



Phase One Environmental Site Assessment

4836 Bank Street
Ottawa, Ontario

Prepared for:

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February 27, 2019

Pinchin File: 235527



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1.0 EXECUTIVE SUMMARY

Pinchin Ltd. (Pinchin) was retained by Mr. Omkar Atwal (Client) to complete a Phase One Environmental Site Assessment (Phase One ESA) of the property located at 4836 Bank Street in Ottawa, Ontario (hereafter referred to as the Site or Phase One Property). The Phase One Property is presently developed with a single-storey commercial building (the Site Building).

Pinchin conducted this Phase One ESA in accordance with Part VII and Schedule D of the Province of Ontario's *Environmental Protection Act R.S.O. 1990, c. E.19* and *Ontario Regulation 153/04: Records of Site Condition – Part XV.1 of the Act*, and last amended by Ontario Regulation 312/17 on July 28, 2017 (O. Reg. 153/04). The purpose of the Phase One ESA was to assess the potential presence of environmental impacts at the Phase One Property due to activities at and near the Phase One Property.

This Phase One ESA was conducted at the request of the Client for the purpose of filing a Site Plan Approval application with the City of Ottawa. The scope of work for this Phase One ESA was consistent with O. Reg. 153/04 in support of filing an RSC and was comprised of the following:

- A Records Review: Reviewed available current and historical information sources pertaining to the Phase One Property and Phase One Study Area including the use of, but not limited to, aerial photographs, city directories and historical environmental assessments relevant to the Phase One Property. Regulatory agencies were also contacted to identify if any records of environmental non-compliance or other information associated with the environmental condition of the Phase One Property exists, including searches of the Ministry of the Environment, Conservation and Parks' (MECP's) Freedom of Information and water well records, and the Technical Standards and Safety Authority (TSSA) records;
- Interviews: Conducted interviews with a Site Representative (see Section 5.0) to determine if any current or historical operations have caused a concern with respect to the environmental condition of the Phase One Property and the surrounding properties within the Phase One Study Area;
- Site Reconnaissance: Completed a visual assessment of the Phase One Property and the surrounding properties within the Phase One Study Area (from publicly-accessible areas) including any associated buildings and/or facilities for the purpose of identifying the presence of potentially contaminating activities (PCAs);
- Evaluation: Evaluated the information gathered from the records review, interviews and Site reconnaissance;



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- Reporting: Prepared a Phase One ESA report; and
- Submission: Submitted the Phase One ESA report to the Client.

The Phase One Property consists of Part of Lot 22, Concession 4 (Rideau Front) in the Geographic Township of Gloucester, situated at the municipal address of 4836 Bank Street, Ottawa, Ontario, which is currently owned by the Client. The Phase One Property is located on the west side of Bank Street, approximately 470 metres (m) south of Blais Road.

The following table provides a summary of the current and past land uses of the Phase One Property:

Year	Name of Owner	Description of Property Use	Property Use	Other Observations from Aerial Photographs, city directories, etc.
Prior to 1960s	Assumed Crown	Assumed vacant and/or agricultural	Agricultural or vacant (unused)	The Site Representative indicated that the Site Building was constructed in approximately the 1960s on previously undeveloped land. In addition, the 1945 and 1951 aerial photographs depicted the Phase One Property as vacant undeveloped land, and the Site Building was evident on-Site in the 1975 aerial photograph.



Year	Name of Owner	Description of Property Use	Property Use	Other Observations from Aerial Photographs, city directories, etc.
1960s-2006.	Unknown, and Co-Op Store and Country Depot	Commercial	A reported feed mill, then a co-op (general store)	The Site Representative indicated that the Site Building was constructed in the 1960s and operated as a feed mill, then a co-op (general store) until he purchased the Phase One Property in 2006. In addition, the Site Building was evident in its current configuration in all aerial photographs since 1975, and the city directories reviewed by Pinchin indicated that the Site was occupied by Co-Op Store and Country Depot in 2005.
2006-present	The Client	Commercial	Hardware store (general retail)	The Site Representative indicated that the Site has been occupied by Leitrim Home Hardware (i.e., a hardware store) since he purchased the Phase One Property in 2006. In addition, the city directories reviewed by Pinchin indicated that the Site was occupied by Leitrim Home Hardware in 2010, and the Site was occupied by Leitrim Home Hardware during the 2013 Pinchin Phase I and II ESA Reports.



To the best of Pinchin's knowledge, the Phase One Property was undeveloped until the construction of the Site Building in approximately the 1960s. The usage of the Phase One Property prior to the construction of the Site Building is inferred to have consisted of vacant undeveloped land. Prior to the current occupancy of Leitrim Home Hardware, the Site is inferred to have been occupied by a feed mill and a co-op store, as per information provided by the Site Representative and previously provided to Pinchin, the city directory searches, aerial photographs and configuration of the Site Building.

It is Pinchin's opinion that the date of the first developed use of the Phase One Property is approximately the 1960s, with the construction of the Site Building on the Phase One Property. The date of the first developed use of the Phase One Property was determined through a review of aerial photographs, previous reports, and correspondence with the Site Representative. No other historical records were available to Pinchin that provided information for determining the date of first developed use of the Phase One Property.

Based on the findings of this Phase One ESA, Pinchin identified three PCAs within the Phase One Study Area, all of which are located at the Phase One Property (i.e., on-Site). As shown on Figure 3, two PCAs consist of a diesel aboveground storage tank (AST) located adjacent to the west elevation of the Site Building, and a pole-mounted oil-cooled transformer located on the central portion of the Phase One Property. Although the ground surface in the vicinity of the AST and pole-mounted transformer was snow/ice-covered during Pinchin's Site reconnaissance, limiting exterior observations, no spills or evidence of historical spills (i.e., staining) was observed in the vicinity of the AST or transformer. In addition, no reported spills or leaks have occurred from the AST or transformer. As such, it is Pinchin's opinion that the AST and transformer are unlikely to result in potential subsurface impacts at the Phase One Property. As shown on Figures 3 and 4, the third on-Site PCA (which is also considered an area of potential environmental concern (APEC)) consists of a former gasoline underground storage tank (UST) that was located exterior to the south elevation of the Site Building. Based on the findings of the 2013 Pinchin Phase II ESA Report, soil samples collected from borehole BH-2 had concentrations of petroleum hydrocarbons (PHCs) (F1) and ethylbenzene that exceeded the Table 2: Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for a commercial property use and fine-textured soils, as defined in the MECP document "*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*", dated April 15, 2011 (2011 Table 2 Standards). However, Pinchin noted that these residual impacts were considered to be localized and minor in nature and as such, it was Pinchin's opinion that no further subsurface investigation was required at that time with respect to the concerns identified within the 2013 Pinchin Phase I ESA Report. Pinchin maintains this recommendation as part of this Phase One ESA; however, if the impacted area is to be redeveloped in the future, Pinchin recommends that the impacted soil be dealt with accordingly. As such, it is Pinchin's



opinion that the Phase One Property is suitable for the filing of a Site Plan Approval application with the City of Ottawa based only on the completion of this Phase One ESA report.

This Executive Summary is subject to the same standard limitations as contained in the report and must be read in conjunction with the entire report.

This report has been issued without having received responses from the MECP regarding Pinchin's Freedom of Information request or the TSSA regarding Pinchin's archival search request. Once responses from these regulatory bodies is received, the information will be reviewed by Pinchin and, if there is any information that represents a potential issue of environmental concern, a copy of the response will be forwarded to the Client under separate cover. Our conclusions and recommendations may be amended based on this information.

2.0 INTRODUCTION

A Phase One ESA is defined as a systematic qualitative process to determine whether a particular property is, or may be subject to, actual or potential contamination. Under the Province of Ontario's *Environmental Protection Act R.S.O. 1990, c. E.19* (EPA) and *Ontario Regulation 153/04: Records of Site Condition – Part XV.1 of the Act*, and last amended by Ontario Regulation 312/17 on July 28, 2017 (O. Reg. 153/04), the purpose of a Phase One ESA is two-fold:

- To obtain and review records that relate to the Phase One Property, and to the current and past uses of and activities at or affecting the Phase One Property, in order to determine if an area of potential environmental concern (APEC) exists and to interpret any APEC; and
- To obtain and review records that relate to properties in the Phase One Study Area, other than the Phase One Property, in order to determine if a potentially contaminating activity (PCA) exists and interpret whether any such PCA represents an APEC for the Phase One Property.

This Phase One ESA was conducted at the request of the Client for the purpose of filing a Site Plan Approval application with the City of Ottawa.

2.1 Phase One Property Information

The Phase One Property consists of Part of Lot 22, Concession 4 (Rideau Front) in the Geographic Township of Gloucester, situated at civic address 4836 Bank Street, Ottawa, Ontario, which is currently owned by the Client. The Phase One Property is located on the west side of Bank Street, approximately 470 metres (m) south of Blais Road, as shown on Figure 1 (all Figures are provided in Appendix A and all appendices are provided in Section 10.0). A plan showing the Phase One Study Area is provided as Figure 2, the PCAs identified within the Phase One Study Area are labelled on Figure 3, and the APEC identified for the Phase One Property is labelled on Figure 4. Photographs of the Phase One Property

and surrounding properties are presented in Appendix B. A current legal survey of the Phase One Property is included in Appendix C.

Pertinent details of the Phase One Property are provided in the following table:

Detail	Source / Reference	Information
Legal Description	http://maps.ottawa.ca/geoottawa/ City of Ottawa	Lot 22, Concession 4 (Rideau Front) in the Geographic Township of Gloucester, Ottawa
Municipal Address	http://maps.ottawa.ca/geoottawa/ City of Ottawa, Client	4836 Bank Street Ottawa, ON K1X 1G6
Parcel Identification Number (PIN)	http://maps.ottawa.ca/geoottawa/ City of Ottawa	043280231
Current Owner	Client	Mr. Omkar Atwal
Current Occupant	Site Reconnaissance, Site Representative	Leitrim Home Hardware
Client	Authorization to Proceed, Limitation of Liability & Terms of Engagement Form for Pinchin Proposal	Mr. Omkar Atwal
Client Contact Information	Authorization to Proceed, Limitation of Liability & Terms of Engagement Form for Pinchin Proposal	Omkar Atwal 4836 Bank Street Ottawa, ON K1X 1G6 Phone: 613-822-0760 Omkar.Atwal@homehardware.ca
Site Area	http://maps.ottawa.ca/geoottawa/ City of Ottawa	2.40 hectares (6.00 acres)
Current Zoning	http://maps.ottawa.ca/geoottawa/ City of Ottawa	RC4 – Rural Commercial (Subzone 4)

3.0 SCOPE OF INVESTIGATION

Pinchin conducted this Phase One ESA in accordance with O. Reg. 153/04, in particular Part VII and Schedule D of O. Reg. 153/04. The Phase One ESA scope of work was comprised of the following:

- A Records Review: Pinchin reviewed available current and historical information sources pertaining to the Phase One Property and surrounding properties within the Phase One Study Area including the use of, but not limited to, aerial photographs, city directories, historical environmental assessments relevant to the Phase One Property, a regulatory data base search and Ministry of the Environment, Conservation and Parks (MECP) water well records. Regulatory agencies were also contacted to identify if any records of

environmental non-compliance or other information associated with the environmental condition of the Phase One Property exist, including the MECP's Freedom of Information and Protection of Privacy Office and the Technical Standards and Safety Authority (TSSA);

- Interviews: Pinchin conducted interviews with a Site Representative (see Section 5.0) to determine if any current or historical operations have caused a concern with respect to the environmental condition of the Phase One Property and the surrounding properties within the Phase One Study Area;
- Site Reconnaissance: Pinchin completed a visual assessment of the Phase One Property and the surrounding properties within the Phase One Study Area (from publicly-accessible areas) including any associated buildings and/or facilities for the purpose of identifying the presence of significant environmental contaminants of concern;
- Evaluation: Pinchin evaluated the information gathered from the records review, interviews and Site reconnaissance;
- Reporting: Pinchin prepared a Phase One ESA report summarizing the findings of the Phase One ESA; and
- Submission: Pinchin submitted the Phase One ESA report to the Client.

4.0 RECORDS REVIEW

4.1 General

A Phase One ESA does not include sampling or testing of environmental media or building materials. The study period for this assessment was during February 2019, which included the records review, Site reconnaissance, interviews and reporting. A Site reconnaissance was completed on February 12, 2019, by a Pinchin representative under the direct supervision of a Qualified Person (QP). During the Site reconnaissance, Pinchin accessed all areas of the Phase One Property, with the exception of the roof of the Site Building and various undeveloped areas on the west portion of the Phase One Property due to deep snow cover. Pinchin did not access any areas within the surrounding Phase One Study Area with the exception of publicly-accessible roads and sidewalks. Select photographs taken during the Site reconnaissance of the Phase One Property and the surrounding properties within the Phase One Study Area are presented in Appendix B.



4.1.1 Phase One Study Area Determination

Based on a review of the available historical information and observations made during the Site reconnaissance for the properties greater than 250 m, but less than 1 kilometre (km), from the Phase One Property boundary, Pinchin did not note or observe any significant potentially contaminating properties that should be included as part of this assessment (e.g., landfills, large industrial manufacturers, etc.). As such, the Phase One Study Area consisted of the Phase One Property, as well as all properties situated wholly, or partly, within 250 m from the nearest point of a boundary of the Phase One Property, in order to meet the minimum requirements set forth in O. Reg. 153/04. A map of the Phase One Study Area and the surrounding land use is presented in Figure 3.

4.1.2 First Developed Use Determination

The first developed land use of the Phase One Property is defined by O. Reg. 153/04 to be:

- a. the first use of a Phase One Property in or after 1875 that resulted in the development of a building or structure on the property; and
- b. the first potentially contaminating use or activity on the Phase One Property.

To the best of Pinchin's knowledge, the Phase One Property was undeveloped until the construction of the Site Building in approximately the 1960s. The usage of the Phase One Property prior to the construction of the Site Building is inferred to have consisted of vacant undeveloped land. Prior to the current occupancy of Leitrim Home Hardware, the Site is inferred to have been occupied by a feed mill and a co-op store, as per information provided by the Site Representative and previously provided to Pinchin, the city directory searches, aerial photographs and configuration of the Site Building.

To the best of Pinchin's knowledge, no building or structure had been constructed on the Phase One Property prior to the 1960s, based on a review of 1945 and 1951 aerial photographs that showed the Phase One Property to be vacant undeveloped land and a review of the 1975 aerial photograph that showed the Phase One Property to be developed with a building of similar size and configuration to the present-day Site Building. As such, the first developed use of the Phase One Property occurred sometime between 1951 and 1975.

The date of the first developed use of the Phase One Property was determined through a review of city directories, aerial photographs and previous reports. No other information was reviewed by Pinchin during the records review, or obtained during the Site reconnaissance or interviews which would have resulted in a different interpretation of the date of first developed use of the Phase One Property.

4.1.3 Fire Insurance Plans

Pinchin previously contacted Opta Information Intelligence (Opta) to obtain Fire Insurance Plans (FIPs) related to the Phase One Property and the Phase One Study Area. A response was received from Opta, dated August 7, 2013, which indicated that no FIPs for the Phase One Property and Phase One Study Area were available. The Opta response is provided in Appendix D.

4.1.4 Environmental Reports

The following previous environmental reports for the Phase One Property were reviewed by Pinchin:

- Report entitled "*Phase I and II Environmental Audit, Ottawa Co-op (Leitrim)*" prepared by XCG Environmental Services Inc. (XCG) for United Co-operatives of Ontario, and dated July 19, 1994 (the 1994 XCG Phase I and II ESA Report);
- Report entitled "*Ottawa Co-op (Leitrim) Site Remediation Activities*" prepared by XCG for United Co-operatives of Ontario, and dated July 19, 1994 (the 1994 XCG Remediation Report);
- Report entitled "*Phase I Environmental Site Assessment, 4836 Bank Street, Ottawa, Ontario*" prepared by Pinchin for Ottawa Feed and HW, and dated August 2013 (the 2013 Pinchin Phase I ESA Report); and
- Report entitled "*Phase II Environmental Site Assessment, 4836 Bank Street, Ottawa, Ontario*" prepared by Pinchin for Ottawa Feed and HW, and dated August 2013 (the 2013 Pinchin Phase II ESA Report).

Pinchin reviewed the available soil and groundwater sample analytical data provided in the above-referenced reports to assess whether there are any known soil and groundwater impacts at the Phase One Property.

Given the available information on the characteristics of the Phase One Property, the applicable Site Condition Standards, as defined by the MECP in the document "*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*", and dated April 15, 2011, are:

- *Table 2: Full Depth Generic Site Condition Standards in a Potable Groundwater Condition (2011 Table 2 Standards)* for a commercial property use and fine-textured soils.

As such, the analytical data provided in the previous reports were compared with the *2011 Table 2 Standards* to assess whether there are any known areas on the Phase One Property or in the Phase One Study Area where soil or groundwater has parameter concentrations exceeding the *2011 Table 2 Standards*.



A summary of the salient information identified in the reports is provided below.

1994 XCG Phase I and II ESA Report

The 1994 XCG Phase I and II ESA Report presented the findings of a Phase I ESA, including a review of readily available historical records and reasonably ascertainable regulatory information, a Site reconnaissance, interviews, an evaluation of information and reporting.

The results of the 1994 XCG Phase I and II ESA Report indicated that a Phase II ESA was recommended based on the presence of the following:

- A former gasoline underground storage tank (UST) that was located exterior to the south elevation of the Site Building;
- The use of aboveground storage tanks (ASTs) at the Phase One Property;
- Fertilizer dumping that had occurred on the west portion of the Phase One Property; and
- A burn pit that was located on the west portion of the Phase One Property.

As part of the Phase II ESA activities, XCG completed seven test pits across the Phase One Property to determine the presence of any environmental impacts at the Site. Several soil samples from the test pits were submitted for laboratory analysis of total petroleum hydrocarbons (TPHs) and benzene, toluene, ethylbenzene and xylenes (BTEX) parameters. Soil samples were compared to the Ontario Ministry of the Environment (MOE, now referred to as the MECP) guidelines, as indicated in the document entitled *"Interim Guidelines for the Assessment and Management of Petroleum Contaminated Sites in Ontario"*.

The criteria used was for an industrial/commercial land use and coarse grained soils (Level 2 Interim Guidelines). All samples analyzed from the test pits satisfied the then-applicable Level 2 Interim Guidelines, with the exception of TPH and xylenes exceedances that were present in the vicinity of the former gasoline UST. As such, XCG recommended the removal of the identified petroleum hydrocarbon (PHC)-impacted soil from the Phase One Property.

1994 XCG Remediation Report

Subsequent to the completion of the 1994 XCG Phase I and II ESA Report, XCG was retained to complete a remedial excavation based on the findings of the 1994 XCG Phase I and II ESA Report.

The following summarizes the findings of the 1994 XCG Remediation Report:

- On November 15, 1994, approximately 278 tonnes of PHC-impacted soil was removed from the Phase One Property and disposed of at the Huneault Waste Management landfill in Navan, Ontario;

- Several confirmatory soil samples were collected from the limits of the excavation (floor and walls), field screened for hydrocarbon vapour levels and submitted for laboratory analysis. The samples were assessed based on the Level 2 Interim Guidelines. All analyzed soil samples satisfied this applicable criteria, with the exception of samples collected along the north wall of the excavation, which marginally exceeded the Level 2 Interim Guidelines for TPHs and BTEX. These impacts were located adjacent to the footing of the Site Building and as such, the excavation could not be extended further north as it would compromise the structural integrity of the Site Building; and
- No groundwater was encountered during the excavation.

Based on the above-noted findings, no further work was recommended by XCG.

2013 Pinchin Phase I ESA Report

The 2013 Pinchin Phase I ESA Report presented the findings of a Phase I ESA in general accordance with the CSA document entitled "*Phase I Environmental Site Assessment*" (CSA Document Z768-01), dated November 2001 (reaffirmed 2016), including a review of readily available historical records and reasonably ascertainable regulatory information, a Site reconnaissance, interviews, an evaluation of information and reporting. In addition the 2013 Pinchin Phase I ESA Report reviewed the above-noted reports previously prepared for the Phase One Property.

The 2013 Pinchin Phase I ESA Report indicated that the following environmental concern was present at the Phase One Property:

- Residual PHC and benzene impacts may be present in soil and groundwater in the vicinity of the former gasoline UST, and these impacts could exceed the 2011 Table 2 Standards.

Based on the above-noted findings, Pinchin recommended that a Phase II ESA be completed at the Phase One Property.

2013 Pinchin Phase II ESA Report

Based on the findings of the 2013 Pinchin Phase I ESA Report, Pinchin was retained to complete a Phase II ESA Report at the Phase One Property. The 2013 Pinchin Phase II ESA Report was completed at the Phase One Property on August 12 and 13, 2013, and consisted of the advancement of two boreholes, one of which was completed as a groundwater monitoring well.



Select “worst case” soil samples collected during the borehole drilling program were submitted for laboratory analysis of PHCs in the carbon fractions F1 to F4 (F1 - F4), and BTEX. A groundwater sample was collected from the newly installed monitoring well and was also submitted for laboratory analysis of PHCs (F1 - F4) and BTEX.

Based on Site specific information, the soil and groundwater quality was assessed based on the *2011 Table 2 Standards*.

The soil sample submitted for analysis from borehole BH-2 had concentrations of PHCs (F1) and ethylbenzene parameters exceeding their respective *2011 Table 2 Standards*. The reported concentrations in the soil sample from MW-1 submitted for analysis satisfied their respective *2011 Table 2 Standards*. All reported concentrations in the groundwater sample submitted for analysis of PHCs (F1 - F4) and BTEX satisfied their respective *2011 Table 2 Standards*.

Based on the findings of the 2013 Pinchin Phase II ESA Report, borehole BH-2 had concentrations of PHCs (F1) and ethylbenzene that exceeded the *2011 Table 2 Standards*. However, Pinchin noted that these residual impacts were considered to be localized and minor in nature and as such, it was Pinchin’s opinion that no further subsurface investigation was required for the Phase One Property at that time with respect to the concerns identified in the 2013 Pinchin Phase I ESA Report.

4.1.4.1 Previous Environmental Report Summary

Based on Pinchin’s review of the above-referenced previous environmental reports, the following has resulted in known subsurface impacts at the Phase One Property:

- A gasoline UST was formerly located exterior to the south elevation of the Site Building. Based on the findings of the 2013 Pinchin Phase II ESA Report, soils samples collected from borehole BH-2 had concentrations of PHCs (F1) and ethylbenzene that exceeded the *2011 Table 2 Standards*. However, Pinchin noted that these residual impacts were considered to be localized and minor in nature and as such, it was Pinchin’s opinion that no further subsurface investigation was required at that time with respect to the concerns identified within the 2013 Pinchin Phase I ESA Report. Pinchin maintains this recommendation as part of this Phase One ESA; however, if the impacted area is to be redeveloped in the future, Pinchin recommends that the impacted soil be dealt with accordingly.

4.2 Environmental Source Information

Pinchin reviewed the historical use of the Phase One Study Area through the use of publicly available archives and databases, as well as through requesting information from regulatory agencies. The following provides a summary of the information obtained from these sources.

4.2.1 Environmental Database Search – EcoLog ERIS

Pinchin retained EcoLog Environmental Risk Information Service Ltd. (ERIS) to search all available federal, provincial and private source databases for information pertaining to the Phase One Study Area. A copy of the EcoLog ERIS report is provided in Appendix F and the results of the database search are described in the following subsections.

4.2.1.1 National Pollutant Release Inventory

EcoLog ERIS completed a search of the federal databases for information regarding the National Pollutant Release Inventory (NPRI). This database contains comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances and identifies information such as the approximate location, type and quantity of contaminant, date of release, and media impacted.

Pinchin reviewed the EcoLog ERIS report for NPRI information and found no records regarding the Phase One Study Area.

4.2.1.2 Ontario Inventory of PCB Storage Sites

The MECP's Waste Management Branch maintains an inventory of PCB storage sites within Ontario. Ontario Regulation 11/82 and Ontario Regulation 347 (O. Reg. 347), made under the EPA, require the registration of inactive PCB storage equipment and/or disposal sites of PCB waste with the MECP. This database contains information on waste quantities, major and minor sites storing liquid or solid waste, and a waste storage inventory.

EcoLog ERIS completed a search of the Ontario Inventory of PCB Storage Sites for information regarding PCB storage and found no information regarding the Phase One Study Area.

4.2.1.3 National PCB Inventory

Environment Canada maintains an inventory of in-use PCB-containing equipment at federal, provincial and private facilities in Canada, and of out-of-service PCB-containing equipment and PCB waste owned by the federal government or federally regulated industries.

EcoLog ERIS completed a search of the National PCB Inventory and found no information regarding the Phase One Study Area.

4.2.1.4 Certificates of Approval

EcoLog ERIS completed a search of the MECP database for information regarding Certificates of Approval (Cs-of-A). The MECP maintains a database of approved Cs-of-A for Air & Noise, Industrial Sewage, Municipal & Private Sewage, Waste Management Systems and Renewable Energy Approvals. Prior to November 1, 2011, the MECP mandated that any facility that released emissions to the atmosphere, discharged contaminants to ground or surface water, provided potable water supplies, or stored, transported or disposed of waste, must have a C-of-A before it could operate lawfully. The MECP no longer issues Cs-of-A, which were replaced by Environmental Compliance Approvals (ECAs) as of November 1, 2011.

The EcoLog ERIS search of the C-of-A database identified no information regarding Cs-of-A for the Phase One Study Area.

4.2.1.5 Environmental Compliance Approvals, Permits To Take Water and Certificates of Property Use

EcoLog ERIS completed a search of the MECP database for information regarding ECAs, permits including Permits To Take Water (PTTWs) and Certificates of Property Use (CPUs). Details regarding these databases are provided in the EcoLog ERIS report in Appendix F.

The EcoLog ERIS database search identified no information regarding ECAs, PTTWs or CPUs for the Phase One Study Area.

4.2.1.6 Inventory of Coal Gasification Plants

EcoLog ERIS searched the following publications prepared for the MECP by Intera Technologies Inc. for information on industrial sites that formerly operated as coal gasification plants, and industrial sites that produced or used coal tar and other related tars:

- “*Inventory of Coal Gasification Plant Waste Sites in Ontario*”, dated April 1987; and
- “*Inventory of Industrial Sites Producing or Using Coal Tar and Related Tars in Ontario*”, dated November 1988.

The EcoLog ERIS search yielded no records of former coal gasification plants or the production or use of coal tar and related tars within the Phase One Study Area.

4.2.1.7 Environmental Incidents, Orders, Offences and Spills

EcoLog ERIS completed a search of the various provincial and federal databases for information regarding environmental incidents, orders, offences and spills. Details regarding the searched databases are provided in the EcoLog ERIS report in Appendix F.

The EcoLog ERIS database search of records of environmental incidents, orders, offences or spills revealed the following for the Phase One Study Area:

- No records were found of environmental incidents, orders, offences or spills for the Phase One Property; and
- Two spill records were identified for other properties located within the Phase One Study Area; however, the spills were minor in nature and were located greater than 200 m from the Phase One Property. As such, the potential for the documented spills to be causes for environmental concern to the Phase One Property is considered low.

4.2.1.8 Waste Management Records

Waste Generators

EcoLog ERIS completed a search of the O. Reg. 347 Waste Generators database for information regarding waste generation. O. Reg. 347 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. The database search results provide a summary of available waste generation information for the registered sites for all years from 1986 to the present.

The EcoLog ERIS search of the O. Reg. 347 Waste Generators database found the following information regarding the Phase One Property:

- The Phase One Property, listed as UCO Petroleum Inc. and UPI Inc., was a registered generator of light fuels (1992-1998).

This generator number was not listed within Pinchin's in-house MECP Waste Generator database; however, Pinchin's historical review determined that two diesel ASTs and one gasoline UST were formerly located on-Site. Based on the results of previous subsurface environmental work completed in the former UST area (refer to Section 4.1.4), concentrations of PHCs (F1) and ethylbenzene remained present in this area that exceeded the *2011 Table 2 Standards*. It is Pinchin's opinion that these residual impacts were considered to be localized and minor in nature and as such, it is Pinchin's opinion that no further subsurface investigation is required for the Phase One Property at this time. However, if the impacted area is to be redeveloped in the future, Pinchin recommends that the impacted soil be dealt with accordingly.



One other property located within the Phase One Study Area was listed within the database search results as a waste generator. Based on the location and distance relative to the Phase One Property (i.e., approximately 220 m northeast of the Phase One Property and situated hydraulically downgradient of the Phase One Property with respect to the inferred groundwater flow direction), it is Pinchin's opinion that historical hazardous waste generation at this property is not considered an environmental concern for the Phase One Property.

Waste Receivers

EcoLog ERIS completed a search of the O. Reg. 347 Waste Receivers database for information regarding waste receivers. O. Reg. 347 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 contains 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.

The EcoLog ERIS search of the O. Reg. 347 Waste Receivers database found no information regarding the Phase One Study Area.

4.2.1.9 Fuel Storage Tanks

EcoLog ERIS completed a search of various private, provincial and federal databases for information regarding chemical storage tanks, as well as private and retail fuel storage tanks. Details regarding the searched databases are provided in the EcoLog ERIS report in Appendix F.

The EcoLog ERIS search of the chemical or fuel storage tank databases found no information regarding the Phase One Study Area.

4.2.1.10 Notices and Instruments

EcoLog ERIS completed a search of the provincial Environmental Registry for records pertaining to proposals, decisions, and exceptions regarding policies, Acts, instruments, or regulations that could significantly affect the environment. EcoLog ERIS also searched the Record of Site Condition (RSC) database for filed RSCs.

The EcoLog ERIS search of the Environmental Registry and RSC database found no information regarding the Phase One Study Area.

4.2.1.11 *Areas of Natural Significance*

EcoLog ERIS reviewed available databases and records to assess whether any parks, wetlands, conservation areas, or other areas of natural significance, are located within the Phase One Study Area. The Area of Natural & Scientific Interest map included in the EcoLog ERIS report in Appendix F did not identify any areas of natural significance within the Phase One Study Area.

4.2.1.12 *Landfill Information*

EcoLog ERIS reviewed available private and provincial databases for records of any current or inactive landfills and waste disposal sites within the Phase One Study Area. Details regarding the searched databases are provided in the EcoLog ERIS report in Appendix F.

The EcoLog ERIS search of the landfill and waste disposal sites databases found no information regarding the Phase One Study Area.

4.2.1.13 *Other EcoLog ERIS Databases*

The EcoLog ERIS database search of the Pesticide Register database identified the following additional information for the Phase One Property and Phase One Study Area:

- The Pesticide Register database indicated that the Phase One Property, listed as Ottawa Feed & Hardware Inc., was registered as a vendor/limited vendor of pesticide products; however, based on the nature of operations (i.e., retail sale of pesticide products), it is Pinchin's opinion that this listing is unlikely to result in potential subsurface impacts at the Phase One Property.

4.2.2 *Ministry of the Environment, Conservation and Parks Freedom of Information Search*

The MECP Freedom of Information and Protection of Privacy Office in Toronto, Ontario was contacted to determine if records exist for environmental matters such as orders, spills, previous investigations, prosecutions, registered PCB waste storage sites, waste generators, waste receivers, Cs-of-A and ECAs associated with the Phase One Property.

The search was requested on February 7, 2019. At the time of writing this report, no response had been received from the MECP. When a formal response is received, it will be reviewed by Pinchin. If there is any information that represents a potential issue of environmental concern, a copy of the response will be forwarded to the Client under separate cover. Our conclusions and recommendations may be amended based on this information. A copy of Pinchin's request submitted to the MECP is provided in Appendix F of this report.

4.2.3 Technical Standards and Safety Authority Search

The TSSA is the regulatory body that governs the safe handling and storage of fuel in Ontario. All storage of gasoline, diesel and fuel oil is subject to the Technical Standards and Safety Act. The Technical Standards and Safety Act and its relevant documents and regulations (e.g., *Liquid Fuels Handling Code*; *Ontario Regulation 213/01 – Fuel Oil*; *Ontario Regulation 217/01 – Liquid Fuels*) require that all fuel storage devices such as ASTs and USTs be registered with the TSSA.

The TSSA was contacted to complete an archival search for the Site, in order to establish the status of the Site with respect to its historical files, to identify outstanding instructions, tank registrations, incident reports, fuel/oil spills or contamination records. At the time of writing this report, no response had been received from the TSSA. When a formal response is received, it will be reviewed by Pinchin. If there is any information that represents a potential issue of environmental concern, a copy of the response will be forwarded to the Client under separate cover. Our conclusions and recommendations may be amended based on this information. A copy of Pinchin's request submitted to the TSSA is provided in Appendix G of this report.

4.2.4 Property Underwriters' Reports and Plans

Property Underwriters' Reports (PURs) provide detailed information on a site-specific basis, including descriptions of building construction, heating sources, production processes, and the presence of any hazardous chemicals or materials which may have been historically stored on the Phase One Property. They also indicate the presence of environmental hazards such as electrical rooms, transformers, boilers and storage tanks. Information provided on Property Underwriters' Plans (PUPs) includes the location, capacity, and contents of ASTs, USTs, chemical storage and other forms of environmental hazards.

Pinchin previously contacted Opta to obtain copies of PURs and PUPs related to the Phase One Property. Opta provided a written response, indicating there were no records on-file for the Phase One Property. A copy of Opta's response is provided in Appendix D.

4.2.5 City Directories

City directories for the years 2000 to 2011 were reviewed by Pinchin at the Library and Archives of Canada in Ottawa, Ontario. It should be noted that these were the only city directories available for the Site and surrounding area. A summary of information obtained with respect to the Phase One Property is provided in the following table:

Year(s)	Occupant Listings for Site Address
2000.	Site not listed.
2005.	Co-op Store and Country Depot.
2011.	Leitrim Home Hardware.

Based on Pinchin's review of the above-noted city directories, no PCAs were identified at the Phase One Property.

In general, the city directories indicated that the properties in the Phase One Study Area outside of the Phase One Property have been historically occupied by residential and commercial land uses since at least 2000. Based on Pinchin's review of the above-noted city directories, no PCAs, including historical dry cleaning operations, retail fuel outlets or other operations of potential environmental concern, were identified in the Phase One Study Area outside of the Phase One Property.

4.3 Physical Setting Sources

4.3.1 Aerial Photographs

Pinchin reviewed aerial photographs of the Phase One Property and surrounding properties within the Phase One Study Area to assess the potential for historical PCAs. Copies of aerial photographs dated 1945, 1951, 1975, 1985, 1994 and 2002 were obtained from the National Air Photo Library in Ottawa, Ontario and reviewed by Pinchin. In addition, Pinchin reviewed Google Earth™ Satellite Imagery dated 2008 and 2013. The 1945 aerial photograph was the earliest available aerial photograph of the Phase One Study Area.

Efforts were made by Pinchin to obtain aerial photographs that:

- Illustrated the period between initial development of the Phase One Property to the present;
- Identified buildings and structures present on the Phase One Property since initial development;
- Identified PCAs within the Phase One Study Area; and
- Identified APECs on the Phase One Property.

It should be noted that accurate details could not be determined from the some of the aerial photographs due to the large reference scale and the low resolution of the photographs.

A summary of information obtained with respect to the Phase One Property from a review of the available aerial photography is provided in the following table:

Year of Photograph	Phase One Property
1945 and 1951.	The Phase One Property appeared to consist of vacant forested/agricultural land.
1975, 1985, 1994, 2002, 2008 and 2013.	A building that was similar in size and configuration to the present-day Site Building appeared to have been constructed on-Site.

A summary of information obtained with respect to the surrounding properties within the Phase One Study Area is provided in the following table:

Year of Photograph	North	East	South	West
1945 and 1951.	Vacant undeveloped land to beyond 250 m from the Phase One Property.	Present-day Bank Street followed by vacant undeveloped land to beyond 250 m from the Phase One Property.	Vacant undeveloped land to beyond 250 m from the Phase One Property.	Vacant undeveloped land to beyond 250 m from the Phase One Property, similar to the current configuration.
1975 and 1985.	Similar to 1945 and 1951; however, residential dwellings were evident.	Similar to 1945 and 1951; however, an area of cleared land was evident.	Similar to 1945 and 1951; however, residential dwellings were evident, similar to the current configuration.	Similar to 1945 and 1951.
1994, 2002, 2008 and 2013.	Similar to 1975 and 1985.	Similar to 1975 and 1985; however, a community building was evident, similar to the current configuration.	Similar to 1975 and 1985.	

Based on the aerial photographs reviewed for the Phase One Property and the surrounding area, it appears that the Phase One Property was developed between 1951 and 1975.

The aerial photograph review did not identify any PCAs within the Phase One Study Area or APECs on the Phase One Property.

4.3.2 Topography, Hydrology and Geology

The elevation of the Phase One Property, based on information obtained from the Ontario Base Map series, ranges from approximately 100-104 m above mean sea level (mamsl). The general topography in the local and surrounding area generally slopes towards the east-northeast. No bedrock outcrops were observed on-Site or in the surrounding area; however, it should be noted that the ground surface was snow/ice-covered during Pinchin's Site reconnaissance, limiting exterior observations.

A review of the available physiographical data indicates that the Phase One Property and the surrounding properties located within the Phase One Study Area are located within alluvial deposits consisting of stratified gravel, sand, silt and clay. Bedrock is expected to consist of sedimentary rocks consisting of limestone, dolomite, shale, argillite, sandstone, quartzite, and/or grit. The topography is considered to be mainly flat to rolling low local relief with dry surface water drainage conditions. During previous on-Site environmental investigations, the soil stratigraphy was observed to consist of sand gravel fill with some silt throughout that extended to a maximum depth of approximately 3.0 m below ground surface (mbgs) (when inferred bedrock was encountered).

Based on general hydrogeological principles and the topography near the Phase One Property and the surrounding properties within the Phase One Study Area, the unconfined groundwater beneath the Phase One Property is expected to flow in a northeasterly direction. A small stream is located approximately 80 m northeast of the Phase One Property at an elevation of approximately 98 mamsl. The nearest major water body is the Rideau River, located approximately 8.1 km west of the Phase One Property at an elevation of approximately 84 mamsl.

Copies of pertinent maps, illustrating local topographical, hydrogeological and drainage features are provided in Appendix H.

4.3.3 Fill Materials

Based on observations during the Site reconnaissance, regrading and minor fill placement at the Phase One Property may have occurred during initial development activities circa the 1960s to construct the Site Building, prepare parking and access, and to establish drainage patterns. No areas with disturbed soil or buried debris were noted during the Site reconnaissance; however, it should be noted that the ground surface was snow/ice-covered during Pinchin's Site reconnaissance, limiting exterior observations.

As noted within the 2013 Pinchin Phase II ESA Report, fill, generally consisting of sand and gravel with some silt throughout, was encountered to a maximum depth of approximately 3.0 mbgs (when inferred bedrock was encountered). The fill encountered during the 2013 Pinchin Phase II ESA Report is inferred to not be deleterious in nature.

Potential future development plans should incorporate the appropriate procedures for the characterization of soils that may require off-Site disposal. Further assessment and/or costs may be incurred through re-development of the Phase One Property and/or change in land use scenarios.

4.3.4 Water Bodies and Areas of Natural Significance

No water bodies were identified on the Phase One Property or on surrounding properties within the Phase One Study Area, with the following exceptions:

- A small stream is located approximately 80 m northeast of the Phase One Property at an elevation of approximately 98 mamsl.

A review of the Area of Natural & Scientific Interest map prepared by EcoLog ERIS (see Appendix F) did not identify any parks, wetlands, conservation areas, or other areas of natural significance, within the Phase One Study Area.

4.3.5 Well Records

A search of the Water Well Information System database by EcoLog ERIS identified one water well record for the Phase One Property and nine water well records within the Phase One Study Area. A summary of pertinent information obtained with respect to the wells is provided in the following table:

MECP Well ID (EcoLog ERIS ID)	Location	Stratigraphy	Approximate Depth to Bedrock	Approximate Depth to Water Table
1513436 (WWIS-1)	On the northeast portion of the Phase One Property	Topsoil (0-1.33 mbgs) Brown topsoil with boulders (1.33-4.00 mbgs) Grey limestone with clay (4.00-5.33 mbgs) White limestone (5.33-16.66 mbgs)	~4.00 mbgs	16.00 mbgs

MECP Well ID (EcoLog ERIS ID)	Location	Stratigraphy	Approximate Depth to Bedrock	Approximate Depth to Water Table
1502179 (WWIS-2)	Approximately 15 m north-northeast of the Phase One Property	Boulders with clay and sand (0-5.33 mbgs) Grey limestone (5.33-8.33 mbgs) Sandstone (8.33-29.66 mbgs)	~5.33 mbgs	28.33 mbgs
1514664 (WWIS-3)	Approximately 55 m south of the Phase One Property	Brown sand with gravel and boulders (0-4.33 mbgs) Black shale (4.33-10.00 mbgs) Grey limestone (10.00-37.00 mbgs)	~4.33 mbgs	10.66 mbgs
1502180 (WWIS-4)	Approximately 105 m southeast of the Phase One Property	Topsoil (0-2.00 mbgs) Grey limestone (2.00-18.33 mbgs)	~2.00 mbgs	18.33 mbgs
1502177 (WWIS-5)	Approximately 145 m southeast of the Phase One Property	Medium sand (0-2.33 mbgs) Boulders with medium sand (2.33-6.66 mbgs) Sandstone (6.66-20.00 mbgs)	~6.66 mbgs	20.00 mbgs
1512375 (WWIS-6)	Approximately 185 m southeast of the Phase One Property	Brown sand (0-3.00 mbgs) White sandstone (3.00-24.66 mbgs)	~3.00 mbgs	24.66 mbgs
1516052 (WWIS-7)	Approximately 215 m east-northeast of the Phase One Property	Brown sand and clay with boulders (0-2.33 mbgs) Grey hardpan with boulders (2.33-8.66 mbgs) Grey limestone (8.66-14.33 mbgs) Grey sandstone (14.33-58.33 mbgs)	~8.66 mbgs	58.33 mbgs

MECP Well ID (EcoLog ERIS ID)	Location	Stratigraphy	Approximate Depth to Bedrock	Approximate Depth to Water Table
1512265 (WWIS-8)	Approximately 220 m southeast of the Phase One Property	Brown clay with sand and stones (0-1.00 mbgs) Grey limestone (1.00-16.00 mbgs)	~1.00 mbgs	2.66 mbgs
1502181 (WWIS-9)	Approximately 220 m north of the Phase One Property	Clay (0-7.00 mbgs) Limestone (7.00-15.33 mbgs)	~7.00 mbgs	15.33 mbgs
1502178 (WWIS-10)	Approximately 230 m southeast of the Phase One Property	Clay with gravel and medium sand (0-6.00 mbgs) Limestone (6.00-16.66 mbgs)	~6.00 mbgs	16.00 mbgs

The EcoLog ERIS report search results indicated that the margin of error associated with the UTM coordinates is reported to be 30 to 100 m.

The Water Well Information System database search results are provided in the EcoLog ERIS report in Appendix E.

As documented in the 2013 Pinchin Phase II ESA Report, on-Site monitoring well MW1 was installed to a approximately 3.00 mbgs in the overburden (when inferred bedrock was encountered), which consisted primarily of sand and gravel fill with some silt. The depth to groundwater within MW1 was approximately 2.0 mbgs.

4.4 Site Operating Records

There is no current land use that would classify the Phase One Property as an enhanced investigation property (see Section 6.3). As such, Site operating records were not reviewed as part of the Phase One ESA.

5.0 INTERVIEWS

Pinchin interviewed individuals knowledgeable of the Phase One Property and its history to obtain or confirm information regarding the environmental condition of the Phase One Property. The following individuals provided information regarding the history of the Phase One Property and the surrounding properties within the Phase One Study Area to the best of their knowledge:

Person Interviewed	Relationship to Phase One Property	Date and Place of Interview	Interview Method
Mr. Omkar Atwal	Current owner of Phase One Property	February 12, 2019 (Phase One Property)	In-person interview during Site reconnaissance.

Mr. Atwal was chosen to be interviewed given that he has owned the Phase One Property since 2006 and is familiar with the recent operational history of the Phase One Property. Mr. Atwal is referred to herein as the “Site Representative”, and accompanied the Pinchin representative (Mr. Kurt Frommann) during the Site reconnaissance.

Pinchin compared the information obtained from the interviews with information obtained from the historical records. The information provided by the interviewee was corroborated by the available historical records. As such, Pinchin has no concerns regarding the validity of the information provided by the individual interviewed for the Phase One ESA.

With respect to PCAs and APECs, no additional information was obtained from the interviews other than that documented elsewhere in this report.

6.0 SITE RECONNAISSANCE

6.1 General Requirements

A visual assessment of the Phase One Property and the surrounding properties within the Phase One Study Area was conducted for the purpose of identifying the presence of possible PCAs and associated APECs.

The Site reconnaissance was completed on February 12, 2019, by a Pinchin representative (i.e., Mr. Kurt Frommann), under the direct supervision of Pinchin’s QP overseeing this project. Mr. Frommann is an Environmental Project Manager with more than six years of environmental consulting experience. Pinchin visited the Phase One Property and surrounding properties within the Phase One Study Area to document environmental conditions. During the Site reconnaissance, Pinchin viewed all accessible areas within the Phase One Property and viewed publicly-accessible portions of the adjacent lands for the presence of actual or potential issues of environmental concern.

The Site reconnaissance was conducted between the hours of 9:00 AM and 11:00 AM. During the Site reconnaissance, the weather was clear and sunny, and the ambient temperature was approximately -17° Celsius. The Phase One Property reconnaissance was conducted on foot and consisted of a full walk-through of the Phase One Property. In addition, it should be noted that the ground surface was snow/ice-covered during Pinchin's Site reconnaissance, limiting exterior observations. There were no access restrictions for Pinchin for the Phase One Property, with the exception of the rooftop, which could not be accessed at the time of the Site reconnaissance, as well as portions of the southwest portion of the Phase One Property that could not be accessed due to deep snow cover. At the time of the Site reconnaissance, the Phase One Property was occupied by Leitrim Home Hardware, operating as a hardware store.

Photographs taken during the Site reconnaissance that illustrate the interior and exterior of the Site Building, Phase One Property and Phase One Study Area are provided in Appendix B.

6.2 Specific Observations at Phase One Property

6.2.1 Description of Buildings and Structures

During the Site reconnaissance, Pinchin observed one building/structure on the Phase One Property. The building consisted of a single-storey commercial building (Site Building), and was occupied by Leitrim Home Hardware (i.e., a hardware store). The Site Building consisted primarily of retail space, office space, shipping/receiving and warehouse areas, mechanical rooms and storage/maintenance rooms. The Site Representative reported that the Site Building was constructed in approximately the 1960s on previously undeveloped land.

The portion of the Phase One Property outside of the Site Building consisted primarily of parking areas, exterior storage areas and vacant undeveloped/forested land.

6.2.2 Description of Below-Ground Structures

There were no below-ground structures present on the Phase One Property at the time of the Site reconnaissance.

6.2.3 Description of Tanks

During the Site reconnaissance, Pinchin observed the presence of the following tanks on the Phase One Property:

- One in-use double-walled steel coloured diesel AST with a capacity of 455-L that was constructed in 2009. The diesel AST is located adjacent to the west elevation of the Site Building and is used to supply fuel for the skid steer located on-Site. No secondary containment was observed around the AST. No spills or evidence of historical spills (i.e., staining) was observed in the vicinity of the AST and as such, it is Pinchin's opinion that this AST is unlikely to result in potential subsurface impacts at the Phase One Property. However, it should be noted that the ground surface in the vicinity of the AST was snow/ice-covered during Pinchin's Site reconnaissance, limiting exterior observations.

6.2.4 Potable and Non-Potable Water Sources

No potable or non-potable water supply sources were observed at the Phase One Property. The Site Representative, as well as the EcoLog ERIS report, indicated the presence of a drilled water well that is located on-Site. The Site Representative indicated that the well is located on the northeast portion of the Phase One Property. In addition, the Site Representative indicated that the well is only utilized for irrigation purposes and is not used as a source of drinking water at the Phase One Property.

6.2.5 Description and Location of Underground Utilities

A number of underground utilities were observed on the Phase One Property, including natural gas, telephone and electrical lines, and municipal water lines.

The natural gas, telephone and water services enter the Site Building via underground lines running from Bank Street into the east elevation of the Site Building. Electrical services enter the Site via overhead wires. Stormwater entering exterior roof drains runs overland and percolates naturally through the soil.

6.2.6 Entry and Exit Points

The main man-door entry/exit point for customers of the Site Building is located along the east elevation of the Site Building, adjacent to the parking area. Secondary entry/exit points to the Site Building are located along the south and west elevations of the Site Building.

6.2.7 Details of Heating System

During the Site reconnaissance, Pinchin observed natural gas-fired heating/ventilation/air-conditioning (HVAC) units and natural gas-fired suspended unit heaters. The Site Representative was unaware of any previous heating systems associated with the Site Building.



6.2.8 Details of Cooling System

Cooling for the Site Building is provided by roof-mounted natural gas-fired HVAC units.

6.2.9 Details of Drains, Pits and Sumps

No pits or sumps were observed at the Phase One Property.

6.2.10 Unidentified Substances within Buildings and Structures

During the Site reconnaissance, Pinchin did not observe any unidentified substances or storage containers holding unidentified substances at the Phase One Property. Small volumes of various cleaning solutions were stored in their original containers in various locations throughout the Site Building. No bulk liquid storage was observed on-Site.

6.2.11 Details of Staining and Corrosion

During the Site reconnaissance, Pinchin did not observe any areas of staining or corrosion inside the Site Building.

6.2.12 Details of On-Site Wells

No water supply or groundwater monitoring wells were observed to be on or within the Phase One Property; however, it should be noted that the ground surface was snow/ice-covered during Pinchin's Site reconnaissance and as such, Pinchin could not confirm the presence/absence of MW1 that was installed as part of the 2013 Pinchin Phase II ESA Report. The Site Representative, as well as the EcoLog ERIS report, indicated the presence of a drilled water well that is located on-Site. The Site Representative indicated that the well is located on the northeast portion of the Phase One Property. In addition, the Site Representative indicated that the well is only utilized for irrigation purposes and is not used as a source of drinking water at the Phase One Property. The Site owner did not have any information on the date of installation or construction details of the well, but a review of the available water well records (see Section 4.3.5) indicates that this water well is likely MECP Well ID 1513436 that was installed in 1973 to a depth of 16.66 m in limestone bedrock.

6.2.13 Details of Sewage Works

During the Site reconnaissance, the Site Representative informed Pinchin of septic tanks and an associated septic bed located west of the Site Building. Sewage generated by the Site Building is discharged to the septic bed via a sewer pipe that exits the west elevation of the Site Building.



6.2.14 Details of Ground Cover

During the Site reconnaissance, Pinchin visually inspected the Phase One Property ground cover. It should be noted that the ground surface was snow-covered during Pinchin's Site reconnaissance, limiting exterior observations. However, any areas of the Phase One Property not covered by a structure are inferred to consist of exterior storage areas and vacant undeveloped/forested areas.

6.2.15 Details of Current or Former Railways

No current or former railway infrastructure was observed on the Phase One Property.

6.2.16 Areas of Stained Soil, Vegetation and Pavement

During the Site reconnaissance, Pinchin did not observe any areas of stained soil, vegetation or pavement on the Phase One Property. It should be noted that the ground surface was snow-covered during Pinchin's Site reconnaissance, limiting exterior observations.

6.2.17 Areas of Stressed Vegetation

During the Site reconnaissance, Pinchin did not observe any areas of stressed vegetation on the Phase One Property; however, it should be noted that Pinchin did not access portions of the west portion of the Phase One Property due to deep snow cover, and the ground surface was snow-covered during Pinchin's Site reconnaissance, limiting exterior observations.

6.2.18 Areas of Fill and Debris Materials

No obvious areas where fill material or debris have been placed or graded were observed by Pinchin at the Phase One Property; however, regrading and minor fill placement at the Phase One Property may have previously occurred during initial development activities to prepare the Site Building location, parking areas and access to the Phase One Property, and to establish drainage patterns. As noted within the 2013 Pinchin Phase II ESA Report, fill, generally consisting of sand and gravel with some silt throughout, was encountered to a maximum depth of approximately 3.0 mbgs (when inferred bedrock was encountered). The fill encountered during the 2013 Pinchin Phase II ESA Report is inferred to not be deleterious in nature; however, the quality of additional potential fill material used on-Site is unknown.

Potential future development plans should incorporate the appropriate procedures for the characterization of soils that may require off-Site disposal. Further assessment and/or costs may be incurred through re-development of the Phase One Property and/or change in land use scenarios.

6.2.19 *Potentially Contaminating Activities*

A PCA is defined by O. Reg. 153/04 as a “use or activity set out in Column A of Table 2 of Schedule D that is occurring or has occurred in a Phase One Study Area” including the Phase One Property. Pinchin did not identify any current PCAs at the Phase One Property during the Site reconnaissance.

The following PCA was observed on the Phase One Property during the Site reconnaissance:

- Item 28 – Gasoline and Associated Products Storage in Fixed Tanks (diesel AST located adjacent to the west elevation of the Site Building). No spills or evidence of historical spills (i.e., staining) was observed in the vicinity of the AST and as such, it is Pinchin’s opinion that this AST is unlikely to result in potential subsurface impacts at the Phase One Property. However, it should be noted that the ground surface in the vicinity of the AST was snow/ice-covered during Pinchin’s Site reconnaissance, limiting exterior observations; and
- Item 55 – Transformer Manufacturing, Processing and Use (pole-mounted oil-cooled transformer located on the central portion of the Phase One Property). No reported leaks or issues were reported with the transformer and no spills or evidence of historical spills (i.e., staining) was observed in the vicinity of the transformer. As such, it is Pinchin’s opinion that this transformer is unlikely to result in potential subsurface impacts at the Phase One Property. However, it should be noted that the ground surface in the vicinity of the AST was snow/ice-covered during Pinchin’s Site reconnaissance, limiting exterior observations.

Details regarding the PCAs (e.g., locations, potential contaminants of concern, and rationale for inclusion) are provided in the above relevant sections of this report, and are further summarized in Section 7.2.

6.2.20 *Unidentified Substances Outside Buildings and Structures*

During the Site reconnaissance, Pinchin did not observe any unidentified substances or storage containers holding unidentified substances on the exterior of the Phase One Property.

6.3 **Enhanced Investigation Property**

O. Reg. 153/04 defines an “enhanced investigation property” as a property that is being used or has been used, in whole or in part, in the following manner:

- For an industrial use or;
- For any of the following commercial uses:
 - As a garage;



- As a bulk liquid dispensing facility, including a gasoline outlet; or
- For the operation of dry cleaning equipment.

During this Phase One ESA, Pinchin has documented that the Phase One Property was formerly used as a private fuel outlet (PFO) and is therefore considered an enhanced investigation property.

6.3.1 Site Operations

Historical operations at the Phase One Property included a PFO located south of the Site Building, which was equipped with a gasoline UST. The current Site operations are restricted to warehousing and retail sales. Upon review of the historical records for the Phase One Property and through discussions with the Site Representative, no other processing or manufacturing activities are known to have taken place at the Phase One Property.

6.3.2 Hazardous Materials

Based upon information obtained from the historical records for the Phase One Property and from interviews, the following hazardous materials are known to have been stored or used at the Phase One Property:

- A gasoline UST was formerly located exterior to the south elevation of the Site Building. The UST is inferred to have been constructed of steel, and based on Pinchin's review of previous environmental reports completed for the Phase One Property, the UST was removed prior to 1994.

6.3.3 Products Manufactured

Based upon information obtained from the historical records for the Phase One Property and from interviews, there is no record of historical product manufacturing on the Phase One Property.

6.3.4 By-Products and Wastes

Based upon information obtained from the historical records for the Phase One Property and from interviews, there is no record of the historical generation of manufacturing by-products or wastes at the Phase One Property.

6.3.5 Raw Materials Handling and Storage

Based upon information obtained from the historical records for the Phase One Property and from interviews, there is no record of the historical handling or storage of raw materials at the Phase One Property.



6.3.6 Drums, Totes and Bins

Based upon information obtained from the historical records for the Phase One Property and from interviews, there is no record of the storage of materials in drums, totes or bins at the Phase One Property.

6.3.7 Oil/Water Separators

Based upon information obtained from the historical records for the Phase One Property and from interviews, there is no record of the historical presence of oil/water separators at the Phase One Property.

6.3.8 Vehicle and Equipment Maintenance

Based upon information obtained from the historical records for the Phase One Property and from interviews, there is no record of historical vehicle and equipment maintenance activities at the Phase One Property.

6.3.9 Spills

Based upon information obtained from the historical records for the Phase One Property and from interviews, there are no records of historical spills at the Phase One Property.

6.3.10 Liquid Discharge Points

Based upon information obtained from the historical records for the Phase One Property and from interviews, there is no record of liquid discharge points at the Phase One Property.

6.3.11 Processing and Manufacturing Operations/Equipment

Based upon information obtained from the historical records for the Phase One Property and from interviews, there is no record of the historical processing or manufacturing operations or equipment at the Phase One Property.

6.3.12 Hydraulic Equipment

Based upon information obtained from the historical records for the Phase One Property and from interviews, there is no record of the historical presence of hydraulic equipment (e.g., elevators, in-ground hoists, loading docks) at the Phase One Property.

6.4 Written Description of Investigation

The Phase One ESA completed by Pinchin included investigations of the Phase One Property and the Phase One Study Area outside of the Phase One Property pursuant to Sections 13 and 14 of Schedule D of O. Reg.153/04. The main objective of these investigations was to identify PCAs at the Phase One Property or within the Phase One Study Area outside of the Phase One Property that could have resulted in APECs at the Phase One Property.

6.4.1 Phase One Property

The investigation of the Phase One Property consisted of the following components:

- Review of available historical records, including previous environmental reports, EcoLog ERIS regulatory search, city directories, aerial photographs and well records;
- A Site reconnaissance completed on February 12, 2019, by Mr. Kurt Frommann of Pinchin that included an assessment of structures at the Phase One Property and the exterior of the Phase One Property;
- Interviews with individuals knowledgeable of the history and operations at the Phase One Property; and
- Review of mapping provided by EcoLog ERIS for the presence of areas of natural significance.

Pinchin's investigation of the Phase One Property identified the following PCA:

- Item 28 – Gasoline and Associated Products Storage in Fixed Tanks (former gasoline UST located exterior to the south elevation of the Site Building). Based on the findings of the 2013 Pinchin Phase II ESA Report, soil samples collected from borehole BH-2 had concentrations of PHCs (F1) and ethylbenzene that exceeded the *2011 Table 2 Standards*. However, Pinchin noted that these residual impacts were considered to be localized and minor in nature and as such, it was Pinchin's opinion that no further subsurface investigation was required at that time with respect to the concerns identified within the 2013 Pinchin Phase I ESA Report. Pinchin maintains this recommendation as part of this Phase One ESA; however, if the impacted area is to be redeveloped in the future, Pinchin recommends that the impacted soil be dealt with accordingly;

- Item 28 – Gasoline and Associated Products Storage in Fixed Tanks (diesel AST located adjacent to the west elevation of the Site Building). No spills or evidence of historical spills (i.e., staining) was observed in the vicinity of the AST and as such, it is Pinchin's opinion that this AST is unlikely to result in potential subsurface impacts at the Phase One Property. However, it should be noted that the ground surface in the vicinity of the AST was snow/ice-covered during Pinchin's Site reconnaissance, limiting exterior observations; and
- Item 55 – Transformer Manufacturing, Processing and Use (pole-mounted oil-cooled transformer located on the central portion of the Phase One Property). No reported leaks or issues were reported with the transformer and no spills or evidence of historical spills (i.e., staining) was observed in the vicinity of the transformer. As such, it is Pinchin's opinion that this transformer is unlikely to result in potential subsurface impacts at the Phase One Property. However, it should be noted that the ground surface in the vicinity of the AST was snow/ice-covered during Pinchin's Site reconnaissance, limiting exterior observations.

No areas of natural significance were identified at the Phase One Property.

6.4.2 Phase One Study Area Outside of Phase One Property

The investigation of the Phase One Study Area outside of the Phase One Property consisted of the following components:

- Review of available historical records, including but not limited to previous environmental reports, EcoLog ERIS regulatory search, city directories and aerial photographs;
- Visual inspection of properties from publicly-accessible areas for evidence of PCAs and water bodies; and
- Review of mapping provided by EcoLog ERIS for the presence of areas of natural significance.

Pinchin's investigation of the Phase One Study Area outside of the Phase One Property did not identify any PCAs.

No areas of natural significance were identified within the Phase One Study Area outside of the Phase One Property.

Based on a cursory review of the properties greater than 250 m (i.e., outside of the Phase One Study Area), but less than 1 km, from the Phase One Study Area, Pinchin did not note or observe any significant contaminating properties that should be included as part of this assessment (i.e., landfills, large industrial manufacturers, etc.).

A plan identifying the locations of the PCAs and APEC for which this Phase One ESA applies to is provided as Figures 3 and 4.

7.0 REVIEW AND EVALUATION OF INFORMATION

7.1 Current and Past Uses

The following table is a summary of the current and past land uses of the Phase One Property:

Year	Name of Owner	Description of Property Use	Property Use	Other Observations from Aerial Photographs, city directories, etc.
Prior to 1960s	Assumed Crown	Assumed vacant and/or agricultural	Agricultural or vacant (unused)	The Site Representative indicated that the Site Building was constructed in approximately the 1960s on previously undeveloped land. In addition, the 1945 and 1951 aerial photographs depicted the Phase One Property as vacant undeveloped land, and the Site Building was evident on-Site in the 1975 aerial photograph.



Year	Name of Owner	Description of Property Use	Property Use	Other Observations from Aerial Photographs, city directories, etc.
1960s-2006.	Unknown, and Co-Op Store and Country Depot	Commercial	A reported feed mill, then a co-op (general store)	The Site Representative indicated that the Site Building was constructed in the 1960s and operated as a feed mill, then a co-op (general store) until he purchased the Phase One Property in 2006. In addition, the Site Building was evident in its current configuration in all aerial photographs since 1975, and the city directories reviewed by Pinchin indicated that the Site was occupied by Co-Op Store and Country Depot in 2005.
2006-present	The Client	Commercial	Hardware store (general retail)	The Site Representative indicated that the Site has been occupied by Leitrim Home Hardware (i.e., a hardware store) since he purchased the Phase One Property in 2006. In addition, the city directories reviewed by Pinchin indicated that the Site was occupied by Leitrim Home Hardware in 2010, and the Site was occupied by Leitrim Home Hardware during the 2013 Pinchin Phase I and II ESA Reports.



To the best of Pinchin's knowledge, the Phase One Property was undeveloped until the construction of the Site Building in approximately the 1960s. The usage of the Phase One Property prior to the construction of the Site Building is inferred to have consisted of vacant undeveloped land. Prior to the current occupancy of Leitrim Home Hardware, the Site is inferred to have been occupied by a feed mill and a co-op store, as per information provided by the Site Representative and previously provided to Pinchin, the city directory searches, aerial photographs and configuration of the Site Building.

It is Pinchin's opinion that the date of the first developed use of the Phase One Property is approximately the 1960s, with the construction of the Site Building on the Phase One Property. The date of the first developed use of the Phase One Property was determined through a review of aerial photographs, previous reports, and correspondence with the Site Representative. No other historical records were available to Pinchin that provided information for determining the date of first developed use of the Phase One Property.

7.2 Potentially Contaminating Activities

The following PCAs as defined by O. Reg. 153/04 were documented by Pinchin to have occurred at the Phase One Property:

- Item 28 – Gasoline and Associated Products Storage in Fixed Tanks (former gasoline UST located exterior to the south elevation of the Site Building). Based on the findings of the 2013 Pinchin Phase II ESA Report, soil samples collected from borehole BH-2 had concentrations of PHCs (F1) and ethylbenzene that exceeded the *2011 Table 2 Standards*. However, Pinchin noted that these residual impacts were considered to be localized and minor in nature and as such, it was Pinchin's opinion that no further subsurface investigation was required at that time with respect to the concerns identified in the 2013 Pinchin Phase I ESA Report. Pinchin maintains this recommendation as part of this Phase One ESA; however, if the impacted area is to be redeveloped in the future, Pinchin recommends that the impacted soil be dealt with accordingly;
- Item 28 – Gasoline and Associated Products Storage in Fixed Tanks (diesel AST located adjacent to the west elevation of the Site Building). No spills or evidence of historical spills (i.e., staining) was observed in the vicinity of the AST and as such, it is Pinchin's opinion that this AST is unlikely to result in potential subsurface impacts at the Phase One Property. However, it should be noted that the ground surface in the vicinity of the AST was snow/ice-covered during Pinchin's Site reconnaissance, limiting exterior observations; and

- Item 55 – Transformer Manufacturing, Processing and Use (pole-mounted oil-cooled transformer located on the central portion of the Phase One Property). No reported leaks or issues were reported with the transformer and no spills or evidence of historical spills (i.e., staining) was observed in the vicinity of the transformer. As such, it is Pinchin's opinion that this transformer is unlikely to result in potential subsurface impacts at the Phase One Property. However, it should be noted that the ground surface in the vicinity of the AST was snow/ice-covered during Pinchin's Site reconnaissance, limiting exterior observations.

No PCAs were identified by Pinchin to have occurred within the Phase One Study Area outside of the Phase One Property.

7.3 Areas of Potential Environmental Concern

The following table summarizes the APEC identified during the Phase One ESA, as well as the respective PCA, contaminants of potential concern (COPCs) and the media which has been impacted:

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern	Media Impacted (Groundwater, Soil and/or Sediment)
APEC #1 (Former on-Site UST)	Exterior to the south elevation of the Site Building	Item 28 – Gasoline and Associated Products Storage in Fixed Tanks	On-Site	PHCs BTEX	Soil only, based on the results of the 2013 Pinchin Phase II ESA Report

Notes:

BTEX – benzene, toluene, ethylbenzene and total xylenes

PHCs – petroleum hydrocarbon fractions F1-F4

The rationale used by the QP in assessing the available information to determine whether PCAs exist or have existed within the Phase One Study Area, including the Phase One Property, that represent an APEC at the Phase One Property has been provided in the preceding report sections. In general, the potential for environmental impacts to the Phase One Property was evaluated using a combined probability for a source to contaminate, and the ability of contaminants to migrate on, or to the Phase One Property. For example, a gasoline UST located on the Phase One Property, or on a property in close proximity and/or upgradient of the Phase One Property, would exhibit a high potential for contamination (and is therefore considered a PCA resulting in an APEC at the Phase One Property) since gasoline is



highly mobile in the subsurface. In contrast, shallow soil/fill with metals impacts located on a property adjacent to the Phase One Property would be considered to have a low potential for contamination given that metals generally have low mobility in the subsurface (and would not be considered a PCA and not an APEC at the Phase One Property). Furthermore, non-adjacent properties with PCAs located downgradient of the Phase One Property generally do not result in APECs at the Phase One Property. Groundwater is the media through which contaminants typically migrate from property to property, and if the source of the contaminant is downgradient of the Phase One Property, contaminated groundwater from this source cannot migrate to the Phase One Property and the downgradient PCA would not be considered an APEC at the Phase One Property.

The COPCs listed above in the summary table are APEC-specific and were determined based on several sources of information, including but not limited to, Pinchin's experience with environmental contamination and hazardous substances, common industry standards for analysis of such contaminants and point sources, literature reviews of COPCs and associated hazardous substances, and an evaluation by Pinchin of the mobility and susceptibility for migration of the COPCs in the subsurface.

As noted in the summary table above, the Phase One ESA completed by Pinchin identified one APEC at the Phase One Property. Based on the findings of the 2013 Pinchin Phase II ESA Report, soil samples collected from borehole BH-2 had concentrations of PHCs (F1) and ethylbenzene that exceeded the 2011 *Table 2 Standards*. However, Pinchin noted that these residual impacts were considered to be localized and minor in nature and as such, it was Pinchin's opinion that no further subsurface investigation was required at that time with respect to the concerns identified in the 2013 Pinchin Phase I ESA Report. Pinchin maintains this recommendation as part of this Phase One ESA; however, if the impacted area is to be redeveloped in the future, Pinchin recommends that the impacted soil be dealt with accordingly.

The evaluation of the presence/absence of APECs at the Phase One Property was based upon the analysis of available documents, records and drawings, and personal interviews. In evaluating the Phase One Property and Phase One Study Area, Pinchin has relied in good faith on information provided by other individuals or sources as noted in this report. Pinchin has assumed that the information provided is factual and accurate, and has no reason to believe that any of the information provided in the available documentation or obtained through interviews is not factual or inaccurate.

Pinchin is not aware of any additional information that would alter the conclusions regarding the presence/absence of APECs at the Phase One Property.

7.4 Phase One Conceptual Site Model

A conceptual site model (CSM) has been created to provide a summary of the findings of the Phase One ESA. The Phase One CSM is summarized in Figures 1 through 4, which illustrate the following features within the Phase One Study Area, where present:

- Existing buildings and structures;
- Water bodies located in whole or in part within the Phase One Study Area;
- Areas of natural significance located in whole or in part within the Phase One Study Area;
- Drinking water wells located at the Phase One Property;
- Land use of adjacent properties;
- Roads within the Phase One Study Area;
- PCAs within the Phase One Study Area, including the locations of tanks; and
- APECs at the Phase One Property.

The following provides a narrative summary of the Phase One CSM:

- The Phase One Property is a rectangular-shaped parcel of land approximately 6.00 acres (2.40 hectares) in size on the west side of Bank Street, approximately 470 m south of Blais Road in the City of Ottawa. The Phase One Property is improved with a single-storey commercial building (Site Building) occupied by Leitrim Home Hardware, that is located on the east portion of the Phase One Property. Since initial development in the 1960s, the Phase One Property has been utilized as a feed mill, a co-op (general store) and a hardware store;
- A small stream is located approximately 80 m northeast of the Phase One Property at an elevation of approximately 98 mamsl;
- No areas of natural significance were identified within the Phase One Study Area;
- A drinking water supply well, installed in 1973, is reportedly present on the northeast portion of the Phase One Property and is utilized seasonally for irrigation purposes. As the ground surface was snow/ice-covered during Pinchin's Site reconnaissance, limiting exterior observations, the well was not observed by Pinchin;

- The properties within the Phase One Study Area consist of vacant, residential, institutional and commercial land uses. The properties located north of the Phase One Property consist of land under development and commercial buildings. The properties located east of the Phase One Property consist of Bank Street followed by an institutional building and vacant undeveloped land to beyond 250 m from the Phase One Property. The properties located south of the Phase One Property consist of vacant undeveloped land followed by commercial buildings to beyond 250 m from the Phase One Property. The properties located west of the Phase One Property consist of vacant undeveloped land and land under development to beyond 250 m from the Phase One Property;
- A total of three PCAs were identified within the Phase One Study Area, all of which are located at the Phase One Property. As shown on Figure 3, two PCAs consists of a diesel AST located adjacent to the west elevation of the Site Building, and a pole-mounted oil-cooled transformer located on the central portion of the Phase One Property. Although the ground surface in the vicinity of the AST and pole-mounted transformer was snow/ice-covered during Pinchin's Site reconnaissance, limiting exterior observations, no spills or evidence of historical spills (i.e., staining) was observed in the vicinity of the AST or transformer. In addition, no reported spills or leaks have occurred from the AST or transformer. As such, it is Pinchin's opinion that the AST and transformer are unlikely to result in potential subsurface impacts at the Phase One Property. As shown on Figures 3 and 4, the third on-Site PCA (which is also considered an APEC) consist of a former gasoline UST that was located exterior to the south elevation of the Site Building. Based on the findings of the 2013 Pinchin Phase II ESA Report, soil samples collected from borehole BH-2 had concentrations of PHCs (F1) and ethylbenzene that exceeded the *2011 Table 2 Standards*. However, Pinchin noted that these residual impacts were considered to be localized and minor in nature and as such, it was Pinchin's opinion that no further subsurface investigation was required at that time with respect to the concerns identified in the 2013 Pinchin Phase I ESA Report. Pinchin maintains this recommendation as part of this Phase One ESA; however, if the impacted area is to be redeveloped in the future, Pinchin recommends that the impacted soil be dealt with accordingly;
- Underground utilities at the Phase One Property provide potable water, natural gas, electrical and telephone services to the Site Building. These services enter the Site Building through a subsurface conduit on the east side of the Site Building, with the exception of a pressurized natural gas line that connects to a meter located at the east portion of the Site Building, and electrical services which enter the Phase One Property

via overhead wires. Plans were not available to confirm the depths of these utilities but they are estimated to be located approximately 2.0 to 3.0 mbgs. The known depth to groundwater at the Phase One Property is approximately 2.0 mbgs, which coincides with the approximate depth to the water table. As such, it is possible that the utility corridors may act as preferential pathways for contaminant distribution and transport in the event that shallow subsurface contaminants exist at the Phase One Property;

- The Phase One Property and the surrounding properties located within the Phase One Study Area are located within alluvial deposits consisting of stratified gravel, sand, silt and clay. Bedrock is expected to consist of sedimentary rocks consisting of limestone, dolomite, shale, argillite, sandstone, quartzite, and/or grit. The topography is considered to be mainly flat to rolling low local relief with dry surface water drainage conditions. During previous on-Site environmental investigations, the soil stratigraphy was observed to consist of sand gravel fill with some silt throughout that extended to a maximum depth of approximately 3.0 mbgs (when inferred bedrock was encountered); and
- The general topography in the local and surrounding area generally slopes towards the east-northeast. No bedrock outcrops were observed on-Site or in the surrounding area; however, it should be noted that the ground surface was snow/ice-covered during Pinchin's Site reconnaissance, limiting exterior observations. Local groundwater flow is inferred to be to the northeast, based on the topography of the area surrounding the Phase One Property and the location of a small stream.

There were no deviations from the Phase One ESA requirements specified in O. Reg. 153/04 or absence of information that have resulted in uncertainty that would affect the validity of the Phase One CSM.

8.0 CONCLUSIONS

Pinchin conducted this Phase One ESA in accordance with Part VII and Schedule D of O. Reg. 153/04. The purpose of the Phase One ESA was to assess the potential presence of environmental impacts at the Phase One Property due to activities at and near the Phase One Property for the purpose of filing a Site Plan Approval with the City of Ottawa in preparation for the future development of the Phase One Property.

Based on the findings of this Phase One ESA, Pinchin identified three PCAs within the Phase One Study Area, all of which are located at the Phase One Property (i.e., on-Site). As shown on Figure 3, two PCAs consist of a diesel AST located adjacent to the west elevation of the Site Building, and a pole-mounted oil-cooled transformer located on the central portion of the Phase One Property. Although the ground surface in the vicinity of the AST and pole-mounted transformer was snow/ice-covered during Pinchin's



Site reconnaissance, limiting exterior observations, no spills or evidence of historical spills (i.e., staining) was observed in the vicinity of the AST or transformer. In addition, no reported spills or leaks have occurred from the AST or transformer. As such, it is Pinchin's opinion that the AST and transformer are unlikely to result in potential subsurface impacts at the Phase One Property. As shown on Figures 3 and 4, the third on-Site PCA (which is also considered an APEC) consists of a former gasoline UST that was located exterior to the south elevation of the Site Building. Based on the findings of the 2013 Pinchin Phase II ESA Report, soil samples collected from borehole BH-2 had concentrations of PHCs (F1) and ethylbenzene that exceeded the 2011 Table 2 Standards. However, Pinchin noted that these residual impacts were considered to be localized and minor in nature and as such, it was Pinchin's opinion that no further subsurface investigation was required at that time with respect to the concerns identified in the 2013 Pinchin Phase I ESA Report. Pinchin maintains this recommendation as part of this Phase One ESA; however, if the impacted area is to be redeveloped in the future, Pinchin recommends that the impacted soil be dealt with accordingly. As such, it is Pinchin's opinion that the Phase One Property is suitable for the filing of a Site Plan Approval application with the City of Ottawa based only on the completion of this Phase One ESA report.

It should be noted that the references and sources for the information used in evaluating the Phase One Property are provided in the relevant sections of this report. Furthermore, specific references are also summarized in Section 9.0.

8.1 Signatures

This Phase One ESA was undertaken under the supervision of Scott Mather, P.Eng., QP_{ESA} in accordance with the requirements of O. Reg. 153/04 to support the filing of a Site Plan Approval application with the City of Ottawa. The conclusions and recommendations provided in this report represent the best judgement of the assessor based on the Site conditions observed on February 12, 2019, and a review of available historical information and information obtained from interviews.

This report has been issued without having received responses to requests for information from the MECP or the TSSA. Pinchin reserves the right to amend our conclusions and recommendations based on information obtained from these regulatory agencies.

We trust that the information provided in this report meets your current requirements.



8.2 Terms and Limitations

This Phase One ESA was performed in order to identify potential issues of environmental concern associated with the property located at 4836 Bank Street in Ottawa, Ontario (Site), at the time of the Site reconnaissance. This Phase One ESA was performed in general compliance with currently acceptable practices for environmental site investigations, and specific Client requests, as applicable to this Site. This report was prepared for the exclusive use of Mr. Omkar Atwal (Client), subject to the terms, conditions and limitations contained within the duly authorized work plan for this project. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted.

If additional parties require reliance on this report, written authorization from Pinchin will be required. Such reliance will only be provided by Pinchin following written authorization from the Client. Pinchin disclaims responsibility of consequential financial effects on transactions or property values, or requirements for follow-up actions and costs. No other warranties are implied or expressed. Pinchin will not provide results or information to any party unless disclosure by Pinchin is required by law.

The information provided in this report is based upon analysis of available documents, records and drawings, and personal interviews. In evaluating the Site, Pinchin has relied in good faith on information provided by other individuals noted in this report. Pinchin has assumed that the information provided is factual and accurate. In addition, the findings in this report are based, to a large degree, upon information provided by the current owner/occupant. Pinchin accepts no responsibility for any deficiency, misstatement or inaccuracy contained in this report as a result of omissions, misinterpretations or fraudulent acts of persons interviewed or contacted, or contained in reports that were reviewed. The scope of work for this Phase One ESA did not include a visual or intrusive investigation for designated substances (e.g., asbestos, mould, PCB-containing electrical equipment, etc.) and, therefore, these materials may be present at the Site.

Pinchin makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and these interpretations may change over time.

Ontario Regulation 153/04 does not apply to environmental auditing or environmental management systems. Therefore, with respect to Site operations and conditions, compliance with applicable federal, provincial or municipal acts, regulations, laws and/or statutes was not evaluated as part of the Phase One ESA.

9.0 REFERENCES

The following documents, persons or organizations provided information used in this report:

- Mr. Omkar Atwal, Owner of Phase One Property since 2006 (Site Representative).
- EcoLog ERIS report entitled “4836 Bank Street, Ottawa, Ontario”, and dated February 7, 2019 (ERIS Project # 20190205061).
- Opta Information Intelligence.
- The Atlas of Canada – Surficial Materials:
<http://atlas.nrcan.gc.ca/site/english/maps/environment/land/surficialmaterials/1>
- The Atlas of Canada – Bedrock Geology:
<http://atlas.gc.ca/site/english/maps/archives/3rdedition/environment/land/016?w=4&h=4&l=6&r=4&c=12>.
- Toporama – Topographic Maps:
<http://atlas.gc.ca/site/english/maps/topo/map>.
- Province of Ontario. Environmental Protection Act R.S.O. 1990, c. E.19 and Ontario Regulation 153/04: Records of Site Condition – Part XV.1 of the Act. Last amended by Ontario Regulation 333/13 on December 13, 2013.
- Canadian Standards Association (CSA) Standard. CSA Z768-01, Phase I Environmental Site Assessment, Canadian Standards Association International, November 2001, reaffirmed in 2012.
- National Air Photo Library, Ottawa, Ontario.
- Library and Archives of Canada, Ottawa, Ontario.
- Technical Standards & Safety Authority.
- The City of Ottawa.
- Ministry of the Environment, Conservation and Parks.
- Technical Standards and Safety Authority.
- MECP Brownfields Environmental Site Registry.
- Google Earth™ Satellite Imagery.
- Intera Technologies Inc. *Inventory of Coal Gasification Plant Waste Sites in Ontario*. April 1987.
- Intera Technologies Inc. *Inventory of Industrial Sites Producing or Using Coal Tar and Related Tars in Ontario*. November 1988.



Phase One Environmental Site Assessment

4836 Bank Street, Ottawa, Ontario
Mr. Omkar Atwal

February 27, 2019

Pinchin File: 235527

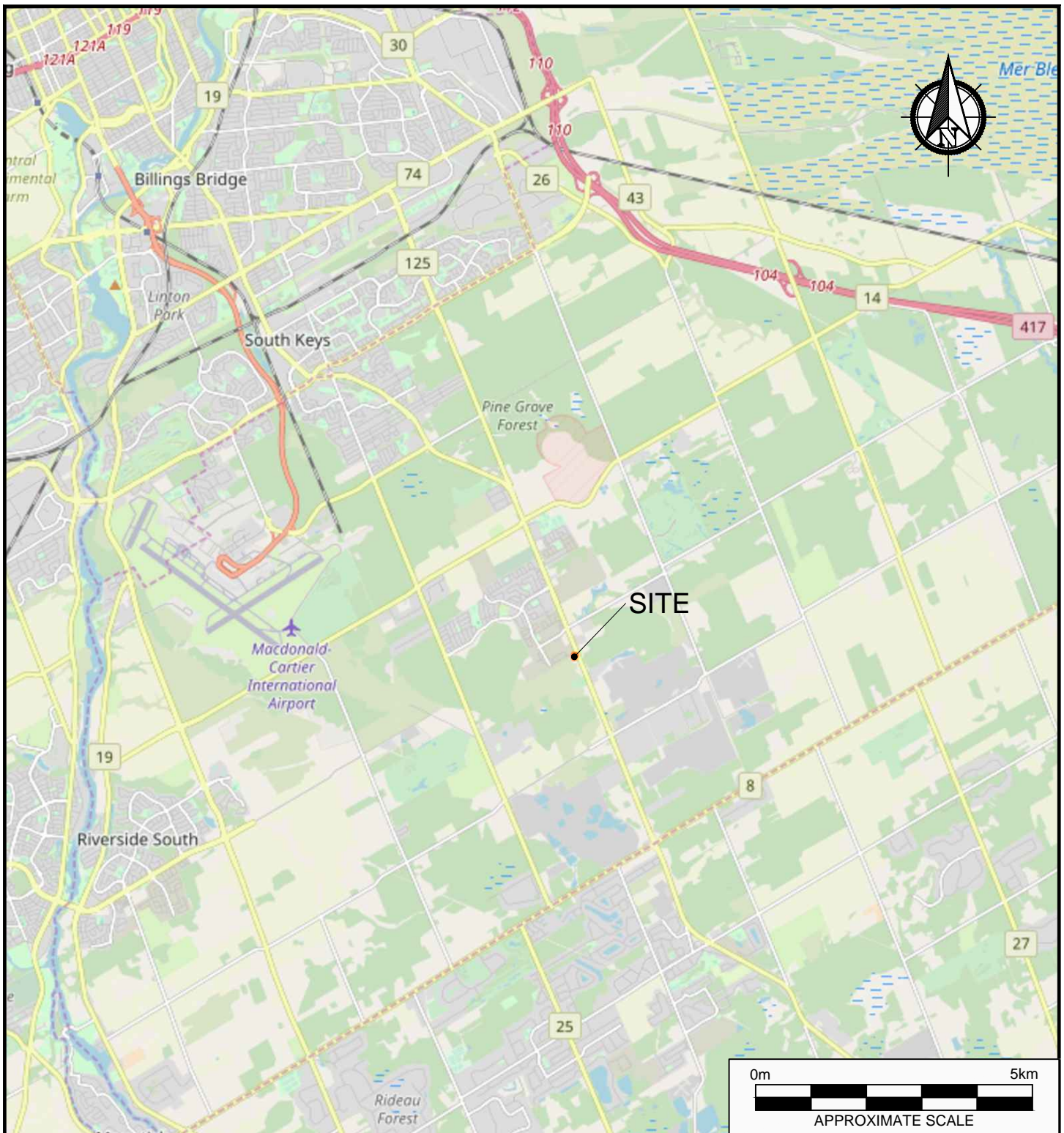
- *"Phase I and II Environmental Audit, Ottawa Co-op (Leitrim)"* prepared by XCG Environmental Services Inc. for United Co-operatives of Ontario, and dated July 19, 1994.
- *"Ottawa Co-op (Leitrim) Site Remediation Activities"* prepared by XCG Environmental Services Inc. for United Co-operatives of Ontario, and dated July 19, 1994.
- *"Phase I Environmental Site Assessment, 4836 Bank Street, Ottawa, Ontario"* prepared by Pinchin Environmental Ltd. for Ottawa Feed and HW, and dated August 2013.
- *"Phase II Environmental Site Assessment, 4836 Bank Street, Ottawa, Ontario"* prepared by Pinchin Environmental Ltd. for Ottawa Feed and HW, and dated August 2013.

235527 Phase One ESA 4836 Bank Street Ottawa ON Omkar Atwal

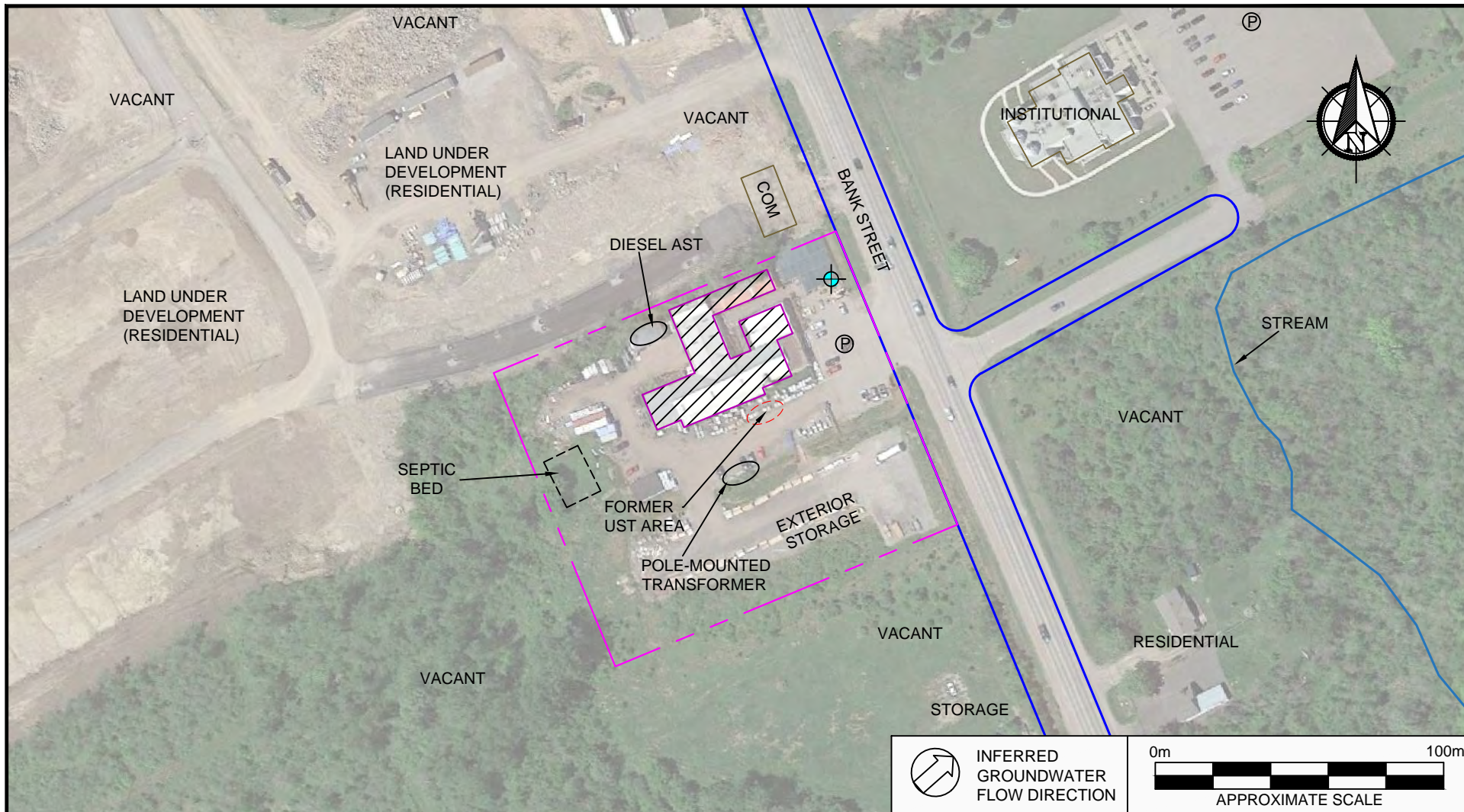
Template: Master Report for RSC Phase One ESA Report, EDR, November 1, 2018

10.0 APPENDICES

APPENDIX A
Figures



PROJECT NAME			
PHASE ONE ENVIRONMENTAL SITE ASSESSMENT			
CLIENT NAME			
MR. OMKAR ATWAL			
PROJECT LOCATION			
4836 BANK STREET, OTTAWA, ONTARIO			
FIGURE NAME			FIGURE NO.
KEY MAP			1
APPROXIMATE SCALE	PROJECT NO.	DATE	
AS SHOWN	235527	FEBRUARY 2019	



LEGEND

- SITE BOUNDARY
- SITE BUILDING
- COM COMMERCIAL
- UST UNDERGROUND STORAGE TANK
- AST ABOVEGROUND STORAGE TANK
- (P) PARKING
- + APPROX. LOCATION OF DRILLED WATER WELL

PROJECT NAME

PHASE ONE ENVIRONMENTAL SITE ASSESSMENT

CLIENT NAME

MR. OMKAR ATWAL

PROJECT LOCATION

4836 BANK STREET, OTTAWA, ONTARIO

FIGURE NAME

PHASE ONE STUDY AREA

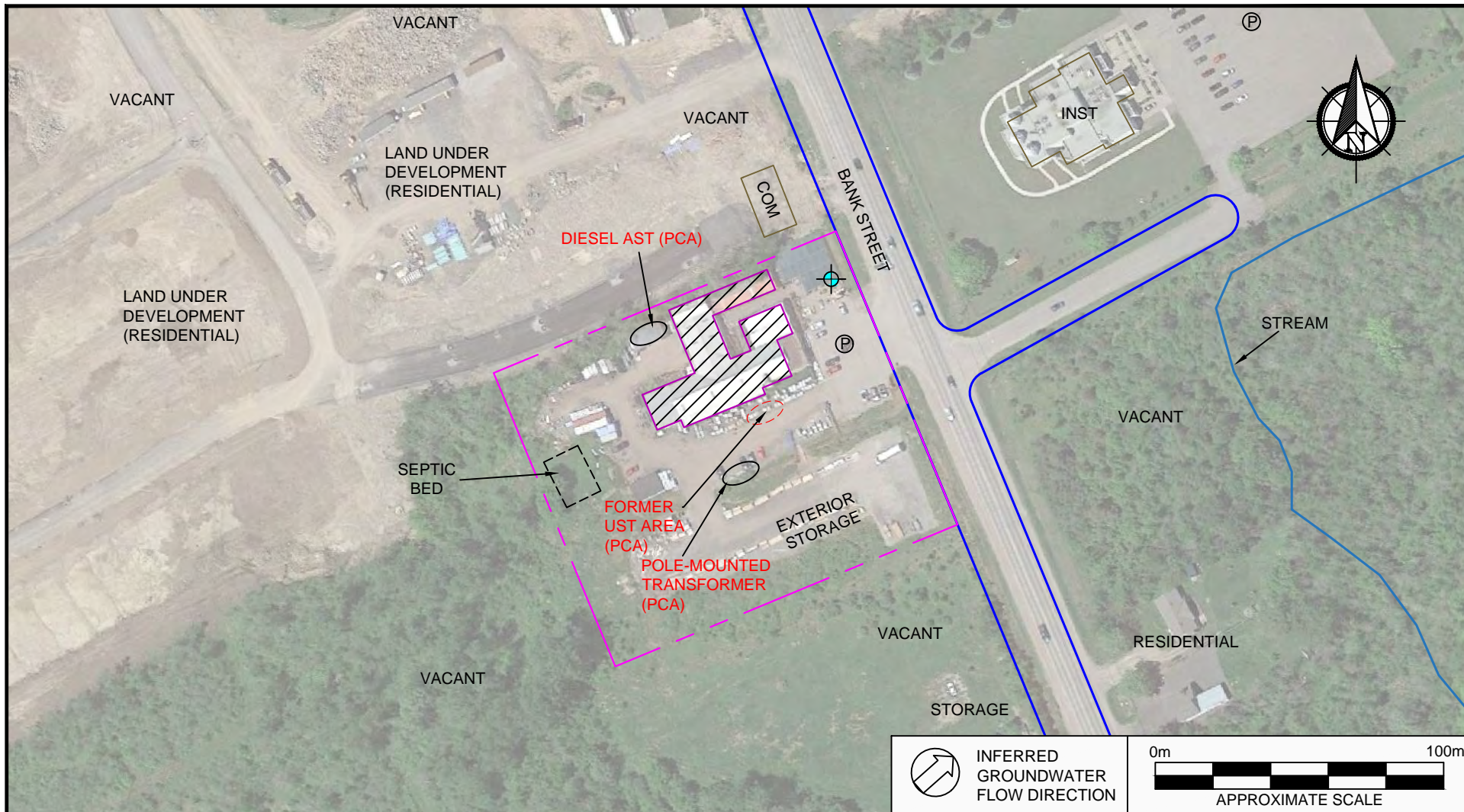
FIGURE NO.

2

APPROXIMATE SCALE
AS SHOWN

PROJECT NO.
235527

DATE
FEBRUARY 2019



LEGEND

[] SITE BOUNDARY

[] SITE BUILDING

COM COMMERCIAL

UST UNDERGROUND STORAGE TANK

AST ABOVEGROUND STORAGE TANK

(P) PARKING

[] APPROX. LOCATION OF DRILLED WATER WELL

PROJECT NAME

PHASE ONE ENVIRONMENTAL SITE ASSESSMENT

CLIENT NAME

MR. OMKAR ATWAL

PROJECT LOCATION

4836 BANK STREET, OTTAWA, ONTARIO

FIGURE NAME

POTENTIALLY CONTAMINATING ACTIVITIES

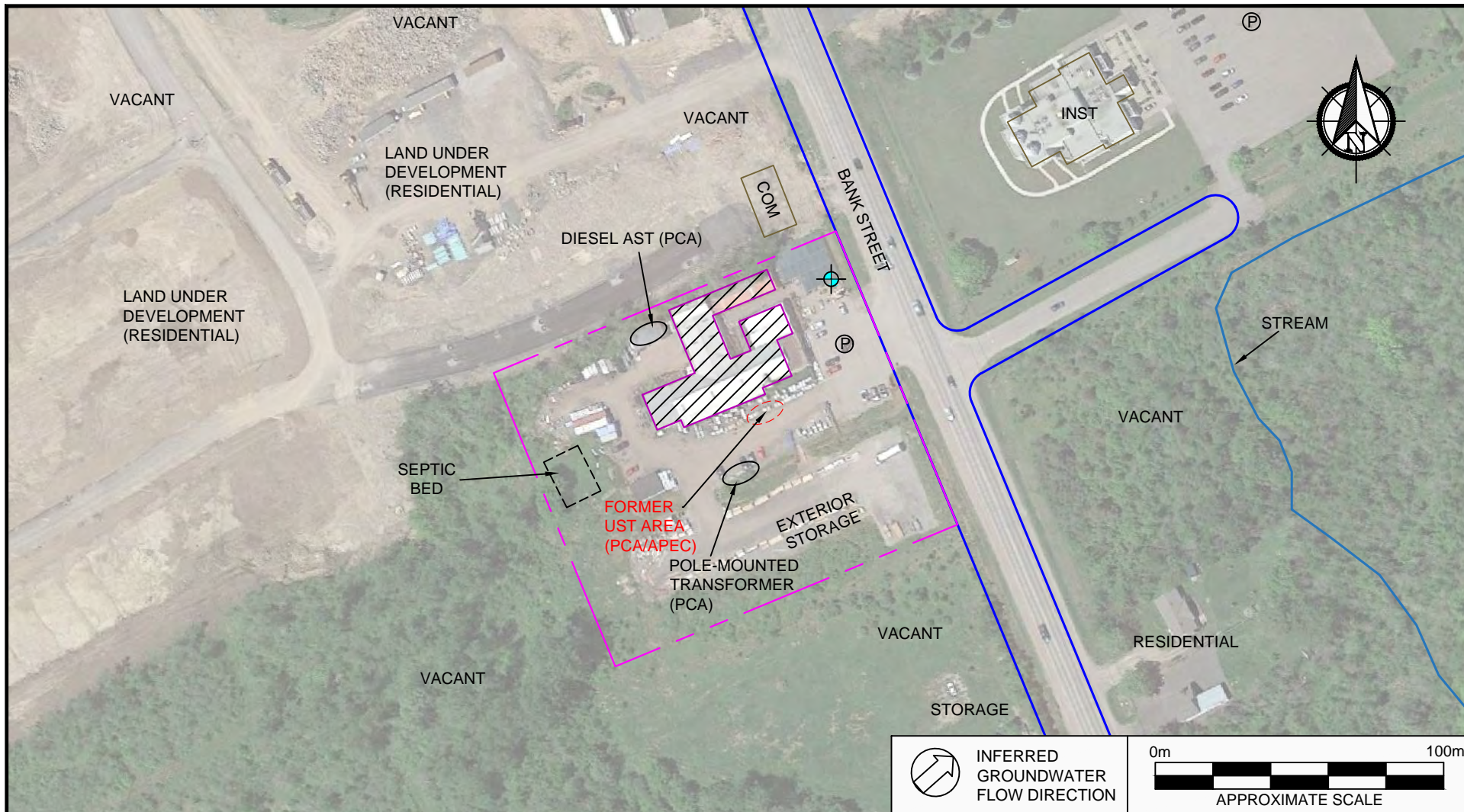
FIGURE NO.

3

APPROXIMATE SCALE
AS SHOWN

PROJECT NO.
235527

DATE
FEBRUARY 2019



LEGEND

- SITE BOUNDARY
- SITE BUILDING
- COM COMMERCIAL
- UST UNDERGROUND STORAGE TANK
- AST ABOVEGROUND STORAGE TANK
- Ⓟ PARKING
- + APPROX. LOCATION OF DRILLED WATER WELL

PROJECT NAME

PHASE ONE ENVIRONMENTAL SITE ASSESSMENT

CLIENT NAME

MR. OMKAR ATWAL

PROJECT LOCATION

4836 BANK STREET, OTTAWA, ONTARIO

FIGURE NAME

AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

FIGURE NO.

4

APPROXIMATE SCALE
AS SHOWN

PROJECT NO.
235527

DATE
FEBRUARY 2019

APPENDIX B
Photographs



Photo 1 – Site Building (north elevation).



Photo 2 – Site Building (south elevation).



Photo 3 – Site Building (east elevation).



Photo 4 – Site Building (west elevation).

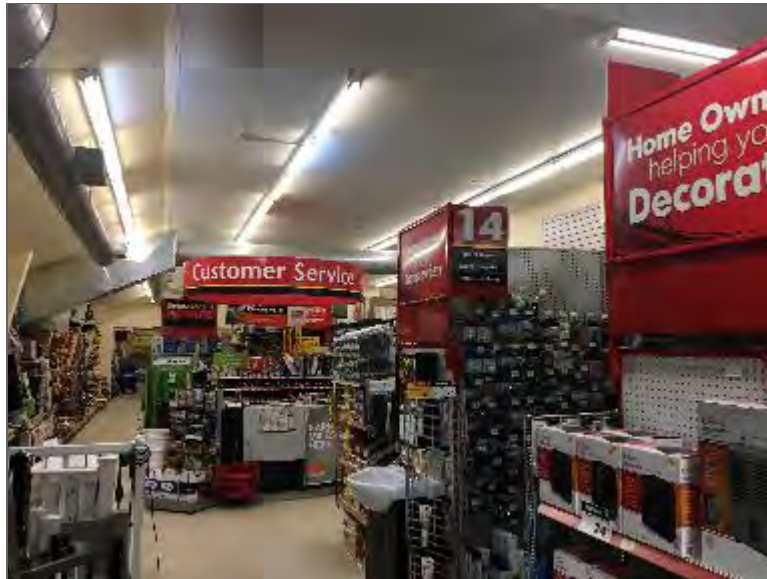


Photo 5 – General view of retail space within the Site Building.



Photo 6 – Diesel AST located exterior to the west elevation of the Site Building (PCA).



Photo 7 – Exterior storage areas on the south portion of the Phase One Property.



Photo 8 – Pole-mounted transformer located on the central portion of the Phase One Property (PCA).



Photo 9 – Properties located east of the Phase One Property.



Photo 10 – Properties located south of the Phase One Property.



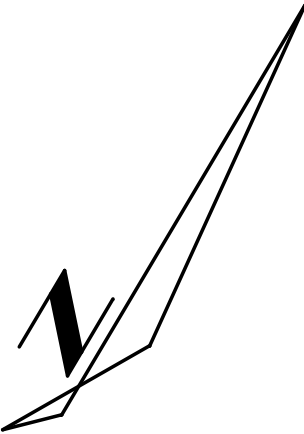
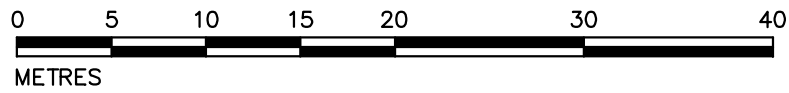
Photo 11 – Properties located north of the Phase One Property.



Photo 12 – Property located west of the Phase One Property.

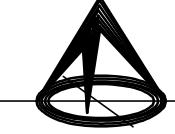

APPENDIX C
Survey Plan

SURVEYOR'S REAL PROPERTY REPORT
PART 1) PLAN OF
PART OF LOT 22
CONCESSION 4 (RIDEAU FRONT)
GEOGRAPHIC TOWNSHIP OF GLOUCESTER
CITY OF OTTAWA
SCALE 1:400



- METRIC**
DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND
CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048
- NOTES**
BEARINGS HEREON ARE ASTRONOMIC, DERIVED FROM THE BEARINGS OF
N59°19'20"E AS SHOWN FOR THE SOUTHERLY LIMIT OF PART 4 ON PLAN
5R-13257.
- S.I.B. DENOTES 0.025 SQ. 1.2 LONG, STANDARD IRON BAR
S.S.I.B. DENOTES 0.025 SQ. 0.6 LONG, SHORT STANDARD IRON BAR
I.B. DENOTES 0.016 SQ. 0.6 LONG, IRON BAR
R.I.B. DENOTES ROUND IRON BAR
■ DENOTES SURVEY MONUMENT FOUND
□ DENOTES SURVEY MONUMENT PLANTED
WT. DENOTES WITNESS
S.U. DENOTES SOURCE UNKNOWN
C.M. DENOTES CONCRETE MONUMENT
1175 DENOTES H.A.K. SHIPMAN, O.L.S.
AOG DENOTES ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
MTO DENOTES MINISTRY OF TRANSPORTATION OF ONTARIO
P1 DENOTES PLAN 4R-29621
P2 DENOTES SURVEYOR'S REAL PROPERTY REPORT BY H.A.K. SHIPMAN, O.L.S.
P3 DATED AUGUST 29, 2012 (FILE No. 12-10197)
P4 DENOTES PLAN 4R-26930
M DENOTES MEASURED
S DENOTES SET
E.O.G. DENOTES EDGE OF GRAVEL
E.O.A. DENOTES EDGE OF ASPHALT
T.O.B. DENOTES TOP OF BANK
B.O.B. DENOTES BOTTOM OF BANK
U.S.W. DENOTES UTILITIES SERVICE WIRE
U.P.L. DENOTES UTILITIES POLE LINE
W.I.F. DENOTES WROUGH IRON FENCE
C.L.F. DENOTES CHAIN LINK FENCE
U.P. DENOTES UTILITIES POLE
P.W.F. DENOTES POST & WIRE FENCE
- ELEVATION NOTES**
1. ELEVATIONS ARE IN METRES AND ARE GEODETIC, DERIVED FROM GSC
BENCHMARK 653004, HAVING AN ELEVATION OF 120.10 METRES.
2. IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY
THAT THE JOB BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND
THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREE WITH THE
INFORMATION SHOWN ON THIS DRAWING.

SURVEYOR'S REAL PROPERTY REPORT PART 2) REPORT SUMMARY	
DESCRIPTION OF LAND	
PART OF LOT 22, CONCESSION 4 (RIDEAU FRONT), GEOGRAPHIC TOWNSHIP OF GLOUCESTER, CITY OF OTTAWA, DESIGNATED AS PARTS 3 AND 4 ON PLAN 5R-13257. P.I.N. 04328-0231	
REGISTERED EASEMENTS AND/OR RIGHT OF WAYS	
EASEMENT AS IN INST. GL50274 OVER PART 3 ON PLAN 5R-13257	
FEATURES	
NOTE POST & WIRE FENCE & UTILITIES POLE LINE	
COMPLIANCE WITH MUNICIPAL ZONING BY-LAWS	
NOT CERTIFIED BY THIS REPORT.	

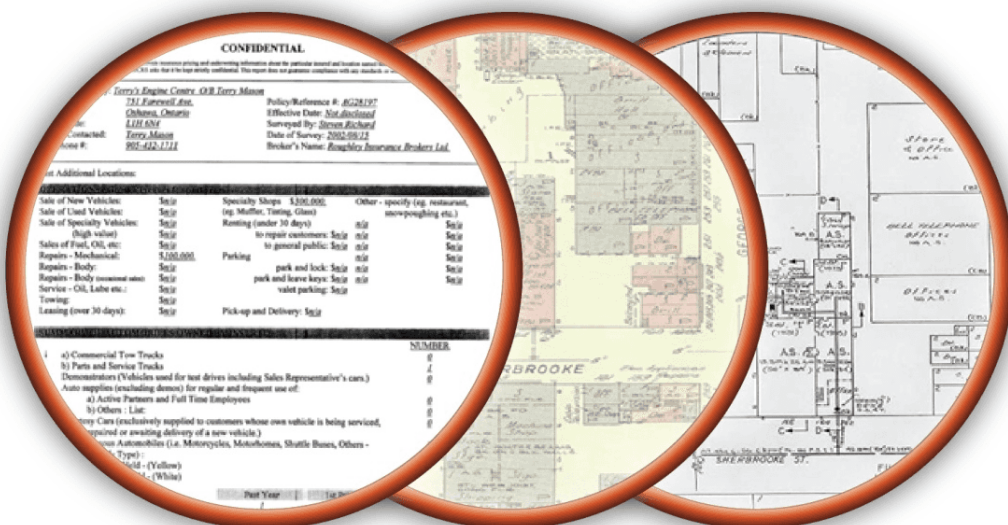
SURVEYOR'S CERTIFICATE	
<p>I CERTIFY THAT:</p> <p>1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYOR'S ACT AND THE LAND TITL ACT AND THE REGULATIONS MADE UNDER THEM.</p> <p>2. THE SURVEY WAS COMPLETED ON THE 24TH DAY OF OCTOBER, 2017.</p> <p>_____ NOVEMBER 14, 2018 DATE</p> <p>_____ J.P. SHIPMAN ONTARIO LAND SURVEYOR</p>	<div><p>ASSOCIATION OF ONTARIO LAND SURVEYORS PLAN SUBMISSION FORM 2070840</p><p>THIS PLAN IS NOT VALID UNLESS IT IS AN EMOSSSED ORIGINAL COPY ISSUED BY THE SURVEYOR In accordance with Regulation 1026, Section 29(3)</p></div>
<p>NOTE: THIS REPORT WAS PREPARED FOR OMKAR ATWAL AND THE UNDERSIGNED ACCEPTS NO RESPONSIBILITY FOR USE BY OTHER PARTIES.</p> <p>© COPYRIGHT H.A.KEN SHIPMAN SURVEYING LTD. NO PERSON MAY COPY, REPRODUCE, DISTRIBUTE OR ALTER THIS PLAN IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF H.A.KEN SHIPMAN SURVEYING LTD.</p>	
<div><p>H.A.KEN SHIPMAN SURVEYING LTD. P.O. BOX 53, NORTH GOWER, ONT. KOA 2T0 TEL: 489-3910</p></div>	
REF. No.: GL-495	FILE No.: 18-11597



APPENDIX D
Opta Records

HEIRSTTM

Historical Environmental Information Reporting System



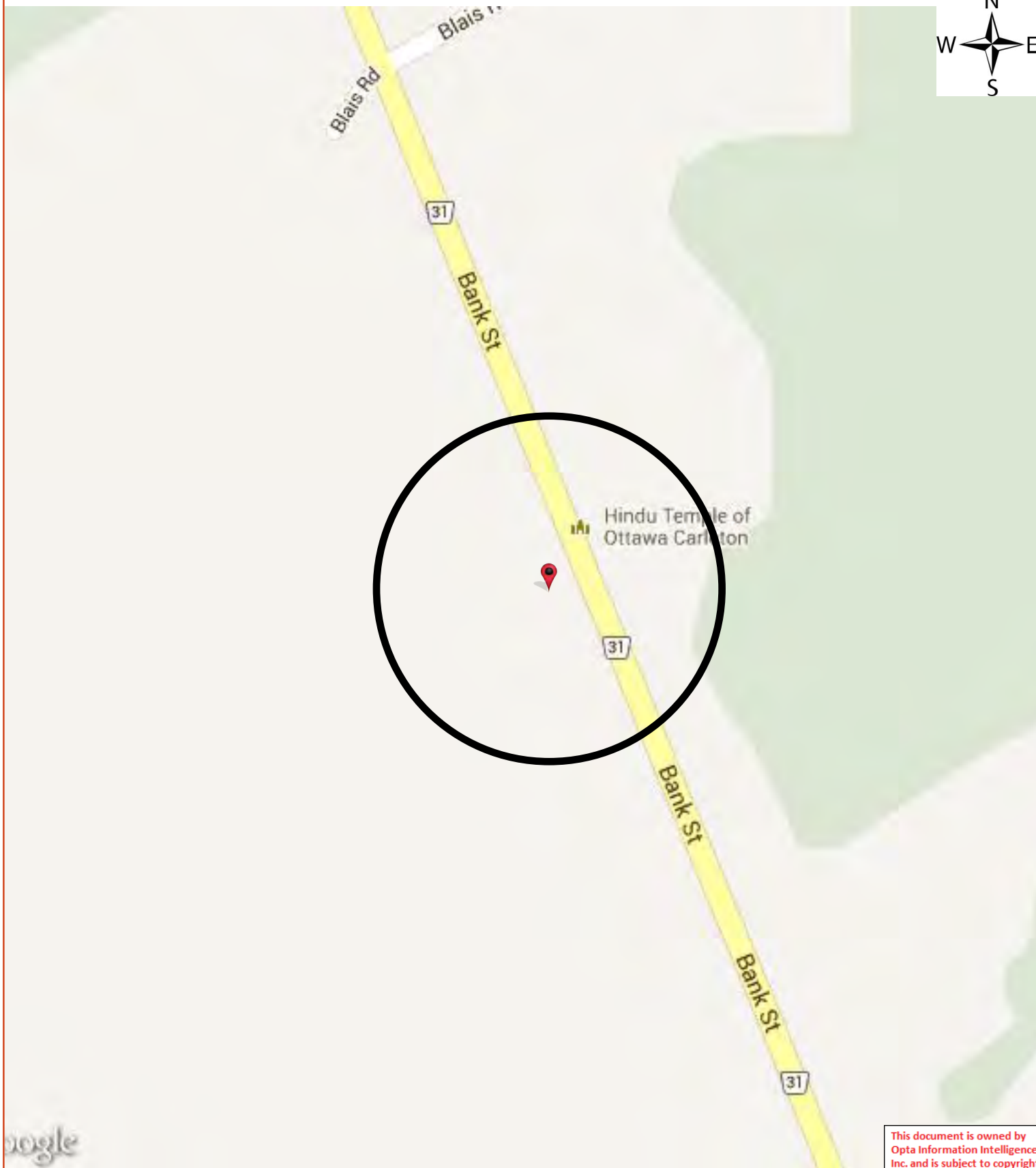
Site Address:
4836 Bank Street, Ottawa, ON, Canada

Project No:
86421

Opta Order ID:
1279

Requested By:
Mike Kosiw
PinchinEnvironmental

Date Completed:
8/7/2013 6:45:34 AM



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Report

The documents (hereinafter referred to as the "Documents") to be released as part of the report (hereinafter referred to as the "Report") to be delivered to the purchaser as set out above are documents in Opta's records relating to the described property (hereinafter referred to as the "Property"). Opta makes no representations or warranties respecting the Documents whatsoever, including, without limitation, with respect to the completeness, accuracy or usefulness of the Documents, and does not represent or warrant that these are the only plans and reports prepared in association with the Property or in Opta's possession at the time of Report delivery to the purchaser. The Documents are current as of the date(s) indicated on them. Interpretation of the Documents, if any, is by inference based upon the information which is apparent and obvious on the face of the Documents only. Opta does not represent, warrant or guarantee that interpretations other than those referred to do not exist from other sources. The Report will be prepared for use by the purchaser of the services as shown above hereof only.

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The parties hereto acknowledge and agree to be bound by the terms and conditions hereof. The request form constitutes the entire agreement between the parties pertaining to the subject matter hereof and supersedes all prior and contemporaneous agreements, negotiations and discussions, whether oral or written, and there are no representations or warranties, or other agreements between the parties in connection with the subject matter hereof except as specifically set forth herein. No supplement, modification, waiver, or termination of the request shall be binding, unless confirmed in writing by the parties hereto.

Governing Document

In the event of any conflicts or inconsistencies between the provisions hereof and the Reports, the rights and obligations of the parties shall be deemed to be governed by the request form, which shall be the paramount document.

Law

This agreement shall be governed by and construed in accordance with the laws of the Province of Ontario and the laws of Canada applicable therein.

Project #: 86421

Selected / Excluded Maps

Requested by:

Mike Kosiw

Date Completed: August 7, 2013 06:45:34



INFORMATION INTELLIGENCE

OPTA INFORMATION INTELLIGENCE

Selected Maps:

None

There are no firemaps found for this search location.

Excluded Maps:

None



Selected / Excluded Inspection Reports

Project #: 86421

Requested by:

Mike Kosiw

Date Completed: August 7, 2013 06:45:34



INFORMATION INTELLIGENCE

OPTA INFORMATION INTELLIGENCE

Selected Inspection Reports within 0 to 50 metres of Search Location:
None

Excluded Inspection Reports within 0 to 50 metres of Search Location:
None

Selected Inspection Reports within 50 to 300 metres of Search Location:
None

Excluded Inspection Reports within 50 to 300 metres of Search Location:
None



APPENDIX E
EcoLog ERIS Report



DATABASE **REPORT**

Project Property:	<i>4836 Bank Street Ottawa Ontario 4836 Bank Street Ottawa Ontario Gloucester ON K1X 1G6</i>
Project No:	<i>235527</i>
Report Type:	<i>RSC Report (Urban)</i>
Order No:	<i>20190205061</i>
Requested by:	<i>Pinchin Ltd.</i>
Date Completed:	<i>February 7, 2019</i>

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Executive Summary

Property Information:

Project Property: 4836 Bank Street Ottawa Ontario
4836 Bank Street Ottawa Ontario Gloucester ON K1X 1G6

Project No: 235527

Order Information:

Order No: 20190205061
Date Requested: February 5, 2019
Requested by: Pinchin Ltd.
Report Type: RSC Report (Urban)

Historical/Products:

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	0	0
ANDR	Anderson's Waste Disposal Sites	Y	0	0	0
AUWR	Automobile Wrecking & Supplies	Y	0	0	0
BORE	Borehole	Y	0	4	4
CA	Certificates of Approval	Y	0	0	0
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
DRYCLEANERS	Dry Cleaning Facilities	Y	0	0	0
EASR	Environmental Activity and Sector Registry	Y	0	0	0
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	1	3	4
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	2	2
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	2	1	3
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
MISA PENALTY	Environmental Penalty Annual Report	Y	0	0	0

Database	Name	Searched	Project Property	Boundary to 0.30km	Total
MNR	Mineral Occurrences	Y	0	0	0
NATE	National Analysis of Trends in Emergencies System (NATES)	Y	0	0	0
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	0	0
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	4	0	4
PINC	TSSA Pipeline Incidents	Y	0	0	0
PRT	Private and Retail Fuel Storage Tanks	Y	0	1	1
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	0	0	0
RST	Retail Fuel Storage Tanks	Y	0	0	0
SCT	Scott's Manufacturing Directory	Y	0	0	0
SPL	Ontario Spills	Y	0	2	2
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	0	0
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	1	10	11
Total:			8	23	31

Executive Summary: Site Report Summary - Project Property

<i>Map Key</i>	<i>DB</i>	<i>Company/Site Name</i>	<i>Address</i>	<i>Dir/Dist (m)</i>	<i>Elev diff (m)</i>	<i>Page Number</i>
1	EHS		4836 Bank Street Ottawa ON	-/0.0	0.00	16
1	GEN	UPI INC. 39-454	HIGHWAY #31 SOUTH, 4836 BANK ST. OTTAWA ON K1G 3N4	-/0.0	0.00	16
1	GEN	UCO PETROLEUM INC. 39-454	HWY#31 SOUTH, 4836 BANK ST. OTTAWA ON K1G 3N4	-/0.0	0.00	16
1	PES	OTTAWA FEED & HARDWARE INC	4836 BANK ST GLOUCESTER ON K1X 1G6	-/0.0	0.00	16
1	PES	OTTAWA FEED & HARDWARE INC	4836 BANK ST GLOUCESTER ON K1X 1G6	-/0.0	0.00	17
1	PES	OTTAWA FEED & HARDWARE INC	4836 BANK ST GLOUCESTER ON K1X1G6	-/0.0	0.00	17
2	PES	OTTAWA FEED & HARDWARE INC. (V95023-03/2005)	4836 KING'S HWY 31 GOUCESTER ON K1X 1G6	-/0.0	0.00	17
3	WWIS		lot 22 con 4 ON Well ID: 1513436	-/0.0	0.06	18

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
<u>4</u>	BORE		ON	NNE/12.5	-1.85	<u>21</u>
<u>4</u>	WWIS		lot 22 con 4 ON Well ID: 1502179	NNE/12.5	-1.85	<u>21</u>
<u>5</u>	WWIS		lot 22 con 4 ON Well ID: 1514664	S/54.8	1.31	<u>24</u>
<u>6</u>	WWIS		lot 22 con 4 ON Well ID: 1502180	SE/107.2	-2.04	<u>27</u>
<u>7</u>	BORE		ON	SE/125.0	0.08	<u>30</u>
<u>8</u>	EHS		4835 Bank Street Ottawa ON	NE/139.2	-6.00	<u>30</u>
<u>9</u>	WWIS		lot 22 con 4 ON Well ID: 1502177	SE/143.0	-2.05	<u>30</u>
<u>10</u>	EHS		4852 Bank Street Ottawa ON	SE/158.7	-2.69	<u>33</u>
<u>11</u>	WWIS		lot 22 con 4 ON Well ID: 1512375	SE/187.7	-2.76	<u>33</u>
<u>12</u>	WWIS		lot 22 con 5 ON Well ID: 1516052	ENE/217.6	-5.80	<u>36</u>
<u>13</u>	WWIS		lot 22 con 5 ON Well ID: 1512265	SE/218.8	-1.31	<u>40</u>
<u>14</u>	BORE		ON	N/219.1	-5.65	<u>43</u>

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
14	WWIS		lot 21 con 4 ON Well ID: 1502181	N/219.1	-5.65	43
15	SPL	ONTARIO HYDRO	4820 BANK ST TRANSFORMER GLOUCESTER CITY ON K1X 1G6	N/221.9	-5.65	45
16	GEN	Heart and Stroke Foundation	Hindu Temple 4835 Bank Street, Gloucester Ottawa ON K1X 1G6	NE/229.6	-6.04	46
17	WWIS		lot 22 con 4 ON Well ID: 1502178	SE/232.4	-2.04	46
18	EHS		4858 Bank Street Ottawa ON	SSE/254.4	-2.06	49
19	WWIS		lot 21 con 4 ON Well ID: 1502176	N/263.1	-6.00	49
20	SPL	PRIVATE RESIDENCE	RESIDENCE AT 4860 BANK ST. FURNACE OIL TANK GLOUCESTER CITY ON K1X 1G6	SE/271.0	-2.00	51
21	BORE		ON	N/277.2	-5.97	52
22	EXP	OTTAWA CAMPING TRAILERS LTD	4815 BANK ST GLOUCESTER ON	N/289.0	-8.72	52
22	EXP	OTTAWA CAMPING TRAILERS LTD	4815 BANK ST GLOUCESTER ON	N/289.0	-8.72	52
22	PRT	OTTAWA CAMPING TRAILERS LTD	LOT 21 CON 5 HWY 31 OTTAWA ON	N/289.0	-8.72	52

Executive Summary: Summary By Data Source

BORE - Borehole

A search of the BORE database, dated 1875-Jul 2014 has found that there are 4 BORE site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance (m)</u>	<u>Map Key</u>
	ON	12.5	<u>4</u>
	ON	125.0	<u>7</u>
	ON	219.1	<u>14</u>
	ON	277.2	<u>21</u>

EHS - ERIS Historical Searches

A search of the EHS database, dated 1999-Oct 31, 2018 has found that there are 4 EHS site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance (m)</u>	<u>Map Key</u>
	4836 Bank Street Ottawa ON	0.0	<u>1</u>
	4835 Bank Street Ottawa ON	139.2	<u>8</u>
	4852 Bank Street Ottawa ON	158.7	<u>10</u>
	4858 Bank Street Ottawa ON	254.4	<u>18</u>

<u>Site</u>	<u>Address</u>	<u>Distance (m)</u>	<u>Map Key</u>
-------------	----------------	---------------------	----------------

EXP - List of TSSA Expired Facilities

A search of the EXP database, dated Feb 28, 2017 has found that there are 2 EXP site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance (m)</u>	<u>Map Key</u>
OTTAWA CAMPING TRAILERS LTD	4815 BANK ST GLOUCESTER ON	289.0	<u>22</u>
OTTAWA CAMPING TRAILERS LTD	4815 BANK ST GLOUCESTER ON	289.0	<u>22</u>

GEN - Ontario Regulation 347 Waste Generators Summary

A search of the GEN database, dated 1986-Dec 31, 2018 has found that there are 3 GEN site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance (m)</u>	<u>Map Key</u>
UCO PETROLEUM INC. 39-454	HWY#31 SOUTH, 4836 BANK ST. OTTAWA ON K1G 3N4	0.0	<u>1</u>
UPI INC. 39-454	HIGHWAY #31 SOUTH, 4836 BANK ST. OTTAWA ON K1G 3N4	0.0	<u>1</u>
Heart and Stroke Foundation	Hindu Temple 4835 Bank Street, Gloucester Ottawa ON K1X 1G6	229.6	<u>16</u>

PES - Pesticide Register

A search of the PES database, dated 1988-Mar 2018 has found that there are 4 PES site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance (m)</u>	<u>Map Key</u>
OTTAWA FEED & HARDWARE INC	4836 BANK ST GLOUCESTER ON K1X1G6	0.0	<u>1</u>

<u>Site</u>	<u>Address</u>	<u>Distance (m)</u>	<u>Map Key</u>
OTTAWA FEED & HARDWARE INC	4836 BANK ST GLOUCESTER ON K1X 1G6	0.0	<u>1</u>
OTTAWA FEED & HARDWARE INC	4836 BANK ST GLOUCESTER ON K1X 1G6	0.0	<u>1</u>
OTTAWA FEED & HARDWARE INC. (V95023-03/2005)	4836 KING'S HWY 31 GLOUCESTER ON K1X 1G6	0.0	<u>2</u>

PRT - Private and Retail Fuel Storage Tanks

A search of the PRT database, dated 1989-1996* has found that there are 1 PRT site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance (m)</u>	<u>Map Key</u>
OTTAWA CAMPING TRAILERS LTD	LOT 21 CON 5 HWY 31 OTTAWA ON	289.0	<u>22</u>

SPL - Ontario Spills

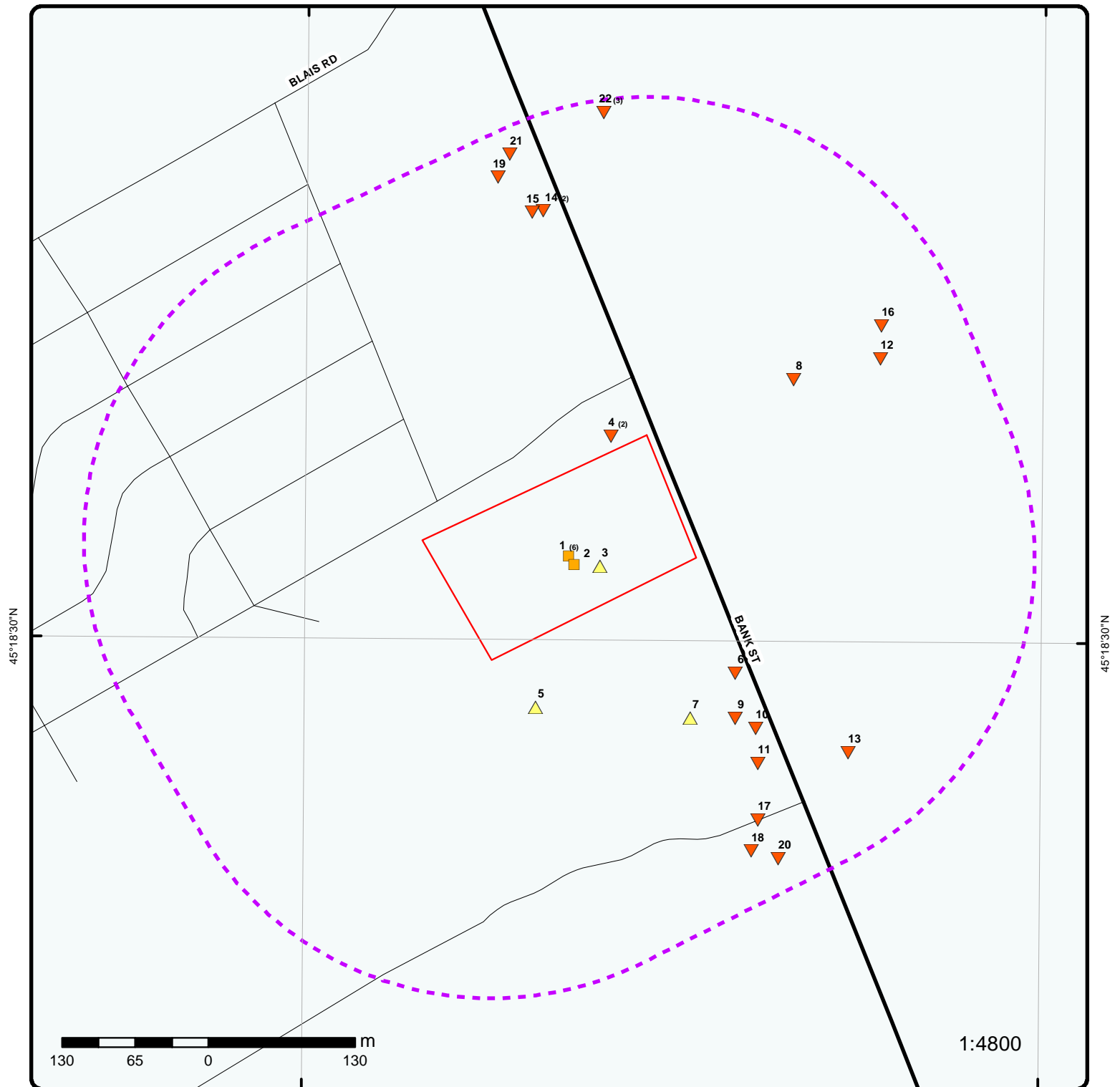
A search of the SPL database, dated 1988-Sep 2018 has found that there are 2 SPL site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance (m)</u>	<u>Map Key</u>
ONTARIO HYDRO	4820 BANK ST TRANSFORMER GLOUCESTER CITY ON K1X 1G6	221.9	<u>15</u>
PRIVATE RESIDENCE	RESIDENCE AT 4860 BANK ST. FURNACE OIL TANK GLOUCESTER CITY ON K1X 1G6	271.0	<u>20</u>

WWIS - Water Well Information System

A search of the WWIS database, dated Dec 31, 2017 has found that there are 11 WWIS site(s) within approximately 0.30 kilometers of the project property.

<u>Site</u>	<u>Address</u>	<u>Distance (m)</u>	<u>Map Key</u>
	lot 22 con 4 ON Well ID: 1513436	0.0	<u>3</u>
	lot 22 con 4 ON Well ID: 1502179	12.5	<u>4</u>
	lot 22 con 4 ON Well ID: 1514664	54.8	<u>5</u>
	lot 22 con 4 ON Well ID: 1502180	107.2	<u>6</u>
	lot 22 con 4 ON Well ID: 1502177	143.0	<u>9</u>
	lot 22 con 4 ON Well ID: 1512375	187.7	<u>11</u>
	lot 22 con 5 ON Well ID: 1516052	217.6	<u>12</u>
	lot 22 con 5 ON Well ID: 1512265	218.8	<u>13</u>
	lot 21 con 4 ON Well ID: 1502181	219.1	<u>14</u>
	lot 22 con 4 ON Well ID: 1502178	232.4	<u>17</u>
	lot 21 con 4 ON Well ID: 1502176	263.1	<u>19</u>



Map : 0.3 Kilometer Radius

Order No: 20190205061

Address: 4836 Bank Street Ottawa Ontario, Gloucester, ON, K1X 1G6

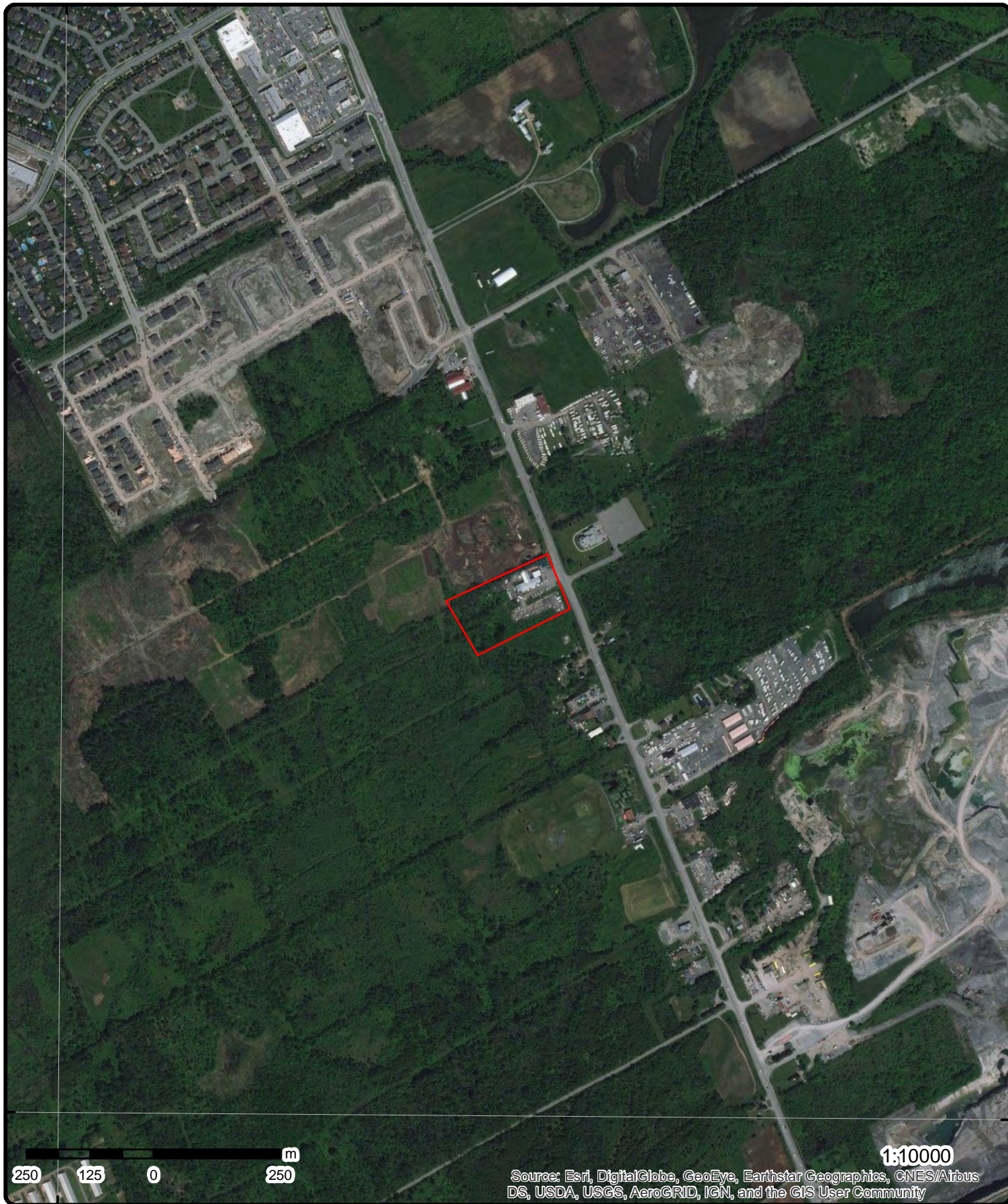


Project Property	Expressway	Industrial and Resource - Regions	National Park
Buffer Outline	Principal Highway	Main Line	Provincial or Territorial Park
Eris Sites with Higher Elevation	Secondary Highway	Sidetrack	Other Park
Eris Sites with Same Elevation	Major Road	Transit Line	Golf Course or Driving Range
Eris Sites with Lower Elevation	Local road	Abandoned Line	Park or Sports Field
Eris Sites with Unknown Elevation	Trail		Other Recreation Area
	Proposed Road		
	Ferry Route/Ice Road		

75°36'W

45°18'N

45°18'N



Aerial (2017)

Address: 4836 Bank Street Ottawa Ontario, Gloucester, ON, K1X 1G6

Source: ESRI World Imagery

Order No: 20190205061

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES



© ERIS Information Limited Partnership

75°36'W

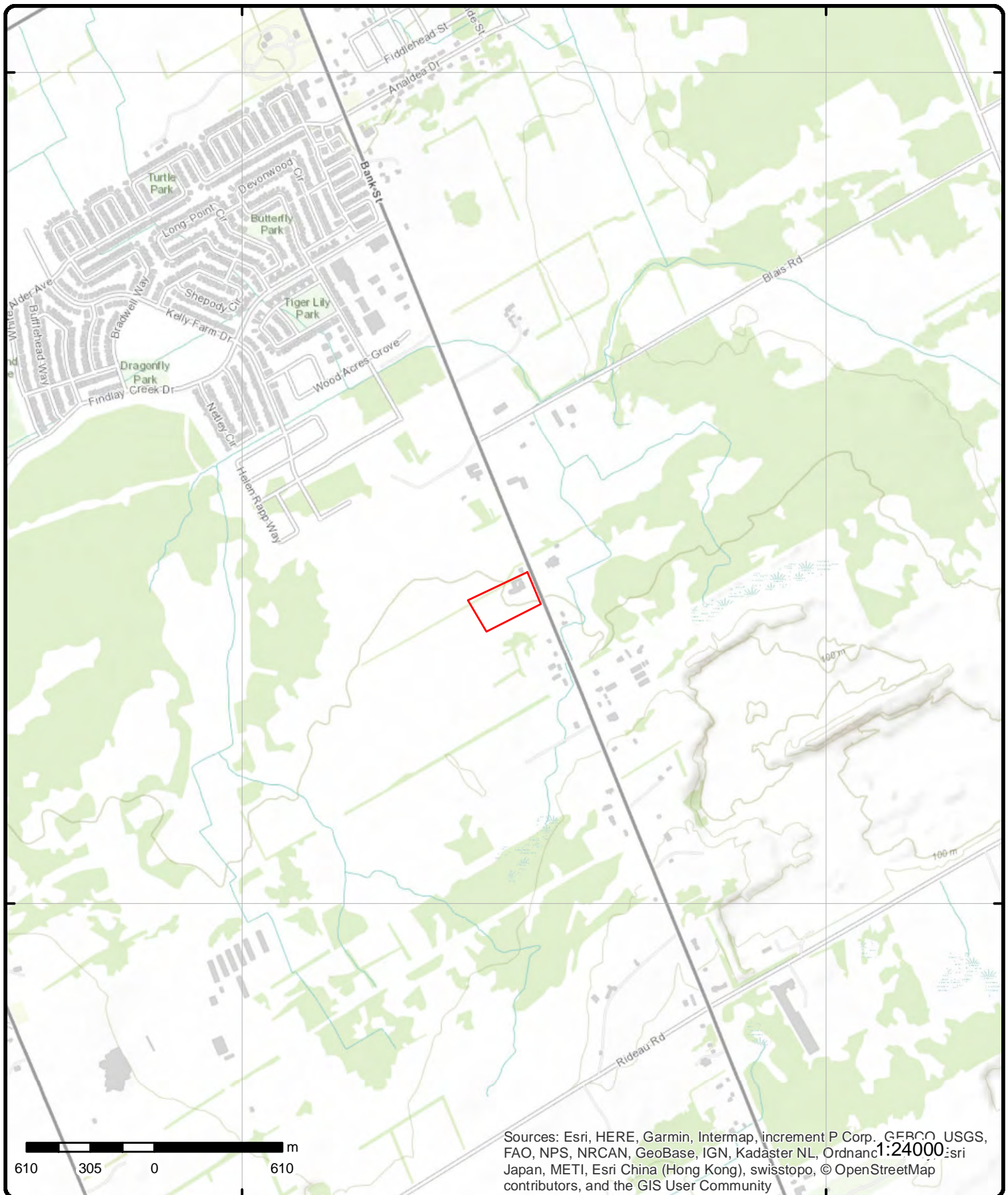
75°34'30"W

45°19'30"N

45°19'30"N

45°18'N

45°18'N



Topographic Map

Address: 4836 Bank Street Ottawa Ontario, Gloucester, ON, K1X 1G6

Source: ESRI World Topographic Map

Order No: 20190205061



© ERI S Information Limited Partnership

Detail Report

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
1	1 of 6	-/0.0	99.9 / 0.00	4836 Bank Street Ottawa ON	EHS
Order No: 20130730017 Status: C Report Type: Custom Report Report Date: 07-AUG-13 Date Received: 30-JUL-13 Previous Site Name: Lot/Building Size: Additional Info Ordered:		Nearest Intersection: Municipality: Client Prov/State: ON Search Radius (km): .25 X: -75.5876 Y: 45.309581			
1	2 of 6	-/0.0	99.9 / 0.00	UPI INC. 39-454 HIGHWAY #31 SOUTH, 4836 BANK ST. OTTAWA ON K1G 3N4	GEN
Generator No: ON1446982 Status: Approval Years: 92,93,96,97,98 Contam. Facility: MHSW Facility: SIC Code: 5111 SIC Description: PETROLEUM PROD., WH.		PO Box No: Country: Choice of Contact: Co Admin: Phone No Admin:			
--Details--					
Waste Code: 221 Waste Description: LIGHT FUELS					
1	3 of 6	-/0.0	99.9 / 0.00	UCO PETROLEUM INC. 39-454 HWY#31 SOUTH, 4836 BANK ST. OTTAWA ON K1G 3N4	GEN
Generator No: ON1446982 Status: Approval Years: 94,95 Contam. Facility: MHSW Facility: SIC Code: 5111 SIC Description: PETROLEUM PROD., WH.		PO Box No: Country: Choice of Contact: Co Admin: Phone No Admin:			
--Details--					
Waste Code: 221 Waste Description: LIGHT FUELS					
1	4 of 6	-/0.0	99.9 / 0.00	OTTAWA FEED & HARDWARE INC 4836 BANK ST GLOUCESTER ON K1X 1G6	PES
Licence No:		Operator Box:			

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Detail Licence No: Licence Type Code: Licence Type: Vendor Licence Class: Licence Control: Trade Name: Post Office Box: Lot: Concession: Region: District: County:				Operator Class: Operator No: Operator Type: Operator Lot: Oper Concession: Operator Region: Operator District: Operator County: Oper Phone Area Cd: Ext: Oper Phone No: Proponent Ext:	
<u>1</u>	5 of 6	-/0.0	99.9 / 0.00	OTTAWA FEED & HARDWARE INC 4836 BANK ST GLOUCESTER ON K1X 1G6	PES
Licence No: Detail Licence No: Licence Type Code: 23 Licence Type: Limited Vendor Licence Class: Licence Control: Trade Name: Post Office Box: Lot: Concession: Region: District: County:				Operator Box: Operator Class: Operator No: Operator Type: Operator Lot: Oper Concession: Operator Region: Operator District: Operator County: Oper Phone Area Cd: Ext: Oper Phone No: Proponent Ext:	
<u>1</u>	6 of 6	-/0.0	99.9 / 0.00	OTTAWA FEED & HARDWARE INC 4836 BANK ST GLOUCESTER ON K1X1G6	PES
Licence No: 13853 Detail Licence No: Licence Type Code: 23 Licence Type: Active Limited Vendors Licence Class: 01 Licence Control: Trade Name: Post Office Box: Lot: Concession: Region: District: County:				Operator Box: Operator Class: Operator No: Operator Type: Operator Lot: Oper Concession: Operator Region: Operator District: Operator County: Oper Phone Area Cd: 613 Ext: Oper Phone No: 8220760 Proponent Ext:	
<u>2</u>	1 of 1	-/0.0	99.9 / 0.00	OTTAWA FEED & HARDWARE INC. (V95023-03/2005) 4836 KING'S HWY 31 GOUCESTER ON K1X 1G6	PES
Licence No: 03950 Detail Licence No: 22-01-03950-0 Licence Type Code: 22 Licence Type: General Vendor Licence Class: 01 Licence Control: 0				Operator Box: Operator Class: Operator No: Operator Type: Operator Lot: Oper Concession:	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Trade Name:				Operator Region:	4
Post Office Box:				Operator District:	
Lot:				Operator County:	15
Concession:				Oper Phone Area Cd:	
Region:	4			Ext:	
District:				Oper Phone No:	
County:	15			Proponent Ext:	

3	1 of 1	-0.0	99.9 / 0.06	lot 22 con 4 ON	WWIS
Well ID:	1513436			Data Entry Status:	
Construction Date:				Data Src:	1
Primary Water Use:	Domestic			Date Received:	9/28/1973
Sec. Water Use:	0			Selected Flag:	Yes
Final Well Status:	Water Supply			Abandonment Rec:	
Water Type:				Contractor:	2557
Casing Material:				Form Version:	1
Audit No:				Owner:	
Tag:				Street Name:	
Construction				County:	OTTAWA-CARLETON
Method:				Municipality:	GLOUCESTER TOWNSHIP
Elevation (m):				Site Info:	
Elevation Reliability:				Lot:	022
Depth to Bedrock:				Concession:	04
Well Depth:				Concession Name:	RF
Overburden/Bedrock:				Easting NAD83:	
Pump Rate:				Northing NAD83:	
Static Water Level:				Zone:	
Flowing (Y/N):				UTM Reliability:	
Flow Rate:					
Clear/Cloudy:					

Bore Hole Information

Bore Hole ID:	10035422	Elevation:	100.73
DP2BR:	12	Elevrc:	
Spatial Status:		Zone:	18
Code OB:	r	East83:	453880.7
Code OB Desc:	Bedrock	Org CS:	
Open Hole:		North83:	5017437
Cluster Kind:		UTMRC:	6
Date Completed:	16-AUG-73	UTMRC Desc:	margin of error : 300 m - 1 km
Remarks:		Location Method:	p6
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock

Materials Interval

Formation ID:	931023368
Layer:	3
Color:	2
General Color:	GREY
Mat1:	15
Most Common Material:	LIMESTONE
Mat2:	05
Other Materials:	CLAY

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Mat3:					
Other Materials:					
Formation Top Depth:		12			
Formation End Depth:		16			
Formation End Depth UOM:		ft			
<u>Overburden and Bedrock</u>					
<u>Materials Interval</u>					
Formation ID:		931023367			
Layer:		2			
Color:		6			
General Color:		BROWN			
Mat1:		02			
Most Common Material:		TOPSOIL			
Mat2:		13			
Other Materials:		BOULDERS			
Mat3:					
Other Materials:					
Formation Top Depth:		4			
Formation End Depth:		12			
Formation End Depth UOM:		ft			
<u>Overburden and Bedrock</u>					
<u>Materials Interval</u>					
Formation ID:		931023366			
Layer:		1			
Color:		6			
General Color:		BROWN			
Mat1:		02			
Most Common Material:		TOPSOIL			
Mat2:					
Other Materials:					
Mat3:					
Other Materials:					
Formation Top Depth:		0			
Formation End Depth:		4			
Formation End Depth UOM:		ft			
<u>Overburden and Bedrock</u>					
<u>Materials Interval</u>					
Formation ID:		931023369			
Layer:		4			
Color:		1			
General Color:		WHITE			
Mat1:		15			
Most Common Material:		LIMESTONE			
Mat2:					
Other Materials:					
Mat3:					
Other Materials:					
Formation Top Depth:		16			
Formation End Depth:		50			
Formation End Depth UOM:		ft			
<u>Method of Construction & Well</u>					
<u>Use</u>					
Method Construction ID:		961513436			
Method Construction Code:		4			

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Method Construction:		Rotary (Air)			
Other Method Construction:					
<u>Pipe Information</u>					
Pipe ID:		10583992			
Casing No:		1			
Comment:					
Alt Name:					
<u>Construction Record - Casing</u>					
Casing ID:		930062713			
Layer:		1			
Material:		1			
Open Hole or Material:		STEEL			
Depth From:					
Depth To:		22			
Casing Diameter:		6			
Casing Diameter UOM:		inch			
Casing Depth UOM:		ft			
<u>Results of Well Yield Testing</u>					
Pump Test ID:		991513436			
Pump Set At:					
Static Level:		14			
Final Level After Pumping:		25			
Recommended Pump Depth:		30			
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:					
Pumping Duration HR:		1			
Pumping Duration MIN:		0			
Flowing:		N			
<u>Draw Down & Recovery</u>					
Pump Test Detail ID:		934099259			
Test Type:		Draw Down			
Test Duration:		15			
Test Level:		30			
Test Level UOM:		ft			
<u>Draw Down & Recovery</u>					
Pump Test Detail ID:		934897540			
Test Type:		Draw Down			
Test Duration:		60			
Test Level:		30			
Test Level UOM:		ft			
<u>Draw Down & Recovery</u>					
Pump Test Detail ID:		934379071			
Test Type:		Draw Down			

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Test Duration:		30			
Test Level:		30			
Test Level UOM:		ft			
<u>Draw Down & Recovery</u>					
Pump Test Detail ID:		934639647			
Test Type:		Draw Down			
Test Duration:		45			
Test Level:		30			
Test Level UOM:		ft			
<u>Water Details</u>					
Water ID:		933468985			
Layer:		1			
Kind Code:		1			
Kind:		FRESH			
Water Found Depth:		48			
Water Found Depth UOM:		ft			
<u>4</u>	1 of 2	NNE/12.5	98.0 / -1.85	ON	BORE
Borehole ID:		614686		Type:	Borehole
Use:				Status:	
Drill Method:				UTM Zone:	18
Easting:		453891		Northing:	5017552
Location Accuracy:				Orig. Ground Elev m:	99.1
Elev. Reliability Note:				DEM Ground Elev m:	98.8
Total Depth m:		27.1		Primary Name:	
Township:				Concession:	
Lot:				Municipality:	
Completion Date:		OCT-1961		Static Water Level:	-999.9
Primary Water Use:				Sec. Water Use:	
<u>--Details--</u>					
Stratum ID:		218399045		Top Depth(m):	0.0
Bottom Depth(m):		4.9		Stratum Desc:	BOULDERS.
Stratum ID:		218399046		Top Depth(m):	4.9
Bottom Depth(m):		7.6		Stratum Desc:	LIMESTONE. GREY.
Stratum ID:		218399047		Top Depth(m):	7.6
Bottom Depth(m):		27.1		Stratum Desc:	SANDSTONE. 00085BEDROCK. 0003500070GREY,SOFT TO STIFF. SILT. GREY,COMPACT. BEDROCK.
<u>4</u>	2 of 2	NNE/12.5	98.0 / -1.85	lot 22 con 4 ON	WWIS
Well ID:		1502179		Data Entry Status:	
Construction Date:				Data Src:	1
Primary Water Use:		Commerical		Date Received:	11/14/1961
Sec. Water Use:		0		Selected Flag:	Yes
Final Well Status:		Water Supply		Abandonment Rec:	
Water Type:				Contractor:	1802
Casing Material:				Form Version:	1
Audit No:				Owner:	
Tag:				Street Name:	
Construction Method:				County:	OTTAWA-CARLETON

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
<u>Overburden and Bedrock Materials Interval</u>					
Formation ID:		930993839			
Layer:		1			
Color:					
General Color:					
Mat1:		13			
Most Common Material:		BOULDERS			
Mat2:		05			
Other Materials:		CLAY			
Mat3:		09			
Other Materials:		MEDIUM SAND			
Formation Top Depth:		0			
Formation End Depth:		16			
Formation End Depth UOM:		ft			
<u>Method of Construction & Well Use</u>					
Method Construction ID:		961502179			
Method Construction Code:		7			
Method Construction:		Diamond			
Other Method Construction:					
<u>Pipe Information</u>					
Pipe ID:		10572792			
Casing No:		1			
Comment:					
Alt Name:					
<u>Construction Record - Casing</u>					
Casing ID:		930041228			
Layer:		1			
Material:		1			
Open Hole or Material:		STEEL			
Depth From:					
Depth To:		21			
Casing Diameter:		6			
Casing Diameter UOM:		inch			
Casing Depth UOM:		ft			
<u>Construction Record - Casing</u>					
Casing ID:		930041229			
Layer:		2			
Material:		4			
Open Hole or Material:		OPEN HOLE			
Depth From:					
Depth To:		89			
Casing Diameter:		6			
Casing Diameter UOM:		inch			
Casing Depth UOM:		ft			
<u>Results of Well Yield Testing</u>					
Pump Test ID:		991502179			
Pump Set At:					
Static Level:		20			

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
<hr/>					
Final Level After Pumping:	70				
Recommended Pump Depth:	80				
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				
 <u>Water Details</u>					
Water ID:	933454922				
Layer:	1				
Kind Code:	1				
Kind:	FRESH				
Water Found Depth:	85				
Water Found Depth UOM:	ft				

<u>5</u>	1 of 1	S/54.8	101.2 / 1.31	lot 22 con 4 ON	WWIS
<hr/>					
Well ID:	1514664			Data Entry Status:	
Construction Date:				Data Src:	1
Primary Water Use:	Industrial			Date Received:	5/22/1975
Sec. Water Use:	0			Selected Flag:	Yes
Final Well Status:	Water Supply			Abandonment Rec:	
Water Type:				Contractor:	2558
Casing Material:				Form Version:	1
Audit No:				Owner:	
Tag:				Street Name:	
Construction Method:				County:	OTTAWA-CARLETON
Elevation (m):				Municipality:	GLOUCESTER TOWNSHIP
Elevation Reliability:				Site Info:	
Depth to Bedrock:				Lot:	022
Well Depth:				Concession:	04
Overburden/Bedrock:				Concession Name:	RF
Pump Rate:				Easting NAD83:	
Static Water Level:				Northing NAD83:	
Flowing (Y/N):				Zone:	
Flow Rate:				UTM Reliability:	
Clear/Cloudy:					

Bore Hole Information

Bore Hole ID:	10036634	Elevation:	103.84
DP2BR:	13	Elevrc:	
Spatial Status:		Zone:	18
Code OB:	r	East83:	453823.7
Code OB Desc:	Bedrock	Org CS:	
Open Hole:		North83:	5017312
Cluster Kind:		UTMRC:	4
Date Completed:	20-FEB-75	UTMRC Desc:	margin of error : 30 m - 100 m
Remarks:		Location Method:	p4
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Supplier Comment:					
<u>Overburden and Bedrock Materials Interval</u>					
Formation ID:		931026921			
Layer:		1			
Color:		6			
General Color:		BROWN			
Mat1:		28			
Most Common Material:		SAND			
Mat2:		11			
Other Materials:		GRAVEL			
Mat3:		13			
Other Materials:		BOULDERS			
Formation Top Depth:		0			
Formation End Depth:		13			
Formation End Depth UOM:		ft			
<u>Overburden and Bedrock Materials Interval</u>					
Formation ID:		931026924			
Layer:		4			
Color:		1			
General Color:		WHITE			
Mat1:		18			
Most Common Material:		SANDSTONE			
Mat2:					
Other Materials:					
Mat3:					
Other Materials:					
Formation Top Depth:		111			
Formation End Depth:		125			
Formation End Depth UOM:		ft			
<u>Overburden and Bedrock Materials Interval</u>					
Formation ID:		931026922			
Layer:		2			
Color:		8			
General Color:		BLACK			
Mat1:		17			
Most Common Material:		SHALE			
Mat2:					
Other Materials:					
Mat3:					
Other Materials:					
Formation Top Depth:		13			
Formation End Depth:		30			
Formation End Depth UOM:		ft			
<u>Overburden and Bedrock Materials Interval</u>					
Formation ID:		931026923			
Layer:		3			
Color:		2			
General Color:		GREY			
Mat1:		15			
Most Common Material:		LIMESTONE			

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Mat2:					
Other Materials:					
Mat3:					
Other Materials:					
Formation Top Depth:		30			
Formation End Depth:		111			
Formation End Depth UOM:		ft			
<u>Method of Construction & Well Use</u>					
Method Construction ID:		961514664			
Method Construction Code:		5			
Method Construction:		Air Percussion			
Other Method Construction:					
<u>Pipe Information</u>					
Pipe ID:		10585204			
Casing No:		1			
Comment:					
Alt Name:					
<u>Construction Record - Casing</u>					
Casing ID:		930064753			
Layer:		2			
Material:		4			
Open Hole or Material:		OPEN HOLE			
Depth From:					
Depth To:		125			
Casing Diameter:		6			
Casing Diameter UOM:		inch			
Casing Depth UOM:		ft			
<u>Construction Record - Casing</u>					
Casing ID:		930064752			
Layer:		1			
Material:		1			
Open Hole or Material:		STEEL			
Depth From:					
Depth To:		22			
Casing Diameter:		6			
Casing Diameter UOM:		inch			
Casing Depth UOM:		ft			
<u>Results of Well Yield Testing</u>					
Pump Test ID:		991514664			
Pump Set At:					
Static Level:		20			
Final Level After Pumping:		20			
Recommended Pump Depth:		80			
Pumping Rate:		12			
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			

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Pumping Duration HR:	1				
Pumping Duration MIN:	15				
Flowing:	N				
<u>Draw Down & Recovery</u>					
Pump Test Detail ID:	934100485				
Test Type:	Draw Down				
Test Duration:	15				
Test Level:	20				
Test Level UOM:	ft				
<u>Draw Down & Recovery</u>					
Pump Test Detail ID:	934383084				
Test Type:	Draw Down				
Test Duration:	30				
Test Level:	20				
Test Level UOM:	ft				
<u>Draw Down & Recovery</u>					
Pump Test Detail ID:	934644071				
Test Type:	Draw Down				
Test Duration:	45				
Test Level:	20				
Test Level UOM:	ft				
<u>Draw Down & Recovery</u>					
Pump Test Detail ID:	934901541				
Test Type:	Draw Down				
Test Duration:	60				
Test Level:	20				
Test Level UOM:	ft				
<u>Water Details</u>					
Water ID:	933470591				
Layer:	2				
Kind Code:	1				
Kind:	FRESH				
Water Found Depth:	111				
Water Found Depth UOM:	ft				
<u>Water Details</u>					
Water ID:	933470590				
Layer:	1				
Kind Code:	1				
Kind:	FRESH				
Water Found Depth:	32				
Water Found Depth UOM:	ft				
6	1 of 1	SE/107.2	97.8 / -2.04	lot 22 con 4 ON	WWIS
Well ID:	1502180			Data Entry Status:	
Construction Date:				Data Src:	1
Primary Water Use:	Domestic			Date Received:	8/15/1961

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Sec. Water Use:	0			Selected Flag:	Yes
Final Well Status:	Water Supply			Abandonment Rec:	
Water Type:				Contractor:	3601
Casing Material:				Form Version:	1
Audit No:				Owner:	
Tag:				Street Name:	
Construction Method:				County:	OTTAWA-CARLETON
Elevation (m):				Municipality:	GLOUCESTER TOWNSHIP
Elevation Reliability:				Site Info:	
Depth to Bedrock:				Lot:	022
Well Depth:				Concession:	04
Overburden/Bedrock:				Concession Name:	RF
Pump Rate:				Easting NAD83:	
Static Water Level:				Northing NAD83:	
Flowing (Y/N):				Zone:	
Flow Rate:				UTM Reliability:	
Clear/Cloudy:					

Bore Hole ID:	10024223	Elevation:	100.67
DP2BR:	6	Elevrc:	
Spatial Status:		Zone:	18
Code OB:	r	East83:	454000.7
Code OB Desc:	Bedrock	Org CS:	
Open Hole:		North83:	5017342
Cluster Kind:		UTMRC:	5
Date Completed:	29-JUN-61	UTMRC Desc:	margin of error : 100 m - 300 m
Remarks:		Location Method:	p5
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Formation ID:	930993843
Layer:	2
Color:	2
General Color:	GREY
Mat1:	15
Most Common Material:	LIMESTONE
Mat2:	
Other Materials:	
Mat3:	
Other Materials:	
Formation Top Depth:	6
Formation End Depth:	55
Formation End Depth UOM:	ft

Formation ID:	930993842
Layer:	1
Color:	
General Color:	
Mat1:	02
Most Common Material:	TOPSOIL
Mat2:	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Other Materials:					
Mat3:					
Other Materials:					
Formation Top Depth:		0			
Formation End Depth:		6			
Formation End Depth UOM:		ft			
<u>Method of Construction & Well Use</u>					
Method Construction ID:		961502180			
Method Construction Code:		1			
Method Construction:		Cable Tool			
Other Method Construction:					
<u>Pipe Information</u>					
Pipe ID:		10572793			
Casing No:		1			
Comment:					
Alt Name:					
<u>Construction Record - Casing</u>					
Casing ID:		930041230			
Layer:		1			
Material:		1			
Open Hole or Material:		STEEL			
Depth From:					
Depth To:		10			
Casing Diameter:		4			
Casing Diameter UOM:		inch			
Casing Depth UOM:		ft			
<u>Construction Record - Casing</u>					
Casing ID:		930041231			
Layer:		2			
Material:		4			
Open Hole or Material:		OPEN HOLE			
Depth From:					
Depth To:		55			
Casing Diameter:		4			
Casing Diameter UOM:		inch			
Casing Depth UOM:		ft			
<u>Results of Well Yield Testing</u>					
Pump Test ID:		991502180			
Pump Set At:					
Static Level:		6			
Final Level After Pumping:		8			
Recommended Pump Depth:					
Pumping Rate:		4			
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			

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Pumping Duration MIN: Flowing:		0 N			
<u>Water Details</u>					
Water ID:		933454923			
Layer:		1			
Kind Code:		1			
Kind:		FRESH			
Water Found Depth:		55			
Water Found Depth UOM:		ft			
<u>7</u>	1 of 1	SE/125.0	100.0 / 0.08	ON	BORE
Borehole ID:		614684		Type:	Borehole
Use:				Status:	
Drill Method:				UTM Zone:	18
Easting:		453961		Northing:	5017302
Location Accuracy:				Orig. Ground Elev m:	102
Elev. Reliability Note:				DEM Ground Elev m:	101
Total Depth m:		-999		Primary Name:	
Township:				Concession:	
Lot:				Municipality:	
Completion Date:				Static Water Level:	4.9
Primary Water Use:				Sec. Water Use:	
<u>--Details--</u>					
Stratum ID:		218399038		Top Depth(m):	0.0
Bottom Depth(m):		2.1		Stratum Desc:	SAND.
Stratum ID:		218399039		Top Depth(m):	2.1
Bottom Depth(m):		6.1		Stratum Desc:	BOULDERS.
Stratum ID:		218399040		Top Depth(m):	6.1
Bottom Depth(m):				Stratum Desc:	BEDROCK. WATER STABLE AT 319.0 FEET.E. 0003500070GREY,SOFT TO STIFF. SILT. GREY,COMPACT
<u>8</u>	1 of 1	NE/139.2	93.9 / -6.00	4835 Bank Street Ottawa ON	EHS
Order No:		20170417001		Nearest Intersection:	
Status:		C		Municipality:	
Report Type:		Standard Select Report		Client Prov/State:	ON
Report Date:		21-APR-17		Search Radius (km):	.25
Date Received:		17-APR-17		X:	-75.586149
Previous Site Name:				Y:	45.310423
Lot/Building Size:					
Additional Info Ordered:		Fire Insur. Maps and/or Site Plans; Title Searches; Topographic Maps; City Directory			
<u>9</u>	1 of 1	SE/143.0	97.8 / -2.05	lot 22 con 4 ON	WWIS
Well ID:		1502177		Data Entry Status:	
Construction Date:				Data Src:	1
Primary Water Use:		Domestic		Date Received:	5/21/1957
Sec. Water Use:		0		Selected Flag:	Yes
Final Well Status:		Water Supply		Abandonment Rec:	
Water Type:				Contractor:	1603

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Casing Material:				Form Version:	1
Audit No:				Owner:	
Tag:				Street Name:	
Construction Method:				County:	OTTAWA-CARLETON
Elevation (m):				Municipality:	GLOUCESTER TOWNSHIP
Elevation Reliability:				Site Info:	
Depth to Bedrock:				Lot:	022
Well Depth:				Concession:	04
Overburden/Bedrock:				Concession Name:	RF
Pump Rate:				Easting NAD83:	
Static Water Level:				Northing NAD83:	
Flowing (Y/N):				Zone:	
Flow Rate:				UTM Reliability:	
Clear/Cloudy:					
<u>Bore Hole Information</u>					
Bore Hole ID:		10024220		Elevation:	100.92
DP2BR:		20		Elevrc:	
Spatial Status:				Zone:	18
Code OB:		r		East83:	454000.7
Code OB Desc:		Bedrock		Org CS:	
Open Hole:				North83:	5017302
Cluster Kind:				UTMRC:	5
Date Completed:		24-APR-57		UTMRC Desc:	margin of error : 100 m - 300 m
Remarks:				Location Method:	p5
Elevrc Desc:					
Location Source Date:					
Improvement Location Source:					
Improvement Location Method:					
Source Revision Comment:					
Supplier Comment:					
<u>Overburden and Bedrock</u>					
<u>Materials Interval</u>					
Formation ID:		930993836			
Layer:		3			
Color:					
General Color:					
Mat1:		18			
Most Common Material:		SANDSTONE			
Mat2:					
Other Materials:					
Mat3:					
Other Materials:					
Formation Top Depth:		20			
Formation End Depth:		60			
Formation End Depth UOM:		ft			
<u>Overburden and Bedrock</u>					
<u>Materials Interval</u>					
Formation ID:		930993835			
Layer:		2			
Color:					
General Color:					
Mat1:		13			
Most Common Material:		BOULDERS			
Mat2:		09			
Other Materials:		MEDIUM SAND			
Mat3:					
Other Materials:					

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Formation Top Depth:	7				
Formation End Depth:	20				
Formation End Depth UOM:	ft				
<u>Overburden and Bedrock Materials Interval</u>					
Formation ID:	930993834				
Layer:	1				
Color:					
General Color:					
Mat1:	09				
Most Common Material:	MEDIUM SAND				
Mat2:					
Other Materials:					
Mat3:					
Other Materials:					
Formation Top Depth:	0				
Formation End Depth:	7				
Formation End Depth UOM:	ft				
<u>Method of Construction & Well Use</u>					
Method Construction ID:	961502177				
Method Construction Code:	1				
Method Construction:	Cable Tool				
Other Method Construction:					
<u>Pipe Information</u>					
Pipe ID:	10572790				
Casing No:	1				
Comment:					
Alt Name:					
<u>Construction Record - Casing</u>					
Casing ID:	930041225				
Layer:	2				
Material:	4				
Open Hole or Material:	OPEN HOLE				
Depth From:					
Depth To:	60				
Casing Diameter:	2				
Casing Diameter UOM:	inch				
Casing Depth UOM:	ft				
<u>Construction Record - Casing</u>					
Casing ID:	930041224				
Layer:	1				
Material:	1				
Open Hole or Material:	STEEL				
Depth From:					
Depth To:	21				
Casing Diameter:	2				
Casing Diameter UOM:	inch				
Casing Depth UOM:	ft				
<u>Results of Well Yield Testing</u>					

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
<hr/>					
Pump Test ID:		991502177			
Pump Set At:					
Static Level:	6				
Final Level After Pumping:	25				
Recommended Pump Depth:					
Pumping Rate:	13				
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:		933454920			
Layer:	1				
Kind Code:	1				
Kind:	FRESH				
Water Found Depth:	60				
Water Found Depth UOM:	ft				
<hr/>					
10	1 of 1	SE/158.7	97.2 / -2.69	4852 Bank Street Ottawa ON	EHS
Order No:	20070314016			Nearest Intersection:	
Status:	C			Municipality:	
Report Type:	CAN - Custom Report			Client Prov/State:	
Report Date:	3/23/2007			Search Radius (km):	0.25
Date Received:	3/14/2007			X:	-75.586554
Previous Site Name:				Y:	45.307639
Lot/Building Size:					
Additional Info Ordered:	Fire Insur. Maps And /or Site Plans				
<hr/>					
11	1 of 1	SE/187.7	97.1 / -2.76	lot 22 con 4 ON	WWIS
Well ID:	1512375			Data Entry Status:	
Construction Date:				Data Src:	1
Primary Water Use:	Domestic			Date Received:	3/7/1973
Sec. Water Use:	0			Selected Flag:	Yes
Final Well Status:	Water Supply			Abandonment Rec:	
Water Type:				Contractor:	1703
Casing Material:				Form Version:	1
Audit No:				Owner:	
Tag:				Street Name:	
Construction Method:				County:	OTTAWA-CARLETON
Elevation (m):				Municipality:	GLOUCESTER TOWNSHIP
Elevation Reliability:				Site Info:	
Depth to Bedrock:				Lot:	022
Well Depth:				Concession:	04
Overburden/Bedrock:				Concession Name:	RF
Pump Rate:				Easting NAD83:	
Static Water Level:				Northing NAD83:	
Flowing (Y/N):				Zone:	
Flow Rate:				UTM Reliability:	
Clear/Cloudy:					

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
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Bore Hole Information

Bore Hole ID:	10034367	Elevation:	100.37
DP2BR:	9	Elevrc:	
Spatial Status:		Zone:	18
Code OB:	r	East83:	454020.7
Code OB Desc:	Bedrock	Org CS:	
Open Hole:		North83:	5017262
Cluster Kind:		UTMRC:	4
Date Completed:	27-NOV-72	UTMRC Desc:	margin of error : 30 m - 100 m
Remarks:		Location Method:	p4
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock

Materials Interval

Formation ID:	931020459
Layer:	1
Color:	6
General Color:	BROWN
Mat1:	25
Most Common Material:	OVERBURDEN
Mat2:	28
Other Materials:	SAND
Mat3:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	9
Formation End Depth UOM:	ft

Overburden and Bedrock

Materials Interval

Formation ID:	931020460
Layer:	2
Color:	1
General Color:	WHITE
Mat1:	18
Most Common Material:	SANDSTONE
Mat2:	
Other Materials:	
Mat3:	
Other Materials:	
Formation Top Depth:	9
Formation End Depth:	74
Formation End Depth UOM:	ft

Method of Construction & Well

Use

Method Construction ID:	961512375
Method Construction Code:	7
Method Construction:	Diamond
Other Method Construction:	

Pipe Information

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
<hr/>					
Pipe ID:		10582937			
Casing No:		1			
Comment:					
Alt Name:					
 <u>Construction Record - Casing</u>					
Casing ID:		930060916			
Layer:		2			
Material:		4			
Open Hole or Material:		OPEN HOLE			
Depth From:					
Depth To:		74			
Casing Diameter:					
Casing Diameter UOM:		inch			
Casing Depth UOM:		ft			
 <u>Construction Record - Casing</u>					
Casing ID:		930060915			
Layer:		1			
Material:		2			
Open Hole or Material:		GALVANIZED			
Depth From:					
Depth To:		20			
Casing Diameter:		2			
Casing Diameter UOM:		inch			
Casing Depth UOM:		ft			
 <u>Results of Well Yield Testing</u>					
Pump Test ID:		991512375			
Pump Set At:					
Static Level:		6			
Final Level After Pumping:		12			
Recommended Pump Depth:		35			
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:		2			
Pumping Duration MIN:		0			
Flowing:		N			
 <u>Draw Down & Recovery</u>					
Pump Test Detail ID:		934377416			
Test Type:		Draw Down			
Test Duration:		30			
Test Level:		12			
Test Level UOM:		ft			
 <u>Draw Down & Recovery</u>					
Pump Test Detail ID:		934647324			
Test Type:		Draw Down			
Test Duration:		45			

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Test Level:		12			
Test Level UOM:		ft			
<u>Draw Down & Recovery</u>					
Pump Test Detail ID:		934098022			
Test Type:		Draw Down			
Test Duration:		15			
Test Level:		12			
Test Level UOM:		ft			
<u>Draw Down & Recovery</u>					
Pump Test Detail ID:		934895897			
Test Type:		Draw Down			
Test Duration:		60			
Test Level:		12			
Test Level UOM:		ft			
<u>Water Details</u>					
Water ID:		933467794			
Layer:		1			
Kind Code:		1			
Kind:		FRESH			
Water Found Depth:		74			
Water Found Depth UOM:		ft			

12	1 of 1	ENE/217.6	94.1 / -5.80	lot 22 con 5 ON	WWIS
Well ID:	1516052			Data Entry Status:	
Construction Date:				Data Src:	1
Primary Water Use:	Domestic			Date Received:	8/8/1977
Sec. Water Use:	0			Selected Flag:	Yes
Final Well Status:	Water Supply			Abandonment Rec:	
Water Type:				Contractor:	1558
Casing Material:				Form Version:	1
Audit No:				Owner:	
Tag:				Street Name:	
Construction Method:				County:	OTTAWA-CARLETON
Elevation (m):				Municipality:	GLOUCESTER TOWNSHIP
Elevation Reliability:				Site Info:	
Depth to Bedrock:				Lot:	022
Well Depth:				Concession:	05
Overburden/Bedrock:				Concession Name:	RF
Pump Rate:				Easting NAD83:	
Static Water Level:				Northing NAD83:	
Flowing (Y/N):				Zone:	
Flow Rate:				UTM Reliability:	
Clear/Cloudy:					
<u>Bore Hole Information</u>					
Bore Hole ID:	10037989			Elevation:	96.9
DP2BR:	26			Elevrc:	
Spatial Status:				Zone:	18
Code OB:	r			East83:	454129.7
Code OB Desc:	Bedrock			Org CS:	
Open Hole:				North83:	5017621
Cluster Kind:				UTMRC:	4
Date Completed:	13-JUL-77			UTMRC Desc:	margin of error : 30 m - 100 m

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Remarks: Elevrc Desc: Location Source Date: Improvement Location Source: Improvement Location Method: Source Revision Comment: Supplier Comment:				Location Method:	p4
<u>Overburden and Bedrock</u> <u>Materials Interval</u>					
Formation ID:		931031013			
Layer:		2			
Color:		8			
General Color:		BLACK			
Mat1:		03			
Most Common Material:		MUCK			
Mat2:		85			
Other Materials:		SOFT			
Mat3:					
Other Materials:					
Formation Top Depth:		7			
Formation End Depth:		9			
Formation End Depth UOM:		ft			
<u>Overburden and Bedrock</u> <u>Materials Interval</u>					
Formation ID:		931031016			
Layer:		5			
Color:		2			
General Color:		GREY			
Mat1:		18			
Most Common Material:		SANDSTONE			
Mat2:		73			
Other Materials:		HARD			
Mat3:					
Other Materials:					
Formation Top Depth:		43			
Formation End Depth:		178			
Formation End Depth UOM:		ft			
<u>Overburden and Bedrock</u> <u>Materials Interval</u>					
Formation ID:		931031012			
Layer:		1			
Color:		6			
General Color:		BROWN			
Mat1:		28			
Most Common Material:		SAND			
Mat2:		05			
Other Materials:		CLAY			
Mat3:		13			
Other Materials:		BOULDERS			
Formation Top Depth:		0			
Formation End Depth:		7			
Formation End Depth UOM:		ft			
<u>Overburden and Bedrock</u> <u>Materials Interval</u>					

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
<hr/>					
Formation ID:		931031014			
Layer:		3			
Color:		2			
General Color:		GREY			
Mat1:		14			
Most Common Material:		HARDPAN			
Mat2:		13			
Other Materials:		BOULDERS			
Mat3:		79			
Other Materials:		PACKED			
Formation Top Depth:		9			
Formation End Depth:		26			
Formation End Depth UOM:		ft			
 <u>Overburden and Bedrock Materials Interval</u>					
Formation ID:		931031015			
Layer:		4			
Color:		2			
General Color:		GREY			
Mat1:		15			
Most Common Material:		LIMESTONE			
Mat2:		78			
Other Materials:		MEDIUM-GRAINED			
Mat3:					
Other Materials:					
Formation Top Depth:		26			
Formation End Depth:		43			
Formation End Depth UOM:		ft			
 <u>Method of Construction & Well Use</u>					
Method Construction ID:		961516052			
Method Construction Code:		5			
Method Construction:		Air Percussion			
Other Method Construction:					
 <u>Pipe Information</u>					
Pipe ID:		10586559			
Casing No:		1			
Comment:					
Alt Name:					
 <u>Construction Record - Casing</u>					
Casing ID:		930066896			
Layer:		2			
Material:		4			
Open Hole or Material:		OPEN HOLE			
Depth From:					
Depth To:		178			
Casing Diameter:		6			
Casing Diameter UOM:		inch			
Casing Depth UOM:		ft			
 <u>Construction Record - Casing</u>					
Casing ID:		930066895			
Layer:		1			

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
<hr/>					
Material:		1			
Open Hole or Material:		STEEL			
Depth From:					
Depth To:		28			
Casing Diameter:		6			
Casing Diameter UOM:		inch			
Casing Depth UOM:		ft			
 <u>Results of Well Yield Testing</u>					
Pump Test ID:		991516052			
Pump Set At:					
Static Level:		30			
Final Level After Pumping:		65			
Recommended Pump Depth:		75			
Pumping Rate:		15			
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:		2			
Pumping Duration HR:		1			
Pumping Duration MIN:		0			
Flowing:		N			
 <u>Draw Down & Recovery</u>					
Pump Test Detail ID:		934379209			
Test Type:		Draw Down			
Test Duration:		30			
Test Level:		65			
Test Level UOM:		ft			
 <u>Draw Down & Recovery</u>					
Pump Test Detail ID:		934640310			
Test Type:		Draw Down			
Test Duration:		45			
Test Level:		65			
Test Level UOM:		ft			
 <u>Draw Down & Recovery</u>					
Pump Test Detail ID:		934101597			
Test Type:		Draw Down			
Test Duration:		15			
Test Level:		65			
Test Level UOM:		ft			
 <u>Draw Down & Recovery</u>					
Pump Test Detail ID:		934898212			
Test Type:		Draw Down			
Test Duration:		60			
Test Level:		65			
Test Level UOM:		ft			
 <u>Water Details</u>					

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Water ID: 933472277 Layer: 1 Kind Code: 1 Kind: FRESH Water Found Depth: 175 Water Found Depth UOM: ft					
13	1 of 1	SE/218.8	98.6 / -1.31	lot 22 con 5 ON	WWIS
Well ID: 1512265 Construction Date: Primary Water Use: Domestic Sec. Water Use: 0 Final Well Status: Water Supply Water Type: Casing Material: Audit No: Tag: Construction Method: Elevation (m): Elevation Reliability: Depth to Bedrock: Well Depth: Overburden/Bedrock: Pump Rate: Static Water Level: Flowing (Y/N): Flow Rate: Clear/Cloudy:					
Data Entry Status: Data Src: 1 Date Received: 1/15/1973 Selected Flag: Yes Abandonment Rec: Contractor: 3002 Form Version: 1 Owner: Street Name: County: OTTAWA-CARLETON Municipality: GLOUCESTER TOWNSHIP Site Info: Lot: 022 Concession: 05 Concession Name: RF Easting NAD83: Northing NAD83: Zone: UTM Reliability:					
<u>Bore Hole Information</u>					
Bore Hole ID: 10034257 DP2BR: 3 Spatial Status: Code OB: r Code OB Desc: Bedrock Open Hole: Cluster Kind: Date Completed: 24-NOV-72 Remarks: Elevrc Desc: Location Source Date: Improvement Location Source: Improvement Location Method: Source Revision Comment: Supplier Comment:					
Elevation: 100.47 Elevrc: Zone: 18 East83: 454100.7 Org CS: North83: 5017272 UTMRC: 4 UTMRC Desc: margin of error : 30 m - 100 m Location Method: p4					
<u>Overburden and Bedrock</u>					
<u>Materials Interval</u>					
Formation ID: 931020158 Layer: 1 Color: 6 General Color: BROWN Mat1: 05 Most Common Material: CLAY Mat2: 28 Other Materials: SAND Mat3: 12 Other Materials: STONES Formation Top Depth: 0					

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Formation End Depth:	3				
Formation End Depth UOM:	ft				
<u>Overburden and Bedrock Materials Interval</u>					
Formation ID:	931020159				
Layer:	2				
Color:	2				
General Color:	GREY				
Mat1:	15				
Most Common Material:	LIMESTONE				
Mat2:					
Other Materials:					
Mat3:					
Other Materials:					
Formation Top Depth:	3				
Formation End Depth:	48				
Formation End Depth UOM:	ft				
<u>Method of Construction & Well Use</u>					
Method Construction ID:	961512265				
Method Construction Code:	4				
Method Construction:	Rotary (Air)				
Other Method Construction:					
<u>Pipe Information</u>					
Pipe ID:	10582827				
Casing No:	1				
Comment:					
Alt Name:					
<u>Construction Record - Casing</u>					
Casing ID:	930060751				
Layer:	2				
Material:	4				
Open Hole or Material:	OPEN HOLE				
Depth From:					
Depth To:	48				
Casing Diameter:					
Casing Diameter UOM:	inch				
Casing Depth UOM:	ft				
<u>Construction Record - Casing</u>					
Casing ID:	930060750				
Layer:	1				
Material:	1				
Open Hole or Material:	STEEL				
Depth From:					
Depth To:	12				
Casing Diameter:	6				
Casing Diameter UOM:	inch				
Casing Depth UOM:	ft				
<u>Results of Well Yield Testing</u>					

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Pump Test ID:		991512265			
Pump Set At:					
Static Level:	4				
Final Level After Pumping:	48				
Recommended Pump Depth:	30				
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:	1				
Pumping Duration MIN:	0				
Flowing:	N				
<u>Draw Down & Recovery</u>					
Pump Test Detail ID:		934895388			
Test Type:		Recovery			
Test Duration:	60				
Test Level:	4				
Test Level UOM:	ft				
<u>Draw Down & Recovery</u>					
Pump Test Detail ID:		934097920			
Test Type:		Recovery			
Test Duration:	15				
Test Level:	4				
Test Level UOM:	ft				
<u>Draw Down & Recovery</u>					
Pump Test Detail ID:		934647231			
Test Type:		Recovery			
Test Duration:	45				
Test Level:	4				
Test Level UOM:	ft				
<u>Draw Down & Recovery</u>					
Pump Test Detail ID:		934376902			
Test Type:		Recovery			
Test Duration:	30				
Test Level:	4				
Test Level UOM:	ft				
<u>Water Details</u>					
Water ID:		933467663			
Layer:	3				
Kind Code:	1				
Kind:	FRESH				
Water Found Depth:	34				
Water Found Depth UOM:	ft				
<u>Water Details</u>					
Water ID:		933467662			

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Layer:	2				
Kind Code:	1				
Kind:	FRESH				
Water Found Depth:	21				
Water Found Depth UOM:	ft				
Water Details					
Water ID:	933467661				
Layer:	1				
Kind Code:	1				
Kind:	FRESH				
Water Found Depth:	8				
Water Found Depth UOM:	ft				
14	1 of 2	N/219.1	94.2 / -5.65	ON	BORE
Borehole ID:	614688			Type:	Borehole
Use:				Status:	
Drill Method:				UTM Zone:	18
Easting:	453831			Northing:	5017752
Location Accuracy:				Orig. Ground Elev m:	96
Elev. Reliability Note:				DEM Ground Elev m:	95.8
Total Depth m:	14			Primary Name:	
Township:				Concession:	
Lot:				Municipality:	
Completion Date:	JUL-1962			Static Water Level:	-999.9
Primary Water Use:				Sec. Water Use:	
--Details--					
Stratum ID:	218399051			Top Depth(m):	0.0
Bottom Depth(m):	6.4			Stratum Desc:	CLAY.
Stratum ID:	218399052			Top Depth(m):	6.4
Bottom Depth(m):	14.0			Stratum Desc:	LIMESTONE. 00046 LIMESTONE. GREY. 00050CK. 0003500070GREY,SOFT TO STIFF. SILT.
14	2 of 2	N/219.1	94.2 / -5.65	lot 21 con 4 ON	WWIS
Well ID:	1502181			Data Entry Status:	
Construction Date:				Data Src:	1
Primary Water Use:	Domestic			Date Received:	9/5/1962
Sec. Water Use:	0			Selected Flag:	Yes
Final Well Status:	Water Supply			Abandonment Rec:	
Water Type:				Contractor:	3601
Casing Material:				Form Version:	1
Audit No:				Owner:	
Tag:				Street Name:	
Construction Method:				County:	OTTAWA-CARLETON
Elevation (m):				Municipality:	GLOUCESTER TOWNSHIP
Elevation Reliability:				Site Info:	
Depth to Bedrock:				Lot:	021
Well Depth:				Concession:	04
Overburden/Bedrock:				Concession Name:	RF
Pump Rate:				Easting NAD83:	
Static Water Level:				Northing NAD83:	
Flowing (Y/N):				Zone:	
Flow Rate:				UTM Reliability:	
Clear/Cloudy:					

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
<u>Bore Hole Information</u>					
Bore Hole ID:	10024224			Elevation:	95.78
DP2BR:	21			Elevrc:	
Spatial Status:				Zone:	18
Code OB:	r			East83:	453830.7
Code OB Desc:	Bedrock			Org CS:	
Open Hole:				North83:	5017752
Cluster Kind:				UTMRC:	5
Date Completed:	26-JUL-62			UTMRC Desc:	margin of error : 100 m - 300 m
Remarks:				Location Method:	p5
Elevrc Desc:					
Location Source Date:					
Improvement Location Source:					
Improvement Location Method:					
Source Revision Comment:					
Supplier Comment:					
<u>Overburden and Bedrock</u>					
<u>Materials Interval</u>					
Formation ID:	930993845				
Layer:	2				
Color:					
General Color:					
Mat1:	15				
Most Common Material:	LIMESTONE				
Mat2:					
Other Materials:					
Mat3:					
Other Materials:					
Formation Top Depth:	21				
Formation End Depth:	46				
Formation End Depth UOM:	ft				
<u>Overburden and Bedrock</u>					
<u>Materials Interval</u>					
Formation ID:	930993844				
Layer:	1				
Color:					
General Color:					
Mat1:	05				
Most Common Material:	CLAY				
Mat2:					
Other Materials:					
Mat3:					
Other Materials:					
Formation Top Depth:	0				
Formation End Depth:	21				
Formation End Depth UOM:	ft				
<u>Method of Construction & Well</u>					
<u>Use</u>					
Method Construction ID:	961502181				
Method Construction Code:	1				
Method Construction:	Cable Tool				
Other Method Construction:					
<u>Pipe Information</u>					

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
<hr/>					
Pipe ID:		10572794			
Casing No:		1			
Comment:					
Alt Name:					
 <u>Construction Record - Casing</u>					
Casing ID:		930041233			
Layer:		2			
Material:		4			
Open Hole or Material:		OPEN HOLE			
Depth From:					
Depth To:		46			
Casing Diameter:		4			
Casing Diameter UOM:		inch			
Casing Depth UOM:		ft			
 <u>Construction Record - Casing</u>					
Casing ID:		930041232			
Layer:		1			
Material:		1			
Open Hole or Material:		STEEL			
Depth From:					
Depth To:		21			
Casing Diameter:		4			
Casing Diameter UOM:		inch			
Casing Depth UOM:		ft			
 <u>Results of Well Yield Testing</u>					
Pump Test ID:		991502181			
Pump Set At:					
Static Level:		8			
Final Level After Pumping:		10			
Recommended Pump Depth:		30			
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:		1			
Pumping Duration HR:		1			
Pumping Duration MIN:		0			
Flowing:		N			
 <u>Water Details</u>					
Water ID:		933454924			
Layer:		1			
Kind Code:		1			
Kind:		FRESH			
Water Found Depth:		46			
Water Found Depth UOM:		ft			
<hr/>					
15	1 of 1	N/221.9	94.2 / -5.65	ONTARIO HYDRO 4820 BANK ST TRANSFORMER GLOUCESTER CITY ON K1X 1G6	SPL

46 erisinfo.com | Environmental Risk Information Services Order No: 20190205061

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Static Water Level:				Northing NAD83:	
Flowing (Y/N):				Zone:	
Flow Rate:				UTM Reliability:	
Clear/Cloudy:					
<u>Bore Hole Information</u>					
Bore Hole ID:	10024221			Elevation:	100.93
DP2BR:	18			Elevrc:	
Spatial Status:				Zone:	18
Code OB:	r			East83:	454020.7
Code OB Desc:	Bedrock			Org CS:	
Open Hole:				North83:	5017212
Cluster Kind:				UTMRC:	4
Date Completed:	05-AUG-57			UTMRC Desc:	margin of error : 30 m - 100 m
Remarks:				Location Method:	p4
Elevrc Desc:					
Location Source Date:					
Improvement Location Source:					
Improvement Location Method:					
Source Revision Comment:					
Supplier Comment:					
<u>Overburden and Bedrock</u>					
<u>Materials Interval</u>					
Formation ID:	930993838				
Layer:	2				
Color:					
General Color:					
Mat1:	15				
Most Common Material:	LIMESTONE				
Mat2:					
Other Materials:					
Mat3:					
Other Materials:					
Formation Top Depth:	18				
Formation End Depth:	50				
Formation End Depth UOM:	ft				
<u>Overburden and Bedrock</u>					
<u>Materials Interval</u>					
Formation ID:	930993837				
Layer:	1				
Color:					
General Color:					
Mat1:	05				
Most Common Material:	CLAY				
Mat2:	11				
Other Materials:	GRAVEL				
Mat3:	09				
Other Materials:	MEDIUM SAND				
Formation Top Depth:	0				
Formation End Depth:	18				
Formation End Depth UOM:	ft				
<u>Method of Construction & Well</u>					
<u>Use</u>					
Method Construction ID:	961502178				
Method Construction Code:	1				

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Method Construction:		Cable Tool			
Other Method Construction:					
<u>Pipe Information</u>					
Pipe ID:	10572791				
Casing No:	1				
Comment:					
Alt Name:					
<u>Construction Record - Casing</u>					
Casing ID:	930041226				
Layer:	1				
Material:	1				
Open Hole or Material:	STEEL				
Depth From:					
Depth To:	25				
Casing Diameter:	4				
Casing Diameter UOM:	inch				
Casing Depth UOM:	ft				
<u>Construction Record - Casing</u>					
Casing ID:	930041227				
Layer:	2				
Material:	4				
Open Hole or Material:	OPEN HOLE				
Depth From:					
Depth To:	50				
Casing Diameter:	4				
Casing Diameter UOM:	inch				
Casing Depth UOM:	ft				
<u>Results of Well Yield Testing</u>					
Pump Test ID:	991502178				
Pump Set At:					
Static Level:	13				
Final Level After Pumping:	50				
Recommended Pump Depth:					
Pumping Rate:	4				
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:	0				
Flowing:	N				
<u>Water Details</u>					
Water ID:	933454921				
Layer:	1				
Kind Code:	1				
Kind:	FRESH				
Water Found Depth:	48				
Water Found Depth UOM:	ft				

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
18	1 of 1	SSE/254.4	97.8 / -2.06	4858 Bank Street Ottawa ON	EHS
Order No: 20070823009 Status: C Report Type: CAN - Complete Report Report Date: 8/31/2007 Date Received: 8/23/2007 Previous Site Name: Lot/Building Size: Additional Info Ordered: Fire Insur. Maps And/or Site Plans; Topographical Maps					
Nearest Intersection: Municipality: Client Prov/State: Search Radius (km): 0.25 X: -75.586593 Y: 45.306658					
19	1 of 1	N/263.1	93.9 / -6.00	lot 21 con 4 ON	WWIS
Well ID: 1502176 Construction Date: Primary Water Use: Domestic Sec. Water Use: 0 Final Well Status: Water Supply Water Type: Casing Material: Audit No: Tag: Construction Method: Elevation (m): Elevation Reliability: Depth to Bedrock: Well Depth: Overburden/Bedrock: Pump Rate: Static Water Level: Flowing (Y/N): Flow Rate: Clear/Cloudy:					
Data Entry Status: Data Src: 1 Date Received: 9/5/1962 Selected Flag: Yes Abandonment Rec: Contractor: 3601 Form Version: 1 Owner: Street Name: County: OTTAWA-CARLETON Municipality: GLOUCESTER TOWNSHIP Site Info: Lot: 021 Concession: 04 Concession Name: RF Easting NAD83: Northing NAD83: Zone: UTM Reliability:					
<u>Bore Hole Information</u>					
Bore Hole ID: 10024219 DP2BR: 18 Spatial Status: Code OB: r Code OB Desc: Bedrock Open Hole: Cluster Kind: Date Completed: 20-JUL-62 Remarks: Elevrc Desc: Location Source Date: Improvement Location Source: Improvement Location Method: Source Revision Comment: Supplier Comment:					
Elevation: 95.61 Elevrc: Zone: 18 East83: 453790.7 Org CS: North83: 5017782 UTMRC: 5 UTMRC Desc: margin of error : 100 m - 300 m Location Method: p5					
<u>Overburden and Bedrock</u>					
<u>Materials Interval</u>					
Formation ID: 930993833 Layer: 2 Color: General Color:					

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Mat1:		15			
Most Common Material:		LIMESTONE			
Mat2:					
Other Materials:					
Mat3:					
Other Materials:					
Formation Top Depth:		18			
Formation End Depth:		45			
Formation End Depth UOM:		ft			
<u>Overburden and Bedrock Materials Interval</u>					
Formation ID:		930993832			
Layer:		1			
Color:					
General Color:					
Mat1:		05			
Most Common Material:		CLAY			
Mat2:					
Other Materials:					
Mat3:					
Other Materials:					
Formation Top Depth:		0			
Formation End Depth:		18			
Formation End Depth UOM:		ft			
<u>Method of Construction & Well Use</u>					
Method Construction ID:		961502176			
Method Construction Code:		1			
Method Construction:		Cable Tool			
Other Method Construction:					
<u>Pipe Information</u>					
Pipe ID:		10572789			
Casing No:		1			
Comment:					
Alt Name:					
<u>Construction Record - Casing</u>					
Casing ID:		930041222			
Layer:		1			
Material:		1			
Open Hole or Material:		STEEL			
Depth From:					
Depth To:		18			
Casing Diameter:		4			
Casing Diameter UOM:		inch			
Casing Depth UOM:		ft			
<u>Construction Record - Casing</u>					
Casing ID:		930041223			
Layer:		2			
Material:		4			
Open Hole or Material:		OPEN HOLE			
Depth From:					
Depth To:		45			

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Casing Diameter:	4				
Casing Diameter UOM:	inch				
Casing Depth UOM:	ft				
Results of Well Yield Testing					
Pump Test ID:	991502176				
Pump Set At:					
Static Level:	6				
Final Level After Pumping:	8				
Recommended Pump Depth:	30				
Pumping Rate:	6				
Flowing Rate:					
Recommended Pump Rate:	6				
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:	933454919				
Layer:	1				
Kind Code:	1				
Kind:	FRESH				
Water Found Depth:	45				
Water Found Depth UOM:	ft				
20	1 of 1	SE/271.0	97.9 / -2.00	PRIVATE RESIDENCE RESIDENCE AT 4860 BANK ST. FURNACE OIL TANK GLOUCESTER CITY ON K1X 1G6	SPL
Ref No:	107778			Discharger Report:	
Site No:				Material Group:	
Incident Dt:	11/28/1994			Client Type:	
Year:				Sector Type:	
Incident Cause:	PIPE/HOSE LEAK			Source Type:	
Incident Event:				Nearest Watercourse:	
Contaminant Code:				Site Name:	
Contaminant Name:				Site Address:	
Contaminant Limit 1:				Site District Office:	
Contam Limit Freq 1:				Site County/District:	
Contaminant UN No 1:				Site Postal Code:	
Contaminant Qty:				Site Region:	
Environment Impact:	POSSIBLE			Site Municipality:	20105
Nature of Impact:	Soil contamination			Site Lot:	
Receiving Medium:	LAND			Site Conc:	
Receiving Env:				Northing:	
Health/Env Conseq:				Easting:	MCCR
MOE Response:				Site Geo Ref Accu:	
Dt MOE Arvl on Scn:				Site Geo Ref Meth:	
MOE Reported Dt:	11/28/1994			Site Map Datum:	
Dt Document Closed:					
Agency Involved:					
SAC Action Class:					
Incident Reason:	EQUIPMENT FAILURE				
Incident Summary:	RESIDENCE - UNKNOWN AMOUNT OF FURNACE OIL TO BASEMENT & GROUND.				

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
21	1 of 1	N/277.2	93.9 / -5.97	ON	BORE
<div> <div> Borehole ID: 614689 Use: Drill Method: Easting: 453801 Location Accuracy: Elev. Reliability Note: Total Depth m: -999 Township: Lot: Completion Date: Primary Water Use: </div> <div> Type: Borehole Status: UTM Zone: 18 Northing: 5017802 Orig. Ground Elev m: 96 DEM Ground Elev m: 95.2 Primary Name: Concession: Municipality: Static Water Level: -999.9 Sec. Water Use: </div> </div>					
<div> <div> --Details-- Stratum ID: 218399053 Bottom Depth(m): 5.5 Stratum ID: 218399054 Bottom Depth(m): </div> <div> Top Depth(m): 0.0 Stratum Desc: CLAY. Top Depth(m): 5.5 Stratum Desc: BEDROCK. 00046 LIMESTONE. GREY. 00050CK. 0003500070GREY,SOFT TO STIFF. SILT. </div> </div>					
22	1 of 3	N/289.0	91.2 / -8.72	OTTAWA CAMPING TRAILERS LTD 4815 BANK ST GLOUCESTER ON	EXP
<div> <div> Instance No: 10904224 Instance ID: 52443 Instance Type: FS Propane Tank Description: FS Propane Tank Status: EXPIRED TSSA Program Area: Maximum Hazard Rank: Facility Type: Expired Date: </div> </div>					
22	2 of 3	N/289.0	91.2 / -8.72	OTTAWA CAMPING TRAILERS LTD 4815 BANK ST GLOUCESTER ON	EXP
<div> <div> Instance No: 9620986 Instance ID: 391206 Instance Type: FS Facility Description: FS Propane Refill Cntr - Cylr Fill Status: EXPIRED TSSA Program Area: Maximum Hazard Rank: Facility Type: Expired Date: </div> </div>					
22	3 of 3	N/289.0	91.2 / -8.72	OTTAWA CAMPING TRAILERS LTD LOT 21 CON 5 HWY 31 OTTAWA ON	PRT
<div> <div> Location ID: 10991 Type: retail </div> </div>					

<i>Map Key</i>	<i>Number of Records</i>	<i>Direction/ Distance (m)</i>	<i>Elev/Diff (m)</i>	<i>Site</i>	<i>DB</i>
<i>Expiry Date:</i>		1995-04-30			
<i>Capacity (L):</i>		1000			
<i>Licence #:</i>		0032368001			

Unplottable Summary

Total: **39** Unplottable sites

DB	Company Name/Site Name	Address	City	Postal
CA	MINISTRY OF TRANSPORTATION	HIGHWAY #31, LAT. CATCHBASINS	OTTAWA CITY ON	
CA	THE DOUGLAS MACDONALD DEV. CORP.	COMMERCIAL PLAZA BANK STREET	OTTAWA CITY ON	
CA	OSSORY CANADA INC.	PRIVATE BLDG. BANK ST.	OTTAWA CITY ON	
CA	CITY	BANK ST.	GLOUCESTER CITY ON	
CA	MACDONALD DEVELOPMENT CORP.	BANK ST.	OTTAWA CITY ON	
CA	MACDONALD DEVELOPMENT CORP.-PLAZA	EASEMENT-BANK STREET	OTTAWA CITY ON	
CA	Fallowfield Road and O'Keefe Court	Lots 20 and 21, Concession 4	Ottawa ON	
CONV	Taggart Construction Limited	Bank Street	South Ottawa ON	
EBR	4840 Bank St. Ltd.	Lot 22, Concession 4, Remer Lands. The site is located within the Leitrim Development Area in southern Ottawa. Gloucester	ON	
EBR	Regional Group of Companies Inc.	Lots 21 & 22, Concession 4 from the Rideau River, Geographic Township of Gloucester West side of Bank Street, southwest of Blais Road CITY OF OTTAWA	ON	
EBR	Thomas Cavanagh Construction Limited,	Part Lot 22, Concession 4, City of Ottawa, formerly the Township of West Carleton (Fitzroy Ward) CITY OF OTTAWA	ON	
EHS		Bank St	Ottawa ON	
EHS		Bank St	Ottawa ON	
EXP	UNITED CO-OPERATIVES OF ONTARIO OTTAWA BRANCH	LOT 22 CON 4 HWY 31	GLOUCESTER TWP ON	
EXP	UPI ENERGY LP*	HWY 31	OTTAWA ON	

EXP	W O STINSON & SON LTD*	HWY 31	OTTAWA ON	
GEN	Hydro Ottawa Ltd.	Bank St	Ottawa ON	
GEN	SPIC & SPAN-VALETOR-CASH CLEANERS	BILLINGS BRIDGE PLAZA, BANK STREET C/O 1764 WOODWARD DRIVE	OTTAWA ON	K2C 0P8
LIMO		Lot 22 Concession 5 Ottawa	ON	
PRT	UNITED CO-OPERATIVES OF ONTARIO OTTAWA BRANCH	LOT 22 CON 4 HWY 31	GLOUCESTER TWP ON	
PRT	NAZIMA MEDEWAR	HWY 31	OTTAWA ON	
PTTW	Thomas Cavanagh Construction Limited	Lot 22, Concession IV, Ottawa Address: Lot: 22, Concession: IV, Former Geographic Township of West Carleton (Fitzroy), Ottawa, CITY OF OTTAWA	ON	
PTTW	Lafarge Paving and Construction (Eastern) Limited	Lot 22 & 23 , Concession V Ottawa Ontario K2R 1H3 Ottawa	ON	
RST	DRUMMOND'S GAS	HIGHWAY 31	GLOUCESTER ON	K1B3B8
RST	DRUMMOND'S GAS	HIGHWAY 31	GLOUCESTER ON	K1B 3B8
RST	CAPITAL CITY GAS	HIGHWAY 31	GLOUCESTER ON	K1G 3N4
RST	CAPITAL CITY GAS	HIGHWAY 31	GLOUCESTER ON	K1G3N4
SPL	OC TRANSPOR	BANK ST. SOUTH MOTOR VEHICLE (OPERATING FLUID)	OTTAWA CITY ON	
SPL	ESSO PETROLEUM CANADA	BANK STREET SERVICE STATION	OTTAWA CITY ON	
SPL	PIONEER PETROLEUMS LTD.	BANK STREET SOUTH PIONEER GAS STATION. SERVICE STATION	OTTAWA CITY ON	
SPL	TRANSPORT TRUCK	BANK ST. BRIDGE MOTOR VEHICLE (OPERATING FLUID)	OTTAWA CITY ON	
SPL	ONTARIO HYDRO	BANK ST TRANSFORMER	GLOUCESTER CITY ON	
SPL	City of Ottawa <UNOFFICIAL>	on east side of Bank St. 750 metres north of Findlay Creek Dr.	Ottawa ON	
SPL	City of Ottawa	Bank St in front of Bethshalam Cemetary	Ottawa ON	
SPL	UNKNOWN	OSGOODE TOWNSHIP HISTORICAL MUSEUM, HIGHWAY 31, VERNON	OTTAWA-CARLETON R.M. ON	
WWIS		con 4	ON	
WWIS		lot 22 con 4	ON	

WWIS

lot 22

ON

WWIS

lot 22

ON

Unplottable Report

Site: MINISTRY OF TRANSPORTATION
HIGHWAY #31, LAT. CATCHBASINS OTTAWA CITY ON

Database:
CA

Certificate #: 3-1342-93-
Application Year: 93
Issue Date: 12/31/1993
Approval Type: Municipal sewage
Status: Preliminary approval
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: THE DOUGLAS MACDONALD DEV. CORP.
COMMERCIAL PLAZA BANK STREET OTTAWA CITY ON

Database:
CA

Certificate #: 7-1304-86-
Application Year: 86
Issue Date: 10/28/1986
Approval Type: Municipal water
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: OSSORY CANADA INC.
PRIVATE BLDG. BANK ST. OTTAWA CITY ON

Database:
CA

Certificate #: 3-0515-87-
Application Year: 87
Issue Date: 4/23/1987
Approval Type: Municipal sewage
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: CITY
BANK ST. GLOUCESTER CITY ON

Database:
CA

Certificate #: 3-0859-85-006

Application Year: 85
Issue Date: 8/1/85
Approval Type: Municipal sewage
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: **MACDONALD DEVELOPMENT CORP.**
BANK ST. OTTAWA CITY ON

Database:
CA

Certificate #: 3-1072-88-
Application Year: 88
Issue Date: 9/28/1988
Approval Type: Municipal sewage
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: **MACDONALD DEVELOPMENT CORP.-PLAZA**
EASEMENT-BANK STREET OTTAWA CITY ON

Database:
CA

Certificate #: 3-1864-86-
Application Year: 86
Issue Date: 12/19/1986
Approval Type: Municipal sewage
Status: Approved
Application Type:
Client Name:
Client Address:
Client City:
Client Postal Code:
Project Description:
Contaminants:
Emission Control:

Site: **Fallowfield Road and O'Keefe Court**
Lots 20 and 21, Concession 4 Ottawa ON

Database:
CA

Certificate #: 1308-4WQSW8
Application Year: 01
Issue Date: 5/18/01
Approval Type: Municipal & Private water
Status: Approved
Application Type: New Certificate of Approval
Client Name: Corporation of the City of Ottawa
Client Address: 110 Laurier Avenue West
Client City: Ottawa
Client Postal Code: K1P 1J1
Project Description: Watermains to be constructed on Fallowfield Road and O'Keefe Court
Contaminants:
Emission Control:

Site: Taggart Construction Limited
Bank Street South Ottawa ON

Database:
CONV

File No: 010503

Location:

Crown Brief No:

Region:

Court Location:

Ministry District:

Publication City:

Publication Title:

Act:

Act(s):

First Matter:

Second Matter:

Investigation 1:

Investigation 2:

Penalty Imposed:

Description:

On December 3, 2009, Taggart Construction Limited pleaded guilty to one violation under the Ontario Water Resources Act for failing to comply with a Provincial Officer Order to submit weekly water taking records showing daily water taking volumes. The company was contracted to install municipal services for the Findlay Creek Subdivision located on Bank Street in South Ottawa. A ministry inspection of the construction site in the fall of 2007 revealed concerns with water taking activities and a Provincial Officer Order was issued. One of the requirements of the Order, related to keeping accurate water taking records and submitting them to the ministry, was not complied with. The company was charged following an investigation by the ministry's Investigations and Enforcement Branch and was fined \$5,000 plus victim fine surcharge. The company was given 30 days to pay the fine.

Background:

URL:

--Details--

Publication Date:

Count:

1

Act:

Provincial Officer Order

Regulation:

Section:

Act/Regulation/Section:

Provincial Officer Order

Date Of Offence:

Date of Conviction:

Date Charged:

December 3, 2009

Charge Disposition:

fine, victim fine surcharge

Fine:

\$5,000

Synopsis:

Site: 4840 Bank St. Ltd.
Lot 22, Concession 4, Remer Lands. The site is located within the Leitrim Development Area in southern Ottawa.
Gloucester ON

Database:
EBR

EBR Registry No: 013-1875

Ministry Ref. No: MNRF INST 73/17

Notice Type: Instrument Proposal

Company Name: 4840 Bank St. Ltd.

Proponent Name:

Proponent Address: 1737 Woodward Drive, Ottawa Ontario, Canada K2C 0P9

Instrument Type: (ESA s.17(2) (c)) - Permit for activities with conditions to achieve overall benefit to the species

Location Other:

URL:

Proposal Date: December 11, 2017

Notice Pub Date: December 11, 2017

Year: 2017

Location:

Lot 22, Concession 4, Remer Lands. The site is located within the Leitrim Development Area in southern Ottawa. Gloucester

Site: Regional Group of Companies Inc.
Lots 21 & 22, Concession 4 from the Rideau River, Geographic Township of Gloucester West side of Bank Street,
southwest of Blais Road CITY OF OTTAWA ON

Database:
EBR

EBR Registry No: 012-3197
Ministry Ref. No: MNRF INST 60/14
Notice Type: Instrument Decision
Company Name: Regional Group of Companies Inc.
Proponent Name:
Proponent Address: 1737 Woodward Drive, 2nd Floor, Ottawa Ontario, Canada K2C 0P9
Instrument Type: (ESA s.17(2) (c)) - Permit for activities with conditions to achieve overall benefit to the species
Location Other:
URL:

Proposal Date: December 10, 2014
Notice Pub Date: March 20, 2017
Year: 2014

Location:

Lots 21 & 22, Concession 4 from the Rideau River, Geographic Township of Gloucester West side of Bank Street, southwest of Blais Road CITY OF OTTAWA

Site: **Thomas Cavanagh Construction Limited,**
Part Lot 22, Concession 4, City of Ottawa, formerly the Township of West Carleton (Fitzroy Ward) CITY OF OTTAWA
ON

Database:
EBR

EBR Registry No: IB03E3042
Ministry Ref. No: FSD - PEM 04/03
Notice Type: Instrument Decision
Company Name: Thomas Cavanagh Construction Limited,
Proponent Name:
Proponent Address: RR 2, Ashton Ontario, K0A 1B0
Instrument Type: (ARA s. 16 (2)) - Approval of licensee proposed amendment to a site plan
Location Other:
URL:

Proposal Date: May 08, 2003
Notice Pub Date: November 05, 2004
Year: 2003

Location:

Part Lot 22, Concession 4, City of Ottawa, formerly the Township of West Carleton (Fitzroy Ward) CITY OF OTTAWA

Site: **Bank St Ottawa ON**

Database:
EHS

Order No: 20060427021
Status: C
Report Type: Custom Report
Report Date: 5/5/2006
Date Received: 4/26/2006
Previous Site Name:
Lot/Building Size:
Additional Info Ordered:

Nearest Intersection:
Municipality:
Client Prov/State: ON
Search Radius (km): 0.25
X: -75.670288
Y: 45.364953

Site: **Bank St Ottawa ON**

Database:
EHS

Order No: 20031121005
Status: C
Report Type: Basic Report
Report Date: 11/25/03
Date Received: 11/21/03
Previous Site Name:
Lot/Building Size:
Additional Info Ordered:

Nearest Intersection: See Faxed Map
Municipality:
Client Prov/State: ON
Search Radius (km): 0.50
X: -75.654252
Y: 45.363635

Site: **UNITED CO-OPERATIVES OF ONTARIO OTTAWA BRANCH**
LOT 22 CON 4 HWY 31 GLOUCESTER TWP ON

Database:
EXP

Instance No: 9476018
Instance ID: 383123
Instance Type: FS Facility
Description: FS Gasoline Station - Full Serve
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type:
Expired Date:

Site: UPI ENERGY LP*
HWY 31 OTTAWA ON

Database:
EXP

Instance No: 10454099
Instance ID: 18935
Instance Type: FS Highway Tank - Gas/Diesel
Description: FS HIGHWAY TANK - GASOLINE/DIESEL
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type:
Expired Date:

Site: W O STINSON & SON LTD*
HWY 31 OTTAWA ON

Database:
EXP

Instance No: 10449391
Instance ID: 18397
Instance Type: FS Highway Tank - Gas/Diesel
Description: FS HIGHWAY TANK - GASOLINE/DIESEL
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type:
Expired Date:

Site: Hydro Ottawa Ltd.
Bank St Ottawa ON

Database:
GEN

Generator No:	ON8798860	PO Box No:
Status:		Country:
Approval Years:	03,04	Choice of Contact:
Contam. Facility:		Co Admin:
MHSW Facility:		Phone No Admin:
SIC Code:		
SIC Description:		

Site: SPIC & SPAN-VALETOR-CASH CLEANERS
BILLINGS BRIDGE PLAZA, BANK STREET C/O 1764 WOODWARD DRIVE OTTAWA ON K2C 0P8

Database:
GEN

Generator No:	ON0573413	PO Box No:
Status:		Country:
Approval Years:	86,87,88	Choice of Contact:
Contam. Facility:		Co Admin:
MHSW Facility:		Phone No Admin:
SIC Code:	9721	
SIC Description:	POWER LAUND./CLEANERS	

--Details--

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Site: Lot 22 Concession 5 Ottawa ON		Database: LIMO
ECA/Instrument No:	X9020	Air Emis Monitor:
Site Name:		Natural Attenuation:
Oper Status 2016:	Historic	Liners:
C of A Issue Date:		Cover Material:
C of A Issued to:		Leachate Off-Site:
Lndfl Gas Mgmt (P):		Leachate On Site:
Lndfl Gas Mgmt (F):		Req Coll Lndfl Gas:
Lndfl Gas Mgmt (E):		Lndfl Gas Coll:
Lndfl Gas Mgmt Sys:		Total Waste Rec:
Landfill Gas Mntr:		TWR Methodology:
Leachate Coll Sys:		TWR Unit:
ERC Est Vol (m3):		Tot Aprv Cap Unit:
ERC Volume Unit:		Financial Assurance:
ERC Dt Last Det:		Last Report Year:
Landfill Type:		MOE Region:
Source File Type:	Historic and Closed Landfills	MOE District:
Fill Rate:		Site County:
Fill Rate Unit:		Lot:
Tot Fill Area (ha):		Concession:
Tot Site Area (ha):		Latitude:
Footprint:		Longitude:
Tot Aprv Cap (m3):		Easting:
Contam Atten Zone:		Northing:
Grndwtr Mntr:		UTM Zone:
Surf Wtr Mntr:		Data Source:
Approved Waste Type:		
Client Site Name:		
ERC Methodology:		
Site Location Details:	Lot 22 Concession 5 Ottawa	
Service Area:		

Site: UNITED CO-OPERATIVES OF ONTARIO OTTAWA BRANCH LOT 22 CON 4 HWY 31 GLOUCESTER TWP ON		Database: PRT
Location ID:	5323	
Type:	retail	
Expiry Date:	1992-02-28	
Capacity (L):	0	
Licence #:	0013081001	

Site: NAZIMA MEDEWAR HWY 31 OTTAWA ON		Database: PRT
Location ID:	11082	
Type:	retail	
Expiry Date:	1996-03-31	
Capacity (L):	36368	
Licence #:	0016234001	

Site: Thomas Cavanagh Construction Limited Lot 22, Concession IV, Ottawa Address: Lot: 22, Concession: IV, Former Geographic Township of West Cavelton (Fitzroy), Ottawa, CITY OF OTTAWA ON		Database: PTTW
EBR Registry No:	010-4460	Proposal Date:
Ministry Ref. No:	7284-7GLL2C	Notice Date:
Notice Type:	Instrument Decision	Year:
Company Name:	Thomas Cavanagh Construction Limited	
Proponent Name:		

Proponent Address: Rural Route 2, Beckwith Ontario, K0A 1B0
Instrument Type: (OWRA s. 34) - Permit to Take Water
Location Other:
URL:

Location:

Lot 22, Concession IV, Ottawa Address: Lot: 22, Concession: IV, Former Geographic Township of West Carelton (Fitzroy), Ottawa, CITY OF OTTAWA

Site: **Lafarge Paving and Construction (Eastern) Limited**
Lot 22 & 23 , Concession V Ottawa Ontario K2R 1H3 Ottawa ON

Database:
PTTW

EBR Registry No: IA06E0381
Ministry Ref. No: 2633-6NDMGY
Notice Type: Instrument Decision
Company Name: Lafarge Paving and Construction (Eastern) Limited
Proponent Name:
Proponent Address: 7880 Keele Street, Concord Ontario, L4K 4G7
Instrument Type: (OWRA s. 34) - Permit to Take Water
Location Other:
URL:

Proposal Date: April 19, 2006
Notice Date: June 16, 2006
Year: 2006

Location:

Lot 22 & 23 , Concession V Ottawa Ontario K2R 1H3 Ottawa

Site: **DRUMMOND'S GAS**
HIGHWAY 31 GLOUCESTER ON K1B3B8

Database:
RST

Headcode: 01186800
Headcode Desc: SERVICE STATIONS GASOLINE OIL & NATURAL
Phone: 6138221391
List Name:
Description:

Site: **DRUMMOND'S GAS**
HIGHWAY 31 GLOUCESTER ON K1B 3B8

Database:
RST

Headcode: 01186800
Headcode Desc: SERVICE STATIONS-GASOLINE, OIL & NATURAL GAS
Phone:
List Name:
Description:

Site: **CAPITAL CITY GAS**
HIGHWAY 31 GLOUCESTER ON K1G 3N4

Database:
RST

Headcode: 01186800
Headcode Desc: SERVICE STATIONS-GASOLINE, OIL & NATURAL GAS
Phone:
List Name:
Description:

Site: **CAPITAL CITY GAS**
HIGHWAY 31 GLOUCESTER ON K1G3N4

Database:
RST

Headcode: 01186800
Headcode Desc: SERVICE STATIONS GASOLINE OIL & NATURAL
Phone: 6138221324

List Name:
Description:

Site: OC TRANSPO
BANK ST. SOUTH MOTOR VEHICLE (OPERATING FLUID) OTTAWA CITY ON

Database:
SPL

Ref No:	223917	Discharger Report:	
Site No:		Material Group:	
Incident Dt:	4/11/2002	Client Type:	
Year:		Sector Type:	
Incident Cause:	PIPE/HOSE LEAK	Source Type:	
Incident Event:		Nearest Watercourse:	
Contaminant Code:		Site Name:	
Contaminant Name:		Site Address:	
Contaminant Limit 1:		Site District Office:	
Contam Limit Freq 1:		Site County/District:	
Contaminant UN No 1:		Site Postal Code:	
Contaminant Qty:		Site Region:	
Environment Impact:	POSSIBLE	Site Municipality:	20107
Nature of Impact:	Soil contamination	Site Lot:	
Receiving Medium:	LAND	Site Conc:	
Receiving Env:		Northing:	
Health/Env Conseq:		Easting:	
MOE Response:		Site Geo Ref Accu:	
Dt MOE Arvl on Scn:		Site Geo Ref Meth:	
MOE Reported Dt:	4/11/2002	Site Map Datum:	
Dt Document Closed:			
Agency Involved:			
SAC Action Class:			
Incident Reason:	UNKNOWN		
Incident Summary:	SPILL OF DIESEL FUEL TO GRND, CLEAN UP CREW ON THE WAY		

Site: ESSO PETROLEUM CANADA
BANK STREET SERVICE STATION OTTAWA CITY ON

Database:
SPL

Ref No:	147934	Discharger Report:	
Site No:		Material Group:	
Incident Dt:	10/16/1997	Client Type:	
Year:		Sector Type:	
Incident Cause:	PIPE/HOSE LEAK	Source Type:	
Incident Event:		Nearest Watercourse:	
Contaminant Code:		Site Name:	
Contaminant Name:		Site Address:	
Contaminant Limit 1:		Site District Office:	
Contam Limit Freq 1:		Site County/District:	
Contaminant UN No 1:		Site Postal Code:	
Contaminant Qty:		Site Region:	
Environment Impact:	NOT ANTICIPATED	Site Municipality:	20101
Nature of Impact:		Site Lot:	
Receiving Medium:	LAND	Site Conc:	
Receiving Env:		Northing:	
Health/Env Conseq:		Easting:	
MOE Response:		Site Geo Ref Accu:	
Dt MOE Arvl on Scn:		Site Geo Ref Meth:	
MOE Reported Dt:	10/16/1997	Site Map Datum:	
Dt Document Closed:			
Agency Involved:			
SAC Action Class:			
Incident Reason:	DAMAGE BY MOVING EQUIPMENT		
Incident Summary:	ESSO SERVICE STATION: 40 L GASOLINE TO GROUND		

Site: PIONEER PETROLEUMS LTD.
BANK STREET SOUTH PIONEER GAS STATION. SERVICE STATION OTTAWA CITY ON

Database:
SPL

Ref No:	137358	Discharger Report:	
Site No:		Material Group:	
Incident Dt:	2/20/1997	Client Type:	
Year:		Sector Type:	
Incident Cause:	CONTAINER OVERFLOW	Source Type:	
Incident Event:		Nearest Watercourse:	
Contaminant Code:		Site Name:	
Contaminant Name:		Site Address:	
Contaminant Limit 1:		Site District Office:	
Contam Limit Freq 1:		Site County/District:	
Contaminant UN No 1:		Site Postal Code:	
Contaminant Qty:		Site Region:	
Environment Impact:	NOT ANTICIPATED	Site Municipality:	20101
Nature of Impact:		Site Lot:	
Receiving Medium:	LAND	Site Conc:	
Receiving Env:		Northing:	
Health/Env Conseq:		Easting:	
MOE Response:		Site Geo Ref Accu:	
Dt MOE Arvl on Scn:		Site Geo Ref Meth:	
MOE Reported Dt:	2/20/1997	Site Map Datum:	
Dt Document Closed:			
Agency Involved:			
SAC Action Class:			
Incident Reason:	ERROR		
Incident Summary:	PIONEER PETROLEUMS-4L GASOLINE TO GROUND,UNSAFESPILL RESPONSE BY STAFF.		

Site: **TRANSPORT TRUCK**
BANK ST. BRIDGE MOTOR VEHICLE (OPERATING FLUID) OTTAWA CITY ON

Database:
SPL

Ref No:	88427	Discharger Report:	
Site No:		Material Group:	
Incident Dt:	7/13/1993	Client Type:	
Year:		Sector Type:	
Incident Cause:	PIPE/HOSE LEAK	Source Type:	
Incident Event:		Nearest Watercourse:	
Contaminant Code:		Site Name:	
Contaminant Name:		Site Address:	
Contaminant Limit 1:		Site District Office:	
Contam Limit Freq 1:		Site County/District:	
Contaminant UN No 1:		Site Postal Code:	
Contaminant Qty:		Site Region:	
Environment Impact:	POSSIBLE	Site Municipality:	20101
Nature of Impact:	Soil contamination	Site Lot:	
Receiving Medium:	LAND	Site Conc:	
Receiving Env:		Northing:	
Health/Env Conseq:		Easting:	FIRE DEPT
MOE Response:		Site Geo Ref Accu:	
Dt MOE Arvl on Scn:		Site Geo Ref Meth:	
MOE Reported Dt:	7/13/1993	Site Map Datum:	
Dt Document Closed:			
Agency Involved:			
SAC Action Class:			
Incident Reason:	CORROSION		
Incident Summary:	HYDRAULIC OIL LEAK FROM UNIDENTIFIED TRANSPORT TRUCK TO BANK ST. BRIDGE		

Site: **ONTARIO HYDRO**
BANK ST TRANSFORMER GLOUCESTER CITY ON

Database:
SPL

Ref No:	19785	Discharger Report:	
Site No:		Material Group:	
Incident Dt:	7/9/1988	Client Type:	
Year:		Sector Type:	
Incident Cause:	COOLING SYSTEM LEAK	Source Type:	
Incident Event:		Nearest Watercourse:	
Contaminant Code:		Site Name:	
Contaminant Name:		Site Address:	

Contaminant Limit 1:		Site District Office:	
Contam Limit Freq 1:		Site County/District:	
Contaminant UN No 1:		Site Postal Code:	
Contaminant Qty:		Site Region:	
Environment Impact:	NOT ANTICIPATED	Site Municipality:	20105
Nature of Impact:		Site Lot:	
Receiving Medium:	LAND	Site Conc:	
Receiving Env:		Northing:	
Health/Env Conseq:		Easting:	
MOE Response:		Site Geo Ref Accu:	
Dt MOE Arvl on Scn:		Site Geo Ref Meth:	
MOE Reported Dt:	7/11/1988	Site Map Datum:	
Dt Document Closed:			
Agency Involved:			
SAC Action Class:			
Incident Reason:	OTHER		
Incident Summary:	BACKENTRY - ONTARIO HYDROTRANSFORMER OIL (AMT U/K)ON GROUND		

Site:	City of Ottawa <UNOFFICIAL> on east side of Bank St. 750 metres north of Findlay Creek Dr. Ottawa ON		Database: SPL
Ref No:	4541-7VJ3B3	Discharger Report:	
Site No:		Material Group:	
Incident Dt:		Client Type:	
Year:		Sector Type:	Sewage Treatment
Incident Cause:	Pipe Or Hose Leak	Source Type:	
Incident Event:		Nearest Watercourse:	
Contaminant Code:	44	Site Name:	on east side of Bank St. 750 metres north of Findlay Creek Dr. <UNOFFICIAL>
Contaminant Name:	SEWAGE,RAW UNCHLORINATED	Site Address:	
Contaminant Limit 1:		Site District Office:	
Contam Limit Freq 1:		Site County/District:	
Contaminant UN No 1:		Site Postal Code:	
Contaminant Qty:		Site Region:	
Environment Impact:	Confirmed	Site Municipality:	
Nature of Impact:	Soil Contamination	Site Lot:	
Receiving Medium:		Site Conc:	
Receiving Env:		Northing:	
Health/Env Conseq:		Easting:	
MOE Response:	No Field Response	Site Geo Ref Accu:	
Dt MOE Arvl on Scn:		Site Geo Ref Meth:	
MOE Reported Dt:	9/2/2009	Site Map Datum:	
Dt Document Closed:	9/10/2009		
Agency Involved:			
SAC Action Class:	Land Spills		
Incident Reason:	Equipment Failure		
Incident Summary:	Ottawa Works Dept. - sewage to ground from forcemain.		

Site:	City of Ottawa Bank St in front of Bethshalam Cemetary Ottawa ON		Database: SPL
Ref No:	1101-6BTH2J	Discharger Report:	0
Site No:		Material Group:	Chemical
Incident Dt:	4/26/2005	Client Type:	
Year:		Sector Type:	Other Motor Vehicle
Incident Cause:	Cooling System Leak	Source Type:	
Incident Event:		Nearest Watercourse:	
Contaminant Code:		Site Name:	shoulder of road<UNOFFICIAL>
Contaminant Name:	ETHYLENE GLYCOL (ANTIFREEZE)	Site Address:	
Contaminant Limit 1:		Site District Office:	Ottawa
Contam Limit Freq 1:		Site County/District:	
Contaminant UN No 1:		Site Postal Code:	
Contaminant Qty:		Site Region:	
Environment Impact:	Not Anticipated	Site Municipality:	Ottawa
Nature of Impact:	Soil Contamination	Site Lot:	
Receiving Medium:	Land	Site Conc:	

Receiving Env:
Health/Env Conseq:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 4/26/2005
Dt Document Closed:
Agency Involved:
SAC Action Class:
Incident Reason: Spill to Land
Incident Summary: Equipment Failure
 Ottawa:OC Transpo- 8 L antifreeze to grnd, clng

Northing:
Easting:
Site Geo Ref Accu:
Site Geo Ref Meth:
Site Map Datum:

Site: UNKNOWN
 OSGOODE TOWNSHIP HISTORICAL MUSEUM, HIGHWAAY 31, VERNON OTTAWA-CARLETON R.M. ON

Database:
 SPL

Ref No:	3978	Discharger Report:	
Site No:		Material Group:	
Incident Dt:	//	Client Type:	
Year:		Sector Type:	
Incident Cause:	UNDERGROUND TANK LEAK	Source Type:	
Incident Event:		Nearest Watercourse:	
Contaminant Code:		Site Name:	
Contaminant Name:		Site Address:	
Contaminant Limit 1:		Site District Office:	
Contam Limit Freq 1:		Site County/District:	
Contaminant UN No 1:		Site Postal Code:	
Contaminant Qty:		Site Region:	
Environment Impact:	NOT ANTICIPATED	Site Municipality:	20000
Nature of Impact:		Site Lot:	
Receiving Medium:	LAND	Site Conc:	
Receiving Env:		Northing:	
Health/Env Conseq:		Easting:	
MOE Response:		Site Geo Ref Accu:	
Dt MOE Arvl on Scn:		Site Geo Ref Meth:	
MOE Reported Dt:	5/20/1988	Site Map Datum:	
Dt Document Closed:			
Agency Involved:			
SAC Action Class:			
Incident Reason:	CORROSION		
Incident Summary:	STINSON FUELS-<1111 L FURNACE OIL TO GROUND FROM DESERTED TANK		

Site:
 con 4 ON

Database:
 WWIS

Well ID:	1517523	Data Entry Status:	
Construction Date:		Data Src:	1
Primary Water Use:	Domestic	Date Received:	3/20/1981
Sec. Water Use:		Selected Flag:	Yes
Final Well Status:	Water Supply	Abandonment Rec:	
Water Type:		Contractor:	1558
Casing Material:		Form Version:	1
Audit No:		Owner:	
Tag:		Street Name:	
Construction Method:		County:	OTTAWA-CARLETON
Elevation (m):		Municipality:	GLOUCESTER TOWNSHIP
Elevation Reliability:		Site Info:	
Depth to Bedrock:		Lot:	
Well Depth:		Concession:	04
Overburden/Bedrock:		Concession Name:	
Pump Rate:		Easting NAD83:	
Static Water Level:		Northing NAD83:	
Flowing (Y/N):		Zone:	
Flow Rate:		UTM Reliability:	
Clear/Cloudy:			

Bore Hole Information

Bore Hole ID: 10039395
DP2BR:
Spatial Status:
Code OB: 0
Code OB Desc: Overburden
Open Hole:
Cluster Kind:
Date Completed: 24-FEB-81
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 18
East83:
Org CS:
North83:
UTMRC: 9
UTMRC Desc: unknown UTM
Location Method: na

Overburden and Bedrock
Materials Interval

Formation ID: 931035451
Layer: 3
Color: 2
General Color: GREY
Mat1: 28
Most Common Material: SAND
Mat2: 11
Other Materials: GRAVEL
Mat3: 79
Other Materials: PACKED
Formation Top Depth: 175
Formation End Depth: 185
Formation End Depth UOM: ft

Overburden and Bedrock
Materials Interval

Formation ID: 931035450
Layer: 2
Color: 3
General Color: BLUE
Mat1: 05
Most Common Material: CLAY
Mat2: 77
Other Materials: LOOSE
Mat3:
Other Materials:
Formation Top Depth: 10
Formation End Depth: 175
Formation End Depth UOM: ft

Overburden and Bedrock
Materials Interval

Formation ID: 931035449
Layer: 1
Color: 7
General Color: RED
Mat1: 28
Most Common Material: SAND
Mat2: 79
Other Materials: PACKED
Mat3:
Other Materials:
Formation Top Depth: 0
Formation End Depth: 10

Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 961517523
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 10587965
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930068902
Layer: 2
Material: 4
Open Hole or Material: OPEN HOLE
Depth From:
Depth To: 185
Casing Diameter: 6
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930068901
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 184
Casing Diameter: 6
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pump Test ID: 991517523
Pump Set At:
Static Level: 40
Final Level After Pumping: 105
Recommended Pump Depth: 120
Pumping Rate: 7
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: 2
Pumping Duration HR: 3
Pumping Duration MIN: 0
Flowing: N

Draw Down & Recovery

Pump Test Detail ID: 934384288
Test Type: Draw Down

Test Duration: 30
Test Level: 105
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934895056
Test Type: Draw Down
Test Duration: 60
Test Level: 105
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934645364
Test Type: Draw Down
Test Duration: 45
Test Level: 105
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934102054
Test Type: Draw Down
Test Duration: 15
Test Level: 105
Test Level UOM: ft

Water Details

Water ID: 933474010
Layer: 1
Kind Code: 2
Kind: SALTY
Water Found Depth: 184
Water Found Depth UOM: ft

Site:
lot 22 con 4 ON

Database:
[WWIS](#)

Well ID: 1533862
Construction Date:
Primary Water Use: Domestic
Sec. Water Use:
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No: 248351
Tag:
Construction Method:
Elevation (m):
Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Data Entry Status:
Data Src: 1
Date Received: 7/16/2003
Selected Flag: Yes
Abandonment Rec:
Contractor: 1119
Form Version: 1
Owner:
Street Name:
County: OTTAWA-CARLETON
Municipality: GLOUCESTER TOWNSHIP
Site Info:
Lot: 022
Concession: 04
Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

Bore Hole Information

Bore Hole ID: 10542977
Elevation:

DP2BR:	15	Elevrc:	
Spatial Status:		Zone:	18
Code OB:	r	East83:	
Code OB Desc:	Bedrock	Org CS:	
Open Hole:		North83:	
Cluster Kind:		UTMRC:	9
Date Completed:	19-JUN-03	UTMRC Desc:	unknown UTM
Remarks:		Location Method:	na
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock
Materials Interval

Formation ID: 932924441
Layer: 2
Color: 2
General Color: GREY
Mat1: 15
Most Common Material: LIMESTONE
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 15
Formation End Depth: 48
Formation End Depth UOM: ft

Overburden and Bedrock
Materials Interval

Formation ID: 932924440
Layer: 1
Color:
General Color:
Mat1: 05
Most Common Material: CLAY
Mat2: 81
Other Materials: SANDY
Mat3:
Other Materials:
Formation Top Depth: 0
Formation End Depth: 15
Formation End Depth UOM: ft

Overburden and Bedrock
Materials Interval

Formation ID: 932924442
Layer: 3
Color: 2
General Color: GREY
Mat1: 18
Most Common Material: SANDSTONE
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 48
Formation End Depth: 160
Formation End Depth UOM: ft

**Annular Space/Abandonment
Sealing Record**

Plug ID: 933240762
Layer: 1
Plug From: 0
Plug To: 22
Plug Depth UOM: ft

**Method of Construction & Well
Use**

Method Construction ID: 961533862
Method Construction Code: 5
Method Construction: Air Percussion
Other Method Construction:

Pipe Information

Pipe ID: 11091547
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930097754
Layer: 2
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To:
Casing Diameter: 6
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930097753
Layer: 1
Material: 4
Open Hole or Material: OPEN HOLE
Depth From:
Depth To:
Casing Diameter: 8
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930097755
Layer: 3
Material: 4
Open Hole or Material: OPEN HOLE
Depth From:
Depth To:
Casing Diameter: 6
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pump Test ID: 991533862

Pump Set At:
Static Level: 58
Final Level After Pumping: 150
Recommended Pump Depth: 150
Pumping Rate: 8
Flowing Rate:
Recommended Pump Rate: 8
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

Draw Down & Recovery

Pump Test Detail ID: 934656573
Test Type: Recovery
Test Duration: 45
Test Level: 58
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934396196
Test Type: Recovery
Test Duration: 30
Test Level: 58
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934121343
Test Type: Recovery
Test Duration: 15
Test Level: 58
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934914020
Test Type: Recovery
Test Duration: 60
Test Level: 58
Test Level UOM: ft

Water Details

Water ID: 934036673
Layer: 1
Kind Code: 5
Kind: Not stated
Water Found Depth: 153
Water Found Depth UOM: ft

Site:
lot 22 ON

Database:
WWIS

Well ID: 1521468
Construction Date:
Primary Water Use: Domestic
Sec. Water Use:

Data Entry Status:
Data Src: 1
Date Received: 7/6/1987
Selected Flag: Yes

Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No: 04608
Tag:
Construction Method:
Elevation (m):
Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Abandonment Rec:
Contractor: 1558
Form Version: 1
Owner:
Street Name:
County: OTTAWA-CARLETON
Municipality: GLOUCESTER TOWNSHIP
Site Info:
Lot: 022
Concession:
Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

Bore Hole Information

Bore Hole ID: 10043290
DP2BR: 56
Spatial Status:
Code OB: r
Code OB Desc: Bedrock
Open Hole:
Cluster Kind:
Date Completed: 30-APR-87
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 18
East83:
Org CS:
North83:
UTMRC: 9
UTMRC Desc: unknown UTM
Location Method: na

Overburden and Bedrock Materials Interval

Formation ID: 931048158
Layer: 5
Color: 2
General Color: GREY
Mat1: 18
Most Common Material: SANDSTONE
Mat2: 73
Other Materials: HARD
Mat3:
Other Materials:
Formation Top Depth: 56
Formation End Depth: 125
Formation End Depth UOM: ft

Overburden and Bedrock Materials Interval

Formation ID: 931048156
Layer: 3
Color: 2
General Color: GREY
Mat1: 14
Most Common Material: HARDPAN
Mat2: 13
Other Materials: BOULDERS
Mat3: 79
Other Materials: PACKED
Formation Top Depth: 35

Formation End Depth: 50
Formation End Depth UOM: ft

**Overburden and Bedrock
Materials Interval**

Formation ID: 931048157
Layer: 4
Color: 2
General Color: GREY
Mat1: 28
Most Common Material: SAND
Mat2: 11
Other Materials: GRAVEL
Mat3:
Other Materials:
Formation Top Depth: 50
Formation End Depth: 56
Formation End Depth UOM: ft

**Overburden and Bedrock
Materials Interval**

Formation ID: 931048155
Layer: 2
Color: 2
General Color: GREY
Mat1: 05
Most Common Material: CLAY
Mat2: 79
Other Materials: PACKED
Mat3:
Other Materials:
Formation Top Depth: 17
Formation End Depth: 35
Formation End Depth UOM: ft

**Overburden and Bedrock
Materials Interval**

Formation ID: 931048154
Layer: 1
Color: 6
General Color: BROWN
Mat1: 05
Most Common Material: CLAY
Mat2: 79
Other Materials: PACKED
Mat3:
Other Materials:
Formation Top Depth: 0
Formation End Depth: 17
Formation End Depth UOM: ft

**Method of Construction & Well
Use**

Method Construction ID: 961521468
Method Construction Code: 5
Method Construction: Air Percussion
Other Method Construction:

Pipe Information

Pipe ID: 10591860

Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930075598
Layer: 2
Material: 4
Open Hole or Material: OPEN HOLE
Depth From:
Depth To: 125
Casing Diameter: 6
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Casing

Casing ID: 930075597
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 59
Casing Diameter: 6
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pump Test ID: 991521468
Pump Set At:
Static Level: 15
Final Level After Pumping: 35
Recommended Pump Depth: 60
Pumping Rate: 10
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: 1
Pumping Duration HR: 1
Pumping Duration MIN: 0
Flowing: N

Draw Down & Recovery

Pump Test Detail ID: 934390634
Test Type: Draw Down
Test Duration: 30
Test Level: 35
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934651778
Test Type: Draw Down
Test Duration: 45
Test Level: 35
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934106534
Test Type: Draw Down
Test Duration: 15
Test Level: 35
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934908869
Test Type: Draw Down
Test Duration: 60
Test Level: 35
Test Level UOM: ft

Water Details

Water ID: 933479044
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 122
Water Found Depth UOM: ft

Site:
lot 22 ON

Database:
WWIS

Well ID: 1527659
Construction Date:
Primary Water Use: Domestic
Sec. Water Use:
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No: 116662
Tag:
Construction Method:
Elevation (m):
Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Data Entry Status:
Data Src: 1
Date Received: 2/25/1994
Selected Flag: Yes
Abandonment Rec:
Contractor: 1517
Form Version: 1
Owner:
Street Name:
County: OTTAWA-CARLETON
Municipality: GLOUCESTER TOWNSHIP
Site Info:
Lot: 022
Concession:
Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

Bore Hole Information

Bore Hole ID: 10049286
DP2BR: 24
Spatial Status:
Code OB: r
Code OB Desc: Bedrock
Open Hole:
Cluster Kind:
Date Completed: 27-NOV-93
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 18
East83:
Org CS:
North83:
UTMRC: 9
UTMRC Desc: unknown UTM
Location Method: na

**Overburden and Bedrock
Materials Interval**

Formation ID: 931067346
Layer: 1
Color: 6
General Color: BROWN
Mat1: 28
Most Common Material: SAND
Mat2: 11
Other Materials: GRAVEL
Mat3: 12
Other Materials: STONES
Formation Top Depth: 0
Formation End Depth: 24
Formation End Depth UOM: ft

**Overburden and Bedrock
Materials Interval**

Formation ID: 931067347
Layer: 2
Color: 2
General Color: GREY
Mat1: 15
Most Common Material: LIMESTONE
Mat2: 26
Other Materials: ROCK
Mat3: 73
Other Materials: HARD
Formation Top Depth: 24
Formation End Depth: 75
Formation End Depth UOM: ft

**Annular Space/Abandonment
Sealing Record**

Plug ID: 933112609
Layer: 1
Plug From: 0
Plug To: 23
Plug Depth UOM: ft

**Method of Construction & Well
Use**

Method Construction ID: 961527659
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 10597856
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930086095
Layer: 1
Material: 1
Open Hole or Material: STEEL

Depth From:
Depth To: 27
Casing Diameter: 6
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pump Test ID: 991527659
Pump Set At:
Static Level: 22
Final Level After Pumping: 30
Recommended Pump Depth: 50
Pumping Rate: 30
Flowing Rate:
Recommended Pump Rate: 10
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code:
Water State After Test:
Pumping Test Method: 2
Pumping Duration HR: 1
Pumping Duration MIN: 0
Flowing: N

Draw Down & Recovery

Pump Test Detail ID: 934111297
Test Type: Draw Down
Test Duration: 15
Test Level: 25
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934655860
Test Type: Draw Down
Test Duration: 45
Test Level: 30
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934904231
Test Type: Draw Down
Test Duration: 60
Test Level: 30
Test Level UOM: ft

Draw Down & Recovery

Pump Test Detail ID: 934386113
Test Type: Draw Down
Test Duration: 30
Test Level: 28
Test Level UOM: ft

Water Details

Water ID: 933487180
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 60

Water Found Depth UOM: ft

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 2018

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-Jul 31, 2018

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

List of commercial underground fuel oil tanks made available by the Fuels Safety Program of the Technical Standards & Safety Authority (TSSA). Ontario Regulation 213/01 of the Technical Standards and Safety Act (2000) requires that all underground tanks be registered with the TSSA. Note: the Fuels Safety Division does not register waste oil tanks in apartments, office buildings, residences, etc., or aboveground gas or diesel tanks. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of commercial fuel tanks in the province. The TSSA updates information in its system on an ongoing basis; this listing is a copy of the data captured at one moment in time and is hence limited by the record date provided here.

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-Jul 31, 2018

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 2012 - Dec 2018

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-Nov 2018

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-Nov 30, 2018

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 - Oct 2018

Dry Cleaning Facilities:

Federal

DRYCLEANERS

List of dry cleaning facilities made available by Environment and Climate Change Canada. Environment and Climate Change Canada's Tetrachloroethylene (Use in Dry Cleaning and Reporting Requirements) Regulations (SOR/2003-79) are intended to reduce releases of tetrachloroethylene to the environment from dry cleaning facilities.

Government Publication Date: Jan 2004-Dec 2016

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-Dec 31, 2018

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-Nov 30, 2018

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-Dec 31, 2018

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-Oct 31, 2018

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 and tanks - for which there was once a registration - no longer 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 from the ground are included in the expired facilities inventory held by the TSSA. Notes: the Fuels Safety Division did not register private fuel underground/aboveground storage tanks prior to January of 1990, or furnace oil tanks prior to May 1, 2002; nor does the Division register waste oil tanks in apartments, office buildings, residences, etc., or aboveground gas or diesel tanks. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of expired tanks/tank facilities in the province. The TSSA updates information in its system on an ongoing basis; this listing is hence limited by the record date provided here.

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: Jun 2000-Oct 2018

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-Sep 2017

Fuel Storage Tank:

Provincial

FST

List of registered private and retail fuel storage tanks made available by the Fuels Safety Program of the Technical Standards & Safety Authority (TSSA). Ontario Regulation 213/01 of the Technical Standards and Safety Act (2000) requires that all underground tanks be registered with the TSSA. Notes: the Fuels Safety Division did not register private fuel underground/aboveground storage tanks prior to January of 1990, or furnace oil tanks prior to May 1, 2002; nor does the Division register waste oil tanks in apartments, office buildings, residences, etc., or aboveground gas or diesel tanks. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of fuel storage tanks/tank facilities in the province. The TSSA updates information in its system on an ongoing basis; this listing is hence limited by the record date provided here.

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-Dec 31, 2018

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 2016

TSSA Historic Incidents:

Provincial

HINC

List of historic incidences of spills and leaks of diesel, fuel oil, gasoline, natural gas, propane, and hydrogen recorded by the TSSA in their previous incident tracking system. The 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, the TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of historical fuel spills and leaks in the province. This listing is a copy of the data captured at one moment in time and is hence limited by the record date provided here.

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](#)

List of spills and leaks of diesel, fuel oil, gasoline, natural gas, propane, and hydrogen reported to the Spills Action Centre (SAC) and made available by the Technical Standards and Safety Authority (TSSA). Under the Technical Standards & Safety Act (2000), the 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. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of fuel-related leaks, spills, and incidents in the province. The TSSA updates information in its system on an ongoing basis; this listing is hence limited by the record date provided here.

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: Sep 30, 2017

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*

Environmental Penalty Annual Report:Provincial [MISA PENALTY](#)

This database contains data from Ontario's annual environmental penalty report published by the Ministry of the Environment and Climate Change. These reports provide information on environmental penalties for land or water violations issued to companies in one of the nine industrial sectors covered by the Municipal Industrial Strategy for Abatement (MISA) regulations.

Government Publication Date: Jan 1, 2011 - Dec 31, 2017

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-Jan 2018

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, 2016

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-Apr 2018

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-Jun 30, 2018

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-May 2017

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-Nov 30, 2018

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 OGSRL 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-May 2018

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-Nov 30, 2018

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, 2009-2014

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-Mar 2018

TSSA Pipeline Incidents:

Provincial

PINC

List of pipeline incidents (strikes, leaks, spills) made available by the Technical Standards and Safety Authority (TSSA). Under the Technical Standards & Safety Act (2000), the TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors, and equipment or appliances that use fuels. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of pipeline incidents in the province. The TSSA updates information in its system on an ongoing basis; this listing is hence limited by the record date provided here.

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-Nov 30, 2018

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: 1986-2016

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-Sep 2018

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-Jul 31, 2018

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-Sep 2018

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-Dec 31, 2016

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-Aug 2017

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.

Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of tank variances in the province. The TSSA updates information in its system on an ongoing basis; this listing is hence limited by the record date provided here.

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: Oct 2011-Dec 31, 2018

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: Dec 31, 2017

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.

APPENDIX F
MECP FOI Search Request

This form is for requesting documents which are in the Ministry's files on environmental concerns related to properties. Please refer to the guide on the completion and use of this form. Our fax no. is **(416) 314-4285**.

Requester Data			For Ministry Use Only	
Name, Title, Company Name and Mailing Address of Requester Julie Roy Pinchin Ltd. 1 Hines Road, Suite 200 Kanata, Ontario K2K 3C7 For questions or concerns please contact Julie Roy at: jroy@pinchin.com			FOI Request No.	FOI Co-ordinator Review date
			Date Request Received	Fee Paid ~ ACCT ~ CHQ <input checked="" type="checkbox"/> VISA ~ CASH
			Response Due Date	
Telephone/Fax Nos. Tel: (613) 592-3387 ext 1833 Fax (613) 592-5897	Your Project/Reference No. 235527	Signature of Requester 	<input type="checkbox"/> CNR <input type="checkbox"/> ER <input type="checkbox"/> NOR <input type="checkbox"/> SWR <input type="checkbox"/> <input type="checkbox"/> WCR <input type="checkbox"/> SAC <input type="checkbox"/> IEB <input type="checkbox"/> EAA <input type="checkbox"/>	
Request Parameters Municipal Address / Lot, Concession, Geographic Township (Municipal address essential for cities, towns or regions) 4836 Bank Street Ottawa Ontario Present Property Owner(s) and Date(s) of Ownership Leitrim Home Hardware Previous Property Owner(s) and Date(s) of Ownership Present/Previous Tenant(s), (if applicable)				
Search Parameters Files older than 2 years may require \$60.00 retrieval cost. There is no guarantee that records responsive to your request will be located.			Specify Year(s) Requested	
Environmental concerns (General correspondence, occurrence reports, abatement)			ALL	
Orders			ALL	
Spills			ALL	
Investigations/prosecutions ▶ Owner/tenant information must be provided			ALL	
Waste Generator number/classes			ALL	
Certificates of Approval ▶ Proponent information must be provided 1985 and prior records are searched manually. Search fees in excess of \$300.00 could be incurred, depending on the types and years to be searched. Specify Certificates of Approval number (s) (if known). If supporting documents are also required, mark SD box and specify type e.g. maps, plans, hydrogeological reports, etc.				
			SD	Specify Year(s) Requested
air – emissions				
water - mains, treatment, ground level, standpipes & elevated storage, pumping stations (local & booster)				
sewage - sanitary, storm, treatment, stormwater, leachate & leachate treatment & sewage pump stations				
waste water - industrial discharge				
waste sites - disposal, landfill sites, transfer stations, processing sites, incinerator sites				
waste systems	- haulers: sewage, non-hazardous & hazardous waste			
	- mobile waste processing units			
	- PCB destruction			
pesticides - licenses				

APPENDIX G
TSSA Archival Search Request

From: Julie Crooks
To: ["Public Information Services"](#)
Subject: TSSA Archival Search
Date: Thursday, February 7, 2019 9:22:00 AM
Attachments: [4836 Bank Street Ottawa Ontario TSSA Request.pdf](#)

Can you please process the attached archival request?
Thank you

Julie Crooks

Project Assistant, Environmental Due Diligence & Remediation

Pinchin Ltd.

1 Hines Road, Suite 200, Kanata ON K2K 3C7

T: 613.592.3387 ext. 1833 | pinchin.com

APPENDIX H
Maps

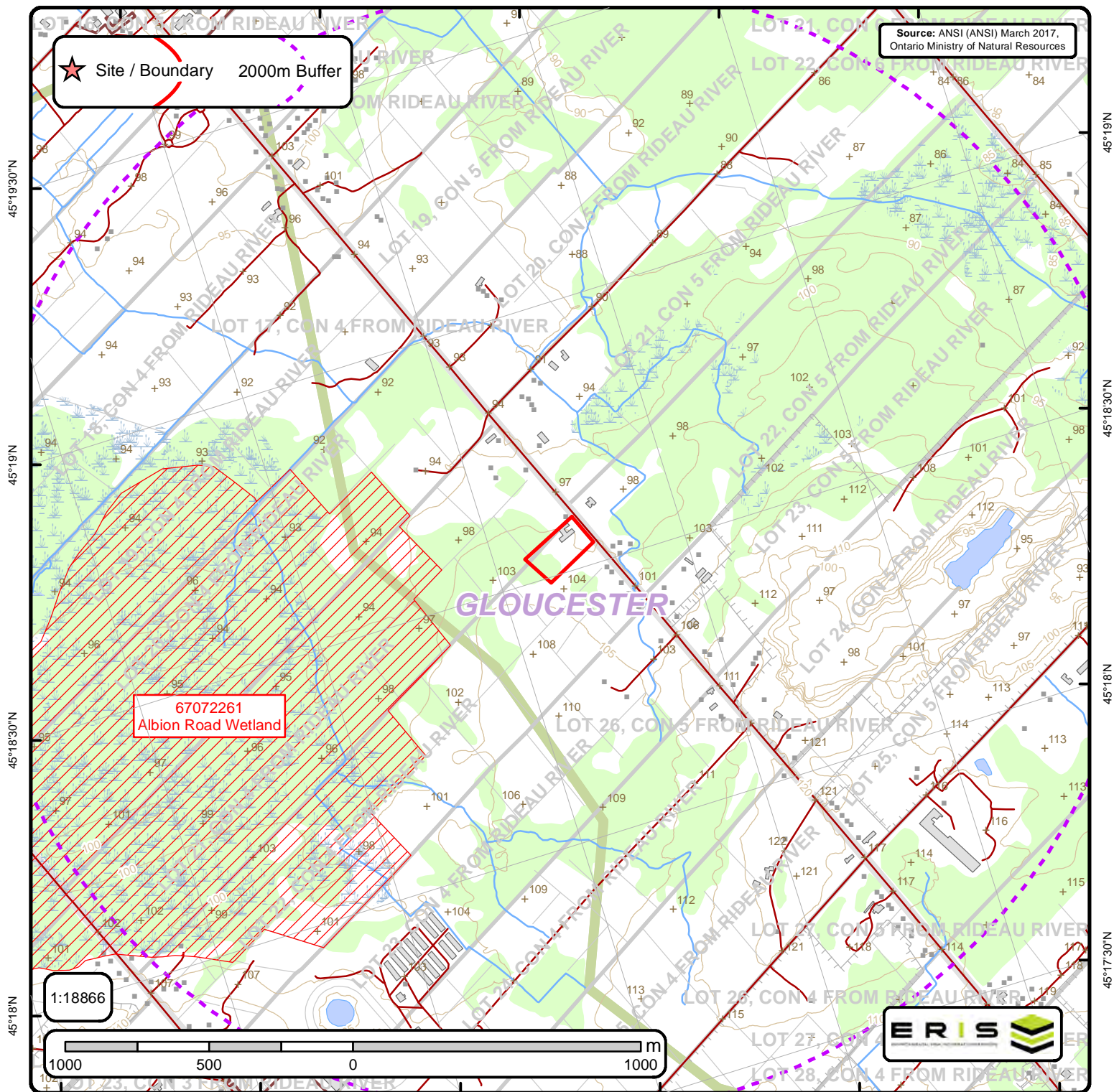
75°36'W

75°35'30'W

75°35'W

75°34'30'W

75°34'W



Area of Natural & Scientific Interest (ANSI) Order No. 20190205061

+	Spot Height	—	Transportation Structure	—	Contour Line	■	Wooded Area
■	Building Point	—	Utility Line	■	Pit or Quarry	■	Conservation Authority
⚡	Towers	—	Water Structure	■	Waterbody	■	Conservation Area
●	Utility Site Point	—	Drainage Line Feature	■	Wetlands	■	Municipal Park
—	Misc. Line	—	River or Stream	■	Concession	■	Provincial Park
—	Railroads	■	Airports	■	Lots	■	National Park
—	Roads	■	Tanks	■	Municipality	■	Nature Reserve
- - -	Trail	■	Building to Scale	■	Land Ownership	■	ANSI Area



ANSI Report

ANSI Units Found within 2000 m of

4836 Bank Street Ottawa Ontario, Gloucester, ON, K1X 1G6

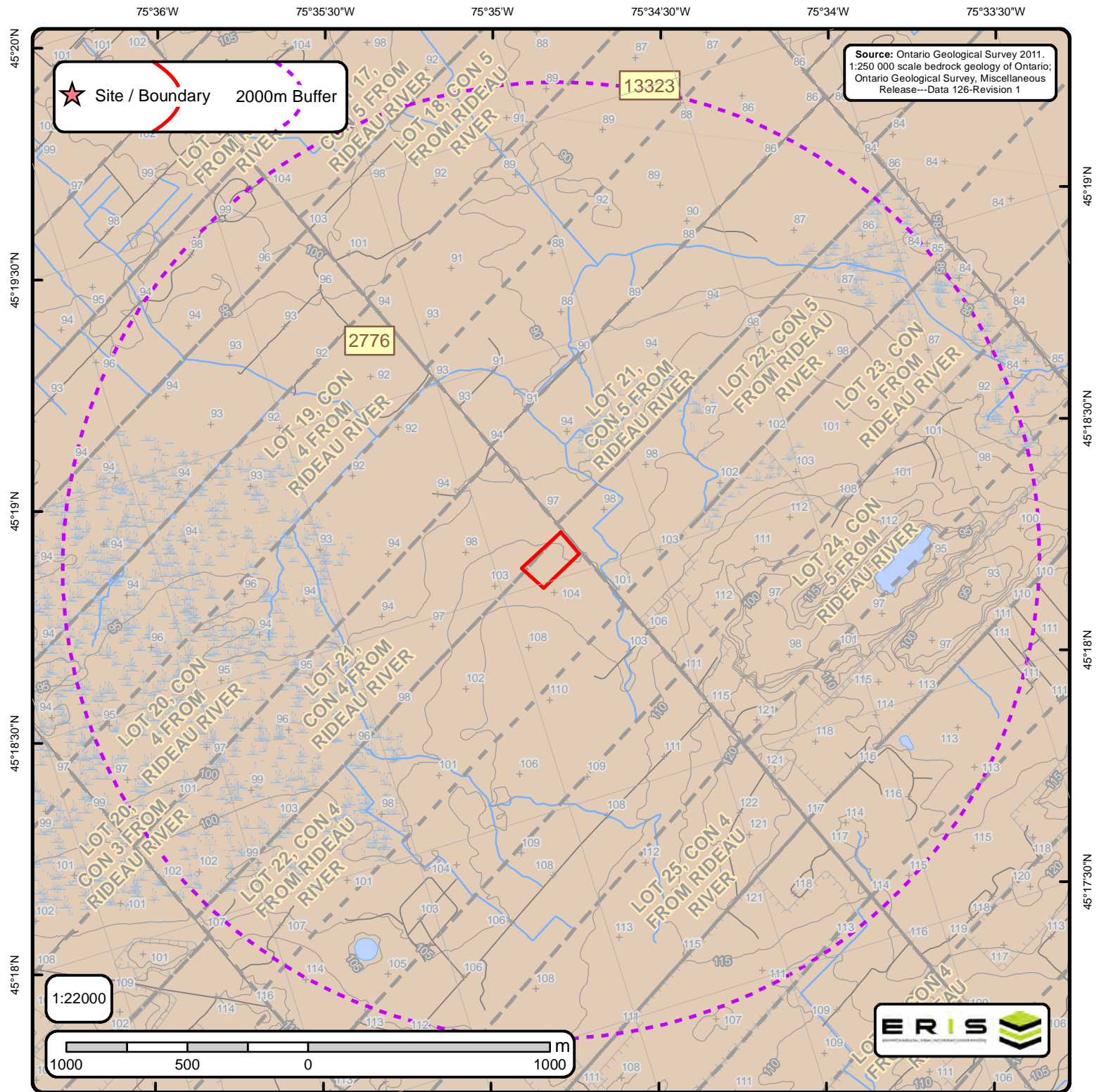
Page 1
Order ID:
20190205061



ANSI Name: Albion Road Wetland

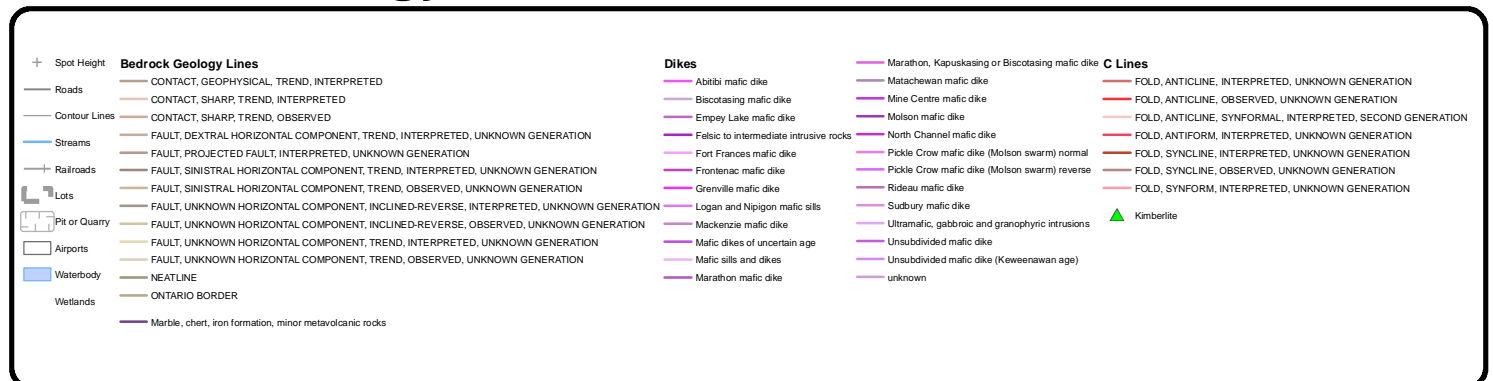
ID: 67072261 | **Type:** Candidate ANSI, Life Science | **Significance:** Provincial | **Management Plan:** | **Area (sqm):** 2972242.969 |

Comments:



Bedrock Geology of Ontario

Order No. 20190205061





Bedrock Geology Report

Bedrock Geology units found within 2000 m of
4836 Bank Street Ottawa Ontario, Gloucester, ON, K1X 1G6



ID: 13323 | **Unit Name:** |
Type (All): 55b | **Type (Primary):** 55b | **Type (Secondary):** | **Type (Tertiary):** | **Rock Type (Primary):** Shale, limestone, dolostone, siltstone | **Strata (Primary):** Georgian Bay Formation; Blue Mountain Formation; Billings Formation; Collingwood Member; Eastview Member | **Super Eon (Primary):** | **Eon (Primary):** PHANEROZOIC (Present to 542.0 Ma) | **Era (Primary):** PALEOZOIC (251.0 Ma to 542.0 Ma) | **Period (Primary):** ORDOVICIAN (443.7 Ma to 488.3 Ma) | **Epoch (Primary):** UPPER ORDOVICIAN | **Province (Primary):**

ID: 2776 | **Unit Name:** |
Type (All): 53 | **Type (Primary):** 53 | **Type (Secondary):** | **Type (Tertiary):** | **Rock Type (Primary):** Dolostone, sandstone | **Strata (Primary):** Beekmantown Group | **Super Eon (Primary):** | **Eon (Primary):** PHANEROZOIC (Present to 542.0 Ma) | **Era (Primary):** PALEOZOIC (251.0 Ma to 542.0 Ma) | **Period (Primary):** ORDOVICIAN (443.7 Ma to 488.3 Ma) | **Epoch (Primary):** LOWER ORDOVICIAN | **Province (Primary):**



ID - Unit ID **Unit Name** - Generalized geological unit classification

Type (All) - The geological unit number(s) or code(s) for all rock types present in an individual polygon.

Type (Primary) - The primary geological unit number or code for the primary rock type in an individual polygon

Type (Secondary) - The secondary geological unit number or code for the secondary rock type, if present, in an individual polygon

Type (Tertiary) - The tertiary geological unit number or code for the tertiary rock type, if present, in an individual polygon

Rock Type (Primary) - Rock type or sub-unit description

Status (Primary) - The Stratigraphic unit. Divided into:

Supergroup (two or more groups and lone formations)
Group (two or more formations)
Formation (primary unit of lithostratigraphy)
Member (named lithologic subdivision of a formation)
Bed (named distinctive layer in a member or formation)

Super Eon (Primary) - A name given to the largest defined unit of geological time, divided into Eons. Unique values which this field may contain (Domains) are:

PRECAMBRIAN (0.542 Ga to <3.85 Ga)

Eon (Primary) - A name given to a defined unit of geological time, divided into Eras. Unique values which this field may contain (Domains) are:

ARCHEAN (2.5 Ga to <3.85 Ga)
PROTEROZOIC (0.542 Ga to 2.50 Ga)
PHANEROZOIC (Present to 542.0 Ma)

Era (Primary) - A name given to a defined unit of geological time, divided into Periods. Each era on the scale is separated from the next by a major event or change. Unique values which this field may contain (Domains) are:

MESOARCHEAN (2.8 Ga to 3.2 Ga)	MESOPROTEROZOIC (1.0 Ga to 1.6 Ga)
NEO-TO MESOARCHEAN (2.5 Ga to 3.2 Ga)	EARLY PALEOZOIC TO NEOPROTEROZOIC (443.7 Ma to 1.0 Ga)
NEOARCHEAN (2.5 Ga to 2.8 Ga)	NEO-TO MESOPROTEROZOIC (0.542 Ga to 1.6 Ga)
PALEOPROTEROZOIC (1.6 Ga to 2.5 Ga)	PALEOZOIC (251.0 Ma to 542.0 Ma)
MESO-TO PALEOPROTEROZOIC (1.0 Ga to 2.5 Ga)	MESOZOIC (65.5 Ma to 251.0 Ma)

Period (Primary) - A name given to a defined unit of geological time, divided into Epochs. Unique values which this field may contain (Domains) are:

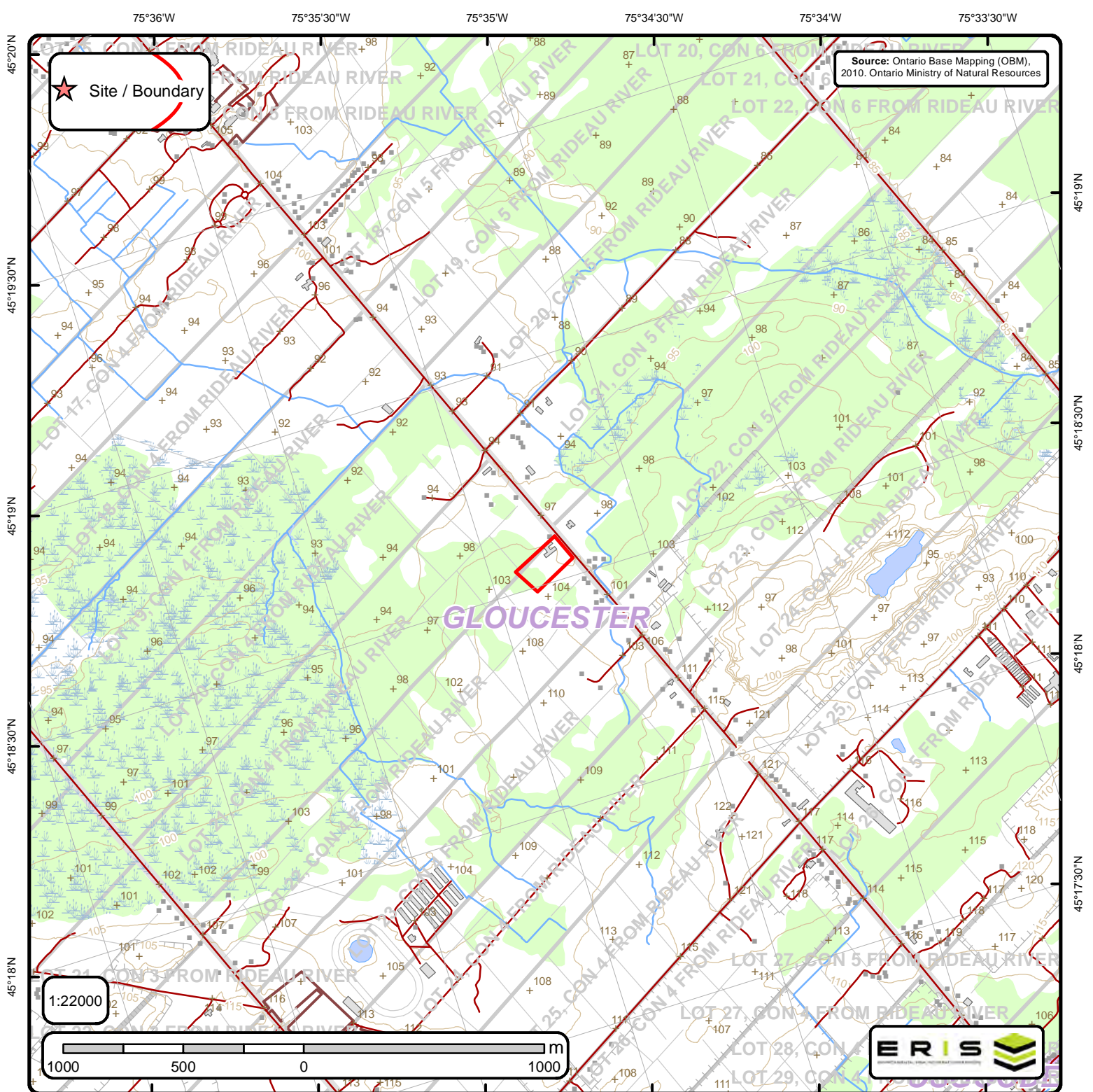
CAMBRIAN (488.3 Ma to 542.0 Ma)
ORDOVICIAN (443.7 Ma to 488.3 Ma)
SILURIAN (416.0 Ma to 443.7 Ma)
DEVONIAN (359.2 Ma to 416.0 Ma)
MISSISSIPPIAN TO DEVONIAN (318.1 Ma to 416.0 Ma)
JURASSIC (145.5 Ma to 199.6 Ma)
CRETACEOUS AND JURASSIC (65.5 Ma to 199.6 Ma)

Epoch (Primary) - A name given to a defined unit of geological time. Unique values which this field may contain (Domains) are:

LOWER ORDOVICIAN	UPPER SILURIAN
MIDDLE ORDOVICIAN	LOWER DEVONIAN
UPPER ORDOVICIAN	MIDDLE DEVONIAN
MIDDLE AND LOWER SILURIAN	UPPER DEVONIAN
UPPER SILURIAN TO LOWER DEVONIAN	LOWER CRETACEOUS AND MIDDLE JURASSIC

Province (Primary) - The Geological Province the geological unit is in. Unique values which this field may contain (Domains) are:

SUPERIOR
SOUTHERN
SUPERIOR
GRENVILLE



Ontario Base Mapping (OBM) Data

Order No. 20190205061

+	Spot Height (metre)	—	Transportation Structure	—	Contour Line	■	Wooded Area
■	Building Point	—	Utility Line	■	Pit or Quarry	■	Conservation Authority
⚡	Towers	—	Water Structure	■	Waterbody	■	Conservation Area
●	Utility Site Point	—	Drainage Line Feature	■	Wetlands	■	Municipal Park
—	Misc. Line	—	River or Stream	■	Concession	■	Provincial Park
—	Railroads	■	Airports	■	Lots	■	National Park
—	Roads	■	Tanks	■	Municipality	■	Nature Reserve
- - -	Trail	■	Building to Scale	■	Land Ownership		

75°36'W

75°35'30"W

75°35'W

75°34'30"W

75°34'W

75°33'30"W

45°20'N

45°19'30"N

45°19'N

45°18'30"N

45°18'N

45°19'N

45°18'30"N

45°18'N

45°17'30"N

★ Site / Boundary

Source: Chapman, L.J. and Putnam, D.F. 2007. Physiography of Southern Ontario: Ontario Geological Survey, Miscellaneous Release—Data 22

Peat And Muck

Sand Plains

Russell And Prescott Sand Plains

Limestone Plains

1:22000

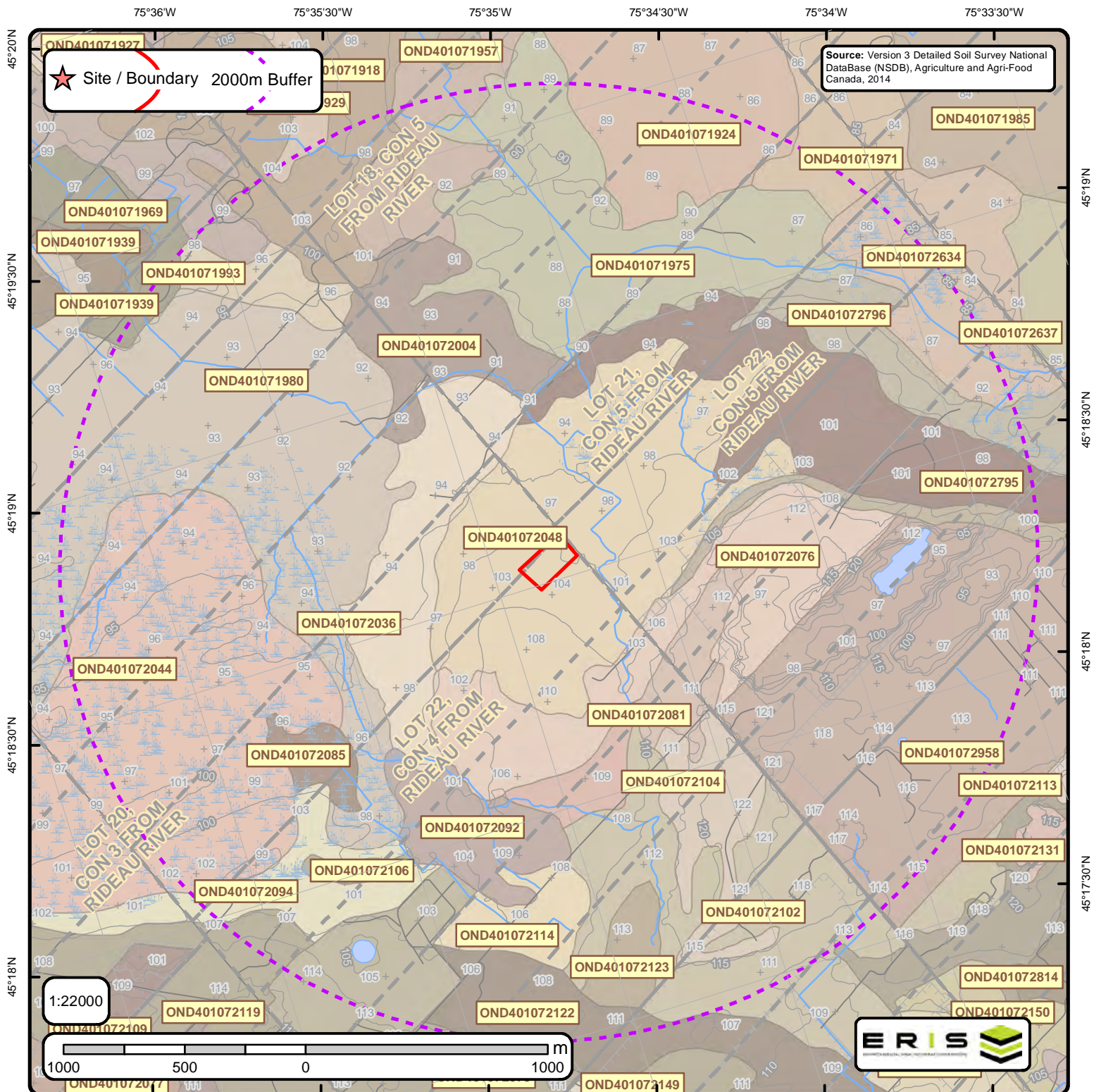
1000 500 0 1000 m



Physiography of Southern Ontario

Order No. 20190205061

+	Spot Height	—	Lots	◆	Boulder Pavement	■	Bare Rock Ridges And Shallow Till	■	Peat And Muck
—	Roads	◆	Pit or Quarry	◆	Dissected Terrain	■	Beaches	■	Sand Plains
—	Railroads	■	Airports	■	Mud Flow Scars	■	Bevelled Till Plains	■	Shale Plains
—	Contour Lines	■	Wetlands	■	Sand Dunes	■	Clay Plains	■	Shallow Till And Rock Ridges
—	Streams	■	Waterbody	—	escarpment	■	Drumlins	■	Spillways
		—		—	shorecliff	■	Escarments	■	Till Moraines
		—		—	shorecliff (weakly developed)	■	Eskers	■	Till Plains (Drumlinized)
		■		■	Physiography Regions	■	Kame Moraines	■	Till Plains (Undrumlinized)
						■	Limestone Plains		



Detailed Soil Survey (ON Soils)

Order No. 20190205061



Soils Report

Soil Map Units Found within 2000 m of

4836 Bank Street Ottawa Ontario, Gloucester, ON, K1X 1G6



Soil ID: OND401072106

Component No : 1 | **Components(%)** : 100 | **Soil Name ID** : ONCNB~~~~~A | **Surface Stoniness Class** : Nonstony | **Slope Steepness(%)** : 1.2 | **Slope Length(m)** : -9 | **Drainage** : Poorly | **Hydrological Soil Groups** : Soils with slow infiltration rates when thoroughly wetted and these soils typically are silty-loam soils with an impeding layer or soils with moderately fine to fine texture. | **Soil Texture of A Horizon** : silt loam | **Field Crops Capability** : moderate limitations on use for crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-21 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 16 | **Total Sand(%)** : 25 | **Total Silt(%)** : 61 | **Total Clay(%)** : 14 | **Organic Carbon(%)** : 2.3 | **pH in Calc Chloride** : 7.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.687 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 21-50 | **Horizon** : Bg | **Layer No** : 2 | **Very Fine Sand(%)** : 12 | **Total Sand(%)** : 16 | **Total Silt(%)** : 74 | **Total Clay(%)** : 10 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.395 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 50-74 | **Horizon** : Bg | **Layer No** : 3 | **Very Fine Sand(%)** : 22 | **Total Sand(%)** : 26 | **Total Silt(%)** : 67 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 1.6 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 1.047 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 74-100 | **Horizon** : Cg | **Layer No** : 4 | **Very Fine Sand(%)** : 9 | **Total Sand(%)** : 10 | **Total Silt(%)** : 80 | **Total Clay(%)** : 10 | **Organic Carbon(%)** : 0.9 | **pH in Calc Chloride** : 7.4 | **Saturated Hydraulic Conductivity(cm/h)** : 0.259 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401071980

Component No : 1 | **Components(%)** : 100 | **Soil Name ID** : ONCNB~~~~~A | **Surface Stoniness Class** : Nonstony | **Slope Steepness(%)** : 1.2 | **Slope Length(m)** : -9 | **Drainage** : Poorly | **Hydrological Soil Groups** : Soils with slow infiltration rates when thoroughly wetted and these soils typically are silty-loam soils with an impeding layer or soils with moderately fine to fine texture. | **Soil Texture of A Horizon** : silt loam | **Field Crops Capability** : moderate limitations on use for crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-21 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 16 | **Total Sand(%)** : 25 | **Total Silt(%)** : 61 | **Total Clay(%)** : 14 | **Organic Carbon(%)** : 2.3 | **pH in Calc Chloride** : 7.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.687 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 21-50 | **Horizon** : Bg | **Layer No** : 2 | **Very Fine Sand(%)** : 12 | **Total Sand(%)** : 16 | **Total Silt(%)** : 74 | **Total Clay(%)** : 10 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.395 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 50-74 | **Horizon** : Bg | **Layer No** : 3 | **Very Fine Sand(%)** : 22 | **Total Sand(%)** : 26 | **Total Silt(%)** : 67 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 1.6 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 1.047 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 74-100 | **Horizon** : Cg | **Layer No** : 4 | **Very Fine Sand(%)** : 9 | **Total Sand(%)** : 10 | **Total Silt(%)** : 80 | **Total Clay(%)** : 10 | **Organic Carbon(%)** : 0.9 | **pH in Calc Chloride** : 7.4 | **Saturated Hydraulic Conductivity(cm/h)** : 0.259 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401071993

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONLMR~~~~~A | **Surface Stoniness Class** : Nonstony | **Slope Steepness(%)** : 1.2 | **Slope Length(m)** : -9 | **Drainage** : Poorly | **Hydrological Soil Groups** : Soils with slow infiltration rates when thoroughly wetted and these soils typically are silty-loam soils with an impeding layer or soils with moderately fine to fine texture. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderate limitations on use for crops | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-15 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 9 | **Total Sand(%)** : 69 | **Total Silt(%)** : 20 | **Total Clay(%)** : 11 | **Organic Carbon(%)** : 2.3 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 3.066 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 15-23 | **Horizon** : Ap | **Layer No** : 2 | **Very Fine Sand(%)** : 8 | **Total Sand(%)** : 72 | **Total Silt(%)** : 22 | **Total Clay(%)** : 6 | **Organic Carbon(%)** : 1.3 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 4.797 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 23-35 | **Horizon** : Bmgj | **Layer No** : 3 | **Very Fine Sand(%)** : 11 | **Total Sand(%)** : 73 | **Total Silt(%)** : 20 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 7.5 | **Saturated Hydraulic Conductivity(cm/h)** : 3.985 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 35-100 | **Horizon** : Ckg | **Layer No** : 4 | **Very Fine Sand(%)** : 16 | **Total Sand(%)** : 59 | **Total Silt(%)** : 34 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 0.1 | **pH in Calc Chloride** : 7.6 | **Saturated Hydraulic Conductivity(cm/h)** : 2.123 | **Electrical Conductivity(dS/m)** : 0 |



Soils Report

Soil Map Units Found within 2000 m of

4836 Bank Street Ottawa Ontario, Gloucester, ON, K1X 1G6



Soil ID: OND401071993

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONLEI~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Imperfectly | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderate limitations on use for crops | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-19 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 17 | **Total Silt(%)** : 56 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 6.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.354 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 19-34 | **Horizon** : Bmgj | **Layer No** : 2 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 22 | **Total Silt(%)** : 57 | **Total Clay(%)** : 21 | **Organic Carbon(%)** : 0.9 | **pH in Calc Chloride** : 5.5 | **Saturated Hydraulic Conductivity(cm/h)** : 0.341 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 34-100 | **Horizon** : Cg | **Layer No** : 3 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 17 | **Total Silt(%)** : 64 | **Total Clay(%)** : 19 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 4.9 | **Saturated Hydraulic Conductivity(cm/h)** : 0.177 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401071975

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONCNB~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Poorly | **Hydrological Soil Groups** : Soils with slow infiltration rates when thoroughly wetted and these soils typically are silty-loam soils with an impeding layer or soils with moderately fine to fine texture. | **Soil Texture of A Horizon** : silt loam | **Field Crops Capability** : moderate limitations on use for crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-21 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 16 | **Total Sand(%)** : 25 | **Total Silt(%)** : 61 | **Total Clay(%)** : 14 | **Organic Carbon(%)** : 2.3 | **pH in Calc Chloride** : 7.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.687 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 21-50 | **Horizon** : Bg | **Layer No** : 2 | **Very Fine Sand(%)** : 12 | **Total Sand(%)** : 16 | **Total Silt(%)** : 74 | **Total Clay(%)** : 10 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.395 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 50-74 | **Horizon** : Bg | **Layer No** : 3 | **Very Fine Sand(%)** : 22 | **Total Sand(%)** : 26 | **Total Silt(%)** : 67 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 1.6 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 1.047 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 74-100 | **Horizon** : Cg | **Layer No** : 4 | **Very Fine Sand(%)** : 9 | **Total Sand(%)** : 10 | **Total Silt(%)** : 80 | **Total Clay(%)** : 10 | **Organic Carbon(%)** : 0.9 | **pH in Calc Chloride** : 7.4 | **Saturated Hydraulic Conductivity(cm/h)** : 0.259 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401071975

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONOKA~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils that have a low runoff potential and high infiltration rate, as the soils typically are sands and gravel. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : None | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-12 | **Horizon** : Apk | **Layer No** : 1 | **Very Fine Sand(%)** : 9 | **Total Sand(%)** : 70 | **Total Silt(%)** : 22 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 4.0 | **pH in Calc Chloride** : 6.9 | **Saturated Hydraulic Conductivity(cm/h)** : 5.409 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 12-30 | **Horizon** : Bmk | **Layer No** : 2 | **Very Fine Sand(%)** : 9 | **Total Sand(%)** : 71 | **Total Silt(%)** : 20 | **Total Clay(%)** : 9 | **Organic Carbon(%)** : 0.6 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 3.079 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 30-100 | **Horizon** : Ck | **Layer No** : 3 | **Very Fine Sand(%)** : 3 | **Total Sand(%)** : 91 | **Total Silt(%)** : 6 | **Total Clay(%)** : 3 | **Organic Carbon(%)** : 0.1 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 6.109 | **Electrical Conductivity(dS/m)** : 0 |



Soils Report

Soil Map Units Found within 2000 m of

4836 Bank Street Ottawa Ontario, Gloucester, ON, K1X 1G6

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Soil ID: OND401071971

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONZUN~~~~~N | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Poorly | **Hydrological Soil Groups** : Soils with slow infiltration rates when thoroughly wetted and these soils typically are silty-loam soils with an impeding layer or soils with moderately fine to fine texture. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : moderate limitations on use for crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Soil Name** : UNCLASSIFIED | **Water Table Characteristics** : Unspecified period | **Soil Drainage Class** : Not applicable | **Kind of Surface Material** : Unclassified | **Layer that Restricts Root Growth** : No root restricting layer | **Type of Root Restricting Layer** : n/a | **Parent Material 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Mode of Deposition 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Parent Material Chemical Property 1|2|3** : Not Applicable; Not Applicable; Not Applicable

Soil ID: OND401071971

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONALL~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Poorly | **Hydrological Soil Groups** : Soils with slow infiltration rates when thoroughly wetted and these soils typically are silty-loam soils with an impeding layer or soils with moderately fine to fine texture. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-27 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 31 | **Total Sand(%)** : 82 | **Total Silt(%)** : 10 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 1.5 | **pH in Calc Chloride** : 5.3 | **Saturated Hydraulic Conductivity(cm/h)** : 4.383 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 27-41 | **Horizon** : Bmg | **Layer No** : 2 | **Very Fine Sand(%)** : 40 | **Total Sand(%)** : 87 | **Total Silt(%)** : 9 | **Total Clay(%)** : 4 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.6 | **Saturated Hydraulic Conductivity(cm/h)** : 6.398 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 41-55 | **Horizon** : Bmg | **Layer No** : 3 | **Very Fine Sand(%)** : 28 | **Total Sand(%)** : 67 | **Total Silt(%)** : 14 | **Total Clay(%)** : 19 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.7 | **Saturated Hydraulic Conductivity(cm/h)** : 1.197 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 55-100 | **Horizon** : Ckj | **Layer No** : 4 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 12 | **Total Silt(%)** : 34 | **Total Clay(%)** : 54 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 6.3 | **Saturated Hydraulic Conductivity(cm/h)** : 0.197 | **Electrical Conductivity(dS/m)** : 0

Soil ID: OND401072102

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONZUN~~~~~N | **Surface Stoniness Class** : Moderately stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Imperfectly | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : Natural grazing only; no improvements feasible. | **First CLI Limitation Subclass** : Presence of consolidated bedrock within one metre of the soil surface | **Second CLI Limitation Subclass** : None | **Soil Name** : UNCLASSIFIED | **Water Table Characteristics** : Unspecified period | **Soil Drainage Class** : Not applicable | **Kind of Surface Material** : Unclassified | **Layer that Restricts Root Growth** : No root restricting layer | **Type of Root Restricting Layer** : n/a | **Parent Material 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Mode of Deposition 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Parent Material Chemical Property 1|2|3** : Not Applicable; Not Applicable; Not Applicable



Soils Report

Soil Map Units Found within 2000 m of

4836 Bank Street Ottawa Ontario, Gloucester, ON, K1X 1G6

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Order ID:
20190205061**Soil ID: OND401072102**

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONFRM~~~~~N | **Surface Stoniness Class** : Moderately stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : Natural grazing only; no improvements feasible. | **First CLI Limitation Subclass** : Presence of consolidated bedrock within one metre of the soil surface | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-21 | **Horizon** : Ah | **Layer No** : 1 | **Very Fine Sand(%)** : 19 | **Total Sand(%)** : 44 | **Total Silt(%)** : 44 | **Total Clay(%)** : 12 | **Organic Carbon(%)** : 3.7 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 1.969 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 21-38 | **Horizon** : Bm | **Layer No** : 2 | **Very Fine Sand(%)** : 13 | **Total Sand(%)** : 49 | **Total Silt(%)** : 45 | **Total Clay(%)** : 6 | **Organic Carbon(%)** : 3.1 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 3.014 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 38-50 | **Horizon** : C | **Layer No** : 3 | **Very Fine Sand(%)** : 19 | **Total Sand(%)** : 57 | **Total Silt(%)** : 36 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 1.3 | **pH in Calc Chloride** : 7.0 | **Saturated Hydraulic Conductivity(cm/h)** : 1.979 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 50-100 | **Horizon** : R | **Layer No** : 4 | **Very Fine Sand(%)** : -9 | **Total Sand(%)** : -9 | **Total Silt(%)** : -9 | **Total Clay(%)** : -9 | **Organic Carbon(%)** : None | **pH in Calc Chloride** : None | **Saturated Hydraulic Conductivity(cm/h)** : None | **Electrical Conductivity(dS/m)** : None |

Soil ID: OND401072044

Component No : 1 | **Components(%)** : 100 | **Soil Name ID** : ONZOR~~~~~N | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Very Poorly | **Hydrological Soil Groups** : Soils have a high runoff potential and very slow infiltration rate when thoroughly wetted. Soils include clay soils with high swelling potential, soils in a permanent high water table and shallow soils over nearly impervious material. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : None | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-99 | **Horizon** : Oh | **Layer No** : 1 | **Very Fine Sand(%)** : -9 | **Total Sand(%)** : -9 | **Total Silt(%)** : -9 | **Total Clay(%)** : -9 | **Organic Carbon(%)** : 20.0 | **pH in Calc Chloride** : 5.5 | **Saturated Hydraulic Conductivity(cm/h)** : 3.455 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 99-149 | **Horizon** : Bg | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 23 | **Total Silt(%)** : 17 | **Total Clay(%)** : 60 | **Organic Carbon(%)** : 0.6 | **pH in Calc Chloride** : 5.9 | **Saturated Hydraulic Conductivity(cm/h)** : 0.21 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401072120

Component No : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOKA~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils that have a low runoff potential and high infiltration rate, as the soils typically are sands and gravel. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : Severe limitations on use for crops. | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : Low inherent Moisture holding capacity | **Depth(cm)** : 0-12 | **Horizon** : Apk | **Layer No** : 1 | **Very Fine Sand(%)** : 9 | **Total Sand(%)** : 70 | **Total Silt(%)** : 22 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 4.0 | **pH in Calc Chloride** : 6.9 | **Saturated Hydraulic Conductivity(cm/h)** : 5.409 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 12-30 | **Horizon** : Bmk | **Layer No** : 2 | **Very Fine Sand(%)** : 9 | **Total Sand(%)** : 71 | **Total Silt(%)** : 20 | **Total Clay(%)** : 9 | **Organic Carbon(%)** : 0.6 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 3.079 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 30-100 | **Horizon** : Ck | **Layer No** : 3 | **Very Fine Sand(%)** : 3 | **Total Sand(%)** : 91 | **Total Silt(%)** : 6 | **Total Clay(%)** : 3 | **Organic Carbon(%)** : 0.1 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 6.109 | **Electrical Conductivity(dS/m)** : 0 |



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Soil Map Units Found within 2000 m of

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Soil ID: OND401072104

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONOKA~~~~~A | **Surface Stoniness Class** : Moderately stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils that have a low runoff potential and high infiltration rate, as the soils typically are sands and gravel. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : Severe limitations on use for crops. | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : Low inherent Moisture holding capacity | **Depth(cm)** : 0-12 | **Horizon** : Apk | **Layer No** : 1 | **Very Fine Sand(%)** : 9 | **Total Sand(%)** : 70 | **Total Silt(%)** : 22 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 4.0 | **pH in Calc Chloride** : 6.9 | **Saturated Hydraulic Conductivity(cm/h)** : 5.409 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 12-30 | **Horizon** : Bmk | **Layer No** : 2 | **Very Fine Sand(%)** : 9 | **Total Sand(%)** : 71 | **Total Silt(%)** : 20 | **Total Clay(%)** : 9 | **Organic Carbon(%)** : 0.6 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 3.079 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 30-100 | **Horizon** : Ck | **Layer No** : 3 | **Very Fine Sand(%)** : 3 | **Total Sand(%)** : 91 | **Total Silt(%)** : 6 | **Total Clay(%)** : 3 | **Organic Carbon(%)** : 0.1 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 6.109 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401072104

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONOKASH~~~A | **Surface Stoniness Class** : Moderately stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils that have a low runoff potential and high infiltration rate, as the soils typically are sands and gravel. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : Very severe limitations preclude annual cultivation; improvements feasible. | **First CLI Limitation Subclass** : Presence of a combination of the Subclasses F and M, or, the presence of a combination of the Subclasses | **Second CLI Limitation Subclass** : Presence of consolidated bedrock within one metre of the soil surface | **Depth(cm)** : 0-12 | **Horizon** : Apk | **Layer No** : 1 | **Very Fine Sand(%)** : 9 | **Total Sand(%)** : 70 | **Total Silt(%)** : 22 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 4.0 | **pH in Calc Chloride** : 6.9 | **Saturated Hydraulic Conductivity(cm/h)** : 5.409 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 12-30 | **Horizon** : Bmk | **Layer No** : 2 | **Very Fine Sand(%)** : 9 | **Total Sand(%)** : 71 | **Total Silt(%)** : 20 | **Total Clay(%)** : 9 | **Organic Carbon(%)** : 0.6 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 3.079 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 30-50 | **Horizon** : Ck | **Layer No** : 3 | **Very Fine Sand(%)** : 3 | **Total Sand(%)** : 91 | **Total Silt(%)** : 6 | **Total Clay(%)** : 3 | **Organic Carbon(%)** : 0.1 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 6.109 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 50-100 | **Horizon** : R | **Layer No** : 4 | **Very Fine Sand(%)** : -9 | **Total Sand(%)** : -9 | **Total Silt(%)** : -9 | **Total Clay(%)** : -9 | **Organic Carbon(%)** : None | **pH in Calc Chloride** : None | **Saturated Hydraulic Conductivity(cm/h)** : None | **Electrical Conductivity(dS/m)** : None |

Soil ID: OND401072123

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONJKV~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils that have a low runoff potential and high infiltration rate, as the soils typically are sands and gravel. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-15 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 19 | **Total Sand(%)** : 69 | **Total Silt(%)** : 21 | **Total Clay(%)** : 10 | **Organic Carbon(%)** : 1.5 | **pH in Calc Chloride** : 7.0 | **Saturated Hydraulic Conductivity(cm/h)** : 3.153 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 15-29 | **Horizon** : Bm | **Layer No** : 2 | **Very Fine Sand(%)** : 26 | **Total Sand(%)** : 80 | **Total Silt(%)** : 17 | **Total Clay(%)** : 3 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 7.0 | **Saturated Hydraulic Conductivity(cm/h)** : 6.686 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 29-100 | **Horizon** : C | **Layer No** : 3 | **Very Fine Sand(%)** : 36 | **Total Sand(%)** : 83 | **Total Silt(%)** : 12 | **Total Clay(%)** : 5 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 7.0 | **Saturated Hydraulic Conductivity(cm/h)** : 4.903 | **Electrical Conductivity(dS/m)** : 0 |



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Soil ID: OND401072123

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONMTD~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Imperfectly | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-22 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 35 | **Total Sand(%)** : 47 | **Total Silt(%)** : 39 | **Total Clay(%)** : 14 | **Organic Carbon(%)** : 2.1 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 1.383 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 22-35 | **Horizon** : Bmgj | **Layer No** : 2 | **Very Fine Sand(%)** : 34 | **Total Sand(%)** : 49 | **Total Silt(%)** : 43 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 7.6 | **Saturated Hydraulic Conductivity(cm/h)** : 2.361 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 35-100 | **Horizon** : Ckgj | **Layer No** : 3 | **Very Fine Sand(%)** : 12 | **Total Sand(%)** : 48 | **Total Silt(%)** : 44 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 0.3 | **pH in Calc Chloride** : 7.7 | **Saturated Hydraulic Conductivity(cm/h)** : 1.46 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401072036

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONGVI~~~~~A | **Surface Stoniness Class** : Moderately stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderate limitations on use for crops | **First CLI Limitation Subclass** : Presence of surface stones > 15 cm diameter. | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-19 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 18 | **Total Sand(%)** : 59 | **Total Silt(%)** : 30 | **Total Clay(%)** : 11 | **Organic Carbon(%)** : 2.3 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 2.565 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 19-35 | **Horizon** : Ap | **Layer No** : 2 | **Very Fine Sand(%)** : 18 | **Total Sand(%)** : 62 | **Total Silt(%)** : 33 | **Total Clay(%)** : 5 | **Organic Carbon(%)** : 1.5 | **pH in Calc Chloride** : 7.4 | **Saturated Hydraulic Conductivity(cm/h)** : 5.087 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 35-55 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 21 | **Total Sand(%)** : 63 | **Total Silt(%)** : 32 | **Total Clay(%)** : 5 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 7.4 | **Saturated Hydraulic Conductivity(cm/h)** : 4.441 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 55-77 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 19 | **Total Sand(%)** : 56 | **Total Silt(%)** : 26 | **Total Clay(%)** : 18 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.856 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 77-92 | **Horizon** : BC | **Layer No** : 5 | **Very Fine Sand(%)** : 20 | **Total Sand(%)** : 61 | **Total Silt(%)** : 28 | **Total Clay(%)** : 11 | **Organic Carbon(%)** : 0.3 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 1.805 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 92-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 22 | **Total Sand(%)** : 65 | **Total Silt(%)** : 30 | **Total Clay(%)** : 5 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.6 | **Saturated Hydraulic Conductivity(cm/h)** : 3.082 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401072036

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONLYS~~~~~A | **Surface Stoniness Class** : Moderately stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Poorly | **Hydrological Soil Groups** : Soils with slow infiltration rates when thoroughly wetted and these soils typically are silty-loam soils with an impeding layer or soils with moderately fine to fine texture. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-15 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 9 | **Total Sand(%)** : 69 | **Total Silt(%)** : 20 | **Total Clay(%)** : 11 | **Organic Carbon(%)** : 2.3 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 3.066 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 15-23 | **Horizon** : Ap | **Layer No** : 2 | **Very Fine Sand(%)** : 8 | **Total Sand(%)** : 72 | **Total Silt(%)** : 22 | **Total Clay(%)** : 6 | **Organic Carbon(%)** : 1.3 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 4.797 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 23-35 | **Horizon** : Bmgj | **Layer No** : 3 | **Very Fine Sand(%)** : 11 | **Total Sand(%)** : 73 | **Total Silt(%)** : 20 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 7.5 | **Saturated Hydraulic Conductivity(cm/h)** : 3.985 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 35-100 | **Horizon** : Ckgj | **Layer No** : 4 | **Very Fine Sand(%)** : 16 | **Total Sand(%)** : 59 | **Total Silt(%)** : 34 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 0.1 | **pH in Calc Chloride** : 7.6 | **Saturated Hydraulic Conductivity(cm/h)** : 2.123 | **Electrical Conductivity(dS/m)** : 0 |



Soils Report

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Soil ID: OND401072048

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONMTDSH~~~A | **Surface Stoniness Class** : Very stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Imperfectly | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Presence of consolidated bedrock within one metre of the soil surface | **Second CLI Limitation Subclass** : Presence of surface stones > 15 cm diameter. | **Depth(cm)** : 0-17 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 15 | **Total Sand(%)** : 41 | **Total Silt(%)** : 38 | **Total Clay(%)** : 21 | **Organic Carbon(%)** : 3.3 | **pH in Calc Chloride** : 6.5 | **Saturated Hydraulic Conductivity(cm/h)** : 0.88 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 17-38 | **Horizon** : Bmg | **Layer No** : 2 | **Very Fine Sand(%)** : 10 | **Total Sand(%)** : 29 | **Total Silt(%)** : 43 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.8 | **pH in Calc Chloride** : 6.8 | **Saturated Hydraulic Conductivity(cm/h)** : 0.341 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 38-50 | **Horizon** : BCg | **Layer No** : 3 | **Very Fine Sand(%)** : 11 | **Total Sand(%)** : 39 | **Total Silt(%)** : 38 | **Total Clay(%)** : 23 | **Organic Carbon(%)** : 1.5 | **pH in Calc Chloride** : 7.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.407 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 50-100 | **Horizon** : R | **Layer No** : 4 | **Very Fine Sand(%)** : -9 | **Total Sand(%)** : -9 | **Total Silt(%)** : -9 | **Total Clay(%)** : -9 | **Organic Carbon(%)** : None | **pH in Calc Chloride** : None | **Saturated Hydraulic Conductivity(cm/h)** : None | **Electrical Conductivity(dS/m)** : None |

Soil ID: OND401072048

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONGVISH~~~A | **Surface Stoniness Class** : Very stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Presence of consolidated bedrock within one metre of the soil surface | **Second CLI Limitation Subclass** : Presence of surface stones > 15 cm diameter. | **Depth(cm)** : 0-37 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 15 | **Total Sand(%)** : 61 | **Total Silt(%)** : 31 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 2.4 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 3.765 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 37-53 | **Horizon** : Bm | **Layer No** : 2 | **Very Fine Sand(%)** : 15 | **Total Sand(%)** : 59 | **Total Silt(%)** : 33 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 1.1 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 2.843 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 53-70 | **Horizon** : CK | **Layer No** : 3 | **Very Fine Sand(%)** : 15 | **Total Sand(%)** : 45 | **Total Silt(%)** : 48 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 0.6 | **pH in Calc Chloride** : 7.5 | **Saturated Hydraulic Conductivity(cm/h)** : 1.568 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 70-100 | **Horizon** : R | **Layer No** : 4 | **Very Fine Sand(%)** : -9 | **Total Sand(%)** : -9 | **Total Silt(%)** : -9 | **Total Clay(%)** : -9 | **Organic Carbon(%)** : None | **pH in Calc Chloride** : None | **Saturated Hydraulic Conductivity(cm/h)** : None | **Electrical Conductivity(dS/m)** : None |

Soil ID: OND401072634

Component No : 1 | **Components(%)** : 100 | **Soil Name ID** : ONSTVO~~~~N | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Very Poorly | **Hydrological Soil Groups** : Soils with slow infiltration rates when thoroughly wetted and these soils typically are silty-loam soils with an impeding layer or soils with moderately fine to fine texture. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : Severe limitations on use for crops. | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : -15-0 | **Horizon** : Om | **Layer No** : 1 | **Very Fine Sand(%)** : -9 | **Total Sand(%)** : -9 | **Total Silt(%)** : -9 | **Total Clay(%)** : -9 | **Organic Carbon(%)** : 17.0 | **pH in Calc Chloride** : 6.0 | **Saturated Hydraulic Conductivity(cm/h)** : 3.455 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 0-32 | **Horizon** : Bmk | **Layer No** : 2 | **Very Fine Sand(%)** : 8 | **Total Sand(%)** : 13 | **Total Silt(%)** : 65 | **Total Clay(%)** : 22 | **Organic Carbon(%)** : 3.5 | **pH in Calc Chloride** : 7.5 | **Saturated Hydraulic Conductivity(cm/h)** : 0.46 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 32-80 | **Horizon** : Ckg | **Layer No** : 3 | **Very Fine Sand(%)** : 10 | **Total Sand(%)** : 13 | **Total Silt(%)** : 57 | **Total Clay(%)** : 30 | **Organic Carbon(%)** : 0.9 | **pH in Calc Chloride** : 7.7 | **Saturated Hydraulic Conductivity(cm/h)** : 0.202 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 80-100 | **Horizon** : Ckg | **Layer No** : 4 | **Very Fine Sand(%)** : 11 | **Total Sand(%)** : 15 | **Total Silt(%)** : 57 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 1.3 | **pH in Calc Chloride** : 7.7 | **Saturated Hydraulic Conductivity(cm/h)** : 0.207 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 100-118 | **Horizon** : Ckg | **Layer No** : 5 | **Very Fine Sand(%)** : 13 | **Total Sand(%)** : 18 | **Total Silt(%)** : 56 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 1.5 | **pH in Calc Chloride** : 7.6 | **Saturated Hydraulic Conductivity(cm/h)** : 0.218 | **Electrical Conductivity(dS/m)** : 0 |



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Soil ID: OND401072958

Component No : 1 | **Components(%)** : 100 | **Soil Name ID** : ONZUN~~~~N | **Surface Stoniness Class** : Not Applicable | **Slop Steepness(%)** : None | **Slop Length(m)** : -9 | **Drainage** : Not Applicable | **Hydrological Soil Groups** : None | **Soil Texture of A Horizon** : None | **Field Crops Capability** : None | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Soil Name** : UNCLASSIFIED | **Water Table Characteristics** : Unspecified period | **Soil Drainage Class** : Not applicable | **Kind of Surface Material** : Unclassified | **Layer that Restricts Root Growth** : No root restricting layer | **Type of Root Restricting Layer** : n/a | **Parent Material 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Mode of Deposition 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Parent Material Chemical Property 1|2|3** : Not Applicable; Not Applicable; Not Applicable |

Soil ID: OND401072081

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONGVISH~~~A | **Surface Stoniness Class** : Moderately stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Presence of consolidated bedrock within one metre of the soil surface | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-37 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 15 | **Total Sand(%)** : 61 | **Total Silt(%)** : 31 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 2.4 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 3.765 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 37-53 | **Horizon** : Bm | **Layer No** : 2 | **Very Fine Sand(%)** : 15 | **Total Sand(%)** : 59 | **Total Silt(%)** : 33 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 1.1 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 2.843 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 53-70 | **Horizon** : CK | **Layer No** : 3 | **Very Fine Sand(%)** : 15 | **Total Sand(%)** : 45 | **Total Silt(%)** : 48 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 0.6 | **pH in Calc Chloride** : 7.5 | **Saturated Hydraulic Conductivity(cm/h)** : 1.568 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 70-100 | **Horizon** : R | **Layer No** : 4 | **Very Fine Sand(%)** : -9 | **Total Sand(%)** : -9 | **Total Silt(%)** : -9 | **Total Clay(%)** : -9 | **Organic Carbon(%)** : None | **pH in Calc Chloride** : None | **Saturated Hydraulic Conductivity(cm/h)** : None | **Electrical Conductivity(dS/m)** : None |

Soil ID: OND401072081

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONMTDSH~~~A | **Surface Stoniness Class** : Moderately stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Imperfectly | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Presence of consolidated bedrock within one metre of the soil surface | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-17 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 15 | **Total Sand(%)** : 41 | **Total Silt(%)** : 38 | **Total Clay(%)** : 21 | **Organic Carbon(%)** : 3.3 | **pH in Calc Chloride** : 6.5 | **Saturated Hydraulic Conductivity(cm/h)** : 0.88 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 17-38 | **Horizon** : Bmg | **Layer No** : 2 | **Very Fine Sand(%)** : 10 | **Total Sand(%)** : 29 | **Total Silt(%)** : 43 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.8 | **pH in Calc Chloride** : 6.8 | **Saturated Hydraulic Conductivity(cm/h)** : 0.341 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 38-50 | **Horizon** : BCg | **Layer No** : 3 | **Very Fine Sand(%)** : 11 | **Total Sand(%)** : 39 | **Total Silt(%)** : 38 | **Total Clay(%)** : 23 | **Organic Carbon(%)** : 1.5 | **pH in Calc Chloride** : 7.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.407 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 50-100 | **Horizon** : R | **Layer No** : 4 | **Very Fine Sand(%)** : -9 | **Total Sand(%)** : -9 | **Total Silt(%)** : -9 | **Total Clay(%)** : -9 | **Organic Carbon(%)** : None | **pH in Calc Chloride** : None | **Saturated Hydraulic Conductivity(cm/h)** : None | **Electrical Conductivity(dS/m)** : None |



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Soil ID: OND401072085

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONZUN~~~~~N | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Poorly | **Hydrological Soil Groups** : Soils with slow infiltration rates when thoroughly wetted and these soils typically are silty-loam soils with an impeding layer or soils with moderately fine to fine texture. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : Very severe limitations preclude annual cultivation; improvements feasible. | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : None | **Soil Name** : UNCLASSIFIED | **Water Table Characteristics** : Unspecified period | **Soil Drainage Class** : Not applicable | **Kind of Surface Material** : Unclassified | **Layer that Restricts Root Growth** : No root restricting layer | **Type of Root Restricting Layer** : n/a | **Parent Material 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Mode of Deposition 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Parent Material Chemical Property 1|2|3** : Not Applicable; Not Applicable; Not Applicable |

Soil ID: OND401072085

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONRSL~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Imperfectly | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : Severe limitations on use for crops. | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-20 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 3 | **Total Sand(%)** : 86 | **Total Silt(%)** : 10 | **Total Clay(%)** : 4 | **Organic Carbon(%)** : 1.1 | **pH in Calc Chloride** : 5.5 | **Saturated Hydraulic Conductivity(cm/h)** : 6.641 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 20-31 | **Horizon** : Bmgj | **Layer No** : 2 | **Very Fine Sand(%)** : 5 | **Total Sand(%)** : 93 | **Total Silt(%)** : 6 | **Total Clay(%)** : 1 | **Organic Carbon(%)** : 1.0 | **pH in Calc Chloride** : 4.7 | **Saturated Hydraulic Conductivity(cm/h)** : 9.187 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 31-53 | **Horizon** : BCgj | **Layer No** : 3 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 97 | **Total Silt(%)** : 2 | **Total Clay(%)** : 1 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 4.6 | **Saturated Hydraulic Conductivity(cm/h)** : 8.134 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 53-100 | **Horizon** : Cgj | **Layer No** : 4 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 98 | **Total Silt(%)** : 1 | **Total Clay(%)** : 1 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 4.8 | **Saturated Hydraulic Conductivity(cm/h)** : 7.845 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401072004

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONMTD~~~~~A | **Surface Stoniness Class** : Very stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Imperfectly | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Presence of surface stones > 15 cm diameter. | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-22 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 35 | **Total Sand(%)** : 47 | **Total Silt(%)** : 39 | **Total Clay(%)** : 14 | **Organic Carbon(%)** : 2.1 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 1.383 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 22-35 | **Horizon** : Bmgj | **Layer No** : 2 | **Very Fine Sand(%)** : 34 | **Total Sand(%)** : 49 | **Total Silt(%)** : 43 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 7.6 | **Saturated Hydraulic Conductivity(cm/h)** : 2.361 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 35-100 | **Horizon** : Ckgj | **Layer No** : 3 | **Very Fine Sand(%)** : 12 | **Total Sand(%)** : 48 | **Total Silt(%)** : 44 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 0.3 | **pH in Calc Chloride** : 7.7 | **Saturated Hydraulic Conductivity(cm/h)** : 1.46 | **Electrical Conductivity(dS/m)** : 0 |



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Soil ID: OND401072004

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONGVI~~~~~A | **Surface Stoniness Class** : Very stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Presence of surface stones > 15 cm diameter. | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-19 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 18 | **Total Sand(%)** : 59 | **Total Silt(%)** : 30 | **Total Clay(%)** : 11 | **Organic Carbon(%)** : 2.3 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 2.565 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 19-35 | **Horizon** : Ap | **Layer No** : 2 | **Very Fine Sand(%)** : 18 | **Total Sand(%)** : 62 | **Total Silt(%)** : 33 | **Total Clay(%)** : 5 | **Organic Carbon(%)** : 1.5 | **pH in Calc Chloride** : 7.4 | **Saturated Hydraulic Conductivity(cm/h)** : 5.087 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 35-55 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 21 | **Total Sand(%)** : 63 | **Total Silt(%)** : 32 | **Total Clay(%)** : 5 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 7.4 | **Saturated Hydraulic Conductivity(cm/h)** : 4.441 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 55-77 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 19 | **Total Sand(%)** : 56 | **Total Silt(%)** : 26 | **Total Clay(%)** : 18 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.856 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 77-92 | **Horizon** : BC | **Layer No** : 5 | **Very Fine Sand(%)** : 20 | **Total Sand(%)** : 61 | **Total Silt(%)** : 28 | **Total Clay(%)** : 11 | **Organic Carbon(%)** : 0.3 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 1.805 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 92-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 22 | **Total Sand(%)** : 65 | **Total Silt(%)** : 30 | **Total Clay(%)** : 5 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.6 | **Saturated Hydraulic Conductivity(cm/h)** : 3.082 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401072798

Component No : 1 | **Components(%)** : 100 | **Soil Name ID** : ONZES~~~~~N | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 12.0 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : None | **Soil Texture of A Horizon** : None | **Field Crops Capability** : Very severe limitations preclude annual cultivation; improvements feasible. | **First CLI Limitation Subclass** : Presence of adverse Topography | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-100 | **Horizon** : Ah | **Layer No** : 1 | **Very Fine Sand(%)** : 5 | **Total Sand(%)** : 15 | **Total Silt(%)** : 60 | **Total Clay(%)** : 25 | **Organic Carbon(%)** : 3.9 | **pH in Calc Chloride** : 6.4 | **Saturated Hydraulic Conductivity(cm/h)** : 0.589 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401072796

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONZUN~~~~~N | **Surface Stoniness Class** : Moderately stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Imperfectly | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : Natural grazing only; no improvements feasible. | **First CLI Limitation Subclass** : Presence of consolidated bedrock within one metre of the soil surface | **Second CLI Limitation Subclass** : None | **Soil Name** : UNCLASSIFIED | **Water Table Characteristics** : Unspecified period | **Soil Drainage Class** : Not applicable | **Kind of Surface Material** : Unclassified | **Layer that Restricts Root Growth** : No root restricting layer | **Type of Root Restricting Layer** : n/a | **Parent Material 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Mode of Deposition 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Parent Material Chemical Property 1|2|3** : Not Applicable; Not Applicable; Not Applicable |



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Soil ID: OND401072796

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONFRM~~~~~N | **Surface Stoniness Class** : Moderately stony | **Slope Steepness(%)** : 7.0 | **Slope Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : Natural grazing only; no improvements feasible. | **First CLI Limitation Subclass** : Presence of consolidated bedrock within one metre of the soil surface | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-21 | **Horizon** : Ah | **Layer No** : 1 | **Very Fine Sand(%)** : 19 | **Total Sand(%)** : 44 | **Total Silt(%)** : 44 | **Total Clay(%)** : 12 | **Organic Carbon(%)** : 3.7 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 1.969 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 21-38 | **Horizon** : Bm | **Layer No** : 2 | **Very Fine Sand(%)** : 13 | **Total Sand(%)** : 49 | **Total Silt(%)** : 45 | **Total Clay(%)** : 6 | **Organic Carbon(%)** : 3.1 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 3.014 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 38-50 | **Horizon** : C | **Layer No** : 3 | **Very Fine Sand(%)** : 19 | **Total Sand(%)** : 57 | **Total Silt(%)** : 36 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 1.3 | **pH in Calc Chloride** : 7.0 | **Saturated Hydraulic Conductivity(cm/h)** : 1.979 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 50-100 | **Horizon** : R | **Layer No** : 4 | **Very Fine Sand(%)** : -9 | **Total Sand(%)** : -9 | **Total Silt(%)** : -9 | **Total Clay(%)** : -9 | **Organic Carbon(%)** : None | **pH in Calc Chloride** : None | **Saturated Hydraulic Conductivity(cm/h)** : None | **Electrical Conductivity(dS/m)** : None |

Soil ID: OND401072795

Component No : 2 | **Components(%)** : 10 | **Soil Name ID** : ONGVISH~~~A | **Surface Stoniness Class** : Exceedingly stony | **Slope Steepness(%)** : 3.5 | **Slope Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Presence of consolidated bedrock within one metre of the soil surface | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-37 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 15 | **Total Sand(%)** : 61 | **Total Silt(%)** : 31 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 2.4 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 3.765 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 37-53 | **Horizon** : Bm | **Layer No** : 2 | **Very Fine Sand(%)** : 15 | **Total Sand(%)** : 59 | **Total Silt(%)** : 33 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 1.1 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 2.843 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 53-70 | **Horizon** : CK | **Layer No** : 3 | **Very Fine Sand(%)** : 15 | **Total Sand(%)** : 45 | **Total Silt(%)** : 48 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 0.6 | **pH in Calc Chloride** : 7.5 | **Saturated Hydraulic Conductivity(cm/h)** : 1.568 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 70-100 | **Horizon** : R | **Layer No** : 4 | **Very Fine Sand(%)** : -9 | **Total Sand(%)** : -9 | **Total Silt(%)** : -9 | **Total Clay(%)** : -9 | **Organic Carbon(%)** : None | **pH in Calc Chloride** : None | **Saturated Hydraulic Conductivity(cm/h)** : None | **Electrical Conductivity(dS/m)** : None |

Soil ID: OND401072795

Component No : 1 | **Components(%)** : 90 | **Soil Name ID** : ONFRM~~~~~N | **Surface Stoniness Class** : Exceedingly stony | **Slope Steepness(%)** : 3.5 | **Slope Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : Natural grazing only; no improvements feasible. | **First CLI Limitation Subclass** : Presence of consolidated bedrock within one metre of the soil surface | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-21 | **Horizon** : Ah | **Layer No** : 1 | **Very Fine Sand(%)** : 19 | **Total Sand(%)** : 44 | **Total Silt(%)** : 44 | **Total Clay(%)** : 12 | **Organic Carbon(%)** : 3.7 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 1.969 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 21-38 | **Horizon** : Bm | **Layer No** : 2 | **Very Fine Sand(%)** : 13 | **Total Sand(%)** : 49 | **Total Silt(%)** : 45 | **Total Clay(%)** : 6 | **Organic Carbon(%)** : 3.1 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 3.014 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 38-50 | **Horizon** : C | **Layer No** : 3 | **Very Fine Sand(%)** : 19 | **Total Sand(%)** : 57 | **Total Silt(%)** : 36 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 1.3 | **pH in Calc Chloride** : 7.0 | **Saturated Hydraulic Conductivity(cm/h)** : 1.979 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 50-100 | **Horizon** : R | **Layer No** : 4 | **Very Fine Sand(%)** : -9 | **Total Sand(%)** : -9 | **Total Silt(%)** : -9 | **Total Clay(%)** : -9 | **Organic Carbon(%)** : None | **pH in Calc Chloride** : None | **Saturated Hydraulic Conductivity(cm/h)** : None | **Electrical Conductivity(dS/m)** : None |



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Soil ID: OND401071969

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONZUN~~~~N | **Surface Stoniness Class** : Nonstony | **Slope Steepness(%)** : 1.2 | **Slope Length(m)** : -9 | **Drainage** : Poorly | **Hydrological Soil Groups** : Soils with slow infiltration rates when thoroughly wetted and these soils typically are silty-loam soils with an impeding layer or soils with moderately fine to fine texture. | **Soil Texture of A Horizon** : clay loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Soil Name** : UNCLASSIFIED | **Water Table Characteristics** : Unspecified period | **Soil Drainage Class** : Not applicable | **Kind of Surface Material** : Unclassified | **Layer that Restricts Root Growth** : No root restricting layer | **Type of Root Restricting Layer** : n/a | **Parent Material 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Mode of Deposition 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Parent Material Chemical Property 1|2|3** : Not Applicable; Not Applicable; Not Applicable |

Soil ID: OND401071969

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONCNBSH~~~A | **Surface Stoniness Class** : Nonstony | **Slope Steepness(%)** : 1.2 | **Slope Length(m)** : -9 | **Drainage** : Imperfectly | **Hydrological Soil Groups** : Soils with slow infiltration rates when thoroughly wetted and these soils typically are silty-loam soils with an impeding layer or soils with moderately fine to fine texture. | **Soil Texture of A Horizon** : silt loam | **Field Crops Capability** : Severe limitations on use for crops. | **First CLI Limitation Subclass** : Presence of consolidated bedrock within one metre of the soil surface | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-21 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 16 | **Total Sand(%)** : 25 | **Total Silt(%)** : 61 | **Total Clay(%)** : 14 | **Organic Carbon(%)** : 2.3 | **pH in Calc Chloride** : 7.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.687 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 21-50 | **Horizon** : Bg | **Layer No** : 2 | **Very Fine Sand(%)** : 12 | **Total Sand(%)** : 16 | **Total Silt(%)** : 74 | **Total Clay(%)** : 10 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.395 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 50-60 | **Horizon** : Bg | **Layer No** : 3 | **Very Fine Sand(%)** : 22 | **Total Sand(%)** : 26 | **Total Silt(%)** : 67 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 1.6 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 1.047 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 60-75 | **Horizon** : Cg | **Layer No** : 4 | **Very Fine Sand(%)** : 9 | **Total Sand(%)** : 10 | **Total Silt(%)** : 80 | **Total Clay(%)** : 10 | **Organic Carbon(%)** : 0.9 | **pH in Calc Chloride** : 7.4 | **Saturated Hydraulic Conductivity(cm/h)** : 0.259 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 75-100 | **Horizon** : R | **Layer No** : 5 | **Very Fine Sand(%)** : -9 | **Total Sand(%)** : -9 | **Total Silt(%)** : -9 | **Total Clay(%)** : -9 | **Organic Carbon(%)** : None | **pH in Calc Chloride** : None | **Saturated Hydraulic Conductivity(cm/h)** : None | **Electrical Conductivity(dS/m)** : None |

Soil ID: OND401071918

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONLEI~~~~A | **Surface Stoniness Class** : Nonstony | **Slope Steepness(%)** : 3.5 | **Slope Length(m)** : -9 | **Drainage** : Imperfectly | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderate limitations on use for crops | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : Presence of adverse Topography | **Depth(cm)** : 0-19 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 17 | **Total Silt(%)** : 56 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 6.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.354 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 19-34 | **Horizon** : Bmgj | **Layer No** : 2 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 22 | **Total Silt(%)** : 57 | **Total Clay(%)** : 21 | **Organic Carbon(%)** : 0.9 | **pH in Calc Chloride** : 5.5 | **Saturated Hydraulic Conductivity(cm/h)** : 0.341 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 34-100 | **Horizon** : Cg | **Layer No** : 3 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 17 | **Total Silt(%)** : 64 | **Total Clay(%)** : 19 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 4.9 | **Saturated Hydraulic Conductivity(cm/h)** : 0.177 | **Electrical Conductivity(dS/m)** : 0 |



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**Soil ID: OND401071918**

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONLTM~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderate limitations on use for crops | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : Presence of adverse Topography | **Depth(cm)** : 0-19 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 17 | **Total Silt(%)** : 56 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 6.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.354 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 19-34 | **Horizon** : Bm | **Layer No** : 2 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 22 | **Total Silt(%)** : 57 | **Total Clay(%)** : 21 | **Organic Carbon(%)** : 0.9 | **pH in Calc Chloride** : 5.5 | **Saturated Hydraulic Conductivity(cm/h)** : 0.341 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 34-69 | **Horizon** : C | **Layer No** : 3 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 17 | **Total Silt(%)** : 64 | **Total Clay(%)** : 19 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 4.9 | **Saturated Hydraulic Conductivity(cm/h)** : 0.177 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 69-100 | **Horizon** : R | **Layer No** : 4 | **Very Fine Sand(%)** : -9 | **Total Sand(%)** : -9 | **Total Silt(%)** : -9 | **Total Clay(%)** : -9 | **Organic Carbon(%)** : None | **pH in Calc Chloride** : None | **Saturated Hydraulic Conductivity(cm/h)** : None | **Electrical Conductivity(dS/m)** : None |

Soil ID: OND401072114

Component No : 1 | **Components(%)** : 100 | **Soil Name ID** : ONSPD~~~~~N | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Imperfectly | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : None | **Depth(cm)** : -6-0 | **Horizon** : LFH | **Layer No** : 1 | **Very Fine Sand(%)** : -9 | **Total Sand(%)** : -9 | **Total Silt(%)** : -9 | **Total Clay(%)** : -9 | **Organic Carbon(%)** : 18.0 | **pH in Calc Chloride** : 7.0 | **Saturated Hydraulic Conductivity(cm/h)** : 2.588 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 0-4 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 35 | **Total Sand(%)** : 67 | **Total Silt(%)** : 23 | **Total Clay(%)** : 10 | **Organic Carbon(%)** : 7.1 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.975 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 4-18 | **Horizon** : Bf | **Layer No** : 3 | **Very Fine Sand(%)** : 30 | **Total Sand(%)** : 89 | **Total Silt(%)** : 7 | **Total Clay(%)** : 4 | **Organic Carbon(%)** : 3.1 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 6.081 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 18-25 | **Horizon** : Bfgj | **Layer No** : 4 | **Very Fine Sand(%)** : 47 | **Total Sand(%)** : 90 | **Total Silt(%)** : 8 | **Total Clay(%)** : 2 | **Organic Carbon(%)** : 2.1 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 7.891 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 25-42 | **Horizon** : Bfgj | **Layer No** : 5 | **Very Fine Sand(%)** : 43 | **Total Sand(%)** : 92 | **Total Silt(%)** : 7 | **Total Clay(%)** : 1 | **Organic Carbon(%)** : 1.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 9.131 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 42-59 | **Horizon** : Bgj | **Layer No** : 6 | **Very Fine Sand(%)** : 55 | **Total Sand(%)** : 92 | **Total Silt(%)** : 8 | **Total Clay(%)** : 0 | **Organic Carbon(%)** : 0.3 | **pH in Calc Chloride** : 6.0 | **Saturated Hydraulic Conductivity(cm/h)** : 9.133 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 59-76 | **Horizon** : Bg | **Layer No** : 7 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 98 | **Total Silt(%)** : 2 | **Total Clay(%)** : 0 | **Organic Carbon(%)** : 0.3 | **pH in**

Soil ID: OND401071963

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONLEI~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Imperfectly | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderate limitations on use for crops | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-19 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 17 | **Total Silt(%)** : 56 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 6.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.354 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 19-34 | **Horizon** : Bmgj | **Layer No** : 2 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 22 | **Total Silt(%)** : 57 | **Total Clay(%)** : 21 | **Organic Carbon(%)** : 0.9 | **pH in Calc Chloride** : 5.5 | **Saturated Hydraulic Conductivity(cm/h)** : 0.341 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 34-100 | **Horizon** : Cg | **Layer No** : 3 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 17 | **Total Silt(%)** : 64 | **Total Clay(%)** : 19 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 4.9 | **Saturated Hydraulic Conductivity(cm/h)** : 0.177 | **Electrical Conductivity(dS/m)** : 0 |



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Soil ID: OND401071963

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONLMR~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Poorly | **Hydrological Soil Groups** : Soils with slow infiltration rates when thoroughly wetted and these soils typically are silty-loam soils with an impeding layer or soils with moderately fine to fine texture. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderate limitations on use for crops | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-15 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 9 | **Total Sand(%)** : 69 | **Total Silt(%)** : 20 | **Total Clay(%)** : 11 | **Organic Carbon(%)** : 2.3 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 3.066 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 15-23 | **Horizon** : Ap | **Layer No** : 2 | **Very Fine Sand(%)** : 8 | **Total Sand(%)** : 72 | **Total Silt(%)** : 22 | **Total Clay(%)** : 6 | **Organic Carbon(%)** : 1.3 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 4.797 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 23-35 | **Horizon** : Bmgj | **Layer No** : 3 | **Very Fine Sand(%)** : 11 | **Total Sand(%)** : 73 | **Total Silt(%)** : 20 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 7.5 | **Saturated Hydraulic Conductivity(cm/h)** : 3.985 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 35-100 | **Horizon** : Ckg | **Layer No** : 4 | **Very Fine Sand(%)** : 16 | **Total Sand(%)** : 59 | **Total Silt(%)** : 34 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 0.1 | **pH in Calc Chloride** : 7.6 | **Saturated Hydraulic Conductivity(cm/h)** : 2.123 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401072111

Component No : 1 | **Components(%)** : 100 | **Soil Name ID** : ONZUN~~~~~N | **Surface Stoniness Class** : Not Applicable | **Slop Steepness(%)** : None | **Slop Length(m)** : -9 | **Drainage** : Not Applicable | **Hydrological Soil Groups** : None | **Soil Texture of A Horizon** : None | **Field Crops Capability** : None | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Soil Name** : UNCLASSIFIED | **Water Table Characteristics** : Unspecified period | **Soil Drainage Class** : Not applicable | **Kind of Surface Material** : Unclassified | **Layer that Restricts Root Growth** : No root restricting layer | **Type of Root Restricting Layer** : n/a | **Parent Material 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Mode of Deposition 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Parent Material Chemical Property 1|2|3** : Not Applicable; Not Applicable; Not Applicable |

Soil ID: OND401071924

Component No : 1 | **Components(%)** : 100 | **Soil Name ID** : ONVUD~~~~~N | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Poorly | **Hydrological Soil Groups** : Soils with slow infiltration rates when thoroughly wetted and these soils typically are silty-loam soils with an impeding layer or soils with moderately fine to fine texture. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-18 | **Horizon** : Ah | **Layer No** : 1 | **Very Fine Sand(%)** : 46 | **Total Sand(%)** : 75 | **Total Silt(%)** : 16 | **Total Clay(%)** : 9 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 4.9 | **Saturated Hydraulic Conductivity(cm/h)** : 3.869 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 18-31 | **Horizon** : Bg | **Layer No** : 2 | **Very Fine Sand(%)** : 43 | **Total Sand(%)** : 82 | **Total Silt(%)** : 15 | **Total Clay(%)** : 3 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.6 | **Saturated Hydraulic Conductivity(cm/h)** : 6.065 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 31-63 | **Horizon** : Bg | **Layer No** : 3 | **Very Fine Sand(%)** : 53 | **Total Sand(%)** : 90 | **Total Silt(%)** : 8 | **Total Clay(%)** : 2 | **Organic Carbon(%)** : 0.1 | **pH in Calc Chloride** : 5.7 | **Saturated Hydraulic Conductivity(cm/h)** : 7.127 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 63-78 | **Horizon** : Bg | **Layer No** : 4 | **Very Fine Sand(%)** : 44 | **Total Sand(%)** : 86 | **Total Silt(%)** : 7 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 6.3 | **Saturated Hydraulic Conductivity(cm/h)** : 3.942 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 78-100 | **Horizon** : Cg | **Layer No** : 5 | **Very Fine Sand(%)** : 39 | **Total Sand(%)** : 93 | **Total Silt(%)** : 4 | **Total Clay(%)** : 3 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 6.1 | **Saturated Hydraulic Conductivity(cm/h)** : 6.172 | **Electrical Conductivity(dS/m)** : 0 |



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Soil ID: OND401072076

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONZUN~~~~~N | **Surface Stoniness Class** : Moderately stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Imperfectly | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : Natural grazing only; no improvements feasible. | **First CLI Limitation Subclass** : Presence of consolidated bedrock within one metre of the soil surface | **Second CLI Limitation Subclass** : None | **Soil Name** : UNCLASSIFIED | **Water Table Characteristics** : Unspecified period | **Soil Drainage Class** : Not applicable | **Kind of Surface Material** : Unclassified | **Layer that Restricts Root Growth** : No root restricting layer | **Type of Root Restricting Layer** : n/a | **Parent Material 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Mode of Deposition 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Parent Material Chemical Property 1|2|3** : Not Applicable; Not Applicable; Not Applicable |

Soil ID: OND401072076

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONFRM~~~~~N | **Surface Stoniness Class** : Moderately stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : Natural grazing only; no improvements feasible. | **First CLI Limitation Subclass** : Presence of consolidated bedrock within one metre of the soil surface | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-21 | **Horizon** : Ah | **Layer No** : 1 | **Very Fine Sand(%)** : 19 | **Total Sand(%)** : 44 | **Total Silt(%)** : 44 | **Total Clay(%)** : 12 | **Organic Carbon(%)** : 3.7 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 1.969 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 21-38 | **Horizon** : Bm | **Layer No** : 2 | **Very Fine Sand(%)** : 13 | **Total Sand(%)** : 49 | **Total Silt(%)** : 45 | **Total Clay(%)** : 6 | **Organic Carbon(%)** : 3.1 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 3.014 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 38-50 | **Horizon** : C | **Layer No** : 3 | **Very Fine Sand(%)** : 19 | **Total Sand(%)** : 57 | **Total Silt(%)** : 36 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 1.3 | **pH in Calc Chloride** : 7.0 | **Saturated Hydraulic Conductivity(cm/h)** : 1.979 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 50-100 | **Horizon** : R | **Layer No** : 4 | **Very Fine Sand(%)** : -9 | **Total Sand(%)** : -9 | **Total Silt(%)** : -9 | **Total Clay(%)** : -9 | **Organic Carbon(%)** : None | **pH in Calc Chloride** : None | **Saturated Hydraulic Conductivity(cm/h)** : None | **Electrical Conductivity(dS/m)** : None |

Soil ID: OND401072122

Component No : 1 | **Components(%)** : 100 | **Soil Name ID** : ONCLA~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils that have a low runoff potential and high infiltration rate, as the soils typically are sands and gravel. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : Severe limitations on use for crops. | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : Low inherent Moisture holding capacity | **Depth(cm)** : 0-15 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 3 | **Total Sand(%)** : 91 | **Total Silt(%)** : 5 | **Total Clay(%)** : 4 | **Organic Carbon(%)** : 1.2 | **pH in Calc Chloride** : 7.0 | **Saturated Hydraulic Conductivity(cm/h)** : 6.934 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 15-25 | **Horizon** : Bm | **Layer No** : 2 | **Very Fine Sand(%)** : 2 | **Total Sand(%)** : 96 | **Total Silt(%)** : 2 | **Total Clay(%)** : 2 | **Organic Carbon(%)** : 1.0 | **pH in Calc Chloride** : 6.6 | **Saturated Hydraulic Conductivity(cm/h)** : 8.209 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 25-66 | **Horizon** : Bm | **Layer No** : 3 | **Very Fine Sand(%)** : 3 | **Total Sand(%)** : 95 | **Total Silt(%)** : 3 | **Total Clay(%)** : 2 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 6.2 | **Saturated Hydraulic Conductivity(cm/h)** : 8.325 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 66-82 | **Horizon** : BC | **Layer No** : 4 | **Very Fine Sand(%)** : 2 | **Total Sand(%)** : 97 | **Total Silt(%)** : 2 | **Total Clay(%)** : 1 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.8 | **Saturated Hydraulic Conductivity(cm/h)** : 8.134 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 82-100 | **Horizon** : C | **Layer No** : 5 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 96 | **Total Silt(%)** : 2 | **Total Clay(%)** : 2 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.8 | **Saturated Hydraulic Conductivity(cm/h)** : 6.96 | **Electrical Conductivity(dS/m)** : 0 |



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Soil ID: OND401072079

Component No : 1 | **Components(%)** : 100 | **Soil Name ID** : ONKRS~~~~~A | **Surface Stoniness Class** : Moderately stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils that have a low runoff potential and high infiltration rate, as the soils typically are sands and gravel. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : Severe limitations on use for crops. | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : Low inherent Moisture holding capacity | **Depth(cm)** : 0-20 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 10 | **Total Sand(%)** : 63 | **Total Silt(%)** : 31 | **Total Clay(%)** : 6 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 3.537 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 20-32 | **Horizon** : Bmk | **Layer No** : 2 | **Very Fine Sand(%)** : 8 | **Total Sand(%)** : 68 | **Total Silt(%)** : 25 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.4 | **Saturated Hydraulic Conductivity(cm/h)** : 3.783 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 32-100 | **Horizon** : Ck | **Layer No** : 3 | **Very Fine Sand(%)** : 2 | **Total Sand(%)** : 92 | **Total Silt(%)** : 7 | **Total Clay(%)** : 1 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.5 | **Saturated Hydraulic Conductivity(cm/h)** : 7.817 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401071929

Component No : 1 | **Components(%)** : 100 | **Soil Name ID** : ONLTM~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 7.0 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Presence of adverse Topography | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-19 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 17 | **Total Silt(%)** : 56 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 6.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.354 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 19-34 | **Horizon** : Bm | **Layer No** : 2 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 22 | **Total Silt(%)** : 57 | **Total Clay(%)** : 21 | **Organic Carbon(%)** : 0.9 | **pH in Calc Chloride** : 5.5 | **Saturated Hydraulic Conductivity(cm/h)** : 0.341 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 34-69 | **Horizon** : C | **Layer No** : 3 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 17 | **Total Silt(%)** : 64 | **Total Clay(%)** : 19 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 4.9 | **Saturated Hydraulic Conductivity(cm/h)** : 0.177 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 69-100 | **Horizon** : R | **Layer No** : 4 | **Very Fine Sand(%)** : -9 | **Total Sand(%)** : -9 | **Total Silt(%)** : -9 | **Total Clay(%)** : -9 | **Organic Carbon(%)** : None | **pH in Calc Chloride** : None | **Saturated Hydraulic Conductivity(cm/h)** : None | **Electrical Conductivity(dS/m)** : None |

Soil ID: OND401071928

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONZUN~~~~~N | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Poorly | **Hydrological Soil Groups** : Soils with slow infiltration rates when thoroughly wetted and these soils typically are silty-loam soils with an impeding layer or soils with moderately fine to fine texture. | **Soil Texture of A Horizon** : clay loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Soil Name** : UNCLASSIFIED | **Water Table Characteristics** : Unspecified period | **Soil Drainage Class** : Not applicable | **Kind of Surface Material** : Unclassified | **Layer that Restricts Root Growth** : No root restricting layer | **Type of Root Restricting Layer** : n/a | **Parent Material 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Mode of Deposition 1|2|3** : Not Applicable; Not Applicable; Not Applicable | **Parent Material Chemical Property 1|2|3** : Not Applicable; Not Applicable; Not Applicable |



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Soil ID: OND401071928

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONELS~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderate limitations on use for crops | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : Presence of consolidated bedrock within one metre of the soil surface | **Depth(cm)** : 0-12 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 11 | **Total Silt(%)** : 60 | **Total Clay(%)** : 29 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 5.3 | **Saturated Hydraulic Conductivity(cm/h)** : 0.327 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 12-20 | **Horizon** : Ahe | **Layer No** : 2 | **Very Fine Sand(%)** : 2 | **Total Sand(%)** : 9 | **Total Silt(%)** : 62 | **Total Clay(%)** : 29 | **Organic Carbon(%)** : 2.3 | **pH in Calc Chloride** : 4.7 | **Saturated Hydraulic Conductivity(cm/h)** : 0.425 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 20-40 | **Horizon** : Bm | **Layer No** : 3 | **Very Fine Sand(%)** : 2 | **Total Sand(%)** : 13 | **Total Silt(%)** : 68 | **Total Clay(%)** : 19 | **Organic Carbon(%)** : 1.0 | **pH in Calc Chloride** : 4.4 | **Saturated Hydraulic Conductivity(cm/h)** : 0.286 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 40-100 | **Horizon** : C | **Layer No** : 4 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 10 | **Total Silt(%)** : 64 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.1 | **pH in Calc Chloride** : 4.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.264 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401072092

Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONGVI~~~~~A | **Surface Stoniness Class** : Moderately stony | **Slop Steepness(%)** : 7.0 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Presence of adverse Topography | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-19 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 18 | **Total Sand(%)** : 59 | **Total Silt(%)** : 30 | **Total Clay(%)** : 11 | **Organic Carbon(%)** : 2.3 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 2.565 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 19-35 | **Horizon** : Ap | **Layer No** : 2 | **Very Fine Sand(%)** : 18 | **Total Sand(%)** : 62 | **Total Silt(%)** : 33 | **Total Clay(%)** : 5 | **Organic Carbon(%)** : 1.5 | **pH in Calc Chloride** : 7.4 | **Saturated Hydraulic Conductivity(cm/h)** : 5.087 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 35-55 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 21 | **Total Sand(%)** : 63 | **Total Silt(%)** : 32 | **Total Clay(%)** : 5 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 7.4 | **Saturated Hydraulic Conductivity(cm/h)** : 4.441 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 55-77 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 19 | **Total Sand(%)** : 56 | **Total Silt(%)** : 26 | **Total Clay(%)** : 18 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.856 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 77-92 | **Horizon** : BC | **Layer No** : 5 | **Very Fine Sand(%)** : 20 | **Total Sand(%)** : 61 | **Total Silt(%)** : 28 | **Total Clay(%)** : 11 | **Organic Carbon(%)** : 0.3 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 1.805 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 92-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 22 | **Total Sand(%)** : 65 | **Total Silt(%)** : 30 | **Total Clay(%)** : 5 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.6 | **Saturated Hydraulic Conductivity(cm/h)** : 3.082 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401072092

Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONMTD~~~~~A | **Surface Stoniness Class** : Moderately stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Imperfectly | **Hydrological Soil Groups** : Soils with moderate infiltration rates when completely wetted. Soils are sandy loam soils with moderately fine to moderately coarse textures. | **Soil Texture of A Horizon** : medium - moderately fine loam | **Field Crops Capability** : moderate limitations on use for crops | **First CLI Limitation Subclass** : Presence of surface stones > 15 cm diameter. | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-22 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 35 | **Total Sand(%)** : 47 | **Total Silt(%)** : 39 | **Total Clay(%)** : 14 | **Organic Carbon(%)** : 2.1 | **pH in Calc Chloride** : 7.3 | **Saturated Hydraulic Conductivity(cm/h)** : 1.383 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 22-35 | **Horizon** : Bmgj | **Layer No** : 2 | **Very Fine Sand(%)** : 34 | **Total Sand(%)** : 49 | **Total Silt(%)** : 43 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 7.6 | **Saturated Hydraulic Conductivity(cm/h)** : 2.361 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 35-100 | **Horizon** : Ckgj | **Layer No** : 3 | **Very Fine Sand(%)** : 12 | **Total Sand(%)** : 48 | **Total Silt(%)** : 44 | **Total Clay(%)** : 8 | **Organic Carbon(%)** : 0.3 | **pH in Calc Chloride** : 7.7 | **Saturated Hydraulic Conductivity(cm/h)** : 1.46 | **Electrical Conductivity(dS/m)** : 0 |



Soils Report

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Soil ID: OND401072094

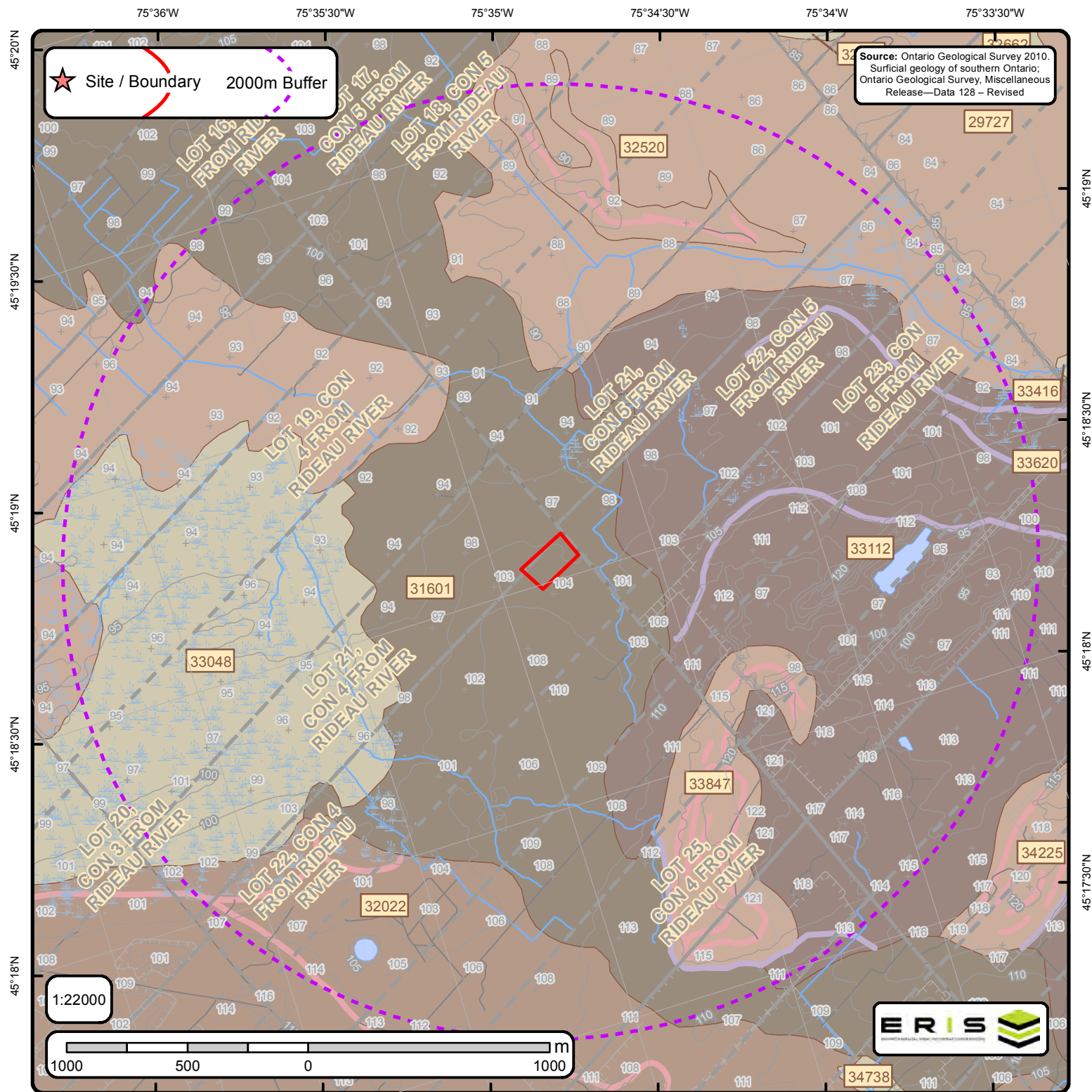
Component No : 1 | **Components(%)** : 70 | **Soil Name ID** : ONMLP~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils that have a low runoff potential and high infiltration rate, as the soils typically are sands and gravel. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : Severe limitations on use for crops. | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : Low inherent Moisture holding capacity | **Depth(cm)** : 0-20 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 1 | **Total Sand(%)** : 86 | **Total Silt(%)** : 9 | **Total Clay(%)** : 5 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 5.5 | **Saturated Hydraulic Conductivity(cm/h)** : 6.662 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 20-45 | **Horizon** : Bm | **Layer No** : 2 | **Very Fine Sand(%)** : 2 | **Total Sand(%)** : 88 | **Total Silt(%)** : 9 | **Total Clay(%)** : 3 | **Organic Carbon(%)** : 0.9 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 7.125 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 45-65 | **Horizon** : BC | **Layer No** : 3 | **Very Fine Sand(%)** : 3 | **Total Sand(%)** : 92 | **Total Silt(%)** : 6 | **Total Clay(%)** : 2 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 4.8 | **Saturated Hydraulic Conductivity(cm/h)** : 7.099 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 65-100 | **Horizon** : C | **Layer No** : 4 | **Very Fine Sand(%)** : 3 | **Total Sand(%)** : 91 | **Total Silt(%)** : 6 | **Total Clay(%)** : 3 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 6.102 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401072094

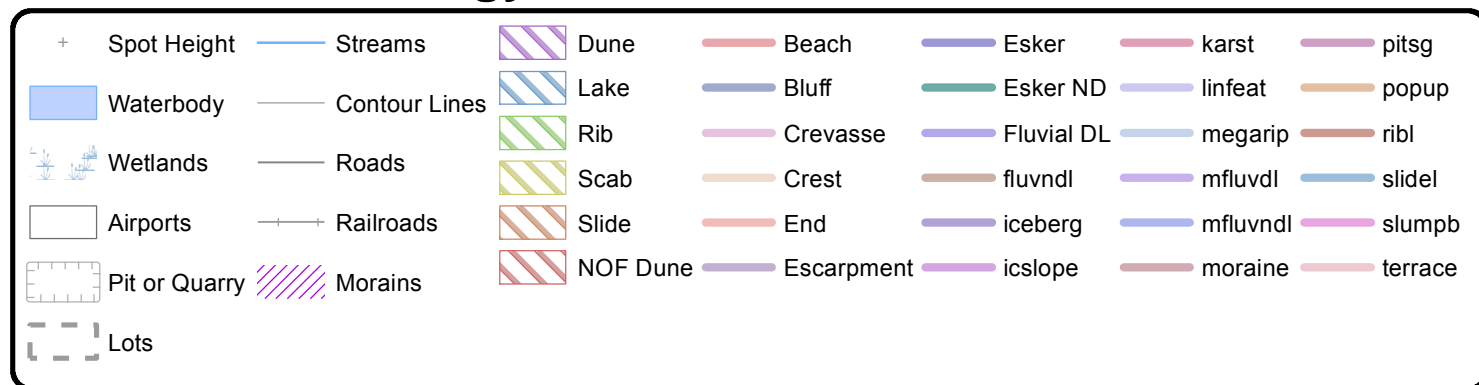
Component No : 2 | **Components(%)** : 30 | **Soil Name ID** : ONCLA~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 7.0 | **Slop Length(m)** : -9 | **Drainage** : Well | **Hydrological Soil Groups** : Soils that have a low runoff potential and high infiltration rate, as the soils typically are sands and gravel. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : Severe limitations on use for crops. | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : Low inherent Moisture holding capacity | **Depth(cm)** : 0-15 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 3 | **Total Sand(%)** : 91 | **Total Silt(%)** : 5 | **Total Clay(%)** : 4 | **Organic Carbon(%)** : 1.2 | **pH in Calc Chloride** : 7.0 | **Saturated Hydraulic Conductivity(cm/h)** : 6.934 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 15-25 | **Horizon** : Bm | **Layer No** : 2 | **Very Fine Sand(%)** : 2 | **Total Sand(%)** : 96 | **Total Silt(%)** : 2 | **Total Clay(%)** : 2 | **Organic Carbon(%)** : 1.0 | **pH in Calc Chloride** : 6.6 | **Saturated Hydraulic Conductivity(cm/h)** : 8.209 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 25-66 | **Horizon** : Bm | **Layer No** : 3 | **Very Fine Sand(%)** : 3 | **Total Sand(%)** : 95 | **Total Silt(%)** : 3 | **Total Clay(%)** : 2 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 6.2 | **Saturated Hydraulic Conductivity(cm/h)** : 8.325 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 66-82 | **Horizon** : BC | **Layer No** : 4 | **Very Fine Sand(%)** : 2 | **Total Sand(%)** : 97 | **Total Silt(%)** : 2 | **Total Clay(%)** : 1 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.8 | **Saturated Hydraulic Conductivity(cm/h)** : 8.134 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 82-100 | **Horizon** : C | **Layer No** : 5 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 96 | **Total Silt(%)** : 2 | **Total Clay(%)** : 2 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.8 | **Saturated Hydraulic Conductivity(cm/h)** : 6.96 | **Electrical Conductivity(dS/m)** : 0 |

Soil ID: OND401072099

Component No : 1 | **Components(%)** : 100 | **Soil Name ID** : ONVUD~~~~~N | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Poorly | **Hydrological Soil Groups** : Soils with slow infiltration rates when thoroughly wetted and these soils typically are silty-loam soils with an impeding layer or soils with moderately fine to fine texture. | **Soil Texture of A Horizon** : None | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Low inherent soil Fertility | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-18 | **Horizon** : Ah | **Layer No** : 1 | **Very Fine Sand(%)** : 46 | **Total Sand(%)** : 75 | **Total Silt(%)** : 16 | **Total Clay(%)** : 9 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 4.9 | **Saturated Hydraulic Conductivity(cm/h)** : 3.869 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 18-31 | **Horizon** : Bg | **Layer No** : 2 | **Very Fine Sand(%)** : 43 | **Total Sand(%)** : 82 | **Total Silt(%)** : 15 | **Total Clay(%)** : 3 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.6 | **Saturated Hydraulic Conductivity(cm/h)** : 6.065 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 31-63 | **Horizon** : Bg | **Layer No** : 3 | **Very Fine Sand(%)** : 53 | **Total Sand(%)** : 90 | **Total Silt(%)** : 8 | **Total Clay(%)** : 2 | **Organic Carbon(%)** : 0.1 | **pH in Calc Chloride** : 5.7 | **Saturated Hydraulic Conductivity(cm/h)** : 7.127 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 63-78 | **Horizon** : Bg | **Layer No** : 4 | **Very Fine Sand(%)** : 44 | **Total Sand(%)** : 86 | **Total Silt(%)** : 7 | **Total Clay(%)** : 7 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 6.3 | **Saturated Hydraulic Conductivity(cm/h)** : 3.942 | **Electrical Conductivity(dS/m)** : 0 | **Depth(cm)** : 78-100 | **Horizon** : Cg | **Layer No** : 5 | **Very Fine Sand(%)** : 39 | **Total Sand(%)** : 93 | **Total Silt(%)** : 4 | **Total Clay(%)** : 3 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 6.1 | **Saturated Hydraulic Conductivity(cm/h)** : 6.172 | **Electrical Conductivity(dS/m)** : 0 |



The Surficial Geology of Southern Ontario Order No. 20190205061





ID: 29727 | **Unit Name:** Nearshore sediments |
Deposit Type Code: 5b | **Deposit Age:** Quaternary (Champlain Sea) | **Map Number:** of3103 | **Map Name:** Ottawa | **Source Map Scale:** 1:50 000 | **Primary Material:** sand | **Primary Material Modifier:** | **Secondary Material:** | **Primary General:** glaciomarine | **Primary General Modifier:** foreshore/basinal | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** | **Carbon Content:** | **Formation:** | **Permeability:** High | **Material Description:** Fine-to medium-grained sand, calcareous and commonly fossiliferous; nearshore sand generally occurs as a sheet or as bars or spits associated with glaciofluvial materials.

ID: 31601 | **Unit Name:** Till |
Deposit Type Code: 1a | **Deposit Age:** Quaternary | **Map Number:** of3103 | **Map Name:** Ottawa | **Source Map Scale:** 1:50 000 | **Primary Material:** diamicton | **Primary Material Modifier:** sandy silt to silty sand | **Secondary Material:** | **Primary General:** glacial | **Primary General Modifier:** | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** N-NE | **Carbon Content:** | **Formation:** Undifferentiated silty-sandy till on Paleozoic terrain | **Permeability:** Low-Medium | **Material Description:** Sandy and silty compact diamicton, grey at depth but brown where oxidized; calcareous where derived from sedimentary rocks and not leached; consists dominantly of lodgment till. In areas that lie below marine limit (198 m a.s.l.) it is overlain by a disc

ID: 32022 | **Unit Name:** Glaciofluvial deposits |
Deposit Type Code: 2 | **Deposit Age:** Quaternary | **Map Number:** of3103 | **Map Name:** Ottawa | **Source Map Scale:** 1:50 000 | **Primary Material:** sand, gravel | **Primary Material Modifier:** | **Secondary Material:** diamicton | **Primary General:** glaciofluvial | **Primary General Modifier:** | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** | **Carbon Content:** | **Formation:** | **Permeability:** High | **Material Description:** Glaciofluvial deposits: Gravel and sand, poorly to well sorted and bedded, mainly coarse-to medium-grained with numerous cobbles, boulders and lenses of till

ID: 32520 | **Unit Name:** Nearshore sediments |
Deposit Type Code: 5a | **Deposit Age:** Quaternary (Champlain Sea) | **Map Number:** of3103 | **Map Name:** Ottawa | **Source Map Scale:** 1:50 000 | **Primary Material:** sand, gravel | **Primary Material Modifier:** bouldery | **Secondary Material:** | **Primary General:** glaciomarine | **Primary General Modifier:** littoral/foreshore | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** | **Carbon Content:** | **Formation:** | **Permeability:** High | **Material Description:** Gravel, sand and boulders; beaches commonly fossiliferous; nature of sediment controlled by underlying material (gravel, sand and boulders where developed from till and glaciofluvial deposits; slabs and shingles where developed from sedimentary bedrock).

ID: 33048 | **Unit Name:** Organic deposits |
Deposit Type Code: 7 | **Deposit Age:** Recent | **Map Number:** of3103 | **Map Name:** Ottawa | **Source Map Scale:** 1:50 000 | **Primary Material:** organic deposits | **Primary Material Modifier:** | **Secondary Material:** | **Primary General:** wetland | **Primary General Modifier:** | **Veneer:** | **Episode:** Hudson | **Sub Episode:** | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** | **Carbon Content:** | **Formation:** | **Permeability:** High | **Material Description:** Mainly muck and peat in bogs, fens, swamps and poorly drained areas.



Surface Geology Report

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ID: 33112 | **Unit Name:** Bedrock |
Deposit Type Code: Pa | **Deposit Age:** Paleozoic | **Map Number:** of3103 | **Map Name:** Ottawa | **Source Map Scale:** 1:50 000 |
Primary Material: Paleozoic Bedrock | **Primary Material Modifier:** | **Secondary Material:** | **Primary General:** | **Primary General Modifier:** | **Veneer:** clay, silt, sand, gravel, diamicton | **Episode:** | **Sub Episode:** | **Phase:** | **Stratus Modifier:** Surface |
Provenance: | **Carbon Content:** | **Formation:** | **Permeability:** Variable | **Material Description:** Limestone, dolomite, sandstone, and locally shale; relatively flat lying; mainly occurring as bare, tabular outcrops; includes areas thinly veneered by unconsolidated Quaternary sediments up to 1 m (3 ft) thick.

ID: 33847 | **Unit Name:** Nearshore sediments |
Deposit Type Code: 5a | **Deposit Age:** Quaternary (Champlain Sea) | **Map Number:** of3103 | **Map Name:** Ottawa | **Source Map Scale:** 1:50 000 | **Primary Material:** sand, gravel | **Primary Material Modifier:** bouldery | **Secondary Material:** | **Primary General:** glaciomarine | **Primary General Modifier:** littoral/foreshore | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** | **Carbon Content:** | **Formation:** | **Permeability:** High | **Material Description:** Gravel, sand and boulders; beaches commonly fossiliferous; nature of sediment controlled by underlying material (gravel, sand and boulders where developed from till and glaciofluvial deposits; slabs and shingles where developed from sedimentary bedrock).



ID - ID applied to the Unit

Unit Name - Name of deposit

Deposit Type Code - The geological unit number taken from the original map legend.

Deposit Age - to show the age when the sediments were deposited, e.g., Wisconsinan, postglacial or recent.

Map Number - Original map series number, eg., 'M2402' or 'P1973'. Each sgu_point feature is tagged to its original map.

Map Name - Usually NTS area where mapping was completed, e.g., 'Golden Lake'

Source Map Scale - The scale at which the original map was captured, e.g., '1:50 000'

Primary Material - This attribute provides the user with information regarding the most prevalent material present within a given area.

Primary Material Modifier - This attribute provides the user with a more refined description of the lithological classification of the primary material.

Secondary Material - This attribute provides the user with information regarding subordinate materials present within a given area.

Primary General - This attribute provides the user with an interpretation of the depositional environment within which the primary material was deposited.

Primary General Modifier - This attribute provides the user with a refined interpretation of the primary genetic modifier.

Veneer - This attribute provides the user with information regarding the type of material that forms a thin, discontinuous veneer over the primary material.

Sub Episode - A diachronic stratigraphic unit in a lower order than Episode and the proposed sequence-stratigraphic classification, consists in descending order of Michigan, Elgin and Ontario in the eastern and northern Great Lakes area in the Wisconsin Episode (Johnson et al. 1997; Karrow et al. 2000).

Sub Episode - A diachronic stratigraphic unit in a lower order than Episode and the proposed sequence-stratigraphic classification, consists in descending order of Michigan, Elgin and Ontario in the eastern and northern Great Lakes area in the Wisconsin Episode (Johnson et al. 1997; Karrow et al. 2000).

Phase - A diachronic stratigraphic unit in a lower order than Subepisode, and the proposed sequence-stratigraphic classification is listed in the following table in the eastern and northern Great Lakes area (Karrow et al. 2000)

Stratus Modifier - This attribute provides the user information regarding the stratigraphic position of the mapped unit (i.e., whether the unit occurs primarily on the surface or in the subsurface).

Provenance - This attribute provides the user with information regarding the provenance of a particular till unit (i.e. direction or lobe from which the till is derived).

Carbon Content - This attribute provides the user with information regarding the carbonate content of till.

Formation - This attribute provides the user with information regarding the formation to which a given primary material belongs (e.g., Tavistock Till, Port Stanley Till, Scarborough Formation). This attribute is seamless and allows the user to create a map based on formation.

Permeability - This attribute provides the user with basic information about permeability of the sediments in a ranking of high, medium and low.

Material Description - Material or sediment description, e.g., 'sand and silty fine sand', 'silty sand and gravel' and 'silty till with low stone content'.