

44 | **1 of 1** | **WNW/205.2** | **89.5** | **OTTAWA ON** | **WWIS**

Well ID:	7154158	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Monitoring and Test Hole	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Monitoring and Test Hole	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	1003362661
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	01-OCT-10
Remarks:	
Zone:	18
East 83:	450115
North 83:	5032656
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	91.82
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	

Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	1003484231
Layer:	1
General Color:	BROWN
Most Common Material:	TOPSOIL
Other Materials:	
Other Materials:	SOFT
Formation Top Depth:	0
Formation End Depth:	.31
Formation End Depth UOM:	m
--	--
Formation ID:	1003484232
Layer:	2
General Color:	BROWN
Most Common Material:	SAND
Other Materials:	CLAY
Other Materials:	SOFT
Formation Top Depth:	.31
Formation End Depth:	2.13
Formation End Depth UOM:	m
--	--
Formation ID:	1003484233
Layer:	3
General Color:	BROWN
Most Common Material:	CLAY
Other Materials:	SAND
Other Materials:	DENSE
Formation Top Depth:	2.13
Formation End Depth:	3.96
Formation End Depth UOM:	m
--	--
Formation ID:	1003484234
Layer:	4
General Color:	GREY
Most Common Material:	SHALE
Other Materials:	
Other Materials:	HARD
Formation Top Depth:	3.96
Formation End Depth:	7.62
Formation End Depth UOM:	m
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1003484237
Layer:	1
Plug From:	0
Plug To:	.31
Plug Depth UOM:	m
--	--
Plug ID:	1003484238
Layer:	2
Plug From:	.31
Plug To:	2.74
Plug Depth UOM:	m
--	--
Plug ID:	1003484239
Layer:	3
Plug From:	2.74

Plug To:	4.57
Plug Depth UOM:	m
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1003484245
Method Construction Code:	B
Method Construction:	Other Method
Other Method Construction:	DIRECT PUSH
--	--
Pipe Information	
--	--
Pipe ID:	1003484230
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1003484241
Layer:	1
Open Hole or Material:	PLASTIC
Depth From:	0
Depth To:	3.04
Casing Diameter:	3.81
Casing Diameter UOM:	cm
Casing Depth UOM:	m
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1003484242
Layer:	1
Slot:	10
Screen Top Depth:	3.04
Screen End Depth:	7.62
Screen Material:	5
Screen Depth UOM:	m
Screen Diameter UOM:	cm
Screen Diameter:	4.21
--	--
Hole Diameter	
--	--
Hole ID:	1003484235
Diameter:	11.43
Depth From:	0
Depth To:	3.96
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
Hole ID:	1003484236
Diameter:	7.62
Depth From:	3.96
Depth To:	7.62
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
--	--

45 **1 of 1** **NE/205.7** **102.7** **ON** **WWIS**

Well ID: 1508821 **Lot:**
Construction Date:: **Concession:**

Primary Water Use::	Domestic	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Water Supply	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information	
--	--
Bore Hole ID:	10030855
DP2BR:	5
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	19-MAR-50
Remarks:	
Zone:	18
East 83:	450540.7
North 83:	5032728
UTMRC:	5
UTMRC Description:	margin of error : 100 m - 300 m
Location Method:	p5
Org CS:	
Elevation:	101.48
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	931010692
Layer:	1
General Color:	
Most Common Material:	CLAY
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	5
Formation End Depth UOM:	ft
--	--
Formation ID:	931010693
Layer:	2
General Color:	
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	5
Formation End Depth:	84
Formation End Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	961508821
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--
Pipe Information	
--	--

Pipe ID:	10579425
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930054341
Layer:	1
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	14
Casing Diameter:	6
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930054342
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	84
Casing Diameter:	6
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508821
Pump Set At:	
Static Level:	10
Final Level After Pumping:	14
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933463508
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	50
Water Found Depth UOM:	ft
--	--
--	--

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
46	1 of 2	W/210.0	85.0	701-711 Montreal Road Ottawa ON K1K 0T1	RSC

Registration No:	
RSC Type:	
Restoration Type:	Generic
Date Submitted:	02/28/00
Date Acknowledg.:	03/13/00
Certification Date:	
Date Returned:	

Soil Type:	Medium/fine
Criteria:	Res/parkland + potable
Current Property Use:	
Certificate Prop Use No:	
Intended Prop Use:	
Applicable Standards:	
Stratified (Y/N):	N
Consultant:	
District Office:	Ottawa
Property Municipal Address:	
Legal Description:	
Prop. Identification No:	
Entire legal prop. (y/n):	
UTM Coordinates:	
Latitude & Longitude:	
Accuracy Estimate:	
Measurement Method:	
CPU Issued Sect 1686:	

---

46 | ***2 of 2*** | ***W/210.0*** | ***85.0*** | ***701-711 Montreal Rd Part Lots 24&25, Conc.1 Ottawa ON K1K 0T1*** | ***RSC***

Registration No:	
RSC Type:	
Restoration Type:	Phase 1
Date Submitted:	01/19/00
Date Acknowledg.:	01/19/00
Certification Date:	
Date Returned:	
Soil Type:	
Criteria:	
Current Property Use:	
Certificate Prop Use No:	
Intended Prop Use:	
Applicable Standards:	
Stratified (Y/N):	
Consultant:	OMM/Trow
District Office:	Ottawa
Property Municipal Address:	
Legal Description:	
Prop. Identification No:	
Entire legal prop. (y/n):	
UTM Coordinates:	
Latitude & Longitude:	
Accuracy Estimate:	
Measurement Method:	
CPU Issued Sect 1686:	

---

47 | ***1 of 1*** | ***NW/212.5*** | ***90.5*** | ***OTTAWA ON*** | ***WWIS***

Well ID:	7154157	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Monitoring and Test Hole	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Monitoring and Test Hole	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--

Bore Hole ID:	1003362659
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	01-OCT-10
Remarks:	
Zone:	18
East 83:	450124
North 83:	5032679
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	91.79
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	1003484216
Layer:	1
General Color:	BROWN
Most Common Material:	TOPSOIL
Other Materials:	
Other Materials:	LOOSE
Formation Top Depth:	0
Formation End Depth:	.31
Formation End Depth UOM:	ft
--	--
Formation ID:	1003484217
Layer:	2
General Color:	BROWN
Most Common Material:	SAND
Other Materials:	SILT
Other Materials:	DRY
Formation Top Depth:	.31
Formation End Depth:	3.96
Formation End Depth UOM:	ft
--	--
Formation ID:	1003484218
Layer:	3
General Color:	BROWN
Most Common Material:	SAND
Other Materials:	SILT
Other Materials:	WATER-BEARING
Formation Top Depth:	3.96
Formation End Depth:	5.18
Formation End Depth UOM:	ft
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1003484220
Layer:	1
Plug From:	0
Plug To:	.31
Plug Depth UOM:	ft
--	--

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
Plug ID:		1003484221			
Layer:		2			
Plug From:		.31			
Plug To:		1.82			
Plug Depth UOM:		ft			
--		--			
Plug ID:		1003484222			
Layer:		3			
Plug From:		1.82			
Plug To:		5.18			
Plug Depth UOM:		ft			
--		--			
Method of Construction & Well Use					
--		--			
Method Construction ID:		1003484228			
Method Construction Code:		B			
Method Construction:		Other Method			
Other Method Construction:		DIRECT PUSH			
--		--			
Pipe Information					
--		--			
Pipe ID:		1003484215			
Casing Number:		0			
Comment:					
Alt Name:					
--		--			
Construction Record - Casing					
--		--			
Casing ID:		1003484224			
Layer:		1			
Open Hole or Material:		PLASTIC			
Depth From:		0			
Depth To:		2.13			
Casing Diameter:		3.81			
Casing Diameter UOM:		inch			
Casing Depth UOM:		ft			
--		--			
--		--			
Construction Record - Screen					
--		--			
Screen ID:		1003484225			
Layer:		1			
Slot:		10			
Screen Top Depth:		2.13			
Screen End Depth:		5.18			
Screen Material:		5			
Screen Depth UOM:		ft			
Screen Diameter UOM:		inch			
Screen Diameter:		4.21			
--		--			
Hole Diameter					
--		--			
Hole ID:		1003484219			
Diameter:		8.25			
Depth From:		0			
Depth To:		5.18			
Hole Depth UOM:		ft			
Hole Diameter UOM:		inch			
--		--			
--		--			
48	**1 of 1**	**NNE/214.6**	**102.5**	**ON**	**WWIS**

Well ID:	1508171	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Domestic	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Water Supply	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	10030206
DP2BR:	2
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	20-FEB-51
Remarks:	
Zone:	18
East 83:	450510.7
North 83:	5032763
UTMRC:	9
UTMRC Description:	unknown UTM
Location Method:	p9
Org CS:	
Elevation:	102.96
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	931008975
Layer:	1
General Color:	
Most Common Material:	GRAVEL
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	2
Formation End Depth UOM:	ft
--	--
Formation ID:	931008976
Layer:	2
General Color:	WHITE
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	2
Formation End Depth:	90
Formation End Depth UOM:	ft
--	--

Method of Construction & Well Use

--	--
Method Construction ID:	961508171
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

Pipe Information	
--	--
Pipe ID:	10578776
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930053070
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	17
Casing Diameter:	6
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930053071
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	90
Casing Diameter:	6
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508171
Pump Set At:	
Static Level:	35
Final Level After Pumping:	40
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	0
Pumping Duration MIN:	25
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933462570
Layer:	1
Kind Code:	5
Kind:	Not stated
Water Found Depth:	60
Water Found Depth UOM:	ft
--	--
--	--

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
49	1 of 2	W/214.8	84.5	LAURENTIAN STONE CO. GLOUCESTER ON	AMIS

Site Access Code:	11	***Start Year:***	
AMIS Distr Code:	SE	***End Year:***	
Abandoned Mine ID:	07678	***Prog Rehab Plan:***	UNK
Old MDI ID:	SO6707	***Evid of Site Contam:***	UNK

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

New MDI ID:	MDI31G05NE00060	***Evid of Sulphide:***	UNK
Official Nm:	LAURENTIAN STONE CO.	***Evid Animals Pres:***	UNK
Mine Status:	ABANDONED	***Revegetation:***	UNK
Mine Plan/Section:	UNK	***Veg Condition:***	
Site Class:		***Veg Descr:***	
Clos Reason Code:	4	***Chemical Doc:***	UNK
Closure Plan:	UNK	***Jurisdiction:***	A.R.A.
Prim Commod Code:		***Lot No:***	24
Prim Commod:		***Concession:***	1
Operat Access:	N/A	***Zone:***	18
Date Entered:		***Northing:***	5032473
Date Last Modified:	2/5/1996	***Easting:***	450077
Effective Date:	2003-01-27.15:37:01	***Clos Reason:***	UNKNOWN

District Desc: TWEED
Animal Desc:
Status Type Code: AB
Mine Features Desc: QUARRY
AMIS Bkgrd Info: 8M SECTION REPORTED; 7M EXPOSED (FACE) /6ACRES ARE IN 1938; COMMODITY: LIMESTONE; 1.2KM NW OF CARSON GROVE
Alias Nm: SECTION AQ OT-9; LAURENTIAN #2; LAURENTIAN STONE CO.; MONTREAL ROAD QUARRY

--Details--
Date Entered:
Dat Last Modified:
Mine Hazard Status Code: NA
Mine Feature Class Code: 4
Feature Class: FEATURE TO SURFACE
Feature Type: QUARRY
Hazard Status: NOT AVAILABLE
Description:

49	***2 of 2***	***W/214.8***	***84.6***	***LAURENTIAN #2***	***MNR***
				ON	

MDI Num:	MDI31G05NE00060	***Geological District:***	SOUTHEASTERN ONTARIO
OGF ID:	205266702	***Easting:***	450077.342
Mining Division:	SOUTHERN ONTARIO	***Northing:***	5032473.038
Zone:	18	***Claim Map:***	N/A

Access Description: Probably one of 'The Quarries'.
Deposit Status: PAST PRODUCING MINE WITHOUT RESERVES

--Details--

Year:	2000	***Twp/Area:***	GLOUCESTER
Deposit Charactr:		***Con/Lot/Sec:***	LOT: 24 Con: 1

Commodity: LIMESTONE (BUILDING STONES), LIMESTONE (CEMENT/CHEMICAL FLUX)

50	***1 of 2***	***NW/220.8***	***90.7***	***con 6***	***WWIS***
				OTTAWA ON	

Well ID:	7113117	***Lot:***	
Construction Date::		***Concession:***	06
Primary Water Use::		***Concession Name:***	
Sec. Water Use::		***Easting NAD83::***	
Final Well Status::	Abandoned-Other	***Northing NAD83::***	
Specific Capacity::		***Zone::***	
Municipality:	GLOUCESTER TOWNSHIP	***UTM Reliability::***	
County:	OTTAWA-CARLETON		

Bore Hole Information
-- --

Bore Hole ID:	1001837099
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	22-AUG-08
Remarks:	
Zone:	18
East 83:	450140
North 83:	5032706
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	91.97
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	1002432272
Layer:	1
General Color:	
Most Common Material:	OTHER
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	40
Formation End Depth UOM:	ft
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002432274
Layer:	1
Plug From:	40
Plug To:	0
Plug Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002432278
Method Construction Code:	
Method Construction:	
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	1002432271
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002432276
Layer:	
Open Hole or Material:	

Depth From:	
Depth To:	
Casing Diameter:	
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1002432277
Layer:	
Slot:	
Screen Top Depth:	
Screen End Depth:	
Screen Material:	
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	
--	--
Hole Diameter	
--	--
Hole ID:	1002432273
Diameter:	
Depth From:	
Depth To:	
Hole Depth UOM:	ft
Hole Diameter UOM:	inch
--	--
--	--

50 **2 of 2** **NW/220.8** **90.7** **lot 2 con 6 GLOUCESTER ON** **WWIS**

Well ID:	1536284	**Lot:**	002
Construction Date::		**Concession:**	06
Primary Water Use::	Not Used	**Concession Name:**	OF
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Test Hole	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information	
--	--
Bore Hole ID:	11550350
DP2BR:	22
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	13-MAR-06
Remarks:	
Zone:	18
East 83:	450140
North 83:	5032706
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	91.97
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	

Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	933055603
Layer:	1
General Color:	
Most Common Material:	GRAVEL
Other Materials:	SAND
Other Materials:	CLAY
Formation Top Depth:	0
Formation End Depth:	6.7
Formation End Depth UOM:	m
--	--
Formation ID:	933055604
Layer:	2
General Color:	GREY
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	6.7
Formation End Depth:	12.2
Formation End Depth UOM:	m
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	933294373
Layer:	1
Plug From:	8.5
Plug To:	5.5
Plug Depth UOM:	m
--	--
Plug ID:	933294374
Layer:	2
Plug From:	5.5
Plug To:	0
Plug Depth UOM:	m
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	961536284
Method Construction Code:	5
Method Construction:	Air Percussion
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	11559957
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930880325
Layer:	1
Open Hole or Material:	STEEL
Depth From:	0
Depth To:	9.1
Casing Diameter:	15.88
Casing Diameter UOM:	cm
Casing Depth UOM:	m

--	--
Casing ID:	930880326
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	8.5
Depth To:	12.2
Casing Diameter:	
Casing Diameter UOM:	cm
Casing Depth UOM:	m
--	--
Well Yield Testing	
--	--
Pump Test ID:	11569409
Pump Set At:	9.14
Static Level:	6.7
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	18.93
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	m
Rate UOM:	LPM
Water State After Test Code:	3
Water State After Test:	OTHER
Pumping Test Method:	1
Pumping Duration HR:	
Pumping Duration MIN:	10
Flowing:	
--	--
Draw Down & Recovery	
--	--
Pump Test Detail ID:	11631196
Pump Test ID:	11569409
Test Type:	Draw Down
Test Duration:	1
Test Level:	9.5
Test Level UOM:	m
--	--
Pump Test Detail ID:	11631197
Pump Test ID:	11569409
Test Type:	Draw Down
Test Duration:	2
Test Level:	10.1
Test Level UOM:	m
--	--
Pump Test Detail ID:	11631198
Pump Test ID:	11569409
Test Type:	Draw Down
Test Duration:	3
Test Level:	10.5
Test Level UOM:	m
--	--
Pump Test Detail ID:	11631199
Pump Test ID:	11569409
Test Type:	Draw Down
Test Duration:	4
Test Level:	10.51
Test Level UOM:	m
--	--
Pump Test Detail ID:	11631200
Pump Test ID:	11569409
Test Type:	Draw Down
Test Duration:	5
Test Level:	10.51
Test Level UOM:	m
--	--

Pump Test Detail ID:	11631201
Pump Test ID:	11569409
Test Type:	Draw Down
Test Duration:	10
Test Level:	10.51
Test Level UOM:	m
--	--
--	--
Hole Diameter	
--	--
Hole ID:	11681032
Diameter:	15.07
Depth From:	0
Depth To:	12.2
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
--	--

---

51 | **1 of 1** | **N/223.2** | **101.7** | **ON** | **WWIS**

Well ID:	1509904	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Domestic	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Water Supply	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information	
--	--
Bore Hole ID:	10031936
DP2BR:	0
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	19-NOV-68
Remarks:	
Zone:	18
East 83:	450370.7
North 83:	5032803
UTMRC:	5
UTMRC Description:	margin of error : 100 m - 300 m
Location Method:	p5
Org CS:	
Elevation:	100.78
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	931013363
Layer:	1
General Color:	
Most Common Material:	LIMESTONE
Other Materials:	

Other Materials:	
Formation Top Depth:	0
Formation End Depth:	365
Formation End Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	961509904
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	10580506
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930056500
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	88
Casing Diameter:	6
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930056501
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	365
Casing Diameter:	6
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991509904
Pump Set At:	
Static Level:	145
Final Level After Pumping:	175
Recommended Pump Depth:	200
Pumping Rate:	1
Flowing Rate:	
Recommended Pump Rate:	1
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	1
Pumping Duration MIN:	0
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933464799
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	340

Water Found Depth UOM:	ft
--	--
--	--

52 **1 of 1** **N/226.9** **103.0** **ON** **WWIS**

Well ID:	1508174	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Domestic	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Water Supply	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	10030209
DP2BR:	2
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	09-NOV-51
Remarks:	
Zone:	18
East 83:	450405.7
North 83:	5032808
UTMRC:	9
UTMRC Description:	unknown UTM
Location Method:	p9
Org CS:	
Elevation:	101.99
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	931008981
Layer:	1
General Color:	
Most Common Material:	TOPSOIL
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	2
Formation End Depth UOM:	ft
--	--
Formation ID:	931008982
Layer:	2
General Color:	WHITE
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	2
Formation End Depth:	130
Formation End Depth UOM:	ft
--	--

Method of Construction & Well Use	
--	--
Method Construction ID:	961508174
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	10578779
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930053076
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	22
Casing Diameter:	5
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930053077
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	130
Casing Diameter:	5
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508174
Pump Set At:	
Static Level:	28
Final Level After Pumping:	35
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933462574
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	110
Water Found Depth UOM:	ft
--	--
--	--

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
53	1 of 1	WNW/227.0	90.1	OTTAWA ON	WWIS

Well ID: 7154160
Construction Date::
Primary Water Use:: Monitoring and Test Hole
Sec. Water Use::
Final Well Status:: Monitoring and Test Hole
Specific Capacity::
Municipality: OTTAWA CITY
County: OTTAWA-CARLETON

Lot:
Concession:
Concession Name:
Easting NAD83::
Northing NAD83::
Zone::
UTM Reliability::

Bore Hole Information

--	--
Bore Hole ID:	1003362665
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	01-OCT-10
Remarks:	
Zone:	18
East 83:	450092
North 83:	5032661
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	91.09
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	1003484264
Layer:	1
General Color:	BROWN
Most Common Material:	TOPSOIL
Other Materials:	SOFT
Other Materials:	LOOSE
Formation Top Depth:	0
Formation End Depth:	.31
Formation End Depth UOM:	m
--	--
Formation ID:	1003484265
Layer:	2
General Color:	BROWN
Most Common Material:	CLAY
Other Materials:	SAND
Other Materials:	SOFT
Formation Top Depth:	.31
Formation End Depth:	3.35
Formation End Depth UOM:	m
--	--
Formation ID:	1003484266
Layer:	3
General Color:	GREY
Most Common Material:	SHALE
Other Materials:	

Other Materials:	HARD
Formation Top Depth:	3.35
Formation End Depth:	9.14
Formation End Depth UOM:	m
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1003484269
Layer:	1
Plug From:	0
Plug To:	.31
Plug Depth UOM:	m
--	--
Plug ID:	1003484270
Layer:	2
Plug From:	.31
Plug To:	4.26
Plug Depth UOM:	m
--	--
Plug ID:	1003484271
Layer:	3
Plug From:	4.26
Plug To:	9.14
Plug Depth UOM:	m
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1003484277
Method Construction Code:	B
Method Construction:	Other Method
Other Method Construction:	DIRECT PUSH
--	--
Pipe Information	
--	--
Pipe ID:	1003484263
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1003484273
Layer:	1
Open Hole or Material:	PLASTIC
Depth From:	0
Depth To:	4.57
Casing Diameter:	3.81
Casing Diameter UOM:	cm
Casing Depth UOM:	m
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1003484274
Layer:	1
Slot:	10
Screen Top Depth:	4.57
Screen End Depth:	9.14
Screen Material:	5
Screen Depth UOM:	m
Screen Diameter UOM:	cm
Screen Diameter:	4.21
--	--
Hole Diameter	

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

--	--
Hole ID:	1003484267
Diameter:	11.43
Depth From:	0
Depth To:	3.35
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
Hole ID:	1003484268
Diameter:	7.62
Depth From:	3.35
Depth To:	9.14
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
--	--

54 **1 of 2** **ENE/227.1** **98.2** **KIRK & WINNING QUA.** **AMIS**

GLOUCESTER ON

Site Access Code:	11	Start Year:	
AMIS Distr Code:	SE	End Year:	
Abandoned Mine ID:	06134	Prog Rehab Plan:	UNK
Old MDI ID:	SO6706	Evid of Site Contam:	UNK
New MDI ID:	MDI31G05NE00059	Evid of Sulphide:	UNK
Official Nm:	KIRK & WINNING QUA.	Evid Animals Pres:	UNK
Mine Status:	ABANDONED	Revegetation:	UNK
Mine Plan/Section:	UNK	Veg Condition:	
Site Class:		Veg Descr:	
Clos Reason Code:	4	Chemical Doc:	UNK
Closure Plan:	UNK	Jurisdiction:	A.R.A.
Prim Commod Code:		Lot No:	23
Prim Commod:		Concession:	1
Operat Access:	N/A	Zone:	18
Date Entered:	19-Jan-94	Northing:	5032623
Date Last Modified:	2/5/1996	Easting:	450627
Effective Date:	2003-01-27.15:37:01	Clos Reason:	UNKNOWN

District Desc:	TWEED
Animal Desc:	
Status Type Code:	AB
Mine Features Desc:	QUARRY
AMIS Bkgrd Info:	4M EXPOSED; 2 ACRES (C1912); COMMODITY: LIMESTONE;PAST PRODUCER; 1.1KM N OF CARSON GROVE;
Alias Nm:	KIRK & WINNING QUA.

--Details--

Date Entered:	94-01-19
Dat Last Modified:	
Mine Hazard Status Code:	NA
Mine Feature Class Code:	4
Feature Class:	FEATURE TO SURFACE
Feature Type:	QUARRY
Hazard Status:	NOT AVAILABLE
Description:	

54 **2 of 2** **ENE/227.1** **98.1** **KIRK AND WINNING** **MNR**

ON

MDI Num:	MDI31G05NE00059	Geological District:	SOUTHEASTERN ONTARIO
OGF ID:	205254930	Easting:	450627.308

Mining Division:	SOUTHERN ONTARIO	**Northing:**	5032623.022
Zone:	18	**Claim Map:**	N/A
Access Description:	Adjoins the Robillard Quarry on the W - one of 'The Quarries'.		
Deposit Status:	PAST PRODUCING MINE WITHOUT RESERVES		

--Details--

Year:	1993	**Twp/Area:**	GLOUCESTER
Deposit Charactr:		**Con/Lot/Sec:**	LOT: 23 Con: 1
Commodity:	LIMESTONE (BUILDING STONES)		

---

55 | 1 of 1 | NNE/228.9 | 103.8 | ON | WWIS

Well ID:	1508042	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Domestic	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Water Supply	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	10030077
DP2BR:	4
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	29-AUG-51
Remarks:	
Zone:	18
East 83:	450535.7
North 83:	5032763
UTMRC:	9
UTMRC Description:	unknown UTM
Location Method:	p9
Org CS:	
Elevation:	102.93
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	931008657
Layer:	1
General Color:	
Most Common Material:	CLAY
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	4
Formation End Depth UOM:	ft
--	--
Formation ID:	931008658
Layer:	2

General Color:	
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	4
Formation End Depth:	81
Formation End Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	961508042
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	10578647
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930052810
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	15
Casing Diameter:	4
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930052811
Layer:	2
Open Hole or Material:	STEEL
Depth From:	
Depth To:	81
Casing Diameter:	4
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508042
Pump Set At:	
Static Level:	35
Final Level After Pumping:	37
Recommended Pump Depth:	
Pumping Rate:	8
Flowing Rate:	
Recommended Pump Rate:	8
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	0
Pumping Duration MIN:	20
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933462383
Layer:	1

Kind Code:	1
Kind:	FRESH
Water Found Depth:	51
Water Found Depth UOM:	ft
--	--
Water ID:	933462384
Layer:	2
Kind Code:	1
Kind:	FRESH
Water Found Depth:	80
Water Found Depth UOM:	ft
--	--
--	--

56 **1 of 1** **WNW/233.7** **90.3** **OTTAWA ON** **WWIS**

Well ID:	7154159	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Monitoring and Test Hole	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Monitoring and Test Hole	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	1003362663
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	01-OCT-10
Remarks:	
Zone:	18
East 83:	450090
North 83:	5032670
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	90.82
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	1003484248
Layer:	1
General Color:	BROWN
Most Common Material:	SAND
Other Materials:	DRY
Other Materials:	SOFT
Formation Top Depth:	0
Formation End Depth:	.31
Formation End Depth UOM:	m
--	--

Formation ID:	1003484249
Layer:	2
General Color:	GREY
Most Common Material:	SHALE
Other Materials:	DRY
Other Materials:	
Formation Top Depth:	.31
Formation End Depth:	1.83
Formation End Depth UOM:	m
--	--
Formation ID:	1003484250
Layer:	3
General Color:	GREY
Most Common Material:	SHALE
Other Materials:	
Other Materials:	WATER-BEARING
Formation Top Depth:	1.83
Formation End Depth:	4.57
Formation End Depth UOM:	m
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1003484253
Layer:	1
Plug From:	0
Plug To:	.31
Plug Depth UOM:	m
--	--
Plug ID:	1003484254
Layer:	2
Plug From:	.31
Plug To:	1.21
Plug Depth UOM:	m
--	--
Plug ID:	1003484255
Layer:	3
Plug From:	1.21
Plug To:	4.57
Plug Depth UOM:	m
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1003484261
Method Construction Code:	B
Method Construction:	Other Method
Other Method Construction:	DIRECT PUSH
--	--
Pipe Information	
--	--
Pipe ID:	1003484247
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1003484257
Layer:	1
Open Hole or Material:	PLASTIC
Depth From:	0
Depth To:	1.52
Casing Diameter:	5.08
Casing Diameter UOM:	cm
Casing Depth UOM:	m

--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1003484258
Layer:	1
Slot:	10
Screen Top Depth:	1.52
Screen End Depth:	4.57
Screen Material:	5
Screen Depth UOM:	m
Screen Diameter UOM:	cm
Screen Diameter:	6.21
--	--
Hole Diameter	
--	--
Hole ID:	1003484251
Diameter:	11.43
Depth From:	0
Depth To:	2.44
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
Hole ID:	1003484252
Diameter:	7.62
Depth From:	2.44
Depth To:	4.57
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
--	--

57 ***1 of 1*** ***NNE/239.9*** ***103.6*** ***ON*** ***BORE***

Borehole ID:	615223	***Type:***	Borehole
Use:		***Status::***	
Drill Method::		***UTM Zone::***	18
Easting::	450511	***Northing::***	5032792
Location Accuracy::		***Orig. Ground Elev m::***	100
Elev. Reliability Note::		***DEM Ground Elev m::***	104
Total Depth m::	-999	***Primary Name::***	
Township::		***Concession::***	
Lot::		***Municipality:***	
Completion Date::		***Static Water Level::***	19.4
Primary Water Use::		***Sec. Water Use::***	

--Details--

Stratum ID:	218400861	***Top Depth(m):***	0.0
Bottom Depth(m):	0.3	***Stratum Desc:***	SAND.
Stratum ID:	218400862	***Top Depth(m):***	0.3
Bottom Depth(m):	1.5	***Stratum Desc:***	CLAY.
Stratum ID:	218400863	***Top Depth(m):***	1.5
Bottom Depth(m):	3.4	***Stratum Desc:***	GRAVEL.
Stratum ID:	218400864	***Top Depth(m):***	3.4
Bottom Depth(m):		***Stratum Desc:***	BEDROCK. WHITE. 00060 BEDROCK. 10DROCK. BEDROCK. BEDROCK. WATER STABLE AT 266.4

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
58	1 of 1	NW/241.2	90.4	Ottawa ON	WWIS

Well ID: 7126164
Construction Date::
Primary Water Use:: Monitoring
Sec. Water Use::
Final Well Status:: Test Hole
Specific Capacity::
Municipality: GLOUCESTER TOWNSHIP
County: OTTAWA-CARLETON

Lot:
Concession:
Concession Name:
Easting NAD83::
Northing NAD83::
Zone::
UTM Reliability::

Bore Hole Information

--	--
Bore Hole ID:	1002557872
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	N
Date Completed:	13-JUN-09
Remarks:	
Zone:	18
East 83:	450110
North 83:	5032707
UTMRC:	4
UTMRC Description:	margin of error : 30 m - 100 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
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Overburden and Bedrock Materials Interval

--	--
Formation ID:	1002808847
Layer:	1
General Color:	
Most Common Material:	OTHER
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	.1
Formation End Depth UOM:	m
--	--
Formation ID:	1002808848
Layer:	2
General Color:	GREY
Most Common Material:	STONES
Other Materials:	
Other Materials:	
Formation Top Depth:	.1
Formation End Depth:	1.6
Formation End Depth UOM:	m
--	--
Formation ID:	1002808849
Layer:	3
General Color:	GREY
Most Common Material:	SAND
Other Materials:	CLAY

Other Materials:	SILTY
Formation Top Depth:	1.6
Formation End Depth:	6.8
Formation End Depth UOM:	m
--	--
Formation ID:	1002808850
Layer:	4
General Color:	GREY
Most Common Material:	ROCK
Other Materials:	
Other Materials:	
Formation Top Depth:	6.8
Formation End Depth:	10.3
Formation End Depth UOM:	m
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Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002808853
Layer:	1
Plug From:	6.8
Plug To:	7.3
Plug Depth UOM:	m
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002808856
Method Construction Code:	7
Method Construction:	Diamond
Other Method Construction:	HSA
--	--
Pipe Information	
--	--
Pipe ID:	1002808845
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Screen	
--	--
Screen ID:	1002808854
Layer:	1
Slot:	10
Screen Top Depth:	
Screen End Depth:	
Screen Material:	5
Screen Depth UOM:	m
Screen Diameter UOM:	cm
Screen Diameter:	5.8
--	--
Well Yield Testing	
--	--
Pump Test ID:	1002808846
Pump Set At:	
Static Level:	6.8
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	m
Rate UOM:	
Water State After Test Code:	0
Water State After Test:	
Pumping Test Method:	0

Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	
--	--
Hole Diameter	
--	--
Hole ID:	1002808851
Diameter:	20
Depth From:	0
Depth To:	6.8
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
Hole ID:	1002808852
Diameter:	10
Depth From:	6.8
Depth To:	10.3
Hole Depth UOM:	m
Hole Diameter UOM:	cm
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--	--
Bore Hole ID:	1002808836
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	06-JUN-09
Remarks:	
Zone:	18
East 83:	450112
North 83:	5032708
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	91.08
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
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Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002808840
Layer:	
Plug From:	
Plug To:	
Plug Depth UOM:	
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002808839
Method Construction Code:	
Method Construction:	
Other Method Construction:	HSA
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Pipe Information	
--	--
Pipe ID:	1002808841
Casing Number:	0

Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002808843
Layer:	
Open Hole or Material:	PLASTIC
Depth From:	
Depth To:	4.5
Casing Diameter:	
Casing Diameter UOM:	
Casing Depth UOM:	m
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--	--
Construction Record - Screen	
--	--
Screen ID:	1002808842
Layer:	
Slot:	
Screen Top Depth:	4.5
Screen End Depth:	6.1
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	
Screen Diameter:	
--	--
Well Yield Testing	
--	--
Pump Test ID:	1002808844
Pump Set At:	
Static Level:	4.1
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	m
Rate UOM:	
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	
--	--
Hole Diameter	
--	--
Hole ID:	1002808838
Diameter:	20
Depth From:	
Depth To:	6.1
Hole Depth UOM:	m
Hole Diameter UOM:	cm
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Bore Hole ID:	1002808827
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	13-JUN-09
Remarks:	
Zone:	18
East 83:	450086
North 83:	5032739

UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	92.34
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
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Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002808831
Layer:	
Plug From:	
Plug To:	
Plug Depth UOM:	
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002808830
Method Construction Code:	
Method Construction:	
Other Method Construction:	HSA
--	--
Pipe Information	
--	--
Pipe ID:	1002808832
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002808834
Layer:	
Open Hole or Material:	PLASTIC
Depth From:	
Depth To:	3.6
Casing Diameter:	
Casing Diameter UOM:	
Casing Depth UOM:	m
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--	--
Construction Record - Screen	
--	--
Screen ID:	1002808833
Layer:	
Slot:	
Screen Top Depth:	3.6
Screen End Depth:	6.6
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	
Screen Diameter:	
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Well Yield Testing	
--	--
Pump Test ID:	1002808835
Pump Set At:	

Static Level:	5.7
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	m
Rate UOM:	
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	
--	--
Hole Diameter	
--	--
Hole ID:	1002808829
Diameter:	20
Depth From:	
Depth To:	6.6
Hole Depth UOM:	m
Hole Diameter UOM:	cm
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Bore Hole ID:	1002808818
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	13-JUN-09
Remarks:	
Zone:	18
East 83:	450090
North 83:	5032733
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	92.1
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
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Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002808822
Layer:	
Plug From:	
Plug To:	
Plug Depth UOM:	
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002808821
Method Construction Code:	
Method Construction:	
Other Method Construction:	HSA
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Pipe Information	
--	--
Pipe ID:	1002808823
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002808825
Layer:	
Open Hole or Material:	PLASTIC
Depth From:	
Depth To:	2
Casing Diameter:	
Casing Diameter UOM:	
Casing Depth UOM:	m
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--	--
Construction Record - Screen	
--	--
Screen ID:	1002808824
Layer:	
Slot:	
Screen Top Depth:	2
Screen End Depth:	3.5
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	
Screen Diameter:	
--	--
Well Yield Testing	
--	--
Pump Test ID:	1002808826
Pump Set At:	
Static Level:	
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	m
Rate UOM:	
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	
--	--
Hole Diameter	
--	--
Hole ID:	1002808820
Diameter:	20
Depth From:	
Depth To:	3.5
Hole Depth UOM:	m
Hole Diameter UOM:	cm
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Bore Hole ID:	1002808809
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	05-JUN-09

Remarks:	
Zone:	18
East 83:	450098
North 83:	5032702
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	90.93
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
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Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002808813
Layer:	
Plug From:	
Plug To:	
Plug Depth UOM:	
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Method of Construction & Well Use	
--	--
Method Construction ID:	1002808812
Method Construction Code:	
Method Construction:	
Other Method Construction:	HSA
--	--
Pipe Information	
--	--
Pipe ID:	1002808814
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002808816
Layer:	
Open Hole or Material:	PLASTIC
Depth From:	
Depth To:	6.7
Casing Diameter:	
Casing Diameter UOM:	
Casing Depth UOM:	m
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--	--
Construction Record - Screen	
--	--
Screen ID:	1002808815
Layer:	
Slot:	
Screen Top Depth:	6.7
Screen End Depth:	9.7
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	
Screen Diameter:	
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Well Yield Testing	
--	--
Pump Test ID:	1002808817
Pump Set At:	
Static Level:	5.7
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	m
Rate UOM:	
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	
--	--
Hole Diameter	
--	--
Hole ID:	1002808811
Diameter:	20
Depth From:	
Depth To:	9.7
Hole Depth UOM:	m
Hole Diameter UOM:	cm
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Bore Hole ID:	1002808800
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	05-JUN-09
Remarks:	
Zone:	18
East 83:	450061
North 83:	5032757
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	92.54
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
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Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002808804
Layer:	
Plug From:	
Plug To:	
Plug Depth UOM:	
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Method of Construction & Well Use	
--	--
Method Construction ID:	1002808803

Method Construction Code:	
Method Construction:	
Other Method Construction:	HSA
--	--
Pipe Information	
--	--
Pipe ID:	1002808805
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002808807
Layer:	
Open Hole or Material:	PLASTIC
Depth From:	
Depth To:	5.5
Casing Diameter:	
Casing Diameter UOM:	
Casing Depth UOM:	m
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Construction Record - Screen	
--	--
Screen ID:	1002808806
Layer:	
Slot:	
Screen Top Depth:	5.5
Screen End Depth:	7.1
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	
Screen Diameter:	
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Well Yield Testing	
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Pump Test ID:	1002808808
Pump Set At:	
Static Level:	5.9
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	m
Rate UOM:	
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	
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Hole Diameter	
--	--
Hole ID:	1002808802
Diameter:	20
Depth From:	
Depth To:	7.1
Hole Depth UOM:	m
Hole Diameter UOM:	cm
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Bore Hole ID:	1002808791
DP2BR:	

Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	05-JUN-09
Remarks:	
Zone:	18
East 83:	450058
North 83:	5032752
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	92.41
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
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Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002808795
Layer:	
Plug From:	
Plug To:	
Plug Depth UOM:	
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002808794
Method Construction Code:	
Method Construction:	
Other Method Construction:	HSA
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Pipe Information	
--	--
Pipe ID:	1002808796
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002808798
Layer:	
Open Hole or Material:	PLASTIC
Depth From:	
Depth To:	5.5
Casing Diameter:	
Casing Diameter UOM:	
Casing Depth UOM:	m
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Construction Record - Screen	
--	--
Screen ID:	1002808797
Layer:	
Slot:	
Screen Top Depth:	5.5
Screen End Depth:	8.5
Screen Material:	

Screen Depth UOM:	m
Screen Diameter UOM:	
Screen Diameter:	
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Well Yield Testing	
--	--
Pump Test ID:	1002808799
Pump Set At:	
Static Level:	6.3
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	m
Rate UOM:	
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	
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Hole Diameter	
--	--
Hole ID:	1002808793
Diameter:	20
Depth From:	
Depth To:	8.5
Hole Depth UOM:	m
Hole Diameter UOM:	cm
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Bore Hole ID:	1002808782
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	05-JUN-09
Remarks:	
Zone:	18
East 83:	450065
North 83:	5032756
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	92.58
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
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Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002808786
Layer:	
Plug From:	
Plug To:	
Plug Depth UOM:	
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Method of Construction & Well Use	
--	--
Method Construction ID:	1002808785
Method Construction Code:	
Method Construction:	
Other Method Construction:	HSA
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Pipe Information	
--	--
Pipe ID:	1002808787
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002808789
Layer:	
Open Hole or Material:	PLASTIC
Depth From:	
Depth To:	2.8
Casing Diameter:	
Casing Diameter UOM:	
Casing Depth UOM:	m
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Construction Record - Screen	
--	--
Screen ID:	1002808788
Layer:	
Slot:	
Screen Top Depth:	2.8
Screen End Depth:	4.3
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	
Screen Diameter:	
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Well Yield Testing	
--	--
Pump Test ID:	1002808790
Pump Set At:	
Static Level:	
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	m
Rate UOM:	
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	
--	--
Hole Diameter	
--	--
Hole ID:	1002808784
Diameter:	20
Depth From:	
Depth To:	4.3
Hole Depth UOM:	m
Hole Diameter UOM:	cm

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Bore Hole ID:	1002808773
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	13-JUN-09
Remarks:	
Zone:	18
East 83:	450070
North 83:	5032766
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	92.87
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
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Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002808777
Layer:	
Plug From:	
Plug To:	
Plug Depth UOM:	
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002808776
Method Construction Code:	
Method Construction:	
Other Method Construction:	HSA
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Pipe Information	
--	--
Pipe ID:	1002808778
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002808780
Layer:	
Open Hole or Material:	PLASTIC
Depth From:	
Depth To:	3.5
Casing Diameter:	
Casing Diameter UOM:	
Casing Depth UOM:	m
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Construction Record - Screen	
--	--
Screen ID:	1002808779
Layer:	

Slot:	
Screen Top Depth:	3.5
Screen End Depth:	6.5
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	
Screen Diameter:	
--	--
Well Yield Testing	
--	--
Pump Test ID:	1002808781
Pump Set At:	
Static Level:	
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	m
Rate UOM:	
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	
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Hole Diameter	
--	--
Hole ID:	1002808775
Diameter:	20
Depth From:	
Depth To:	6.5
Hole Depth UOM:	m
Hole Diameter UOM:	cm
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Bore Hole ID:	1002808764
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	06-JUN-09
Remarks:	
Zone:	18
East 83:	450102
North 83:	5032763
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	93.42
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
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Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002808768
Layer:	

Plug From:	
Plug To:	
Plug Depth UOM:	
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Method of Construction & Well Use	
--	--
Method Construction ID:	1002808767
Method Construction Code:	
Method Construction:	
Other Method Construction:	HSA/DIA
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Pipe Information	
--	--
Pipe ID:	1002808769
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002808771
Layer:	
Open Hole or Material:	PLASTIC
Depth From:	
Depth To:	7.2
Casing Diameter:	
Casing Diameter UOM:	
Casing Depth UOM:	m
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--	--
Construction Record - Screen	
--	--
Screen ID:	1002808770
Layer:	
Slot:	
Screen Top Depth:	7.2
Screen End Depth:	10.2
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	
Screen Diameter:	
--	--
Well Yield Testing	
--	--
Pump Test ID:	1002808772
Pump Set At:	
Static Level:	6
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	m
Rate UOM:	
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	
--	--
Hole Diameter	
--	--
Hole ID:	1002808766
Diameter:	20

Depth From:	
Depth To:	10.2
Hole Depth UOM:	m
Hole Diameter UOM:	cm
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59 **1 of 1** **NW/248.0** **90.6** **ON** **WWIS**

Well ID:	7127698	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Monitoring	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Observation Wells	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	1002661436
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	21-FEB-09
Remarks:	
Zone:	18
East 83:	450124
North 83:	5032728
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	91.43
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	1002929696
Layer:	1
General Color:	GREY
Most Common Material:	CLAY
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	9.75
Formation End Depth UOM:	ft
--	--
Formation ID:	1002929697
Layer:	2
General Color:	GREY
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	9.75

Formation End Depth:	12.8
Formation End Depth UOM:	ft
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002929700
Layer:	1
Plug From:	10.6
Plug To:	0
Plug Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002929705
Method Construction Code:	5
Method Construction:	Air Percussion
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	1002929695
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002929702
Layer:	1
Open Hole or Material:	STEEL
Depth From:	0
Depth To:	10.6
Casing Diameter:	15.55
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1002929703
Layer:	
Slot:	
Screen Top Depth:	
Screen End Depth:	
Screen Material:	
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	
--	--
Hole Diameter	
--	--
Hole ID:	1002929698
Diameter:	15.55
Depth From:	0
Depth To:	10.6
Hole Depth UOM:	ft
Hole Diameter UOM:	inch
--	--
Hole ID:	1002929699
Diameter:	15.23
Depth From:	10.6
Depth To:	12.8
Hole Depth UOM:	ft
Hole Diameter UOM:	inch

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
--		--			
--		--			

60 **1 of 1** **WNW/253.6** **90.7** **Ottawa ON** **WWIS**

Well ID:	7122746	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Monitoring and Test Hole	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Monitoring and Test Hole	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	1002422200
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	04-APR-09
Remarks:	
Zone:	18
East 83:	450062
North 83:	5032663
UTMRC:	4
UTMRC Description:	margin of error : 30 m - 100 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	90.05
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	1002550002
Layer:	1
General Color:	GREY
Most Common Material:	GRAVEL
Other Materials:	SILT
Other Materials:	HARD
Formation Top Depth:	0
Formation End Depth:	3.1
Formation End Depth UOM:	m
--	--
Formation ID:	1002550003
Layer:	2
General Color:	GREY
Most Common Material:	SILT
Other Materials:	CLAY
Other Materials:	SOFT
Formation Top Depth:	3.1
Formation End Depth:	5.49
Formation End Depth UOM:	m
--	--

Annular Space/Abandonment

Sealing Record
-- --
Plug ID: 1002550005
Layer: 1
Plug From: 0
Plug To: .31
Plug Depth UOM: m
-- --
Plug ID: 1002550006
Layer: 2
Plug From: .31
Plug To: 2.74
Plug Depth UOM: m
-- --
Plug ID: 1002550007
Layer: 3
Plug From: 2.74
Plug To: 5.49
Plug Depth UOM: m
-- --
Method of Construction & Well Use
-- --
Method Construction ID: 1002550013
Method Construction Code: D
Method Construction: Direct Push
Other Method Construction:
-- --
Pipe Information
-- --
Pipe ID: 1002550001
Casing Number: 0
Comment:
Alt Name:
-- --
Construction Record - Casing
-- --
Casing ID: 1002550009
Layer: 1
Open Hole or Material: PLASTIC
Depth From: 0
Depth To: 2.44
Casing Diameter: 4.03
Casing Diameter UOM: cm
Casing Depth UOM: m
-- --
-- --
Construction Record - Screen
-- --
Screen ID: 1002550010
Layer: 1
Slot: 10
Screen Top Depth: 2.44
Screen End Depth: 5.49
Screen Material: 5
Screen Depth UOM: m
Screen Diameter UOM: cm
Screen Diameter: 4.82
-- --
Hole Diameter
-- --
Hole ID: 1002550004
Diameter: 8.25
Depth From: 0
Depth To: 5.49
Hole Depth UOM: m

Hole Diameter UOM:	cm
--	--
--	--

---

61 **1 of 1** **NNE/255.6** **104.9** **ON** **WWIS**

Well ID:	1508176	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Domestic	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Water Supply	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	10030211
DP2BR:	3
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	13-OCT-52
Remarks:	
Zone:	18
East 83:	450440.7
North 83:	5032833
UTMRC:	9
UTMRC Description:	unknown UTM
Location Method:	p9
Org CS:	
Elevation:	103.32
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	931008985
Layer:	1
General Color:	
Most Common Material:	MEDIUM SAND
Other Materials:	GRAVEL
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	3
Formation End Depth UOM:	ft
--	--
Formation ID:	931008986
Layer:	2
General Color:	WHITE
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	3
Formation End Depth:	143
Formation End Depth UOM:	ft
--	--

Method of Construction & Well Use
-- --
Method Construction ID: 961508176
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:
-- --
Pipe Information
-- --
Pipe ID: 10578781
Casing Number: 1
Comment:
Alt Name:
-- --
Construction Record - Casing
-- --
Casing ID: 930053080
Layer: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 20
Casing Diameter: 6
Casing Diameter UOM: inch
Casing Depth UOM: ft
-- --
Casing ID: 930053081
Layer: 2
Open Hole or Material: OPEN HOLE
Depth From:
Depth To: 143
Casing Diameter: 6
Casing Diameter UOM: inch
Casing Depth UOM: ft
-- --
Well Yield Testing
-- --
Pump Test ID: 991508176
Pump Set At:
Static Level: 20
Final Level After Pumping: 30
Recommended Pump Depth:
Pumping Rate: 5
Flowing Rate:
Recommended Pump Rate:
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 1
Pumping Duration HR: 0
Pumping Duration MIN: 30
Flowing: N
-- --
Water Details
-- --
Water ID: 933462576
Layer: 1
Kind Code: 5
Kind: Not stated
Water Found Depth: 60
Water Found Depth UOM: ft
-- --
Water ID: 933462577
Layer: 2
Kind Code: 5

Kind:	Not stated
Water Found Depth:	80
Water Found Depth UOM:	ft
--	--
Water ID:	933462578
Layer:	3
Kind Code:	5
Kind:	Not stated
Water Found Depth:	135
Water Found Depth UOM:	ft
--	--
--	--

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
62	1 of 1	NE/257.4	104.7	860 Blackthorne Avenue Ottawa ON K1K 3Y7	EHS

Postal Code:	
City:	
Address2:	
Address1:	
Provstate:	
Order No.:	20070326020
Addit. Info Ordered::	Fire Insur. Maps And /or Site Plans
Report Date:	4/4/2007
Report Type:	CAN - Custom Report
Search Radius (km):	0.25

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
63	1 of 1	NW/259.8	91.1	con 6 OTTAWA ON	WWIS

Well ID:	7113116	**Lot:**	
Construction Date::		**Concession:**	06
Primary Water Use::		**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Abandoned-Other	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	GLOUCESTER TOWNSHIP	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	1001837096
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	22-AUG-08
Remarks:	
Zone:	18
East 83:	450084
North 83:	5032705
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	91.4
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	

Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	1002432180
Layer:	1
General Color:	
Most Common Material:	
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	100
Formation End Depth UOM:	ft
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002432182
Layer:	1
Plug From:	100
Plug To:	0
Plug Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002432186
Method Construction Code:	
Method Construction:	
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	1002432179
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002432184
Layer:	
Open Hole or Material:	
Depth From:	
Depth To:	
Casing Diameter:	
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1002432185
Layer:	
Slot:	
Screen Top Depth:	
Screen End Depth:	
Screen Material:	
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	
--	--
Hole Diameter	
--	--
Hole ID:	1002432181

Diameter:	
Depth From:	
Depth To:	
Hole Depth UOM:	ft
Hole Diameter UOM:	inch
--	--
--	--

64 **1 of 1** **WNW/260.5** **91.1** **Ottawa ON** **WWIS**

Well ID:	7122745	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Monitoring and Test Hole	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Monitoring and Test Hole	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	1002422197
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	05-APR-09
Remarks:	
Zone:	18
East 83:	450065
North 83:	5032681
UTMRC:	4
UTMRC Description:	margin of error : 30 m - 100 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	90.31
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	1002549985
Layer:	1
General Color:	BROWN
Most Common Material:	FILL
Other Materials:	GRAVEL
Other Materials:	LOOSE
Formation Top Depth:	0
Formation End Depth:	.61
Formation End Depth UOM:	m
--	--
Formation ID:	1002549986
Layer:	2
General Color:	BROWN
Most Common Material:	SILT
Other Materials:	CLAY
Other Materials:	DENSE

Formation Top Depth:	.61
Formation End Depth:	2.94
Formation End Depth UOM:	m
--	--
Formation ID:	1002549987
Layer:	3
General Color:	BROWN
Most Common Material:	CLAY
Other Materials:	SILT
Other Materials:	DENSE
Formation Top Depth:	2.94
Formation End Depth:	3.66
Formation End Depth UOM:	m
--	--
Formation ID:	1002549988
Layer:	4
General Color:	GREY
Most Common Material:	CLAY
Other Materials:	SILT
Other Materials:	WATER-BEARING
Formation Top Depth:	3.66
Formation End Depth:	7.01
Formation End Depth UOM:	m
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002549990
Layer:	1
Plug From:	0
Plug To:	.3
Plug Depth UOM:	m
--	--
Plug ID:	1002549991
Layer:	2
Plug From:	.3
Plug To:	3.66
Plug Depth UOM:	m
--	--
Plug ID:	1002549992
Layer:	3
Plug From:	3.66
Plug To:	7.01
Plug Depth UOM:	m
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002549998
Method Construction Code:	D
Method Construction:	Direct Push
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	1002549984
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002549994
Layer:	1
Open Hole or Material:	PLASTIC
Depth From:	0

Depth To:	3.96
Casing Diameter:	4.03
Casing Diameter UOM:	cm
Casing Depth UOM:	m
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1002549995
Layer:	1
Slot:	10
Screen Top Depth:	3.96
Screen End Depth:	7.01
Screen Material:	5
Screen Depth UOM:	m
Screen Diameter UOM:	cm
Screen Diameter:	4.82
--	--
Hole Diameter	
--	--
Hole ID:	1002549989
Diameter:	8.25
Depth From:	0
Depth To:	7.01
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
--	--

65 **1 of 1** **NW/260.5** **90.9** **ON** **WWIS**

Well ID:	7127699	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Monitoring	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Observation Wells	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information	
--	--
Bore Hole ID:	1002661456
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	21-FEB-09
Remarks:	
Zone:	18
East 83:	450090
North 83:	5032713
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	91.46
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	

Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	1002929709
Layer:	1
General Color:	GREY
Most Common Material:	CLAY
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	7.31
Formation End Depth UOM:	ft
--	--
Formation ID:	1002929710
Layer:	2
General Color:	GREY
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	7.31
Formation End Depth:	12.19
Formation End Depth UOM:	ft
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002929713
Layer:	1
Plug From:	8.2
Plug To:	0
Plug Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002929719
Method Construction Code:	5
Method Construction:	Air Percussion
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	1002929708
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002929715
Layer:	1
Open Hole or Material:	STEEL
Depth From:	0
Depth To:	8.2
Casing Diameter:	15.55
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	1002929716
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	8.2
Depth To:	12.19
Casing Diameter:	15.23

Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1002929717
Layer:	
Slot:	
Screen Top Depth:	
Screen End Depth:	
Screen Material:	
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	
--	--
Hole Diameter	
--	--
Hole ID:	1002929711
Diameter:	15.55
Depth From:	0
Depth To:	8.2
Hole Depth UOM:	ft
Hole Diameter UOM:	inch
--	--
Hole ID:	1002929712
Diameter:	15.23
Depth From:	8.2
Depth To:	12.19
Hole Depth UOM:	ft
Hole Diameter UOM:	inch
--	--
--	--

66	***1 of 2***	***SE/263.7***	***84.5***	***Conseil des ecoles catholique du Centre-Est*** ***CECCE*** ***704 CHEMIN CARSON*** ***OTTAWA ON K1K 2H3***	***GEN***

PO Box Num:	
Status:	Registered
Country:	Canada
Generator #:	ON1285709
Approval Yrs::	As of Sep 2016
SIC Code:	
SIC Description:	

--Details--

Waste Code:	112 C
Waste Description:	Acid solutions - containing heavy metals
Waste Code:	121 C
Waste Description:	Alkaline slutions - containing heavy metals
Waste Code:	122 C
Waste Description:	Alkaline slutions - containing other metals and non-metals (not cyanide)
Waste Code:	145 L
Waste Description:	Wastes from the use of pigments, coatings and paints
Waste Code:	145 I
Waste Description:	Wastes from the use of pigments, coatings and paints
Waste Code:	146 T

Waste Description: Other specified inorganic sludges, slurries or solids

Waste Code: 148 R
Waste Description: Misc. wastes and inorganic chemicals

Waste Code: 148 I
Waste Description: Misc. wastes and inorganic chemicals

Waste Code: 148 C
Waste Description: Misc. wastes and inorganic chemicals

Waste Code: 148 B
Waste Description: Misc. wastes and inorganic chemicals

Waste Code: 148 A
Waste Description: Misc. wastes and inorganic chemicals

Waste Code: 212 B
Waste Description: Aliphatic solvents and residues

Waste Code: 213 I
Waste Description: Petroleum distillates

Waste Code: 252 T
Waste Description: Waste crankcase oils and lubricants

Waste Code: 252 L
Waste Description: Waste crankcase oils and lubricants

Waste Code: 243 D
Waste Description: PCB

Waste Code: 263 I
Waste Description: Misc. waste organic chemicals

Waste Code: 263 B
Waste Description: Misc. waste organic chemicals

Waste Code: 331 I
Waste Description: Waste compressed gases including cylinders

---

66	2 of 2	SE/263.7	84.5	Conseil des Úcoles catholique du Centre-Est 704 CHEMIN CARSON OTTAWA ON	GEN

PO Box Num:
Status:
Country:
Generator #: ON1285709
Approval Yrs:: 2013
SIC Code: 611690
SIC Description: ALL OTHER SCHOOLS AND INSTRUCTION

--Details--
Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 146
Waste Description: OTHER SPECIFIED INORGANICS

Waste Code: 122
Waste Description: ALKALINE WASTES - OTHER METALS

Waste Code: 243
Waste Description: PCBS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 331
Waste Description: WASTE COMPRESSED GASES

---

67 **1 of 1** **NE/265.9** **104.8** **ON** **BORE**

Borehole ID:	615221	**Type:**	Borehole
Use:		**Status::**	
Drill Method::		**UTM Zone::**	18
Easting::	450571	**Northing::**	5032782
Location Accuracy::		**Orig. Ground Elev m::**	102
Elev. Reliability Note::		**DEM Ground Elev m::**	103
Total Depth m::	-999	**Primary Name::**	
Township::		**Concession::**	
Lot::		**Municipality:**	
Completion Date::		**Static Water Level::**	20.9
Primary Water Use::		**Sec. Water Use::**	

--Details--

Stratum ID:	218400858	**Top Depth(m):**	0.6
Bottom Depth(m):		**Stratum Desc:**	BEDROCK. BLUE. LIMESTONE. BLACK. 00060 BEDROCK. 10DROCK. BEDROCK. BEDROCK. WAT
Stratum ID:	218400857	**Top Depth(m):**	0.0
Bottom Depth(m):	0.6	**Stratum Desc:**	SAND.

---

68 **1 of 2** **NW/267.7** **90.3** **ON** **BORE**

Borehole ID:	615213	**Type:**	Borehole
Use:		**Status::**	
Drill Method::		**UTM Zone::**	18
Easting::	450111	**Northing::**	5032742
Location Accuracy::		**Orig. Ground Elev m::**	91.4
Elev. Reliability Note::		**DEM Ground Elev m::**	92.3
Total Depth m::	34.1	**Primary Name::**	

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

Township::		***Concession::***	
Lot::		***Municipality:***	
Completion Date::	SEP-1959	***Static Water Level::***	10.2
Primary Water Use::		***Sec. Water Use::***	

--Details--

Stratum ID:	218400838	***Top Depth(m):***	0.0
Bottom Depth(m):	6.1	***Stratum Desc:***	CLAY. BLUE.
Stratum ID:	218400839	***Top Depth(m):***	6.1
Bottom Depth(m):	7.6	***Stratum Desc:***	GRAVEL.
Stratum ID:	218400840	***Top Depth(m):***	7.6
Bottom Depth(m):	34.1	***Stratum Desc:***	LIMESTONE. 0011200200E. BEDROCK. 10DROCK. BEDROCK. BEDROCK. WATER STABLE AT 266

68 ***2 of 2*** ***NW/267.7*** ***90.3*** ***ON*** ***WWIS***

Well ID:	1508418	***Lot:***	
Construction Date::		***Concession:***	
Primary Water Use::	Domestic	***Concession Name:***	
Sec. Water Use::		***Easting NAD83::***	
Final Well Status::	Water Supply	***Northing NAD83::***	
Specific Capacity::		***Zone::***	
Municipality:	OTTAWA CITY	***UTM Reliability::***	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	10030452
DP2BR:	25
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	12-SEP-59
Remarks:	
Zone:	18
East 83:	450110.7
North 83:	5032743
UTMRC:	5
UTMRC Description:	margin of error : 100 m - 300 m
Location Method:	p5
Org CS:	
Elevation:	92.31
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	931009616
Layer:	1
General Color:	BLUE
Most Common Material:	CLAY
Other Materials:	

Other Materials:	
Formation Top Depth:	0
Formation End Depth:	20
Formation End Depth UOM:	ft
--	--
Formation ID:	931009617
Layer:	2
General Color:	
Most Common Material:	GRAVEL
Other Materials:	STONES
Other Materials:	
Formation Top Depth:	20
Formation End Depth:	25
Formation End Depth UOM:	ft
--	--
Formation ID:	931009618
Layer:	3
General Color:	
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	25
Formation End Depth:	112
Formation End Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	961508418
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	10579022
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930053552
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	25
Casing Diameter:	4
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930053553
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	112
Casing Diameter:	4
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508418
Pump Set At:	
Static Level:	12
Final Level After Pumping:	72

Recommended Pump Depth:	40
Pumping Rate:	8
Flowing Rate:	
Recommended Pump Rate:	5
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	2
Water State After Test:	CLOUDY
Pumping Test Method:	1
Pumping Duration HR:	1
Pumping Duration MIN:	0
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933462913
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	112
Water Found Depth UOM:	ft
--	--
--	--

69 **1 of 1** **NW/274.5** **90.7** **ON** **WWIS**

Well ID:	7127697	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Monitoring	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Observation Wells	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information	
--	--
Bore Hole ID:	1002661433
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	21-FEB-09
Remarks:	
Zone:	18
East 83:	450118
North 83:	5032757
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	92.87
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--

Formation ID:	1002929682
Layer:	1
General Color:	GREY
Most Common Material:	CLAY
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	8.5
Formation End Depth UOM:	m
--	--
Formation ID:	1002929683
Layer:	2
General Color:	GREY
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	8.5
Formation End Depth:	13.5
Formation End Depth UOM:	m
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002929686
Layer:	1
Plug From:	9.4
Plug To:	0
Plug Depth UOM:	m
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002929692
Method Construction Code:	5
Method Construction:	Air Percussion
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	1002929681
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002929688
Layer:	1
Open Hole or Material:	STEEL
Depth From:	0
Depth To:	9.4
Casing Diameter:	15.55
Casing Diameter UOM:	cm
Casing Depth UOM:	m
--	--
Casing ID:	1002929689
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	9.4
Depth To:	13.5
Casing Diameter:	15.23
Casing Diameter UOM:	cm
Casing Depth UOM:	m
--	--
--	--
Construction Record - Screen	

--	--
Screen ID:	1002929690
Layer:	1
Slot:	
Screen Top Depth:	
Screen End Depth:	
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	cm
Screen Diameter:	
--	--
Hole Diameter	
--	--
Hole ID:	1002929684
Diameter:	15.55
Depth From:	0
Depth To:	9.4
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
Hole ID:	1002929685
Diameter:	15.23
Depth From:	9.4
Depth To:	13.5
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
--	--

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70 **1 of 1** **W/275.5** **83.5** **ON** **BORE**

Borehole ID:	805171	Type:	Borehole
Use:	Geotechnical/Geological Investigation	Status::	
Drill Method::	Boring	UTM Zone::	18
Easting::	450020.29	Northing::	5032451.29
Location Accuracy::		Orig. Ground Elev m::	83.8
Elev. Reliability Note::		DEM Ground Elev m::	84.8
Total Depth m::	7.6	Primary Name::	BH 1
Township::		Concession::	
Lot::		Municipality:	
Completion Date::	21-JAN-1969	Static Water Level::	-999.9
Primary Water Use::		Sec. Water Use::	

--Details--

Stratum ID:	218583511	Top Depth(m):	0.0
Bottom Depth(m):	0.2	Stratum Desc:	Dark Brown Topsoil
Stratum ID:	218583512	Top Depth(m):	0.2
Bottom Depth(m):	1.8	Stratum Desc:	Brown Compact Sand With: Gr
Stratum ID:	218583513	Top Depth(m):	1.8
Bottom Depth(m):	2.6	Stratum Desc:	Light Brown Compact Silt - Sand
Stratum ID:	218583514	Top Depth(m):	2.6
Bottom Depth(m):	4.7	Stratum Desc:	Brown Compact to Loose Sand With: Gr
Stratum ID:	218583515	Top Depth(m):	4.7
Bottom Depth(m):	6.1	Stratum Desc:	Brown Very Dense Till sand silt With: Gr Trace: Cl
Stratum ID:	218583516	Top Depth(m):	6.1
Bottom Depth(m):	7.6	Stratum Desc:	Black Bedrock Shale

71 1 of 1 WSW/276.1 82.9 ON BORE

Borehole ID:	805178	**Type:**	Borehole
Use:	Geotechnical/Geological Investigation	**Status::**	
Drill Method::	Boring	**UTM Zone::**	18
Easting::	450034.39	**Northing::**	5032415.03
Location Accuracy::		**Orig. Ground Elev m::**	83.6
Elev. Reliability Note::		**DEM Ground Elev m::**	83.8
Total Depth m::	7.2	**Primary Name::**	BH 3
Township::		**Concession::**	
Lot::		**Municipality:**	
Completion Date::	22-JAN-1969	**Static Water Level::**	6.2
Primary Water Use::		**Sec. Water Use::**	

--Details--

Stratum ID:	218583537	**Top Depth(m):**	0.0
Bottom Depth(m):	0.2	**Stratum Desc:**	Dark Brown Topsoil
Stratum ID:	218583538	**Top Depth(m):**	0.2
Bottom Depth(m):	2.0	**Stratum Desc:**	Brown Compact Sand Trace: Si
Stratum ID:	218583539	**Top Depth(m):**	2.0
Bottom Depth(m):	2.7	**Stratum Desc:**	Brown Compact Sand With: Gr
Stratum ID:	218583540	**Top Depth(m):**	2.7
Bottom Depth(m):	3.2	**Stratum Desc:**	Brown Compact Silt - Sand
Stratum ID:	218583541	**Top Depth(m):**	3.2
Bottom Depth(m):	5.9	**Stratum Desc:**	Compact Sand With: Gr
Stratum ID:	218583542	**Top Depth(m):**	5.9
Bottom Depth(m):	6.4	**Stratum Desc:**	Very Dense Sand - Gravel
Stratum ID:	218583543	**Top Depth(m):**	6.4
Bottom Depth(m):	7.0	**Stratum Desc:**	Very Dense Till sand silt
Stratum ID:	218583544	**Top Depth(m):**	7.0
Bottom Depth(m):	7.2	**Stratum Desc:**	Black Bedrock Shale

72 1 of 1 WSW/276.4 83.2 ON BORE

Borehole ID:	615189	**Type:**	Borehole
Use:		**Status::**	
Drill Method::		**UTM Zone::**	18
Easting::	450031	**Northing::**	5032422
Location Accuracy::		**Orig. Ground Elev m::**	83.8
Elev. Reliability Note::		**DEM Ground Elev m::**	83.9
Total Depth m::	-999	**Primary Name::**	
Township::		**Concession::**	
Lot::		**Municipality:**	
Completion Date::	JAN-1969	**Static Water Level::**	1.5
Primary Water Use::		**Sec. Water Use::**	

--Details--

Stratum ID:	218400767	**Top Depth(m):**	0.0
Bottom Depth(m):	0.2	**Stratum Desc:**	SOIL.
Stratum ID:	218400768	**Top Depth(m):**	0.2
Bottom Depth(m):	1.8	**Stratum Desc:**	SAND.

Stratum ID:	218400769	**Top Depth(m):**	1.8
Bottom Depth(m):	2.6	**Stratum Desc:**	SILT. BROWN, WATER STABLE AT 270.0 FEET.
Stratum ID:	218400770	**Top Depth(m):**	2.6
Bottom Depth(m):	4.7	**Stratum Desc:**	SAND.
Stratum ID:	218400771	**Top Depth(m):**	4.7
Bottom Depth(m):	6.1	**Stratum Desc:**	TILL.
Stratum ID:	218400772	**Top Depth(m):**	6.1
Bottom Depth(m):		**Stratum Desc:**	BEDROCK. BLACK. . WEATHERED. BEDROCK. BEDROCK. 00010 020 00025 015 00125 010

73 **1 of 1** **NE/276.5** **104.6** **ON** **WWIS**

Well ID:	1508820	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Domestic	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Water Supply	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	10030854
DP2BR:	2
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	20-JAN-50
Remarks:	
Zone:	18
East 83:	450585.7
North 83:	5032783
UTMRC:	5
UTMRC Description:	margin of error : 100 m - 300 m
Location Method:	p5
Org CS:	
Elevation:	103.77
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	931010688
Layer:	1
General Color:	
Most Common Material:	TOPSOIL
Other Materials:	
Other Materials:	
Formation Top Depth:	0

Formation End Depth:	2
Formation End Depth UOM:	ft
--	--
Formation ID:	931010689
Layer:	2
General Color:	BLUE
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	2
Formation End Depth:	50
Formation End Depth UOM:	ft
--	--
Formation ID:	931010690
Layer:	3
General Color:	WHITE
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	50
Formation End Depth:	200
Formation End Depth UOM:	ft
--	--
Formation ID:	931010691
Layer:	4
General Color:	BROWN
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	200
Formation End Depth:	265
Formation End Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	961508820
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	10579424
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930054339
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	19
Casing Diameter:	6
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930054340
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	265
Casing Diameter:	6
Casing Diameter UOM:	inch

Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508820
Pump Set At:	
Static Level:	65
Final Level After Pumping:	90
Recommended Pump Depth:	
Pumping Rate:	6
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	1
Pumping Duration MIN:	30
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933463505
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	100
Water Found Depth UOM:	ft
--	--
Water ID:	933463506
Layer:	2
Kind Code:	1
Kind:	FRESH
Water Found Depth:	150
Water Found Depth UOM:	ft
--	--
Water ID:	933463507
Layer:	3
Kind Code:	1
Kind:	FRESH
Water Found Depth:	250
Water Found Depth UOM:	ft
--	--
--	--

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
74	1 of 10	SE/279.2	84.5	***CONSEIL DES ECOLES CATHOLIQUES DE LANGUE*** ***COLLEGE CATHOLIQUE SAMUEL-GENEST 704 CHEMIN CARSON*** ***OTTAWA ON K1K 2H3***	GEN

PO Box Num:	
Status:	
Country:	
Generator #:	ON1285709
Approval Yrs::	99,00,01
SIC Code:	8511
SIC Description:	ELEMT./SECON. EDUC.

--Details--

Waste Code:	148
Waste Description:	INORGANIC LABORATORY CHEMICALS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 243
Waste Description: PCB'S

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

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74 | **2 of 10** | **SE/279.2** | **84.5** | **Conseil des Úcoles catholique du Centre-Est**
704 CHEMIN CARSON
OTTAWA ON K1K 2H3 | **GEN**

PO Box Num:
Status:
Country:
Generator #: ON1285709
Approval Yrs:: 2012
SIC Code: 611690
SIC Description: All Other Schools and Instruction

--Details--
Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 243
Waste Description: PCBS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

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74 | **3 of 10** | **SE/279.2** | **84.5** | **Conseil des Úcoles catholique du Centre-Est**
704 CHEMIN CARSON
OTTAWA ON | **GEN**

PO Box Num:
Status:

Country:
Generator #: ON1285709
Approval Yrs:: 2011
SIC Code: 611690
SIC Description: All Other Schools and Instruction

--Details--
Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 243
Waste Description: PCBS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

74	4 of 10	SE/279.2	84.5	Conseil des ecoles catholique du Centre-Est CECCE 704 CHEMIN CARSON OTTAWA ON K1K 2H3	GEN

PO Box Num:
Status:
Country:
Generator #: ON1285709
Approval Yrs:: As of May 2015
SIC Code:
SIC Description:

--Details--
Waste Code: 213
Waste Description: Petroleum distillates

Waste Code: 331
Waste Description: Waste compressed gases including cylinders

Waste Code: 243
Waste Description: PCB

Waste Code: 263
Waste Description: Misc. waste organic chemicals

Waste Code: 121
Waste Description: Alkaline slutions - containing heavy metals

Waste Code: 112
Waste Description: Acid solutions - containing heavy metals

Waste Code: 146
Waste Description: Other specified inorganic sludges, slurries or solids

Waste Code: 212
Waste Description: Aliphatic solvents and residues

Waste Code: 145
Waste Description: Wastes from the use of pigments, coatings and paints

Waste Code: 122
Waste Description: Alkaline slutions - containing other metals and non-metals (not cyanide)

Waste Code: 252
Waste Description: Waste crankcase oils and lubricants

Waste Code: 148
Waste Description: Misc. wastes and inorganic chemicals

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74 | **5 of 10** | **SE/279.2** | **84.5** | **Conseil des Úcoles catholique du Centre-Est**
704 CHEMIN CARSON
OTTAWA ON | **GEN**

PO Box Num:
Status:
Country:
Generator #: ON1285709
Approval Yrs:: 2010
SIC Code: 611690
SIC Description: All Other Schools and Instruction

--Details--
Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 243
Waste Description: PCBS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
74	6 of 10	SE/279.2	84.5	Conseil des Úcoles catholique du Centre-Est 704 CHEMIN CARSON OTTAWA ON	GEN

PO Box Num:
Status:
Country:
Generator #: ON1285709
Approval Yrs:: 2009
SIC Code: 611690
SIC Description: All Other Schools and Instruction

--Details--
Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 243
Waste Description: PCBS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
74	7 of 10	SE/279.2	84.5	SIR WILFRID LAURIER HIGH SCHOOL 704 CARSON RD OTTAWA ON K1K 2H3	GEN

PO Box Num:
Status:
Country:
Generator #: ON0277300
Approval Yrs:: 86,87,88,89,90,92,93,94
SIC Code: 0000
SIC Description: *** NOT DEFINED ***

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
74	8 of 10	SE/279.2	84.5	CARLETON (OUT OF BUSINESS) 08-902 SIR WILFRED LAURIER HIGH SCHOOL 704 CARSON ROAD OTTAWA ON K1K 2H3	GEN

PO Box Num:
Status:
Country:

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

Generator #: ON0051007
Approval Yrs:: 92,93,94,95,96,97,98
SIC Code: 8511
SIC Description: ELEMT./SECON. EDUC.

--Details--
Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
74	9 of 10	SE/279.2	84.5	CONSEIL DES ECOLES CATHOLIQUES DE LANGUE 704 CHEMIN CARSON OTTAWA ON K1K 2H3	GEN

PO Box Num:
Status:
Country:
Generator #: ON1285709
Approval Yrs:: 02,03,04,05,06,07,08
SIC Code:
SIC Description:

--Details--
Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 243
Waste Description: PCB'S

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
74	10 of 10	SE/279.2	84.5	CONSEIL DES ECOLES CATHOLIQUES DE LANGUE COLLEGE CATHOLIQUE SAMUEL-GENEST 704, CHEMIN CARSON OTTAWA ON K1K 2H3	GEN

PO Box Num:
Status:
Country:
Generator #: ON1285709
Approval Yrs:: 92,93,94,95,96,97,98

SIC Code: 8511
SIC Description: ELEMT./SECON. EDUC.

--Details--
Waste Code: 243
Waste Description: PCB'S

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

---

75 **1 of 1** **N/280.8** **98.3** **ON** **WWIS**

Well ID: 1508181
Construction Date::
Primary Water Use:: Domestic
Sec. Water Use::
Final Well Status:: Water Supply
Specific Capacity::
Municipality: OTTAWA CITY
County: OTTAWA-CARLETON

Lot:
Concession:
Concession Name:
Easting NAD83::
Northing NAD83::
Zone::
UTM Reliability::

Bore Hole Information
-- --
Bore Hole ID: 10030216
DP2BR: 12
Code OB: r
Code OB Description: Bedrock
Open Hole:
Date Completed: 27-JUL-56
Remarks:
Zone: 18
East 83: 450325.7
North 83: 5032853
UTMRC: 9
UTMRC Description: unknown UTM
Location Method: p9
Org CS:
Elevation: 97.71
Elevrc:
Elevrc Description:
Location Source Date:
Source Revision Comment:
Improvement Location Source:
Improvement Location Method:
Supplier Comment:
Spatial Status:
-- --
Overburden and Bedrock Materials Interval
-- --
Formation ID: 931008995
Layer: 1
General Color:
Most Common Material: TOPSOIL
Other Materials: MEDIUM SAND
Other Materials:
Formation Top Depth: 0
Formation End Depth: 12
Formation End Depth UOM: ft

--	--
Formation ID:	931008996
Layer:	2
General Color:	
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	12
Formation End Depth:	136
Formation End Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	961508181
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	10578786
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930053090
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	18
Casing Diameter:	5
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930053091
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	136
Casing Diameter:	5
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508181
Pump Set At:	
Static Level:	20
Final Level After Pumping:	40
Recommended Pump Depth:	
Pumping Rate:	5
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	0
Pumping Duration MIN:	30
Flowing:	N
--	--
Water Details	

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

--	--
Water ID:	933462585
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	136
Water Found Depth UOM:	ft
--	--
--	--

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
76	1 of 1	NW/281.2	93.0	528 Langs Road GLOUCESTER ON	EHS

Postal Code:	
City:	
Address2:	
Address1:	
Provstate:	
Order No.:	20060920008w
Addit. Info Ordered::	
Report Date:	9/20/2006
Report Type:	Online Mapless
Search Radius (km):	0.25

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
77	1 of 1	E/281.7	91.0	519078 ONTARIO INC. 651-655 CARSON'S ROAD (SWM) OTTAWA CITY ON K1K 2G9	CA

Certificate #:	3-0471-96-
Application Year:	96
Issue Date:	5/22/1996
Approval Type:	Municipal sewage
Status:	Approved
Application Type:	
Client Name::	
Client Address::	
Client City::	
Client Postal Code::	
Project Description::	
Contaminants::	
Emission Control::	

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
78	1 of 1	N/282.1	103.8	ON	WWIS

Well ID:	1508823	Lot:	
Construction Date::		Concession:	
Primary Water Use::	Domestic	Concession Name:	
Sec. Water Use::		Easting NAD83::	
Final Well Status::	Water Supply	Northing NAD83::	
Specific Capacity::		Zone::	
Municipality:	OTTAWA CITY	UTM Reliability::	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	10030857
DP2BR:	2
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	

Date Completed:	19-NOV-51
Remarks:	
Zone:	18
East 83:	450410.7
North 83:	5032863
UTMRC:	5
UTMRC Description:	margin of error : 100 m - 300 m
Location Method:	p5
Org CS:	
Elevation:	100.69
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	931010697
Layer:	1
General Color:	BLACK
Most Common Material:	TOPSOIL
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	2
Formation End Depth UOM:	ft
--	--
Formation ID:	931010698
Layer:	2
General Color:	WHITE
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	2
Formation End Depth:	161
Formation End Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	961508823
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	10579427
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	930054345
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	21
Casing Diameter:	5
Casing Diameter UOM:	inch

Casing Depth UOM:	ft
--	--
Casing ID:	930054346
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	161
Casing Diameter:	5
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508823
Pump Set At:	
Static Level:	18
Final Level After Pumping:	23
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933463510
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	
Water Found Depth UOM:	ft
--	--
--	--

79 **1 of 1** **W/283.5** **83.4** **ON** **BORE**

Borehole ID:	805186	**Type:**	Borehole
Use:	Geotechnical/Geological Investigation	**Status::**	
Drill Method::		**UTM Zone::**	18
Easting::	450012.3	**Northing::**	5032449.94
Location Accuracy::		**Orig. Ground Elev m::**	83.7
Elev. Reliability Note::		**DEM Ground Elev m::**	84.7
Total Depth m::	4.5	**Primary Name::**	PT A
Township::		**Concession::**	
Lot::		**Municipality:**	
Completion Date::	28-JAN-1969	**Static Water Level::**	-999.9
Primary Water Use::		**Sec. Water Use::**	

--Details--

Stratum ID:	218583572	**Top Depth(m):**	0.0
Bottom Depth(m):	0.2	**Stratum Desc:**	Topsoil
Stratum ID:	218583573	**Top Depth(m):**	0.2
Bottom Depth(m):	0.9	**Stratum Desc:**	Loose Sand
Stratum ID:	218583574	**Top Depth(m):**	0.9

Bottom Depth(m):	1.7	**Stratum Desc:**	Compact Silt - Sand
Stratum ID:	218583575	**Top Depth(m):**	1.7
Bottom Depth(m):	4.1	**Stratum Desc:**	Compact to Loose Sand
Stratum ID:	218583576	**Top Depth(m):**	4.1
Bottom Depth(m):	4.5	**Stratum Desc:**	Dense Till

---

80 *1 of 1* *WSW/287.8* *82.8* *ON* **BORE**

Borehole ID:	805184	**Type:**	Borehole
Use:	Geotechnical/Geological Investigation	**Status::**	
Drill Method::	Boring	**UTM Zone::**	18
Easting::	450021.04	**Northing::**	5032415.78
Location Accuracy::		**Orig. Ground Elev m::**	83.5
Elev. Reliability Note::		**DEM Ground Elev m::**	83.7
Total Depth m::	9.2	**Primary Name::**	BH 4
Township::		**Concession::**	
Lot::		**Municipality:**	
Completion Date::	23-JAN-1969	**Static Water Level::**	6.5
Primary Water Use::		**Sec. Water Use::**	

--Details--

Stratum ID:	218583564	**Top Depth(m):**	2.1
Bottom Depth(m):	2.4	**Stratum Desc:**	Brown Loose Silt - Sand
Stratum ID:	218583565	**Top Depth(m):**	2.4
Bottom Depth(m):	3.1	**Stratum Desc:**	Brown Loose Sand
Stratum ID:	218583566	**Top Depth(m):**	3.1
Bottom Depth(m):	6.5	**Stratum Desc:**	Brown Very Dense Sand - Gravel Occasional: Blds
Stratum ID:	218583567	**Top Depth(m):**	6.5
Bottom Depth(m):	9.2	**Stratum Desc:**	Black Bedrock Shale
Stratum ID:	218583561	**Top Depth(m):**	0.0
Bottom Depth(m):	0.2	**Stratum Desc:**	Dark Brown Topsoil
Stratum ID:	218583562	**Top Depth(m):**	0.2
Bottom Depth(m):	1.2	**Stratum Desc:**	Brown Loose Sand Trace: Si
Stratum ID:	218583563	**Top Depth(m):**	1.2
Bottom Depth(m):	2.1	**Stratum Desc:**	Brown Loose Sand With: Gr

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81 *1 of 7* *NE/288.7* *101.4* ***MALHOTRA DEV. INC.-PT.LOT 23/CONC. 1 MONTREAL RD./CARSON'S RD. OTTAWA CITY ON*** **CA**

Certificate #:	7-1458-91-
Application Year:	91
Issue Date:	11/25/1991
Approval Type:	Municipal water
Status:	Approved
Application Type:	
Client Name::	
Client Address::	
Client City::	
Client Postal Code::	
Project Description::	

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
Contaminants::					
Emission Control::					

81	2 of 7	NE/288.7	101.4	MALHOTRA DEV. INC.-PT.LOT 23, CONC. 1 MONTREAL RD./CARSON'S RD. OTTAWA CITY ON	CA

Certificate #:	3-1792-91-
Application Year:	91
Issue Date:	11/25/1991
Approval Type:	Municipal sewage
Status:	Approved
Application Type:	
Client Name::	
Client Address::	
Client City::	
Client Postal Code::	
Project Description::	
Contaminants::	
Emission Control::	

81	3 of 7	NE/288.7	101.4	Carsons Road && Montreal Rd. Lot 1 -99 (Former) Ottawa ON	RSC

Registration No:	
RSC Type:	
Restoration Type:	Generic
Date Submitted:	12/29/99
Date Acknowledg.:	01/17/00
Certification Date:	
Date Returned:	
Soil Type:	med/fine
Criteria:	Res/parkland +nonpotable
Current Property Use:	
Certificate Prop Use No:	
Intended Prop Use:	
Applicable Standards:	
Stratified (Y/N):	N
Consultant:	Robb Hudson, Winchurch Environmental Inc
District Office:	Toronto
Property Municipal Address:	
Legal Description:	
Prop. Identification No:	
Entire legal prop. (y/n):	
UTM Coordinates:	
Latitude & Longitude:	
Accuracy Estimate:	
Measurement Method:	
CPU Issued Sect 1686:	

81	4 of 7	NE/288.7	101.4	Carson's Rd && Montreal Rd Lots 1-99 and Block 100, Plan 4M-1031 and Block 1, Plan 4M-1032, Ottawa ON	RSC

Registration No:	
RSC Type:	
Restoration Type:	Generic
Date Submitted:	11/11/99

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

Date Acknowledg.:	12/29/99
Certification Date:	
Date Returned:	
Soil Type:	Fine
Criteria:	Ind/comm; nonpotable
Current Property Use:	
Certificate Prop Use No:	
Intended Prop Use:	
Applicable Standards:	
Stratified (Y/N):	N
Consultant:	Jacques Whitford Environment Limited
District Office:	York Durham
Property Municipal Address:	
Legal Description:	
Prop. Identification No:	
Entire legal prop. (y/n):	
UTM Coordinates:	
Latitude & Longitude:	
Accuracy Estimate:	
Measurement Method:	
CPU Issued Sect 1686:	

81	***5 of 7***	***NE/288.7***	***101.4***	***Carson's Road && Montreal Road Ottawa ON***	***RSC***

Registration No:	
RSC Type:	
Restoration Type:	
Date Submitted:	02/21/00
Date Acknowledg.:	03/02/00
Certification Date:	
Date Returned:	
Soil Type:	
Criteria:	Missing RSC
Current Property Use:	
Certificate Prop Use No:	
Intended Prop Use:	
Applicable Standards:	
Stratified (Y/N):	
Consultant:	John Paterson & Associates Ltd.
District Office:	Ottawa
Property Municipal Address:	
Legal Description:	
Prop. Identification No:	
Entire legal prop. (y/n):	
UTM Coordinates:	
Latitude & Longitude:	
Accuracy Estimate:	
Measurement Method:	
CPU Issued Sect 1686:	

81	***6 of 7***	***NE/288.7***	***101.4***	***Carson's Road && Montreal Road Ottawa ON***	***RSC***

Registration No:	
RSC Type:	
Restoration Type:	
Date Submitted:	02/21/00
Date Acknowledg.:	03/02/00
Certification Date:	
Date Returned:	
Soil Type:	

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

Criteria: Missing RSC
Current Property Use:
Certificate Prop Use No:
Intended Prop Use:
Applicable Standards:
Stratified (Y/N):
Consultant: John Paterson & Associates Ltd.
District Office: Ottawa
Property Municipal Address:
Legal Description:
Prop. Identification No:
Entire legal prop. (y/n):
UTM Coordinates:
Latitude & Longitude:
Accuracy Estimate:
Measurement Method:
CPU Issued Sect 1686:

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81 | ***7 of 7*** | ***NE/288.7*** | ***101.4*** | ***Montreal Road && Carson's Rd Concession 1 Gloucester ON*** | ***RSC***

Registration No:
RSC Type:
Restoration Type:
Date Submitted: 02/11/00
Date Acknowledg.:
Certification Date:
Date Returned: 02/11/00
Soil Type:
Criteria:
Current Property Use:
Certificate Prop Use No:
Intended Prop Use:
Applicable Standards:
Stratified (Y/N):
Consultant: Carlos Da Silva, John D. Paterson and Associates
District Office: Ottawa
Property Municipal Address:
Legal Description:
Prop. Identification No:
Entire legal prop. (y/n):
UTM Coordinates:
Latitude & Longitude:
Accuracy Estimate:
Measurement Method:
CPU Issued Sect 1686:

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82 | ***1 of 1*** | ***NW/290.0*** | ***90.6*** | ***lot 24 OTTAWA ON*** | ***WWIS***

Well ID: 7113118
Construction Date::
Primary Water Use::
Sec. Water Use::
Final Well Status:: Abandoned-Other
Specific Capacity::
Municipality: GLOUCESTER TOWNSHIP
County: OTTAWA-CARLETON
Lot: 024
Concession:
Concession Name:
Easting NAD83::
Northing NAD83::
Zone::
UTM Reliability::

Bore Hole Information
-- --
Bore Hole ID: 1001837102

DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	15-AUG-08
Remarks:	
Zone:	18
East 83:	450115
North 83:	5032774
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	93.45
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	1002432305
Layer:	1
General Color:	
Most Common Material:	OTHER
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	89
Formation End Depth UOM:	ft
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002432307
Layer:	1
Plug From:	89
Plug To:	0
Plug Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002432311
Method Construction Code:	
Method Construction:	
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	1002432304
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002432309
Layer:	
Open Hole or Material:	
Depth From:	

Depth To:	
Casing Diameter:	
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1002432310
Layer:	
Slot:	
Screen Top Depth:	
Screen End Depth:	
Screen Material:	
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	
--	--
Hole Diameter	
--	--
Hole ID:	1002432306
Diameter:	
Depth From:	
Depth To:	
Hole Depth UOM:	ft
Hole Diameter UOM:	inch
--	--
--	--

83 **1 of 1** **W/292.1** **83.1** **ON** **BORE**

Borehole ID:	805174	**Type:**	Borehole
Use:	Geotechnical/Geological Investigation	**Status::**	
Drill Method::	Boring	**UTM Zone::**	18
Easting::	450003.86	**Northing::**	5032448.1
Location Accuracy::		**Orig. Ground Elev m::**	83.4
Elev. Reliability Note::		**DEM Ground Elev m::**	84.6
Total Depth m::	3.4	**Primary Name::**	BH 2
Township::		**Concession::**	
Lot::		**Municipality:**	
Completion Date::	22-JAN-1969	**Static Water Level::**	3.3
Primary Water Use::		**Sec. Water Use::**	

--Details--

Stratum ID:	218583523	**Top Depth(m):**	0.0
Bottom Depth(m):	0.2	**Stratum Desc:**	Dark Brown Topsoil
Stratum ID:	218583524	**Top Depth(m):**	0.2
Bottom Depth(m):	0.8	**Stratum Desc:**	Brown Loose Sand With: Gr
Stratum ID:	218583525	**Top Depth(m):**	0.8
Bottom Depth(m):	1.7	**Stratum Desc:**	Light Brown Compact Silt - Sand
Stratum ID:	218583526	**Top Depth(m):**	1.7
Bottom Depth(m):	2.7	**Stratum Desc:**	Brown Compact to Loose Sand With: Gr
Stratum ID:	218583527	**Top Depth(m):**	2.7
Bottom Depth(m):	3.3	**Stratum Desc:**	Dense Till sand silt
Stratum ID:	218583528	**Top Depth(m):**	3.3
Bottom Depth(m):	3.4	**Stratum Desc:**	Black Bedrock Shale

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
84	1 of 1	NW/292.7	91.0	lot 6 con 3 GREELY ON	WWIS

Well ID:	7110791	**Lot:**	006
Construction Date::		**Concession:**	03
Primary Water Use::	Domestic	**Concession Name:**	
Sec. Water Use::		**Easting NAD83::**	
Final Well Status::	Water Supply	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OSGOODE TOWNSHIP	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	1001771107
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	18-AUG-08
Remarks:	
Zone:	18
East 83:	450122
North 83:	5032782
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	93.44
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--

Overburden and Bedrock Materials Interval

--	--
Formation ID:	1001858288
Layer:	1
General Color:	
Most Common Material:	SAND
Other Materials:	GRAVEL
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	4.11
Formation End Depth UOM:	m
--	--
Formation ID:	1001858289
Layer:	2
General Color:	GREY
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	4.11
Formation End Depth:	18.29
Formation End Depth UOM:	m
--	--

Annular Space/Abandonment Sealing Record

--	--
Plug ID:	1001858291

Layer:	1
Plug From:	6.1
Plug To:	3.05
Plug Depth UOM:	m
--	--
Plug ID:	1001858292
Layer:	2
Plug From:	3.05
Plug To:	0
Plug Depth UOM:	m
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1001858326
Method Construction Code:	5
Method Construction:	Air Percussion
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	1001858286
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1001858296
Layer:	1
Open Hole or Material:	STEEL
Depth From:	-6
Depth To:	6.1
Casing Diameter:	15.88
Casing Diameter UOM:	cm
Casing Depth UOM:	m
--	--
Casing ID:	1001858297
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	6.1
Depth To:	18.29
Casing Diameter:	15.55
Casing Diameter UOM:	cm
Casing Depth UOM:	m
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1001858298
Layer:	
Slot:	
Screen Top Depth:	
Screen End Depth:	
Screen Material:	
Screen Depth UOM:	m
Screen Diameter UOM:	cm
Screen Diameter:	
--	--
Well Yield Testing	
--	--
Pump Test ID:	1001858287
Pump Set At:	15.24
Static Level:	2
Final Level After Pumping:	2.15
Recommended Pump Depth:	15.24

Pumping Rate:	91
Flowing Rate:	
Recommended Pump Rate:	91
Levels UOM:	m
Rate UOM:	LPM
Water State After Test Code:	0
Water State After Test:	
Pumping Test Method:	0
Pumping Duration HR:	1
Pumping Duration MIN:	0
Flowing:	N
--	--
Draw Down & Recovery	
--	--
Pump Test Detail ID:	1001858299
Pump Test ID:	1001858287
Test Type:	Draw Down
Test Duration:	1
Test Level:	2.08
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858300
Pump Test ID:	1001858287
Test Type:	Recovery
Test Duration:	1
Test Level:	2
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858301
Pump Test ID:	1001858287
Test Type:	Draw Down
Test Duration:	2
Test Level:	2.1
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858302
Pump Test ID:	1001858287
Test Type:	Recovery
Test Duration:	2
Test Level:	2
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858303
Pump Test ID:	1001858287
Test Type:	Draw Down
Test Duration:	3
Test Level:	2.1
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858304
Pump Test ID:	1001858287
Test Type:	Recovery
Test Duration:	3
Test Level:	2
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858305
Pump Test ID:	1001858287
Test Type:	Draw Down
Test Duration:	4
Test Level:	2.1
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858306
Pump Test ID:	1001858287
Test Type:	Recovery

Test Duration:	4
Test Level:	2
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858307
Pump Test ID:	1001858287
Test Type:	Draw Down
Test Duration:	5
Test Level:	2.12
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858308
Pump Test ID:	1001858287
Test Type:	Recovery
Test Duration:	5
Test Level:	2
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858309
Pump Test ID:	1001858287
Test Type:	Draw Down
Test Duration:	10
Test Level:	2.12
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858310
Pump Test ID:	1001858287
Test Type:	Recovery
Test Duration:	10
Test Level:	2
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858311
Pump Test ID:	1001858287
Test Type:	Draw Down
Test Duration:	15
Test Level:	2.13
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858312
Pump Test ID:	1001858287
Test Type:	Recovery
Test Duration:	15
Test Level:	2
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858313
Pump Test ID:	1001858287
Test Type:	Draw Down
Test Duration:	20
Test Level:	2.14
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858314
Pump Test ID:	1001858287
Test Type:	Recovery
Test Duration:	20
Test Level:	2
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858315
Pump Test ID:	1001858287
Test Type:	Draw Down
Test Duration:	25
Test Level:	2.14
Test Level UOM:	m

--	--
Pump Test Detail ID:	1001858316
Pump Test ID:	1001858287
Test Type:	Recovery
Test Duration:	25
Test Level:	2
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858317
Pump Test ID:	1001858287
Test Type:	Draw Down
Test Duration:	30
Test Level:	2.14
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858318
Pump Test ID:	1001858287
Test Type:	Recovery
Test Duration:	30
Test Level:	2
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858319
Pump Test ID:	1001858287
Test Type:	Draw Down
Test Duration:	40
Test Level:	2.15
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858320
Pump Test ID:	1001858287
Test Type:	Recovery
Test Duration:	40
Test Level:	2
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858321
Pump Test ID:	1001858287
Test Type:	Draw Down
Test Duration:	50
Test Level:	2.15
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858322
Pump Test ID:	1001858287
Test Type:	Recovery
Test Duration:	50
Test Level:	2
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858323
Pump Test ID:	1001858287
Test Type:	Draw Down
Test Duration:	60
Test Level:	2.15
Test Level UOM:	m
--	--
Pump Test Detail ID:	1001858324
Pump Test ID:	1001858287
Test Type:	Recovery
Test Duration:	60
Test Level:	2
Test Level UOM:	m
--	--
--	--

Water Details

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

--	--
Water ID:	1001858293
Layer:	1
Kind Code:	8
Kind:	Untested
Water Found Depth:	8.84
Water Found Depth UOM:	m
--	--
Water ID:	1001858294
Layer:	2
Kind Code:	8
Kind:	Untested
Water Found Depth:	12.5
Water Found Depth UOM:	m
--	--
Water ID:	1001858295
Layer:	3
Kind Code:	8
Kind:	Untested
Water Found Depth:	16.15
Water Found Depth UOM:	m
--	--
Hole Diameter	
--	--
Hole ID:	1001858290
Diameter:	15.55
Depth From:	0
Depth To:	18.29
Hole Depth UOM:	m
Hole Diameter UOM:	cm
--	--
--	--

85 | 1 of 1 | NW/293.0 | 91.0 | lot 24 OTTAWA ON | WWIS

Well ID:	7113119	Lot:	024
Construction Date::		Concession:	
Primary Water Use::		Concession Name:	
Sec. Water Use::		Easting NAD83::	
Final Well Status::	Abandoned-Other	Northing NAD83::	
Specific Capacity::		Zone::	
Municipality:	GLOUCESTER TOWNSHIP	UTM Reliability::	
County:	OTTAWA-CARLETON		

Bore Hole Information	
--	--
Bore Hole ID:	1001837105
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	15-AUG-08
Remarks:	
Zone:	18
East 83:	450123
North 83:	5032783
UTMRC:	3
UTMRC Description:	margin of error : 10 - 30 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	93.44
Elevrc:	
Elevrc Description:	
Location Source Date:	

Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	1002432332
Layer:	1
General Color:	
Most Common Material:	OTHER
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	365
Formation End Depth UOM:	ft
--	--
Annular Space/Abandonment Sealing Record	
--	--
Plug ID:	1002432334
Layer:	1
Plug From:	365
Plug To:	0
Plug Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1002432338
Method Construction Code:	
Method Construction:	
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	1002432331
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1002432336
Layer:	
Open Hole or Material:	
Depth From:	
Depth To:	
Casing Diameter:	
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1002432337
Layer:	
Slot:	
Screen Top Depth:	
Screen End Depth:	
Screen Material:	
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB

--	--
Hole Diameter	
--	--
Hole ID:	1002432333
Diameter:	
Depth From:	
Depth To:	
Hole Depth UOM:	ft
Hole Diameter UOM:	inch
--	--
--	--

86 **1 of 1** **N/294.0** **104.1**

Ottawa ON

WWIS

Well ID:	7232407	Lot:	
Construction Date::		Concession:	
Primary Water Use::		Concession Name:	
Sec. Water Use::		Easting NAD83::	
Final Well Status::		Northing NAD83::	
Specific Capacity::		Zone::	
Municipality:	GLOUCESTER TOWNSHIP	UTM Reliability::	
County:	OTTAWA-CARLETON		

Bore Hole Information	
--	--
Bore Hole ID:	1005238266
DP2BR:	
Code OB:	
Code OB Description:	
Open Hole:	
Date Completed:	06-NOV-14
Remarks:	
Zone:	18
East 83:	450408
North 83:	5032875
UTMRC:	4
UTMRC Description:	margin of error : 30 m - 100 m
Location Method:	wwr
Org CS:	UTM83
Elevation:	
Elevrc:	
Elevrc Description:	
Location Source Date:	
Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	1005455320
Layer:	
General Color:	
Most Common Material:	
Other Materials:	
Other Materials:	
Formation Top Depth:	
Formation End Depth:	
Formation End Depth UOM:	ft
--	--
Annular Space/Abandonment Sealing Record	

--	--
Plug ID:	1005455326
Layer:	1
Plug From:	
Plug To:	120
Plug Depth UOM:	ft
--	--
Plug ID:	1005455327
Layer:	1
Plug From:	7
Plug To:	
Plug Depth UOM:	ft
--	--
Plug ID:	1005455328
Layer:	2
Plug From:	
Plug To:	
Plug Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	1005455325
Method Construction Code:	
Method Construction:	
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	1005455319
Casing Number:	0
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--
Casing ID:	1005455323
Layer:	
Open Hole or Material:	
Depth From:	
Depth To:	
Casing Diameter:	
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
--	--
Construction Record - Screen	
--	--
Screen ID:	1005455324
Layer:	
Slot:	
Screen Top Depth:	
Screen End Depth:	
Screen Material:	
Screen Depth UOM:	ft
Screen Diameter UOM:	inch
Screen Diameter:	
--	--
Hole Diameter	
--	--
Hole ID:	1005455321
Diameter:	
Depth From:	
Depth To:	
Hole Depth UOM:	ft
Hole Diameter UOM:	inch

Map Key	Number of Records	Direction/ Distance (m)	Elevation (m)	Site	DB
--		--			
--		--			

87 **1 of 1** **NNE/298.1** **105.8** **ON** **BORE**

Borehole ID:	615231	**Type:**	Borehole
Use:		**Status::**	
Drill Method::		**UTM Zone::**	18
Easting::	450541	**Northing::**	5032842
Location Accuracy::		**Orig. Ground Elev m::**	103
Elev. Reliability Note::		**DEM Ground Elev m::**	105
Total Depth m::	-999	**Primary Name::**	
Township::		**Concession::**	
Lot::		**Municipality:**	
Completion Date::		**Static Water Level::**	-999.9
Primary Water Use::		**Sec. Water Use::**	

--Details--

Stratum ID:	218400877	**Top Depth(m):**	0.0
Bottom Depth(m):	1.2	**Stratum Desc:**	CLAY.
Stratum ID:	218400878	**Top Depth(m):**	1.2
Bottom Depth(m):	4.6	**Stratum Desc:**	BEDROCK. BROKEN.
Stratum ID:	218400879	**Top Depth(m):**	4.6
Bottom Depth(m):		**Stratum Desc:**	BEDROCK. FEET.00060 BEDROCK. 10DROCK. BEDROCK. BEDROCK. WATER STABLE AT 266.4

88 **1 of 1** **WNW/299.2** **89.6** **ON** **WWIS**

Well ID:	1508415	**Lot:**	
Construction Date::		**Concession:**	
Primary Water Use::	Livestock	**Concession Name:**	
Sec. Water Use::	Domestic	**Easting NAD83::**	
Final Well Status::	Water Supply	**Northing NAD83::**	
Specific Capacity::		**Zone::**	
Municipality:	OTTAWA CITY	**UTM Reliability::**	
County:	OTTAWA-CARLETON		

Bore Hole Information

--	--
Bore Hole ID:	10030449
DP2BR:	18
Code OB:	r
Code OB Description:	Bedrock
Open Hole:	
Date Completed:	16-JUN-50
Remarks:	
Zone:	18
East 83:	450010.7
North 83:	5032663
UTMRC:	9
UTMRC Description:	unknown UTM
Location Method:	p9
Org CS:	
Elevation:	91.24
Elevrc:	
Elevrc Description:	
Location Source Date:	

Source Revision Comment:	
Improvement Location Source:	
Improvement Location Method:	
Supplier Comment:	
Spatial Status:	
--	--
Overburden and Bedrock Materials Interval	
--	--
Formation ID:	931009608
Layer:	1
General Color:	BLACK
Most Common Material:	TOPSOIL
Other Materials:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	5
Formation End Depth UOM:	ft
--	--
Formation ID:	931009609
Layer:	2
General Color:	
Most Common Material:	CLAY
Other Materials:	MEDIUM SAND
Other Materials:	STONES
Formation Top Depth:	5
Formation End Depth:	18
Formation End Depth UOM:	ft
--	--
Formation ID:	931009610
Layer:	3
General Color:	GREY
Most Common Material:	SHALE
Other Materials:	
Other Materials:	
Formation Top Depth:	18
Formation End Depth:	112
Formation End Depth UOM:	ft
--	--
Formation ID:	931009611
Layer:	4
General Color:	
Most Common Material:	LIMESTONE
Other Materials:	
Other Materials:	
Formation Top Depth:	112
Formation End Depth:	120
Formation End Depth UOM:	ft
--	--
Method of Construction & Well Use	
--	--
Method Construction ID:	961508415
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	
--	--
Pipe Information	
--	--
Pipe ID:	10579019
Casing Number:	1
Comment:	
Alt Name:	
--	--
Construction Record - Casing	
--	--

Casing ID:	930053546
Layer:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	18
Casing Diameter:	4
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Casing ID:	930053547
Layer:	2
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	120
Casing Diameter:	4
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
--	--
Well Yield Testing	
--	--
Pump Test ID:	991508415
Pump Set At:	
Static Level:	15
Final Level After Pumping:	25
Recommended Pump Depth:	
Pumping Rate:	12
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	2
Pumping Duration MIN:	0
Flowing:	N
--	--
Water Details	
--	--
Water ID:	933462910
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	120
Water Found Depth UOM:	ft
--	--
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Unplottable Summary

Total: 77 Unplottable sites

DB	Company Name/Site Name	Address	City	Postal
CA	TDL GROUP LTD., TIM HORTON'S	MONTREAL RD., BLK.57, RP 4M916	GLOUCESTER ON	
CA	TACO BELL OF CANADA	MONTREAL RD., BLKS. 43 & 45	GLOUCESTER CITY ON	
CA	1146510 ONTARIO INC.	MONTREAL RD., PT.LOT 25/C-1	OTTAWA CITY ON	
CA	MALHOTRA DEVELOPMENTS INC.-PT.LOT 23/C-1	MONTREAL RD./STM-WATER MGT.	OTTAWA CITY ON	
CA	GERALD SAVOIE C/O MONTFORT HOSPITAL	MONTREAL ROAD	OTTAWA CITY ON	
CA	GERALD SAVOIE C/O MONFORT HOSPITAL	MONTREAL ROAD	OTTAWA CITY ON	
CA		Lot 25 & 26, Concession 1	Ottawa ON	
CA		Lot 25 & 26, Concession 1	Ottawa ON	
CA	CANADA MORTGAGE & HOUSING CORP.	PT.LOTS 24&25,CYRVILLE DRAIN	GLOUCESTER CITY ON	
CA	Taggart Investments Inc.	Part of Lot 23, Concession 1, formerly Geographic Townsip of Cumberland	Ottawa ON	
CA	R.M. OF OTTAWA-CARLETON	MONTREAL RD.	GLOUCESTER CITY ON	
CA	Hydro Ottawa Limited		Ottawa ON	
CA	R.M. OF OTTAWA-CARLETON-ORLEANS RESERVOI	FOREST RIDGE PS REGIONAL RD.34	GLOUCESTER CITY ON	
CA	Canada Lands Company CLC Limited		Ottawa ON	
CA	CARA OPERATIONS LIMITED	MONTREAL RD. (HARVEY'S)	GLOUCESTER CITY ON	
CA	Ottawa-Carleton District School Board		Ottawa ON	
CONV	POMERLEAU LTD.		ON	

EHS		Montreal Rd	Ottawa ON	
EXP	DESCHENES CONSTRUCTION (ONTARIO) LTD	DOMTAR R BOYCE QUARRY LOT 25	GLOUCESTER TWP ON	
EXP	DESCHENES CONSTRUCTION (ONTARIO) LTD	DOMTAR R BOYCE QUARRY LOT 25	GLOUCESTER TWP ON	P0G 1K0
EXP	DESCHENES CONSTRUCTION (ONTARIO) LTD	DOMTAR R BOYCE QUARRY LOT 25	GLOUCESTER TWP ON	
EXP	DESCHENES CONSTRUCTION (ONTARIO) LTD	DOMTAR R BOYCE QUARRY LOT 25	GLOUCESTER TWP ON	
EXP	DESCHENES CONSTRUCTION (ONTARIO) LTD	DOMTAR R BOYCE QUARRY LOT 25	GLOUCESTER TWP ON	P0G 1K0
EXP	DESCHENES CONSTRUCTION (ONTARIO) LTD	DOMTAR R BOYCEQUARRY LOT 25	GLOUCESTER TWP ON	P0G 1K0
EXP	DESCHENES CONSTRUCTION (ONTARIO) LTD	DOMTAR R BOYCEQUARRY LOT 25	GLOUCESTER TWP ON	P0G 1K0
EXP	DIRECTOR ST LAURENT REGION	NRC MONTREAL RDBLOCK M39	OTTAWA ON	NULL
EXP	DIRECTOR ST LAURENT REGION	NRC MONTREAL RD BLOCK M39	OTTAWA ON	
EXP	DIRECTOR ST LAURENT REGION	NRC MONTREAL RD BLOCK M39	OTTAWA ON	
EXP	DIRECTOR ST LAURENT REGION	NRC MONTREAL RD BLOCK M39	OTTAWA ON	
EXP	DESCHENES CONSTRUCTION (ONTARIO) LTD	DOMTAR R BOYCE QUARRY LOT 25	GLOUCESTER TWP ON	P0G 1K0
EXP	DESCHENES CONSTRUCTION (ONTARIO) LTD	DOMTAR R BOYCE QUARRY LOT 25	GLOUCESTER TWP ON	P0G 1K0
EXP	DESCHENES CONSTRUCTION (ONTARIO) LTD	DOMTAR R BOYCEQUARRY LOT 25	GLOUCESTER TWP ON	P0G 1K0
FST	NATIONAL RESEARCH COUNCIL OF CANADA	MONTREAL RDBUILDING V-61	OTTAWA ON	NULL
FSTH	NATIONAL RESEARCH COUNCIL CANADA BUILD M 19	MONTREAL RD BUILDING V-61	OTTAWA ON	
FSTH	NATIONAL RESEARCH COUNCIL CANADA BUILD M 19	MONTREAL RD BUILDING V-61	OTTAWA ON	
GEN	NATIONAL CAPITAL COMMISSION	LOT 25,26,27	OTTAWA ON	K1P 1C7
GEN	PUBLIC WORKS CANADA - NATIONAL DEFENCE	CF PHOTO UNIT NRC MONTREAL ROAD, CAMPUS BLDG. M23	OTTAWA ON	

GEN	GVT. OF CAN. - PUBLIC WORKS CANADA18-182	MONTREAL RD,BLDG M-23 NRC,CF PHOTO UNIT LAND ENGINEERING TEST ESTABLISHMENT	OTTAWA ON	
GEN	GVT. OF CAN. - NATIONAL DEFENCE	LETE MONTREAL ROAD	OTTAWA ON	K1A 0M3
GEN	SPIC & SPAN-VALETOR-CASH CLEANERS	MONTERAL SQUARE, MONTREAL ROAD C/O 1764 WOODWARD DRIVE	OTTAWA ON	K2C 0P8
GEN	SPIC & SPAN-VALETOR-CASH CLEANERS 35-136	MONTERAL SQUARE, MONTREAL ROAD C/O 1764 WOODWARD DRIVE	OTTAWA ON	K2C 0P8
GEN	PRATT & WHITNEY CANADA INC.	M11, NRC CAMPUS MONTREAL ROAD	OTTAWA ON	
GEN	NATIONAL DEFENSE	NRC MONTREAL ROAD, CAMPUS BLDG. M23 CF PHOTO UNIT	OTTAWA ON	K1A 0M3
GEN	PUBLIC WORKS CANADA - NATIONAL DEFENCE	CF PHOTO UNIT NRC MONTREAL ROAD, CAMPUS BLDG. M23	OTTAWA ON	K1A 0K2
GEN	NATIONAL RESEARCH COUNCIL	MONTREAL ROAD CAMPUS MONTREAL ROAD	OTTAWA ON	K1A 0R6
GEN	PUBLIC WORKS CANADA - NATIONAL DEFENCE	CF PHOTO UNIT NRC MONTREAL ROAD, CAMPUS BLDG. M23	OTTAWA ON	
GEN	Hydro Ottawa Limited	Baeusoleil Manhole System	Ottawa ON	K1N 7V6
GEN	PRATT & WHITNEY CANADA INC.	M10-B, NRC CAMPUS MONTREAL ROAD	OTTAWA ON	K1A 0R6
GEN	PUBLIC WORKS CANADA - NATIONAL DEFENCE	CF PHOTO UNIT NRC MONTREAL ROAD, CAMPUS BLDG. M23	OTTAWA ON	K1A 0K2
GEN	PUBLIC WORKS CANADA - NATIONAL DEFENCE	CF PHOTO UNIT NRC MONTREAL ROAD, CAMPUS BLDG. M23	OTTAWA ON	
GEN	City of Otawa	Montreal Road from Hwy 174 to Ogilvie (including R	Ottawa ON	
GEN	GVT. OF CAN. - PUBLIC WORKS CANADA	BLDG. SERVICES-NAT'L DEFENCE, LAND ENG. TEST ESTAB'MT,BLDG.M-23,NRC,MONTR'L RD	OTTAWA ON	K1A 0K5
GEN	NATIONAL ARCHIVES OF CANADA	CODD'S ROAD C.F.B. OTTAWA NORTH	OTTAWA ON	K1A 0N3
GEN	GVT. OF CAN. - NATIONAL DEFENCE	CE PRODUCTION BUILDING 164 CODDS ROAD & VIA VENUS	OTTAWA ON	K1A 0K8
GEN	Library and Archives Canada	Codd's Road C.F.B. Ottawa North	Ottawa ON	
GEN	Canada Lands Company	Codd's Road	Ottawa ON	
GEN	Canada Lands Company	Codd's Road	Ottawa ON	
GEN	Canada Lands Company CLC Limited	Codd's Road	Ottawa ON	K1K 2G7

GEN	LIBRARY AND ARCHIVES CANADA	CODD'S ROAD C.F.B. OTTAWA NORTH	OTTAWA ON	
GEN	PUBLIC WORKS CANADA - NATIONAL DEFENCE	CF PHOTO UNIT NRC MONTREAL ROAD, CAMPUS BLDG. M23	OTTAWA ON	K1A 0K2
GEN	PUBLIC WORKS CANADA - NATIONAL DEFENCE	CF PHOTO UNIT NRC MONTREAL ROAD, CAMPUS BLDG. M23	OTTAWA ON	
GEN	GVT. OF CAN. - NATIONAL RESEARCH	COUNCIL, MONTREAL ROAD COMPLEX BUILDING M-54	OTTAWA ON	K1A 0R6
NPCB	NATIONAL RESEARCH COUNCIL	MONTREAL ROAD LABS AS. P. M. MONTREAL ROAD	OTTAWA ON	K1A 0R6
NPCB	NATIONAL RESEARCH COUNCIL	BUILDING-19/ASPM MONTREAL ROAD	OTTAWA ON	K1A 0R6
NPCB	NATIONAL RESEARCH COUNCIL	BLDG.M19. MONTREAL RD. LABS A.S.P.M. MONTREAL RD	OTTAWA ON	K1A 0R6
OPCB	NATIONAL RESEARCH COUNCIL CANADA	BUILDING M-51 MONTREAL ROAD	OTTAWA ON	
PRT	NATIONAL RESEARCH COUNCIL CANADA BUILD M 19	MONTREAL RD BUILDING V-61	OTTAWA ON	
PRT	DIRECTOR ST LAURENT REGION	NRC MONTREAL RD BLOCK M39	OTTAWA ON	
PTTW	Canada Lands Company CLC Limited	Ottawa Front Ponds Lot: 20,22,23,24,25, Concession: 1 (Ottawa Front), Geographic Township: Gloucester, City of Ottawa, CITY OF OTTAWA Gloucester	ON	
RSC		Part Lot 23, Township of Gloucester	Ottawa ON	
RSC		Part Lot 23	Ottawa ON	
SPL		Fairhaven Way, Greenhill Way runs along one side of the Quarry and Langs Rd runs	Ottawa ON	
SPL	Hydro Ottawa Limited	Gloucester	Ottawa ON	
SPL	Hydro Ottawa Limited	Kanata	Ottawa ON	
SPL	PAUL'S BACKHOE SERVICE	HWY 34 NORTH 5 - 5.5 MILES NORTH OF HWY 417 EAST 333 CHAMPLAIN ST., HAWKESBURY, ONT.	OTTAWA CITY ON	
SPL	City of Ottawa	MONTREAL RD. AND GRANVILLE<UNOFFICIAL>	Ottawa ON	
SPL	Dan Wright Equipment Rentals Ltd.	Montreal Road (East of Hwy 174)	Ottawa ON	

Unplottable Report

Site: ***TDL GROUP LTD., TIM HORTON'S***
MONTREAL RD., BLK.57, RP 4M916 GLOUCESTER ON

Database: ***CA***

Certificate #:	8-4055-98-
Application Year:	98
Issue Date:	4/9/1998
Approval Type:	Industrial air
Status:	Approved
Application Type:	
Client Name::	
Client Address::	
Client City::	
Client Postal Code::	
Project Description::	COMMERCIAL KITCHEN EXHAUST EQUIPMENT
Contaminants::	
Emission Control::	

Site: ***TACO BELL OF CANADA***
MONTREAL RD., BLKS. 43 & 45 GLOUCESTER CITY ON

Database: ***CA***

Certificate #:	8-4102-94-
Application Year:	94
Issue Date:	8/5/1994
Approval Type:	Industrial air
Status:	Approved
Application Type:	
Client Name::	
Client Address::	
Client City::	
Client Postal Code::	
Project Description::	CONDENSATE & FRYER EXHAUST HOOD
Contaminants::	Methane (Incl. Hydrocarbons Expr. As Ch4
Emission Control::	No Controls

Site: ***1146510 ONTARIO INC.***
MONTREAL RD., PT.LOT 25/C-1 OTTAWA CITY ON

Database: ***CA***

Certificate #:	4-0011-96-
Application Year:	96
Issue Date:	2/5/1996
Approval Type:	Industrial wastewater
Status:	Cancelled
Application Type:	
Client Name::	
Client Address::	
Client City::	
Client Postal Code::	
Project Description::	CONSTRUCT STORMWATER MANAGEMENT FAC.
Contaminants::	
Emission Control::	

Site: ***MALHOTRA DEVELOPMENTS INC.-PT.LOT 23/C-1***
MONTREAL RD./STM-WATER MGT. OTTAWA CITY ON

Database: ***CA***

Certificate #:	3-1791-91-

Application Year: 91
Issue Date: 4/6/1992
Approval Type: Municipal sewage
Status: Approved in 1992
Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Site: ***GERALD SAVOIE C/O MONTFORT HOSPITAL***
MONTREAL ROAD OTTAWA CITY ON

Database: ***CA***

Certificate #: 7-1184-88-
Application Year: 88
Issue Date: 8/8/1988
Approval Type: Municipal water
Status: Approved
Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Site: ***GERALD SAVOIE C/O MONFORT HOSPITAL***
MONTREAL ROAD OTTAWA CITY ON

Database: ***CA***

Certificate #: 3-1382-88-
Application Year: 88
Issue Date: 8/8/1988
Approval Type: Municipal sewage
Status: Approved
Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Site:
Lot 25 & 26, Concession 1 Ottawa ON

Database: ***CA***

Certificate #: 3510-4QHTRG
Application Year: 00
Issue Date: 10/30/00
Approval Type: Municipal & Private water
Status: Approved
Application Type: New Certificate of Approval
Client Name:: 1270449 Ontario Inc.
Client Address:: 1187 Bank Street
Client City:: Ottawa
Client Postal Code:: K1S 3X7
Project Description:: watermain construction on pooler ave, orvigale road, porter st.
Contaminants::
Emission Control::

Site:
Lot 25 & 26, Concession 1 Ottawa ON

Database: ***CA***

Certificate #:	6524-4QHTM6
Application Year:	00
Issue Date:	10/30/00
Approval Type:	Municipal & Private sewage
Status:	Approved
Application Type:	New Certificate of Approval
Client Name::	1270449 Ontario Inc.
Client Address::	1187 Bank Street
Client City::	Ottawa
Client Postal Code::	K1S 3X7
Project Description::	storm sewers construction on Saundres Ave; sanitary sewers construction on Pooler Ave, Orvigale Road, Porter St.
Contaminants::	
Emission Control::	

Site: ***CANADA MORTGAGE & HOUSING CORP.***
PT.LOTS 24&25,CYRVILLE DRAIN GLOUCESTER CITY ON

Database: ***CA***

Certificate #:	3-0449-93-
Application Year:	93
Issue Date:	6/24/1993
Approval Type:	Municipal sewage
Status:	Approved
Application Type:	
Client Name::	
Client Address::	
Client City::	
Client Postal Code::	
Project Description::	
Contaminants::	
Emission Control::	

Site: ***Taggart Investments Inc.***
Part of Lot 23, Concession 1, formerly Geographic Townsip of Cumberland Ottawa ON

Database: ***CA***

Certificate #:	5894-6G6MVY
Application Year:	2005
Issue Date:	9/26/2005
Approval Type:	Municipal and Private Sewage Works
Status:	Approved
Application Type:	
Client Name::	
Client Address::	
Client City::	
Client Postal Code::	
Project Description::	
Contaminants::	
Emission Control::	

Site: ***R.M. OF OTTAWA-CARLETON***
MONTREAL RD. GLOUCESTER CITY ON

Database: ***CA***

Certificate #:	3-1130-86-
Application Year:	86
Issue Date:	8/1/1986
Approval Type:	Municipal sewage
Status:	Approved
Application Type:	
Client Name::	

Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Site: ***Hydro Ottawa Limited***
Ottawa ON

Database: ***CA***

Certificate #: 9824-89HKHQ
Application Year: 2010
Issue Date: 10/14/2010
Approval Type: Industrial Sewage Works
Status: Approved
Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Site: ***R.M. OF OTTAWA-CARLETON-ORLEANS RESERVOI***
FOREST RIDGE PS REGIONAL RD.34 GLOUCESTER CITY ON

Database: ***CA***

Certificate #: 7-1490-87-
Application Year: 87
Issue Date: 7/6/1988
Approval Type: Municipal water
Status: Approved
Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Site: ***Canada Lands Company CLC Limited***
Ottawa ON

Database: ***CA***

Certificate #: 4783-5JNRC5
Application Year: 2003
Issue Date: 2/13/2003
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Site: ***CARA OPERATIONS LIMITED***
MONTREAL RD. (HARVEY'S) GLOUCESTER CITY ON

Database: ***CA***

Certificate #: 8-4190-96-

Application Year: 96
Issue Date: 10/24/1996
Approval Type: Industrial air
Status: Cancelled
Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description:: COMMERCIAL KITCHEN EXHAUST HOODS
Contaminants::
Emission Control::

Site: ***Ottawa-Carleton District School Board***
Ottawa ON

Database: ***CA***

Certificate #: 3668-7ZNLYJ
Application Year: 2010
Issue Date: 2/11/2010
Approval Type: Air
Status: Approved
Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Site: ***POMERLEAU LTD.***
ON

Database: ***CONV***

File No.:
Publication Title:
Publication City:
Url:
Crown Brief No.: 99-0117-0120
Ministry District: OTTAWA
Region: EASTERN REGION
Description: OPERATE A HEAVY DIESEL-FUELLED MOTOR VEHICLE THAT CONTRAVENES THE EMISSION STANDARDS.

--Details--
Publication Date:
Count: 1
Act: EPA
Regulation: 361/98
Section: 12(5)
Act/Regulation/Section: EPA-361/98-12(5)
Date Charged: 9/9/99
Charge Disposition: SUSPENDED SENTENCE
Fine: $100.00

Site:
Montreal Rd Ottawa ON

Database: ***EHS***

Postal Code:
City:
Address2:
Address1:
Provstate:
Order No.: 20080508039

Addit. Info Ordered:: Fire Insur. Maps And /or Site Plans; Title Search; Aerials Photos
Report Date: 5/26/2008
Report Type: Custom Report
Search Radius (km): 0.25

Site: ***DESCHENES CONSTRUCTION (ONTARIO) LTD***
DOMTAR R BOYCE QUARRY LOT 25 GLOUCESTER TWP ON

Database: ***EXP***

Instance No: 10763262
Instance ID: 37258
Instance Type: FS Piping
Description: FS Piping
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type:
Expired Date:

Site: ***DESCHENES CONSTRUCTION (ONTARIO) LTD***
DOMTAR R BOYCE QUARRY LOT 25 GLOUCESTER TWP ON P0G 1K0

Database: ***EXP***

Instance No: 10763238
Instance ID:
Instance Type: FS Liquid Fuel Tank
Description:
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type:
Expired Date: 5/26/1992

Site: ***DESCHENES CONSTRUCTION (ONTARIO) LTD***
DOMTAR R BOYCE QUARRY LOT 25 GLOUCESTER TWP ON

Database: ***EXP***

Instance No: 10763247
Instance ID: 37355
Instance Type: FS Piping
Description: FS Piping
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type:
Expired Date:

Site: ***DESCHENES CONSTRUCTION (ONTARIO) LTD***
DOMTAR R BOYCE QUARRY LOT 25 GLOUCESTER TWP ON

Database: ***EXP***

Instance No: 10763229
Instance ID: 37817
Instance Type: FS Piping
Description: FS Piping
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type:
Expired Date:

Site: ***DESCHENES CONSTRUCTION (ONTARIO) LTD***
DOMTAR R BOYCE QUARRY LOT 25 GLOUCESTER TWP ON P0G 1K0

Database: ***EXP***

Instance No: 9480416

Instance ID:
Instance Type: FS Facility
Description:
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type:
Expired Date: 5/26/1992

Site: ***DESCHENES CONSTRUCTION (ONTARIO) LTD***
DOMTAR R BOYCEQUARRY LOT 25 GLOUCESTER TWP ON P0G 1K0

Database: ***EXP***

Instance No: 10763238
Instance ID:
Instance Type: FS Liquid Fuel Tank
Description: FS Gasoline Station - Full Serve
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type: FS Liquid Fuel Tank
Expired Date: 5/26/1992

Site: ***DESCHENES CONSTRUCTION (ONTARIO) LTD***
DOMTAR R BOYCEQUARRY LOT 25 GLOUCESTER TWP ON P0G 1K0

Database: ***EXP***

Instance No: 10763253
Instance ID:
Instance Type: FS Liquid Fuel Tank
Description: FS Gasoline Station - Full Serve
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type: FS Liquid Fuel Tank
Expired Date: 10/3/1989

Site: ***DIRECTOR ST LAURENT REGION***
NRC MONTREAL RDBLOCK M39 OTTAWA ON NULL

Database: ***EXP***

Instance No: 10905039
Instance ID:
Instance Type: FS Liquid Fuel Tank
Description: Fuels Safety Private Fuel Outlet - Self Serve
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type: FS Liquid Fuel Tank
Expired Date: 12/20/1990

Site: ***DIRECTOR ST LAURENT REGION***
NRC MONTREAL RD BLOCK M39 OTTAWA ON

Database: ***EXP***

Instance No: 10905055
Instance ID: 50624
Instance Type: FS Piping
Description: FS Piping
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type:
Expired Date:

Site: ***DIRECTOR ST LAURENT REGION***
NRC MONTREAL RD BLOCK M39 OTTAWA ON

Database: ***EXP***

Instance No: 10905039
Instance ID:
Instance Type: FS Liquid Fuel Tank
Description:
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type:
Expired Date: 12/20/1990

Site: ***DIRECTOR ST LAURENT REGION***
NRC MONTREAL RD BLOCK M39 OTTAWA ON

Database: ***EXP***

Instance No: 9380021
Instance ID: 385731
Instance Type: FS Facility
Description: Fuels Safety Private Fuel Outlet - Self Serve
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type:
Expired Date:

Site: ***DESCHENES CONSTRUCTION (ONTARIO) LTD***
DOMTAR R BOYCE QUARRY LOT 25 GLOUCESTER TWP ON P0G 1K0

Database: ***EXP***

Instance No: 10763253
Instance ID:
Instance Type: FS Liquid Fuel Tank
Description:
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type:
Expired Date: 10/3/1989

Site: ***DESCHENES CONSTRUCTION (ONTARIO) LTD***
DOMTAR R BOYCE QUARRY LOT 25 GLOUCESTER TWP ON P0G 1K0

Database: ***EXP***

Instance No: 10763220
Instance ID:
Instance Type: FS Liquid Fuel Tank
Description:
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type:
Expired Date: 5/26/1992

Site: ***DESCHENES CONSTRUCTION (ONTARIO) LTD***
DOMTAR R BOYCEQUARRY LOT 25 GLOUCESTER TWP ON P0G 1K0

Database: ***EXP***

Instance No: 10763220
Instance ID:
Instance Type: FS Liquid Fuel Tank
Description: FS Gasoline Station - Full Serve
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type: FS Liquid Fuel Tank

Expired Date: 5/26/1992

Site: ***NATIONAL RESEARCH COUNCIL OF CANADA***
MONTREAL RDBUILDING V-61 OTTAWA ON NULL

Database: ***FST***

Instance No: 10901702
Cont Name:
Instance Type: FS Liquid Fuel Tank
Fuel Type: Gasoline
Status: Active
Capacity: 13638
Tank Material: Fiberglass (FRP)
Corrosion Protection: Fiberglass
Tank Type: Single Wall UST
Install Year: 1990
Parent Facility Type: Fuels Safety Private Fuel Outlet - Self Serve
Facility Type: FS Liquid Fuel Tank

Site: ***NATIONAL RESEARCH COUNCIL CANADA BUILD M 19***
MONTREAL RD BUILDING V-61 OTTAWA ON

Database: ***FSTH***

License Issue Date: 5/17/1991
Tank Status: Licensed
Tank Status As Of: December 2008
Operation Type: Private Fuel Outlet
Facility Type: Gasoline Station - Self Serve

--Details--
Status: Active
Year of Installation: 1990
Corrosion Protection:
Capacity: 13638
Tank Fuel Type: Liquid Fuel Single Wall UST - Gasoline

Site: ***NATIONAL RESEARCH COUNCIL CANADA BUILD M 19***
MONTREAL RD BUILDING V-61 OTTAWA ON

Database: ***FSTH***

License Issue Date: 5/17/1991
Tank Status: Licensed
Tank Status As Of: August 2007
Operation Type: Private Fuel Outlet
Facility Type: Gasoline Station - Self Serve

--Details--
Status: Active
Year of Installation: 1990
Corrosion Protection:
Capacity: 13638
Tank Fuel Type: Liquid Fuel Single Wall UST - Gasoline

Site: ***NATIONAL CAPITAL COMMISSION***
LOT 25,26,27 OTTAWA ON K1P 1C7

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON9920165
Approval Yrs:: 2010
SIC Code: 712190
SIC Description: Other Heritage Institutions

--Details--
Waste Code: 221
Waste Description: LIGHT FUELS

Site: ***PUBLIC WORKS CANADA - NATIONAL DEFENCE***
CF PHOTO UNIT NRC MONTREAL ROAD, CAMPUS BLDG. M23 OTTAWA ON

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0144713
Approval Yrs:: 2010
SIC Code: 911110
SIC Description: Defence Services

--Details--
Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 242
Waste Description: HALOGENATED PESTICIDES

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 243
Waste Description: PCBS

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Waste Code: 262
Waste Description: DETERGENTS/SOAPS

Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 146
Waste Description: OTHER SPECIFIED INORGANICS

Waste Code: 331
Waste Description: WASTE COMPRESSED GASES

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Site: ***GVT. OF CAN. - PUBLIC WORKS CANADA18-182***
MONTREAL RD,BLDG M-23 NRC,CF PHOTO UNIT LAND ENGINEERING TEST ESTABLISHMENT OTTAWA ON

Database: ***GEN***

PO Box Num:
Status:
Country:

Generator #: ON0144713
Approval Yrs:: 94
SIC Code: 8111
SIC Description: DEFENCE SERVICES

--Details--
Waste Code: 111
Waste Description: SPENT PICKLE LIQUOR

Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 113
Waste Description: ACID WASTE - OTHER METALS

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 122
Waste Description: ALKALINE WASTES - OTHER METALS

Waste Code: 123
Waste Description: ALKALINE PHOSPHATES

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 253
Waste Description: EMULSIFIED OILS

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 267
Waste Description: ORGANIC ACIDS

Site: ***GVT. OF CAN. - NATIONAL DEFENCE***
LETE MONTREAL ROAD OTTAWA ON K1A 0M3

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0046519
Approval Yrs:: 86,87,88,89,90,92,93,94
SIC Code: 0000
SIC Description: *** NOT DEFINED ***

Site: ***SPIC & SPAN-VALETOR-CASH CLEANERS***
MONTERAL SQUARE, MONTREAL ROAD C/O 1764 WOODWARD DRIVE OTTAWA ON K2C 0P8

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0573407
Approval Yrs:: 86,87,88,89,90
SIC Code: 9721

SIC Description: POWER LAUND./CLEANERS

--Details--
Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Site: ***SPIC & SPAN-VALETOR-CASH CLEANERS 35-136***
MONTERAL SQUARE, MONTREAL ROAD C/O 1764 WOODWARD DRIVE OTTAWA ON K2C 0P8

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0573407
Approval Yrs:: 92,93,94,95,96,97,98
SIC Code: 9721
SIC Description: POWER LAUND./CLEANER

--Details--
Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Site: ***PRATT & WHITNEY CANADA INC.***
M11, NRC CAMPUS MONTREAL ROAD OTTAWA ON

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0142801
Approval Yrs:: 06,07,08
SIC Code: 336410
SIC Description: Aerospace Product and Parts Manufacturing

--Details--
Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 253
Waste Description: EMULSIFIED OILS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Site: ***NATIONAL DEFENSE***
NRC MONTREAL ROAD, CAMPUS BLDG. M23 CF PHOTO UNIT OTTAWA ON K1A 0M3

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0144713
Approval Yrs:: 92,93,95,96,97
SIC Code: 8111
SIC Description: DEFENCE SERVICES

--Details--

Waste Code:	111
Waste Description:	SPENT PICKLE LIQUOR
Waste Code:	112
Waste Description:	ACID WASTE - HEAVY METALS
Waste Code:	113
Waste Description:	ACID WASTE - OTHER METALS
Waste Code:	114
Waste Description:	OTHER INORGANIC ACID WASTES
Waste Code:	121
Waste Description:	ALKALINE WASTES - HEAVY METALS
Waste Code:	122
Waste Description:	ALKALINE WASTES - OTHER METALS
Waste Code:	123
Waste Description:	ALKALINE PHOSPHATES
Waste Code:	145
Waste Description:	PAINT/PIGMENT/COATING RESIDUES
Waste Code:	148
Waste Description:	INORGANIC LABORATORY CHEMICALS
Waste Code:	212
Waste Description:	ALIPHATIC SOLVENTS
Waste Code:	213
Waste Description:	PETROLEUM DISTILLATES
Waste Code:	241
Waste Description:	HALOGENATED SOLVENTS
Waste Code:	252
Waste Description:	WASTE OILS & LUBRICANTS
Waste Code:	253
Waste Description:	EMULSIFIED OILS
Waste Code:	263
Waste Description:	ORGANIC LABORATORY CHEMICALS
Waste Code:	264
Waste Description:	PHOTOPROCESSING WASTES
Waste Code:	267
Waste Description:	ORGANIC ACIDS

Site: ***PUBLIC WORKS CANADA - NATIONAL DEFENCE***
CF PHOTO UNIT NRC MONTREAL ROAD, CAMPUS BLDG. M23 OTTAWA ON K1A 0K2

Database: ***GEN***

PO Box Num:	
Status:	
Country:	
Generator #:	ON0144713
Approval Yrs::	2012
SIC Code:	911110
SIC Description:	Defence Services

--Details--

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Waste Code: 242
Waste Description: HALOGENATED PESTICIDES

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 331
Waste Description: WASTE COMPRESSED GASES

Waste Code: 146
Waste Description: OTHER SPECIFIED INORGANICS

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 262
Waste Description: DETERGENTS/SOAPS

Waste Code: 243
Waste Description: PCBS

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Site: ***NATIONAL RESEARCH COUNCIL***
MONTREAL ROAD CAMPUS MONTREAL ROAD OTTAWA ON K1A 0R6

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0195801
Approval Yrs:: 98
SIC Code: 8176
SIC Description: RESEARCH ADMIN.

--Details--
Waste Code: 114
Waste Description: OTHER INORGANIC ACID WASTES

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 122
Waste Description: ALKALINE WASTES - OTHER METALS

Waste Code: 146
Waste Description: OTHER SPECIFIED INORGANICS

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 242
Waste Description: HALOGENATED PESTICIDES

Waste Code: 243
Waste Description: PCB'S

Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 253
Waste Description: EMULSIFIED OILS

Waste Code: 261
Waste Description: PHARMACEUTICALS

Waste Code: 262
Waste Description: DETERGENTS/SOAPS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 268
Waste Description: AMINES

Waste Code: 312
Waste Description: PATHOLOGICAL WASTES

Waste Code: 331
Waste Description: WASTE COMPRESSED GASES

Site: ***PUBLIC WORKS CANADA - NATIONAL DEFENCE***
CF PHOTO UNIT NRC MONTREAL ROAD, CAMPUS BLDG. M23 OTTAWA ON

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0144713
Approval Yrs:: 2011
SIC Code: 911110
SIC Description: Defence Services

--Details--

Waste Code: 146
Waste Description: OTHER SPECIFIED INORGANICS

Waste Code: 243
Waste Description: PCBS

Waste Code: 262
Waste Description: DETERGENTS/SOAPS

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 242
Waste Description: HALOGENATED PESTICIDES

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 331
Waste Description: WASTE COMPRESSED GASES

Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Site: ***Hydro Ottawa Limited***
Baeusoleil Manhole System Ottawa ON K1N 7V6

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON3405763
Approval Yrs:: 05
SIC Code: 221122
SIC Description: Electric Power Distribution

--Details--
Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Site: ***PRATT & WHITNEY CANADA INC.***
M10-B, NRC CAMPUS MONTREAL ROAD OTTAWA ON K1A 0R6

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0142801
Approval Yrs:: 95,96,97,98,99,00,01,02,03,04,05

SIC Code: 3211
SIC Description: AIRCRAFT & PARTS IND.

--Details--
Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Site: ***PUBLIC WORKS CANADA - NATIONAL DEFENCE***
CF PHOTO UNIT NRC MONTREAL ROAD, CAMPUS BLDG. M23 OTTAWA ON K1A 0K2

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0144713
Approval Yrs:: 98,99,00,01,02,03,04,05,06,07,08
SIC Code: 8111
SIC Description: DEFENCE SERVICES

--Details--
Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Waste Code: 146
Waste Description: OTHER SPECIFIED INORGANICS

Waste Code: 111
Waste Description: SPENT PICKLE LIQUOR

Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 113
Waste Description: ACID WASTE - OTHER METALS

Waste Code: 114
Waste Description: OTHER INORGANIC ACID WASTES

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 122
Waste Description: ALKALINE WASTES - OTHER METALS

Waste Code: 123
Waste Description: ALKALINE PHOSPHATES

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 211

Waste Description: AROMATIC SOLVENTS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 232
Waste Description: POLYMERIC RESINS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 242
Waste Description: HALOGENATED PESTICIDES

Waste Code: 243
Waste Description: PCB'S

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 253
Waste Description: EMULSIFIED OILS

Waste Code: 262
Waste Description: DETERGENTS/SOAPS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 265
Waste Description: GRAPHIC ART WASTES

Waste Code: 267
Waste Description: ORGANIC ACIDS

Waste Code: 331
Waste Description: WASTE COMPRESSED GASES

Site: ***PUBLIC WORKS CANADA - NATIONAL DEFENCE***
CF PHOTO UNIT NRC MONTREAL ROAD, CAMPUS BLDG. M23 OTTAWA ON

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0144713
Approval Yrs:: 2009
SIC Code: 911110
SIC Description: Defence Services

--Details--
Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 146

Waste Description: OTHER SPECIFIED INORGANICS

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 242
Waste Description: HALOGENATED PESTICIDES

Waste Code: 243
Waste Description: PCBS

Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Waste Code: 262
Waste Description: DETERGENTS/SOAPS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 331
Waste Description: WASTE COMPRESSED GASES

Site: ***City of Otawa***
Montreal Road from Hwy 174 to Ogilvie (including R Ottawa ON

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON7209780
Approval Yrs:: 2013
SIC Code: 237110
SIC Description: WATER AND SEWER LINE AND RELATED STRUCTURES CONSTRUCTION

--Details--
Waste Code: 221
Waste Description: LIGHT FUELS

Site: ***GVT. OF CAN. - PUBLIC WORKS CANADA***
BLDG. SERVICES-NAT'L DEFENCE, LAND ENG. TEST ESTAB'MT,BLDG.M-23,NRC,MONTR'L RD OTTAWA ON K1A 0K5

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0144713
Approval Yrs:: 86,87,88,89,90
SIC Code: 8111
SIC Description: DEFENCE SERVICES

--Details--
Waste Code: 111
Waste Description: SPENT PICKLE LIQUOR

Waste Code: 112

Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 113
Waste Description: ACID WASTE - OTHER METALS

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 122
Waste Description: ALKALINE WASTES - OTHER METALS

Waste Code: 123
Waste Description: ALKALINE PHOSPHATES

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 253
Waste Description: EMULSIFIED OILS

Waste Code: 267
Waste Description: ORGANIC ACIDS

Site: ***NATIONAL ARCHIVES OF CANADA***
CODD'S ROAD C.F.B. OTTAWA NORTH OTTAWA ON K1A 0N3

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0757004
Approval Yrs:: 02,03,04
SIC Code:
SIC Description:

Site: ***GVT. OF CAN. - NATIONAL DEFENCE***
CE PRODUCTION BUILDING 164 CODDS ROAD & VIA VENUS OTTAWA ON K1A 0K8

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0046539
Approval Yrs:: 97
SIC Code: 8111
SIC Description: DEFENCE SERVICES

--Details--
Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 114
Waste Description: OTHER INORGANIC ACID WASTES

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 122

Waste Description: ALKALINE WASTES - OTHER METALS

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 243
Waste Description: PCB'S

Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 269
Waste Description: NON-HALOGENATED PESTICIDES

Waste Code: 312
Waste Description: PATHOLOGICAL WASTES

Waste Code: 331
Waste Description: WASTE COMPRESSED GASES

Site: ***Library and Archives Canada***
Codd's Road C.F.B. Ottawa North Ottawa ON

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON3964387
Approval Yrs:: 2011
SIC Code: 911311
SIC Description:

Site: ***Canada Lands Company***
Codd's Road Ottawa ON

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON8567328
Approval Yrs:: As of April 2014
SIC Code:
SIC Description:

--Details--
Waste Code: 221
Waste Description: Light fuels

Site: ***Canada Lands Company***
Codd's Road Ottawa ON

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON8567328
Approval Yrs:: 2013
SIC Code: 911910
SIC Description:

--Details--
Waste Code: 146
Waste Description: OTHER SPECIFIED INORGANICS

Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 243
Waste Description: PCBS

Site: ***Canada Lands Company CLC Limited***
Codd's Road Ottawa ON K1K 2G7

Database: ***GEN***

PO Box Num:
Status: Registered
Country: Canada
Generator #: ON8567328
Approval Yrs:: As of Sep 2016
SIC Code:
SIC Description:

--Details--
Waste Code: 221 L
Waste Description: Light fuels

Waste Code: 251 L
Waste Description: Waste oils/sludges (petroleum based)

Site: ***LIBRARY AND ARCHIVES CANADA***
CODD'S ROAD C.F.B. OTTAWA NORTH OTTAWA ON

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0757004
Approval Yrs:: 06
SIC Code:
SIC Description:

--Details--
Waste Code: 146
Waste Description: OTHER SPECIFIED INORGANICS

Site: ***PUBLIC WORKS CANADA - NATIONAL DEFENCE***
CF PHOTO UNIT NRC MONTREAL ROAD, CAMPUS BLDG. M23 OTTAWA ON K1A 0K2

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0144713

Approval Yrs:: As of May 2015
SIC Code:
SIC Description:

--Details--
Waste Code: 262
Waste Description: Detergents and soaps

Waste Code: 264
Waste Description: Photoprocessing wastes

Waste Code: 263
Waste Description: Misc. waste organic chemicals

Waste Code: 251
Waste Description: Waste oils/sludges (petroleum based)

Waste Code: 145
Waste Description: Wastes from the use of pigments, coatings and paints

Waste Code: 121
Waste Description: Alkaline slutions - containing heavy metals

Waste Code: 331
Waste Description: Waste compressed gases including cylinders

Waste Code: 112
Waste Description: Acid solutions - containing heavy metals

Waste Code: 211
Waste Description: Aromatic solvents and residues

Waste Code: 146
Waste Description: Other specified inorganic sludges, slurries or solids

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Site: ***PUBLIC WORKS CANADA - NATIONAL DEFENCE***
CF PHOTO UNIT NRC MONTREAL ROAD, CAMPUS BLDG. M23 OTTAWA ON

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0144713
Approval Yrs:: 2013
SIC Code: 911110
SIC Description:

--Details--
Waste Code: 243
Waste Description: PCBS

Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 242
Waste Description: HALOGENATED PESTICIDES

Waste Code: 262
Waste Description: DETERGENTS/SOAPS

Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 121
Waste Description: ALKALINE WASTES - HEAVY METALS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 145
Waste Description: PAINT/PIGMENT/COATING RESIDUES

Waste Code: 331
Waste Description: WASTE COMPRESSED GASES

Waste Code: 146
Waste Description: OTHER SPECIFIED INORGANICS

Waste Code: 112
Waste Description: ACID WASTE - HEAVY METALS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Site: ***GVT. OF CAN. - NATIONAL RESEARCH COUNCIL, MONTREAL ROAD COMPLEX BUILDING M-54 OTTAWA ON K1A 0R6***

Database: ***GEN***

PO Box Num:
Status:
Country:
Generator #: ON0195801
Approval Yrs:: 86,87
SIC Code: 8176
SIC Description: RESEARCH ADMIN.

--Details--
Waste Code: 114
Waste Description: OTHER INORGANIC ACID WASTES

Waste Code: 148
Waste Description: INORGANIC LABORATORY CHEMICALS

Waste Code: 211
Waste Description: AROMATIC SOLVENTS

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 221
Waste Description: LIGHT FUELS

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Waste Code: 253
Waste Description: EMULSIFIED OILS

Waste Code: 263
Waste Description: ORGANIC LABORATORY CHEMICALS

Waste Code: 264
Waste Description: PHOTOPROCESSING WASTES

Waste Code: 312
Waste Description: PATHOLOGICAL WASTES

Site: ***NATIONAL RESEARCH COUNCIL***
MONTREAL ROAD LABS AS. P. M. MONTREAL ROAD OTTAWA ON K1A 0R6

Database: ***NPCB***

Company Code: O3138A
Industry: NATIONAL RESEARCH COUNCIL
Site Status: FEDERAL FACILITIES (IN USE)
Transaction Date: 2/16/1993
Inspection Date:

--Details--
Label: OR24169
Serial No.:
PCB Type/Code: ASKAREL/INERTEEN
Location: BLDG. M-36
Item/State: TRANSFORMER/FULL
No. of Items: 1
Manufacturer: WESTINGHOUSE
Status: IN-USE
Contents: 803 L

Label: OR44331
Serial No.:
PCB Type/Code: ASKAREL/ASKAREL
Location:
Item/State: CAPACITOR/FULL
No. of Items: 1
Manufacturer:
Status: IN-USE
Contents: 4.5 L

Label: OR44332
Serial No.:
PCB Type/Code: ASKAREL/ASKAREL
Location:
Item/State: CAPACITOR/FULL
No. of Items: 1
Manufacturer:
Status: IN-USE
Contents: 4.5 L

Label: OR44333
Serial No.:
PCB Type/Code: ASKAREL/ASKAREL
Location:
Item/State: CAPACITOR/FULL
No. of Items: 1
Manufacturer:
Status: IN-USE
Contents: 4.5 L

Label: OR44334
Serial No.:
PCB Type/Code: ASKAREL/ASKAREL
Location:
Item/State: CAPACITOR/FULL
No. of Items: 1
Manufacturer:
Status: IN-USE
Contents: 4.5 L

Label: OR44335
Serial No.:
PCB Type/Code: ASKAREL/ASKAREL
Location:
Item/State: CAPACITOR/FULL
No. of Items: 1
Manufacturer:
Status: IN-USE
Contents: 4.5 L

Label: OR44336
Serial No.:
PCB Type/Code: ASKAREL/ASKAREL
Location:
Item/State: CAPACITOR/FULL
No. of Items: 1
Manufacturer:
Status: IN-USE
Contents: 4.5 L

Label: OR24162
Serial No.:
PCB Type/Code: ASKAREL/INERTEEN
Location: BLDG. M-55
Item/State: TRANSFORMER/FULL
No. of Items: 1
Manufacturer: WESTINGHOUSE
Status: IN-USE
Contents: 803 L

Label: OR24163
Serial No.:
PCB Type/Code: ASKAREL/INERTEEN
Location: BLDG. M-55
Item/State: TRANSFORMER/FULL
No. of Items: 1
Manufacturer: WESTINGHOUSE
Status: IN-USE
Contents: 803 L

Label: OR24164
Serial No.:
PCB Type/Code: ASKAREL/INERTEEN
Location: BLDG. M-35
Item/State: TRANSFORMER/FULL
No. of Items: 1
Manufacturer: WESTINGHOUSE
Status: IN-USE
Contents: 803 L

Label: OR24165
Serial No.:
PCB Type/Code: ASKAREL/INERTEEN
Location: BLDG. M-35
Item/State: TRANSFORMER/FULL
No. of Items: 1
Manufacturer: WESTINGHOUSE
Status: IN-USE
Contents: 803 L

Label: OR24166
Serial No.:
PCB Type/Code: ASKAREL/INERTEEN
Location: BLDG. M-36
Item/State: TRANSFORMER/FULL
No. of Items: 1
Manufacturer: WESTINGHOUSE
Status: IN-USE
Contents: 803 L

Label: OR24172
Serial No.:
PCB Type/Code: ASKAREL/INERTEEN
Location:
Item/State: TRANSFORMER/FULL
No. of Items: 1
Manufacturer:
Status: IN-USE
Contents: 803 L

Label: OR24170
Serial No.:
PCB Type/Code: ASKAREL/INERTEEN
Location: BLDG. M-36
Item/State: TRANSFORMER/FULL
No. of Items: 1
Manufacturer: WESTINGHOUSE
Status: IN-USE
Contents: 803 L

Label: OR24167
Serial No.:
PCB Type/Code: ASKAREL/INERTEEN
Location: BLDG. M-36
Item/State: TRANSFORMER/FULL
No. of Items: 1
Manufacturer: WESTINGHOUSE
Status: IN-USE
Contents: 803 L

Label: OR24168
Serial No.:
PCB Type/Code: ASKAREL/INERTEEN
Location: BLDG. M-36
Item/State: TRANSFORMER/FULL
No. of Items: 1
Manufacturer: WESTINGHOUSE
Status: IN-USE
Contents: 803 L

Site: ***NATIONAL RESEARCH COUNCIL***
BUILDING-19/ASPM MONTREAL ROAD OTTAWA ON K1A 0R6

Database: ***NPCB***

Company Code: O3164
Industry: NATIONAL RESEARCH COUNCIL
Site Status: ITEMS SENT TO SWAN HILLS
Transaction Date: 11/10/1996
Inspection Date:

Site: ***NATIONAL RESEARCH COUNCIL***
BLDG.M19. MONTREAL RD. LABS A.S.P.M. MONTREAL RD OTTAWA ON K1A 0R6

Database: ***NPCB***

Company Code: O3138
Industry: NATIONAL RESEARCH COUNCIL
Site Status: ITEMS SENT TO SWAN HILLS
Transaction Date: 6/15/1999
Inspection Date: 5/5/1993

--Details--
Label: OR14394
Serial No.:
PCB Type/Code: ASKAREL/ASKAREL
Location:
Item/State: CAPACITOR/FULL

No. of Items: 1
Manufacturer:
Status: STORED FOR FUTURE USE
Contents: 6.6 L

Label: OR14352
Serial No.:
PCB Type/Code: ASKAREL/ASKAREL
Location:
Item/State: CAPACITOR/FULL
No. of Items: 1
Manufacturer:
Status: IN-USE
Contents: 6.6 L

Label: OR14356
Serial No.:
PCB Type/Code: ASKAREL/ASKAREL
Location:
Item/State: CAPACITOR/FULL
No. of Items: 1
Manufacturer:
Status: IN-USE
Contents: 6.6 L

Label: OR14396
Serial No.:
PCB Type/Code: ASKAREL/ASKAREL
Location:
Item/State: CAPACITOR/FULL
No. of Items: 1
Manufacturer:
Status: STORED FOR FUTURE USE
Contents: 6.6 L

Label: OR14397
Serial No.:
PCB Type/Code: ASKAREL/ASKAREL
Location:
Item/State: CAPACITOR/FULL
No. of Items: 1
Manufacturer:
Status: STORED FOR FUTURE USE
Contents: 6.6 L

Label: OR14398
Serial No.:
PCB Type/Code: ASKAREL/ASKAREL
Location:
Item/State: CAPACITOR/FULL
No. of Items: 1
Manufacturer:
Status: STORED FOR FUTURE USE
Contents: 4.5 L

Label: OR14399
Serial No.:
PCB Type/Code: ASKAREL/ASKAREL
Location:
Item/State: CAPACITOR/FULL
No. of Items: 1
Manufacturer:
Status: STORED FOR FUTURE USE
Contents: 4.5 L

Label: OR14401
Serial No.:
PCB Type/Code: ASKAREL/ASKAREL
Location:

Item/State: CAPACITOR/FULL
No. of Items: 1
Manufacturer:
Status: STORED FOR FUTURE USE
Contents: 4.5 L

Label: OR14353
Serial No.:
PCB Type/Code: ASKAREL/ASKAREL
Location:
Item/State: CAPACITOR/FULL
No. of Items: 1
Manufacturer:
Status: IN-USE
Contents: 6.6 L

Label: OR14354
Serial No.:
PCB Type/Code: ASKAREL/ASKAREL
Location:
Item/State: CAPACITOR/FULL
No. of Items: 1
Manufacturer:
Status: IN-USE
Contents: 6.6 L

Label: OR14351
Serial No.: Pallet 1
PCB Type/Code: ASKAREL/ASKAREL
Location:
Item/State: CAPACITOR/FULL
No. of Items: 1
Manufacturer:
Status: STORED FOR DISPOSAL
Contents: 4.5 L

Site: ***NATIONAL RESEARCH COUNCIL CANADA***
BUILDING M-51 MONTREAL ROAD OTTAWA ON

Database: ***OPCB***

Year: 1992
Site Number: 40288A242
Name Owner:
Additional Site Information:

Site: ***NATIONAL RESEARCH COUNCIL CANADA BUILD M 19***
MONTREAL RD BUILDING V-61 OTTAWA ON

Database: ***PRT***

Location ID: 10892
Type: private
Expiry Date:
Capacity (L): 13638.00
Licence #: 0001041623

Site: ***DIRECTOR ST LAURENT REGION***
NRC MONTREAL RD BLOCK M39 OTTAWA ON

Database: ***PRT***

Location ID: 11025
Type: private
Expiry Date:
Capacity (L): 4500.00
Licence #: 0001048775

Site: ***Canada Lands Company CLC Limited***
Ottawa Front Ponds Lot: 20,22,23,24,25, Concession: 1 (Ottawa Front), Geographic Township: Gloucester, City of Ottawa, CITY OF OTTAWA Gloucester ON

Database: ***PTTW***

Year:	2015
EBR Registry No.:	012-5737
Ministry Reference Number:	4003-A47QUN
Notice Type:	Instrument Decision
Instrument Type:	Canada Lands Company CLC Limited (OWRA s. 34) - Permit to Take Water
Proposal Date:	November 13, 2015
Location:	Ottawa Front Ponds Lot: 20,22,23,24,25, Concession: 1 (Ottawa Front), Geographic Township: Gloucester, City of Ottawa, CITY OF OTTAWA Gloucester
Proponent Address:	30 Metcalfe Street, Suite 601, Ottawa Ontario, Canada K1P 5L4
Notice Date:	April 07, 2016

Site:
Part Lot 23, Township of Gloucester Ottawa ON

Database: ***RSC***

Registration No:	
RSC Type:	
Restoration Type:	
Date Submitted:	07/05/01
Date Acknowledg.:	
Certification Date:	
Date Returned:	07/23/01
Soil Type:	
Criteria:	
Current Property Use:	
Certificate Prop Use No:	
Intended Prop Use:	
Applicable Standards:	
Stratified (Y/N):	
Consultant:	DST Consulting Engineers Inc.
District Office:	Ottawa
Property Municipal Address:	
Legal Description:	
Prop. Identification No:	
Entire legal prop. (y/n):	
UTM Coordinates:	
Latitude & Longitude:	
Accuracy Estimate:	
Measurement Method:	
CPU Issued Sect 1686:	

Site:
Part Lot 23 Ottawa ON

Database: ***RSC***

Registration No:	
RSC Type:	
Restoration Type:	Generic
Date Submitted:	07/05/01
Date Acknowledg.:	08/14/01
Certification Date:	
Date Returned:	
Soil Type:	Medium/Fine
Criteria:	Res/parkland + Nonpotable
Current Property Use:	
Certificate Prop Use No:	
Intended Prop Use:	
Applicable Standards:	
Stratified (Y/N):	N
Consultant:	DST Consulting Engineers Inc.
District Office:	Ottawa
Property Municipal Address:	
Legal Description:	
Prop. Identification No:	

Entire legal prop. (y/n):
UTM Coordinates:
Latitude & Longitude:
Accuracy Estimate:
Measurement Method:
CPU Issued Sect 1686:

Site: ***Database:***
Fairhaven Way, Greenhill Way runs along one side of the Quarry and Langs Rd runs Ottawa ON ***SPL***

Ref No:	2114-7U5JNA
Contaminant Code:	
Contaminant Name:	
Contaminant Quantity:	
Incident Cause:	
Incident Dt:	
Incident Reason:	
Incident Summary:	Dumping of an unknown substance in a Quarry
MOE Reported Dt:	7/20/2009
Environmental Impact:	Possible
Nature of Impact:	Soil Contamination
Receiving Medium:	
SAC Action Class:	Pollution Incident Reports (PIRs) and ¿Other¿ calls
Sector Source Type:	Other
Receiving Environment:	
Incident Event:	
Site Municipality:	Ottawa

Site: ***Hydro Ottawa Limited*** ***Database:***
Gloucester Ottawa ON ***SPL***

Ref No:	0266-5YAGND
Contaminant Code:	15
Contaminant Name:	TRANSFORMER OIL (N.O.S.)
Contaminant Quantity:	50 L
Incident Cause:	Unknown
Incident Dt:	4/21/2004
Incident Reason:	Unknown - Reason not determined
Incident Summary:	Hydro Ottawa: >50L Non-PCB Trans Oil to ground
MOE Reported Dt:	4/22/2004
Environmental Impact:	Confirmed
Nature of Impact:	Soil Contamination
Receiving Medium:	Land
SAC Action Class:	
Sector Source Type:	Transformer
Receiving Environment:	
Incident Event:	
Site Municipality:	Ottawa

Site: ***Hydro Ottawa Limited*** ***Database:***
Kanata Ottawa ON ***SPL***

Ref No:	6222-5ZU8UL
Contaminant Code:	15
Contaminant Name:	TRANSFORMER OIL (N.O.S.)
Contaminant Quantity:	
Incident Cause:	Cooling System Leak
Incident Dt:	6/10/2004
Incident Reason:	Unknown - Reason not determined
Incident Summary:	Hydro One - 212 L transformer oil to ground.
MOE Reported Dt:	6/11/2004
Environmental Impact:	Possible
Nature of Impact:	Soil Contamination
Receiving Medium:	Land

SAC Action Class: Spills
Sector Source Type: Transformer
Receiving Environment:
Incident Event:
Site Municipality: Ottawa

Site: ***PAUL'S BACKHOE SERVICE***
HWY 34 NORTH 5 - 5.5 MILES NORTH OF HWY 417 EAST 333 CHAMPLAIN ST., HAWKESBURY, ONT. OTTAWA CITY ON

Database: ***SPL***

Ref No: 224046
Contaminant Code:
Contaminant Name:
Contaminant Quantity:
Incident Cause: UNKNOWN
Incident Dt: 4/15/2002
Incident Reason: UNKNOWN
Incident Summary: PAUL'S BACKHOE SERVICE SPILL UNKNOWN VOL OF GAS & WATER, CONTAINED
MOE Reported Dt: 4/15/2002
Environmental Impact: POSSIBLE
Nature of Impact: Soil contamination
Receiving Medium: LAND / WATER
SAC Action Class:
Sector Source Type:
Receiving Environment:
Incident Event:
Site Municipality: 20107

Site: ***City of Ottawa***
MONTREAL RD. AND GRANVILLE<UNOFFICIAL> Ottawa ON

Database: ***SPL***

Ref No: 7103-6LZL6Z
Contaminant Code: 27
Contaminant Name: COOLANT (N.O.S.)
Contaminant Quantity: 10 L
Incident Cause: Pipe Or Hose Leak
Incident Dt: 2/14/2006
Incident Reason: Equipment Failure
Incident Summary: OC Transpo,10 L antifreeze onto rd & sewer,cleaning up
MOE Reported Dt: 2/14/2006
Environmental Impact: Not Anticipated
Nature of Impact: Multi-Media Pollution
Receiving Medium: Land & Water
SAC Action Class:
Sector Source Type: Other Motor Vehicle
Receiving Environment:
Incident Event:
Site Municipality: Ottawa

Site: ***Dan Wright Equipment Rentals Ltd.***
Montreal Road (East of Hwy 174) Ottawa ON

Database: ***SPL***

Ref No: 2712-7X7NMY
Contaminant Code: 44
Contaminant Name: SEWAGE,RAW UNCHLORINATED
Contaminant Quantity: 3800 L
Incident Cause: Other Discharges
Incident Dt:
Incident Reason:
Incident Summary: Manotick Pumping: 1000 gallons Raw Sewage to Ditch, cln
MOE Reported Dt: 10/26/2009
Environmental Impact: Confirmed
Nature of Impact: Other Impact(s); Surface Water Pollution
Receiving Medium:

SAC Action Class:	Watercourse Spills
Sector Source Type:	Motor Vehicle
Receiving Environment:	
Incident Event:	
Site Municipality:	

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ***Note:*** *Databases denoted with " * " indicates that the database will no longer be updated. See the individual database description for more information.*

Abandoned Aggregate Inventory: Provincial AAGR

The MAAP Program maintains a database of abandoned pits and quarries. Please note that the database is only referenced by lot and concession and city/town location. The database provides information regarding the location, type, size, land use, status and general comments.*

Government Publication Date: Sept 2002*

Aggregate Inventory: Provincial AGR

The Ontario Ministry of Natural Resources maintains a database of all active pits and quarries. The database provides information regarding the registered owner/operator, location name, operation type, approval type, and maximum annual tonnage.

Government Publication Date: Up to Sep 2016

Abandoned Mine Information System: Provincial AMIS

The Abandoned Mines Information System contains data on known abandoned and inactive mines located on both Crown and privately held lands. The information was provided by the Ministry of Northern Development and Mines (MNDM), with the following disclaimer: "the database provided has been compiled from various sources, and the Ministry of Northern Development and Mines makes no representation and takes no responsibility that such information is accurate, current or complete". Reported information includes official mine name, status, background information, mine start/end date, primary commodity, mine features, hazards and remediation.

Government Publication Date: 1800-Nov 2016

Anderson's Waste Disposal Sites: Private ANDR

The information provided in this database was collected by examining various historical documents which aimed to characterize the likely position of former waste disposal sites from 1860 to present. The research initiative behind the creation of this database was to identify those sites that are missing from the Ontario MOE Waste Disposal Site Inventory, as well as to provide revisions and corrections to the positions and descriptions of sites currently listed in the MOE inventory. In addition to historic waste disposal facilities, the database also identifies certain auto wreckers and scrap yards that have been extrapolated from documentary sources. Please note that the data is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

Government Publication Date: 1860s-Present

Automobile Wrecking & Supplies: Private AUWR

This database provides an inventory of known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

Government Publication Date: 1999 - Oct 2016

Borehole: Provincial BORE

A borehole is the generalized term for any narrow shaft drilled in the ground, either vertically or horizontally. The information here includes geotechnical investigations or environmental site assessments, mineral exploration, or as a pilot hole for installing piers or underground utilities. Information is from many sources such as the Ministry of Transportation (MTO) boreholes from engineering reports and projects from the 1950 to 1990's in Southern Ontario. Boreholes from the Ontario Geological Survey (OGS) including The Urban Geology Analysis Information System (UGAIS) and the York Peel Durham Toronto (YPDT) database of the Conservation Authority Moraine Coalition. This database will include fields such as location, stratigraphy, depth, elevation, year drilled, etc. For all water well data or oil and gas well data for Ontario please refer to WWIS and OOGW.

Government Publication Date: 1875-Jul 2014

Certificates of Approval: Provincial CA

This database contains the following types of approvals: Air & Noise, Industrial Sewage, Municipal & Private Sewage, Waste Management Systems and Renewable Energy Approvals. The MOE in Ontario states that any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste, must have a Certificate of Approval before it can operate lawfully. Fields include approval number, business name, address, approval date, approval type and status. This database will no longer be updated, as CofA's have been replaced by either Environmental Activity and Sector Registry (EASR) or Environmental Compliance Approval (ECA). Please refer to those individual databases for any information after Oct.31, 2011.

Government Publication Date: 1985-Oct 30, 2011*

Commercial Fuel Oil Tanks: Provincial CFOT

Since May 2002, Ontario developed a new act where it became mandatory for fuel oil tanks to be registered with Technical Standards & Safety Authority (TSSA). This data would include all commercial underground fuel oil tanks in Ontario with fields such as location, registration number, tank material, age of tank and tank size.

Government Publication Date: Feb 28, 2017

Chemical Register: Private CHEM

This database includes information from both a one time study conducted in 1992 and private source and is a listing of facilities that manufacture or distribute chemicals. The production of these chemical substances may involve one or more chemical reactions and/or chemical separation processes (i.e. fractionation, solvent extraction, crystallization, etc.).

Government Publication Date: 1999 - Oct 2016

Compressed Natural Gas Stations: Private CNG

Canada has a network of public access compressed natural gas (CNG) refuelling stations. These stations dispense natural gas in compressed form at 3,000 pounds per square inch (psi), the pressure which is allowed within the current Canadian codes and standards. The majority of natural gas refuelling is located at existing retail gasoline that have a separate refuelling island for natural gas. This list of stations is made available by the Canadian Natural Gas Vehicle Alliance.

Government Publication Date: Dec 31, 2012

Inventory of Coal Gasification Plants and Coal Tar Sites: Provincial COAL

This inventory includes both the "Inventory of Coal Gasification Plant Waste Sites in Ontario-April 1987" and the Inventory of Industrial Sites Producing or Using Coal Tar and Related Tars in Ontario-November 1988) collected by the MOE. It identifies industrial sites that produced and continue to produce or use coal tar and other related tars. Detailed information is available and includes: facility type, size, land use, information on adjoining properties, soil condition, site operators/occupants, site description, potential environmental impacts and historic maps available. This was a one-time inventory.*

Government Publication Date: Apr 1987 and Nov 1988*

Compliance and Convictions: Provincial CONV

This database summarizes the fines and convictions handed down by the Ontario courts beginning in 1989. Companies and individuals named here have been found guilty of environmental offenses in Ontario courts of law.

Government Publication Date: 1989-Mar 2017

Certificates of Property Use: Provincial CPU

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all CPU's on the registry such as (EPA s. 168.6) - Certificate of Property Use.

Government Publication Date: 1994-Apr 2017

Drill Hole Database: Provincial DRL

The Ontario Drill Hole Database contains information on more than 113,000 percussion, overburden, sonic and diamond drill holes from assessment files on record with the department of Mines and Minerals. Please note that limited data is available for southern Ontario, as it was the last area to be completed. The database was created when surveys submitted to the Ministry were converted in the Assessment File Research Image Database (AFRI) project. However, the degree of accuracy (coordinates) as to the exact location of drill holes is dependent upon the source document submitted to the MNDM. Levels of accuracy used to locate holes are: centering on the mining claim; a sketch of the mining claim; a 1:50,000 map; a detailed company map; or from submitted a "Report of Work".

Government Publication Date: 1886-Aug 2015

Environmental Activity and Sector Registry: Provincial EASR

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. The EASR allows businesses to register certain activities with the ministry, rather than apply for an approval. The registry is available for common systems and processes, to which preset rules of operation can be applied. The EASR is currently available for: heating systems, standby power systems and automotive refinishing. Businesses whose activities aren't subject to the EASR may apply for an ECA (Environmental Compliance Approval), Please see our ECA database.

Government Publication Date: Oct 2011-Mar 2017

Environmental Registry: Provincial EBR

The Environmental Registry lists proposals, decisions and exceptions regarding policies, Acts, instruments, or regulations that could significantly affect the environment. Through the Registry, thirteen provincial ministries notify the public of upcoming proposals and invite their comments. For example, if a local business is requesting a permit, license, or certificate of approval to release substances into the air or water; these are notified on the registry. Data includes: Approval for discharge into the natural environment other than water (i.e. Air) - EPA s. 9, Approval for sewage works - OWRA s. 53(1), and EPA s. 27 - Approval for a waste disposal site. For information regarding Permit to Take Water (PTTW), Certificate of Property Use (CPU) and (ORD) Orders please refer to those individual databases.

Government Publication Date: 1994-Apr 2017

Environmental Compliance Approval: Provincial ECA

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. In the past, a business had to apply for multiple approvals (known as certificates of approval) for individual processes and pieces of equipment. Today, a business either registers itself, or applies for a single approval, depending on the types of activities it conducts. Businesses whose activities aren't subject to the EASR may apply for an ECA. A single ECA addresses all of a business's emissions, discharges and wastes. Separate approvals for air, noise and waste are no longer required. This database will also include Renewable Energy Approvals. For certificates of approval prior to Nov 1st, 2011, please refer to the CA database. For all Waste Disposal Sites please refer to the WDS database.

Government Publication Date: Oct 2011-Mar 2017

Environmental Effects Monitoring: Federal EEM

The Environmental Effects Monitoring program assesses the effects of effluent from industrial or other sources on fish, fish habitat and human usage of fisheries resources. Since 1992, pulp and paper mills have been required to conduct EEM studies under the Pulp and Paper Effluent Regulations. This database provides information on the mill name, geographical location and sub-lethal toxicity data.

Government Publication Date: 1992-2007*

ERIS Historical Searches: Private EHS

ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page.

Government Publication Date: 1999-Aug 2016

Environmental Issues Inventory System: Federal EIIS

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

Government Publication Date: 1992-2001*

Emergency Management Historical Event: Provincial EMHE

List of locations of historical occurrences of emergency events, including those assigned to the Ministry of Natural Resources by Order-In-Council (OIC) under the Emergency Management and Civil Protection Act, as well as events where MNR provided requested emergency response assistance. Many of these events will have involved community evacuations, significant structural loss, and/or involvement of MNR emergency response staff. These events fall into one of ten (10) type categories: Dam Failure; Drought / Low Water; Erosion; Flood; Forest Fire; Soil and Bedrock Instability; Petroleum Resource Center Event, EMO Requested Assistance, Continuity of Operations Event, Other Requested Assistance. EMHE record details are reproduced by ERIS under License with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2017.

Government Publication Date: Dec 31, 2016

List of TSSA Expired Facilities: Provincial EXP

List of facilities with removed tanks which were once registered with the Fuels Safety Program of the Technical Standards and Safety Authority (TSSA). Includes private fuel outlets, bulk plants, fuel oil tanks, gasoline stations, marinas, propane filling stations, liquid fuel tanks, piping systems, etc. Tanks which have been removed automatically fall under the expired facilities inventory held by TSSA.

Government Publication Date: Feb 28, 2017

Federal Convictions: Federal FCON

Environment Canada maintains a database referred to as the "Environmental Registry" that details prosecutions under the Canadian Environmental Protection Act (CEPA) and the Fisheries Act (FA). Information is provided on the company name, location, charge date, offence and penalty.

Government Publication Date: 1988-Jun 2007*

Contaminated Sites on Federal Land: Federal FCS

The Federal Contaminated Sites Inventory includes information on known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations as well as those that are being or have been investigated to determine whether they have contamination arising from past use that could pose a risk to human health or the environment. The inventory also includes non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility. It does not include sites where contamination has been caused by, and which are under the control of, enterprise Crown corporations, private individuals, firms or other levels of government.

Government Publication Date: June 2000-Aug 2016

Fisheries & Oceans Fuel Tanks: Federal FOFT

Fisheries & Oceans Canada maintains an inventory of aboveground & underground fuel storage tanks located on Fisheries & Oceans property or controlled by DFO. Our inventory provides information on the site name, location, tank owner, tank operator, facility type, storage tank location, tank contents & capacity, and date of tank installation.

Government Publication Date: 1964-Sept 2003

Fuel Storage Tank: Provincial FST

The Technical Standards & Safety Authority (TSSA), under the Technical Standards & Safety Act of 2000 maintains a database of registered private and retail fuel storage tanks in Ontario with fields such as location, tank status, license date, tank type, tank capacity, fuel type, installation year and facility type.

Government Publication Date: Feb 28, 2017

Fuel Storage Tank - Historic: Provincial FSTH

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks. Public records of private fuel storage tanks are only available since the registration became effective in September 1989. This information is now collected by the Technical Standards and Safety Authority.

Government Publication Date: Pre-Jan 2010*

Ontario Regulation 347 Waste Generators Summary: Provincial GEN

Regulation 347 of the Ontario EPA defines a waste generation site as any site, equipment and/or operation involved in the production, collection, handling and/or storage of regulated wastes. A generator of regulated waste is required to register the waste generation site and each waste produced, collected, handled, or stored at the site. This database contains the registration number, company name and address of registered generators including the types of hazardous wastes generated. It includes data on waste generating facilities such as: drycleaners, waste treatment and disposal facilities, machine shops, electric power distribution etc. This information is a summary of all years from 1986 including the most currently available data. Some records may contain, within the company name, the phrase "See & Use..." followed by a series of letters and numbers. This occurs when one company is amalgamated with or taken over by another registered company. The number listed as "See & Use", refers to the new ownership and the other identification number refers to the original ownership. This phrase serves as a link between the 2 companies until operations have been fully transferred.

Government Publication Date: 1986-Sep 2016

Greenhouse Gas Emissions from Large Facilities: Federal GHG

List of greenhouse gas emissions from large facilities made available by Environment Canada. Greenhouse gas emissions in kilotonnes of carbon dioxide equivalents (kt CO2 eq).

Government Publication Date: 2013-Dec 2015

TSSA Historic Incidents: Provincial HINC

This database will cover all incidences recorded by TSSA with their older system, before they moved to their new management system. TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. The TSSA works to protect the public, the environment and property from fuel-related hazards such as spills, fires and explosions. This database will include spills and leaks from pipelines, diesel, fuel oil, gasoline, natural gas, propane and hydrogen recorded by the TSSA.

Government Publication Date: 2006-June 2009*

Indian & Northern Affairs Fuel Tanks: Federal IAFT

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

Government Publication Date: 1950-Aug 2003*

TSSA Incidents: Provincial INC

TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. Includes incidents from fuel-related hazards such as spills, fires and explosions. This database will include spills and leaks from diesel, fuel oil, gasoline, natural gas, propane and hydrogen recorded by the TSSA.

Government Publication Date: Feb 28, 2017

Landfill Inventory Management Ontario: Provincial LIMO

The Landfill Inventory Management Ontario (LIMO) database is updated every year, as the ministry compiles new and updated information. The inventory will include small and large landfills. Additionally, each year the ministry will request operators of the larger landfills complete a landfill data collection form that will be used to update LIMO and will include the following information from the previous operating year. This will include additional information such as estimated amount of total waste received, landfill capacity, estimated total remaining landfill capacity, fill rates, engineering designs, reporting and monitoring details, size of location, service area, approved waste types, leachate of site treatment, contaminant attenuation zone and more. The small landfills will include information such as site owner, site location and certificate of approval # and status.

Government Publication Date: Dec 31, 2013

Canadian Mine Locations: Private MINE

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database.

Government Publication Date: 1998-2009*

Mineral Occurrences: Provincial MNR

In the early 70's, the Ministry of Northern Development and Mines created an inventory of approximately 19,000 mineral occurrences in Ontario, in regard to metallic and industrial minerals, as well as some information on building stones and aggregate deposits. Please note that the "Horizontal Positional Accuracy" is approximately +/- 200 m. Many reference elements for each record were derived from field sketches using pace or chain/tape measurements against claim posts or topographic features in the area. The primary limiting factor for the level of positional accuracy is the scale of the source material. The testing of horizontal accuracy of the source materials was accomplished by comparing the plan metric (X and Y) coordinates of that point with the coordinates of the same point as defined from a source of higher accuracy.

Government Publication Date: 1846-Feb 2017

National Analysis of Trends in Emergencies System (NATES): Federal NATE

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released.

Government Publication Date: 1974-1994*

Non-Compliance Reports: Provincial NCPL

The Ministry of the Environment provides information about non-compliant discharges of contaminants to air and water that exceed legal allowable limits, from regulated industrial and municipal facilities. A reported non-compliance failure may be in regard to a Control Order, Certificate of Approval, Sectoral Regulation or specific regulation/act.

Government Publication Date: Dec 31, 2014

National Defense & Canadian Forces Fuel Tanks: Federal NDFT

The Department of National Defense and the Canadian Forces maintains an inventory of all aboveground & underground fuel storage tanks located on DND lands. Our inventory provides information on the base name, location, tank type & capacity, tank contents, tank class, date of tank installation, date tank last used, and status of tank as of May 2001. This database will no longer be updated due to the new National Security protocols which have prohibited any release of this database.

Government Publication Date: Up to May 2001*

National Defense & Canadian Forces Spills: Federal NDSP

The Department of National Defense and the Canadian Forces maintains an inventory of spills to land and water. All spill sites have been classified under the "Transportation of Dangerous Goods Act - 1992". Our inventory provides information on the facility name, location, spill ID #, spill date, type of spill, as well as the quantity of substance spilled & recovered.

Government Publication Date: Mar 1999-Aug 2010

National Defence & Canadian Forces Waste Disposal Sites: Federal NDWD

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status.

Government Publication Date: 2001-Apr 2007*

National Energy Board Pipeline Incidents: Federal NEBI

Locations of pipeline incidents from 2008 to present, made available by the National Energy Board (NEB). Includes incidents reported under the Onshore Pipeline Regulations and the Processing Plant Regulations related to pipelines under federal jurisdiction, does not include incident data related to pipelines under provincial or territorial jurisdiction.

Government Publication Date: 2008 - Dec 2016

National Energy Board Wells: Federal NEBW

The NEBW database contains information on onshore & offshore oil and gas wells that are outside provincial jurisdiction(s) and are thereby regulated by the National Energy Board. Data is provided regarding the operator, well name, well ID No./UWI, status, classification, well depth, spud and release date.

Government Publication Date: 1920-Feb 2003*

National Environmental Emergencies System (NEES): Federal NEES

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for previous Environment Canada spill datasets. NEES is composed of the historic datasets ' or Trends ' which dates from approximately 1974 to present. NEES Trends is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004.

Government Publication Date: 1974-2003*

National PCB Inventory: Federal NPCB

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. Federal out-of-service PCB containing equipment and PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites. Some addresses provided may be Head Office addresses and are not necessarily the location of where the waste is being used or stored.

Government Publication Date: 1988-2008*

National Pollutant Release Inventory: Federal NPRI

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances.

Government Publication Date: 1993-2014

Oil and Gas Wells: Private OGW

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickle's database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at www.nickles.com.

Government Publication Date: 1988-Jan 2017

Ontario Oil and Gas Wells: Provincial OOGW

In 1998, the MNR handed over to the Ontario Oil, Gas and Salt Resources Corporation, the responsibility of maintaining a database of oil and gas wells drilled in Ontario. The OGSR Library has over 20,000+ wells in their database. Information available for all wells in the ERIS database include well owner/operator, location, permit issue date, and well cap date, license No., status, depth and the primary target (rock unit) of the well being drilled. All geology/stratigraphy table information, plus all water table information is also provide for each well record.

Government Publication Date: 1800-Oct 2016

Inventory of PCB Storage Sites: Provincial OPCB

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of PCB storage sites within the province. Ontario Regulation 11/82 (Waste Management - PCB) and Regulation 347 (Generator Waste Management) under the Ontario EPA requires the registration of inactive PCB storage equipment and/or disposal sites of PCB waste with the Ontario Ministry of Environment. This database contains information on: 1) waste quantities; 2) major and minor sites storing liquid or solid waste; and 3) a waste storage inventory.

Government Publication Date: 1987-Oct 2004; 2012-Dec 2013

Orders: Provincial ORD

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all Orders on the registry such as (EPA s. 17) - Order for remedial work, (EPA s. 18) - Order for preventative measures, (EPA s. 43) - Order for removal of waste and restoration of site, (EPA s. 44) - Order for conformity with Act for waste disposal sites, (EPA s. 136) - Order for performance of environmental measures.

Government Publication Date: 1994-Apr 2017

Canadian Pulp and Paper: Private PAP

This information is part of the Pulp and Paper Canada Directory. The Directory provides a comprehensive listing of the locations of pulp and paper mills and the products that they produce.

Government Publication Date: 1999, 2002, 2004, 2005, 2009

Parks Canada Fuel Storage Tanks: Federal PCFT

Canadian Heritage maintains an inventory of known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

Government Publication Date: 1920-Jan 2005*

Pesticide Register: Provincial PES

The Ontario Ministry of the Environment and Climate Change maintains a database of licensed operators and vendors of registered pesticides.

Government Publication Date: 1988-Oct 2016

TSSA Pipeline Incidents: Provincial PINC

TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. This database will include spills, strike and leaks from recorded by the TSSA.

Government Publication Date: Feb 28, 2017

Private and Retail Fuel Storage Tanks: Provincial PRT

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks and licensed retail fuel outlets. This database includes an inventory of locations that have gasoline, oil, waste oil, natural gas and/or propane storage tanks on their property. The MCCR no longer collects this information. This information is now collected by the Technical Standards and Safety Authority (TSSA).

Government Publication Date: 1989-1996*

Permit to Take Water: Provincial PTTW

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all PTTW's on the registry such as OWRA s. 34 - Permit to take water.

Government Publication Date: 1994-Apr 2017

Ontario Regulation 347 Waste Receivers Summary: Provincial REC

Part V of the Ontario Environmental Protection Act ("EPA") regulates the disposal of regulated waste through an operating waste management system or a waste disposal site operated or used pursuant to the terms and conditions of a Certificate of Approval or a Provisional Certificate of Approval. Regulation 347 of the Ontario EPA defines a waste receiving site as any site or facility to which waste is transferred by a waste carrier. A receiver of regulated waste is required to register the waste receiving facility. This database represents registered receivers of regulated wastes, identified by registration number, company name and address, and includes receivers of waste such as: landfills, incinerators, transfer stations, PCB storage sites, sludge farms and water pollution control plants. This information is a summary of all years from 1986 including the most currently available data.

Government Publication Date: 1986-2013

Record of Site Condition: Provincial RSC

The Record of Site Condition (RSC) is part of the Ministry of the Environment's Brownfields Environmental Site Registry. Protection from environmental cleanup orders for property owners is contingent upon documentation known as a record of site condition (RSC) being filed in the Environmental Site Registry. In order to file an RSC, the property must have been properly assessed and shown to meet the soil, sediment and groundwater standards appropriate for the use (such as residential) proposed to take place on the property. The Record of Site Condition Regulation (O. Reg. 153/04) details requirements related to site assessment and clean up.
RSCs filed after July 1, 2011 will also be included as part of the new (O.Reg. 511/09).

Government Publication Date: 1997-Sept 2001, Oct 2004-Apr 2017

Retail Fuel Storage Tanks: Private RST

This database includes an inventory of retail fuel outlet locations (including marinas) that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks.

Government Publication Date: 1999 - Oct 2016

Scott's Manufacturing Directory: Private SCT

Scott's Directories is a data bank containing information on over 200,000 manufacturers across Canada. Even though Scott's listings are voluntary, it is the most comprehensive database of Canadian manufacturers available. Information concerning a company's address, plant size, and main products are included in this database.

Government Publication Date: 1992-Mar 2011*

Ontario Spills: Provincial SPL

This database identifies information such as location (approximate), type and quantity of contaminant, date of spill, environmental impact, cause, nature of impact, etc. Information from 1988-2002 was part of the ORIS (Occurrence Reporting Information System). The SAC (Spills Action Centre) handles all spills reported in Ontario. Regulations for spills in Ontario are part of the MOE's Environmental Protection Act, Part X.

Government Publication Date: 1988-Dec 2016

Wastewater Discharger Registration Database: Provincial SRDS

Information under this heading is combination of the following 2 programs. The Municipal/Industrial Strategy for Abatement (MISA) division of the Ontario Ministry of Environment maintained a database of all direct dischargers of toxic pollutants within nine sectors including: Electric Power Generation; Mining; Petroleum Refining; Organic Chemicals; Inorganic Chemicals; Pulp & Paper; Metal Casting; Iron & Steel; and Quarries. All sampling information is now collected and stored within the Sample Result Data Store (SRDS).

Government Publication Date: 1990-2014

Anderson's Storage Tanks: Private TANK

The information provided in this database was collected by examining various historical documents, which identified the location of former storage tanks, containing substances such as fuel, water, gas, oil, and other various types of miscellaneous products. Information is available in regard to business operating at tank site, tank location, permit year, permit & installation type, no. of tanks installed & configuration and tank capacity. Data contained within this database pertains only to the city of Toronto and is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

Government Publication Date: 1915-1953*

Transport Canada Fuel Storage Tanks: Federal TCFT

List of fuel storage tanks currently or previously owned or operated by Transport Canada. This inventory also includes tanks on The Pickering Lands, which refers to 7,530 hectares (18,600 acres) of land in Pickering, Markham, and Uxbridge owned by the Government of Canada since 1972; properties on this land has been leased by the government since 1975, and falls under the Site Management Policy of Transport Canada, but is administered by Public Works and Government Services Canada. This inventory provides information on the site name, location, tank age, capacity and fuel type.

Government Publication Date: 1970-Jan 2015

TSSA Variances for Abandonment of Underground Storage Tanks: Provincial VAR

List of variances granted for abandoned tanks. Under the Technical Standards and Safety Authority (TSSA) Liquid Fuels Handling Code and Fuel Oil Code, all underground storage tanks must be removed within two years of disuse. If removal of a tank is not feasible, an application may be sought for a variance from this code requirement.

Government Publication Date: Feb 28, 2017

Waste Disposal Sites - MOE CA Inventory: Provincial WDS

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of known open (active or inactive) and closed disposal sites in the Province of Ontario. Active sites maintain a Certificate of Approval, are approved to receive and are receiving waste. Inactive sites maintain Certificate(s) of Approval but are not receiving waste. Closed sites are not receiving waste. The data contained within this database was compiled from the MOE's Certificate of Approval database. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number. All new Environmental Compliance Approvals handed out after Oct 31, 2011 for Waste Disposal Sites will still be found in this database.

Government Publication Date: 1970-Mar 2017

Waste Disposal Sites - MOE 1991 Historical Approval Inventory: Provincial WDSH

In June 1991, the Ontario Ministry of Environment, Waste Management Branch, published the "June 1991 Waste Disposal Site Inventory", of all known active and closed waste disposal sites as of October 30st, 1990. For each "active" site as of October 31st 1990, information is provided on site location, site/CA number, waste type, site status and site classification. For each "closed" site as of October 31st 1990, information is provided on site location, site/CA number, closure date and site classification. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number.

Government Publication Date: Up to Oct 1990*

Water Well Information System: Provincial WWIS

This database describes locations and characteristics of water wells found within Ontario in accordance with Regulation 903. It includes such information as coordinates, construction date, well depth, primary and secondary use, pump rate, static water level, well status, etc. Also included are detailed stratigraphy information, approximate depth to bedrock and the approximate depth to the water table.

Government Publication Date: Jun 30, 2016

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.