# Phase One Environmental Site Assessment

2086 Meadowbrook Road
Burlington, Ontario

Prepared for:

1053052 Ontario Inc. o/a Fresco Investments
2258 Mountainside Drive, Unit 2
Burlington, ON, L7P 1B7

Attn: George Bouzianis
Helen Gaganiaras

March 19, 2018

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## 1.0 EXECUTIVE SUMMARY

Pinchin Ltd. (Pinchin) was retained by 1053052 Ontario Inc. o/a Fresco Investments (Client), to complete a Phase One Environmental Site Assessment (Phase One ESA) of the property located at 2086 Meadowbrook Road in Burlington, Ontario (Site or Phase One Property). The Phase One Property is presently developed with a two-storey, multi-tenant residential building (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 to satisfy the requirements of the City of Burlington (City) in relation to the future redevelopment of the Phase One Property. It is Pinchin's understanding that the Client intends to redevelop the Site from its current residential land use to a high-density residential land use. It is Pinchin's understanding that the proposed redevelopment does not constitute a change in land use that requires the filing of a Record of Site Condition for the Phase One Property with the Ontario Ministry of the Environment and Climate Change (MOECC). However, it is Pinchin's understanding that the City requires that the Phase One ESA submitted as part of the Site Plan Approval process be prepared in accordance with O. Reg. 153/04.

The scope of work for this Phase One ESA was consistent with O. Reg. 153/04 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, Property Underwriters' Reports, chain of title search results, 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 MOECC's Freedom of Information and water well records, and the Technical Standards and Safety Authority 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;

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

The Phase One Property consists of one legal lot situated at civic address 2086 Meadowbrook Road, Burlington, Ontario which is currently owned by 1053052 Ontario Inc. The Phase One Property is located on the northeast side of Meadowbrook Road, approximately 65 m northwest of the intersection of Meadowbrook Road and Bluefields Drive. 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, FIPs, etc. |
|---|---|---|---|---|
| Pre-1798 | Crown | Assumed agricultural | Agricultural or other use | None. |
| 1798-1810 | Joseph Brant | Assumed agricultural | Agricultural or other use | None. |
| 1810-1842 | Nicholas Karn | Assumed agricultural | Agricultural or other use | None. |
| 1842-1873 | Joshua Kerns | Assumed agricultural | Agricultural or other use | None. |
| 1873-1896 | Ernest Kerns | Assumed agricultural | Agricultural or other use | None. |
| 1896-1907 | Isaac Devitt | Assumed agricultural | Agricultural or other use | None. |
| 1907-1918 | John Fothergill Mitchell | Assumed agricultural | Agricultural or other use | None. |
| 1918-1925 | Joseph Henry Baker | Assumed agricultural | Agricultural or other use | None. |

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| Year | Name of Owner | Description of Property Use | Property Use | Other Observations from Aerial Photographs, FIPs, etc. |
|---|---|---|---|---|
| 1925-1945 | Charles Douglas Eaton | Assumed agricultural | Agricultural or other use | None. |
| 1945-1959 | Charles Douglas Eaton & Harold Eaton | Assumed agricultural | Agricultural or other use | None. |
| 1959-June 1963 | Surbiton Developments Limited | Assumed agricultural | Agricultural or other use | Based on a review of the 1961 aerial photograph, the Phase One Property consisted of agricultural land. |
| June 1963-July 1963 | Tammy Limited | Assumed agricultural or residential | Agricultural, residential, or other use | None. |
| July 1963-July 1966 | Mak-Ver Limited | Assumed agricultural or residential | Agricultural, residential, or other use | None. |
| July 1966 - August 1966 | Porto Bello Estates Limited | Assumed agricultural or residential | Agricultural, residential, or other use | None. |
| August 1966-1968 | Orchard Village Estates Limited | Assumed residential | Residential use | None. |
| 1968-1973 | John Royal Williams | Multi-tenant residential | Residential use | Based on a review of the 1969 aerial photograph, the Phase One Property was developed with a building similar in size and configuration to the present-day Site Building. |

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| Year | Name of Owner | Description of Property Use | Property Use | Other Observations from Aerial Photographs, FIPs, etc. |
|---|---|---|---|---|
| 1973-1977 | Glover Developments Limited | Multi-tenant residential | Residential use | Based on a review of the 1974 aerial photograph, the Phase One Property was developed with a building similar in size and configuration to the present-day Site Building. |
| 1977-1981 | Dorsey Construction Limited | Multi-tenant residential | Residential use | Based on a review of the 1978 and 1979 aerial photographs, the Phase One Property was developed with a building similar in size and configuration to the present-day Site Building. |
| 1981-1982 | Morgan Stewart | Multi-tenant residential | Residential use | None. |
| 1982-1986 | Emil Wentrot & Donna Wentrot | Multi-tenant residential | Residential use | None. |
| 1986-1990 | William Heck & Carolann Heck | Multi-tenant residential | Residential use | None. |
| 1990-2014 | Michendi Holdings Limited | Multi-tenant residential | Residential use | Based on a review of the 1992 aerial photograph and the 2004, 2005, 2006, 2009 and 2014 satellite images, the Phase One Property was developed with a building similar in size and configuration to the present-day Site Building. |

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| Year | Name of Owner | Description of Property Use | Property Use | Other Observations from Aerial Photographs, FIPs, etc. |
|---|---|---|---|---|
| 2014-Present | 1053052 Ontario Inc. | Multi-tenant residential | Residential use | Based on a review of the 2015 satellite image, the Phase One Property was developed with a building similar in size and configuration to the present-day Site Building. |

In summary, the Phase One Property was owned by various private individuals from as early as 1798 until 1959 when Surbiton Developments Limited acquired the Site. The usage of the property at this time is unknown, and it is assumed that it was used for agricultural purposes until approximately the late 1960s when the property was likely developed with the present-day Site Building for multi-tenant residential use. To the best of Pinchin's knowledge, the Phase One Property was undeveloped until the construction of the Site Building circa the late 1960s.

The review of information obtained from historical records, interviews and a Site reconnaissance completed by Pinchin for the Phase One ESA did not identify any PCAs at the Phase One Property. One PCA was identified within the Phase One Study Area outside of the Phase One Property. This PCA is not considered to represent an environmental concern for the Phase One Property due to the distance from the Phase One Property and the downgradient location of the PCA relative to the Phase One Property. Based on these findings, nothing was identified that is likely to have resulted in impacts to the soil and groundwater at the Phase One Property and would require the completion of a Phase Two ESA. As such, it is Pinchin's opinion that the Phase One Property is suitable for the intended future residential land use.

Based on these findings, nothing was identified that is likely to have resulted in impacts to the soil and groundwater at the Phase One Property and would require the completion of a Phase Two ESA. As such, it is Pinchin's opinion that the Phase One Property is suitable for the intended future intensified residential land use.

*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 a response from the Technical Standards and Safety Authority regarding Pinchin's search request. Once a response from this regulatory body is received, the information will be incorporated into a revised version of this report. Our conclusions and recommendations may be amended based on this information.*

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## 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 on APEC for the Phase One Property.

This Phase One ESA was conducted at the request of the Client to satisfy the requirements of the City of Burlington (City) in relation to the future redevelopment of the Phase One Property. It is Pinchin's understanding that the Client intends to redevelop the Site from its current residential land use to a high-density residential land use. It is Pinchin's understanding that the proposed redevelopment does not constitute a change in land use that requires the filing of a Record of Site Condition for the Phase One Property with the Ontario Ministry of the Environment and Climate Change (MOECC). However, it is Pinchin's understanding that the City requires that the Phase One ESA submitted as part of the Site Plan Approval process needs to be prepared in accordance with O. Reg. 153/04.

### 2.1 Phase One Property Information

The Phase One Property consists of one legal lot situated at civic address 2086 Meadowbrook Road, Burlington, Ontario which is currently owned by 1053052 Ontario Inc. The Phase One Property is located on the northeast side of Meadowbrook Road, approximately 65 m northwest of the intersection of Meadowbrook Road and Bluefields Drive, 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 Property is provided as Figure 2, and the Phase One Study Area for which this Phase One ESA applies to is outlined on Figure 3. 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.

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

| Detail | Source / Reference | Information |
|---|---|---|
| Legal Description | Legal Survey Drawing provided by the Client, Service Ontario Parcel Register | Lot 33, Registered Plan 1319, City of Burlington, Regional Municipality of Halton |
| Municipal Address | https://burlington.maps.arcgis.com, Client | 2086 Meadowbrook Road, Burlington, Ontario |
| Parcel Identification Number (PIN) | ServiceOntario Parcel Register | 07142-0041 (LT) |
| Current Owner | ServiceOntario Parcel Register | 1053052 Ontario Inc. |
| Owner Contact Information | Client | 1053052 Ontario Inc. o/a Fresco Investments<br>2258 Mountainside Drive, Unit 2<br>Burlington ON, L7P 1B7<br>fresco@cogeco.net |
| Current Occupant(s) | Client | Multi-tenant residential |
| Occupant Contact Information | Client | Multiple listings |
| Client | Authorization to Proceed Form for Pinchin Proposal | 1053052 Ontario Inc. o/a Fresco Investments |
| Client Contact Information | Authorization to Proceed Form for Pinchin Proposal | George Bouzianis and, Helen Gaganiaras<br>2258 Mountainside Drive, Unit 2<br>Burlington ON, L7P 1B7<br>fresco@cogeco.net |
| Site Area | https://burlington.maps.arcgis.com | 2,762 $m^2$ (0.68 acres) |
| Current Zoning | https://burlington.maps.arcgis.com | Residential – Medium Density |
| Centroid UTM Co-ordinates | Garmin eTrex LEGEND, NAD 83, Accuracy +- 3 m | 594897 Easting |
| | | 4800341 Northing |
| | | Zone 17T |

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## 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, Fire Insurance Plans (FIPs), Property Underwriters' Reports (PURs), Property Underwriters' Plans (PUPs), chain of title search results, historical environmental assessments relevant to the Phase One Property, available Site operating records, a regulatory data base search and MOECC 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 MOECC'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 from February 2018 to March 2018, which included the records review, Site reconnaissance, interviews and reporting. A Site reconnaissance was completed on February 13, 2018 by a Pinchin representative under the direct supervision of a Qualified Person (QP).

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During the Site reconnaissance, it should be noted that Pinchin only gained access to approximately 10 percent of residential units located within the Site Buildings to reduce the disturbance of the tenants. In addition, Pinchin did not access the crawl space and roof of the Site Building. 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 metres (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.

A review of the chain of title and city directory search results determined that the Phase One Property was owned by various private landowners between 1798 and 1959 when it was purchased by Surbiton Developments Limited. The Phase One Property was first listed in the city directories in 1967, at which time the Phase One Property was listed as being occupied for residential purposes.

To the best of Pinchin's knowledge, no building or structure had been constructed on the Phase One Property prior to the late 1960s, based on a review of a 1961 aerial photograph that showed the Phase One Property to be undeveloped, vacant land. Based on a comparison of the 1961 aerial photograph and the 1969 aerial photograph, as well a review of the city directories, the first developed use of the Phase One Property occurred sometime in the late 1960s.

The date of the first developed use of the Phase One Property was determined through a review of a chain of title search, 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.

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### *4.1.3 Fire Insurance Plans*

Pinchin completed a Phase I ESA in relation to the Site in 2017, at which time Pinchin contacted Opta Information Intelligence (Opta) to obtain FIPs related to the Phase One Property. A response was received from Opta dated June 13, 2017, 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 Chain of Title*

Pinchin retained land title search professionals through EcoLog Environmental Risk Information Service Ltd. (ERIS) to complete a chain of title search for the Phase One Property. The chain of title search was completed from the earliest record of land ownership for the Phase One Property (i.e., patent) to the present to determine if ownership information would infer any PCAs or potential APECs at the Phase One Property that should be evaluated.

A summary of information obtained from the chain of title search with respect to the Phase One Property is provided in the following table:

| Year(s) | Ownership Listing |
|---|---|
| Pre-1798 | Crown |
| 1798-1810 | Joseph Brant |
| 1810-1842 | Nicholas Karn |
| 1842-1873 | Joshua Kerns |
| 1873-1896 | Ernest Kerns |
| 1896-1907 | Isaac Devitt |
| 1907-1918 | John Fothergill Mitchell |
| 1918-1925 | Joseph Henry Baker |
| 1925-1945 | Charles Douglas Eaton |
| 1945-1959 | Charles Douglas Eaton & Harold Eaton |
| 1959-June 1963 | Surbiton Developments Limited |
| June 1963-July 1963 | Tammy Limited |
| July 1963- July 1966 | Mak-Ver Limited |

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| Year(s) | Ownership Listing |
|---|---|
| July 1966 - August 1966 | Porto Bello Estates Limited |
| August 1966-1968 | Orchard Village Estates Limited |
| 1968-1973 | John Royal Williams |
| 1973-1977 | Glover Developments Limited |
| 1977-1981 | Dorsey Construction Limited |
| 1981-1982 | Morgan Stewart |
| 1982-1986 | Emil Wentrot & Donna Wentrot |
| 1986-1990 | William Heck & Carolann Heck |
| 1990-2014 | Michendi Holdings Limited |
| 2014-Present | 1053052 Ontario Inc. |

Based on Pinchin's review of the above-noted title search, nothing was identified with respect to the previous ownership that could result in potential subsurface impacts at the Phase One Property.

The chain of title search results are provided in Appendix E. No chain of title search was conducted for the other properties located within the Phase One Study Area. A Plan of Survey illustrating the Phase One Property boundaries is provided in Appendix C.

#### *4.1.5 Environmental Reports*

Pinchin reviewed the document entitled *"Phase I Environmental Site Assessment, 2086 Meadowbrook Road, Burlington, Ontario"* prepared by Pinchin for Client and dated June 23, 2017 (2017 Pinchin Phase I ESA Report).

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

The 2017 Pinchin Phase I ESA was conducted in general accordance with the CSA document entitled "*Phase I Environmental Site Assessment*" (CSA Document Z768-01), dated November 2001 (reaffirmed 2006), including a review of readily available historical records and reasonably ascertainable regulatory information, a Site reconnaissance, interviews, an evaluation of information and reporting. Based on Pinchin's review of the 2017 Phase I ESA, the following salient information was noted:

- At the time of the Site reconnaissance, the Phase One Property was used as a multi-tenant residential building with ten units;

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- The Site Building was constructed circa late 1960s on previously undeveloped land. Heating was provided by natural gas since construction of the Site Building; and
- Based on the findings of the Phase I ESA completed by Pinchin, nothing was identified that could result in potential subsurface impacts in connection with the Site, as such, no further work (i.e., Phase II ESA) was recommended.

#### *4.1.5.1 Previous Environmental Report Summary*

Based on Pinchin's review of the above-referenced previous environmental reports, nothing was identified that is likely to result in potential subsurface impacts at the Phase One Property.

## 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 MOECC'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 MOECC. This database contains information on waste quantities, major and minor sites storing liquid or solid waste, and a waste storage inventory.

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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 MOECC database for information regarding Certificates of Approval (Cs-of-A). The MOECC 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 MOECC 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 MOECC 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 Cs-of-A for the Phase One Property and four Cs-of-A for other properties within the Phase One Study Area. All of these Cs-of-A were related to the discharge of air emissions, sewage works and municipal water works and no Cs-of-A were identified for discharge to groundwater, which is considered the primary pathway of concern for contaminant impacts on the Phase One Property. As such, Pinchin does not consider the activities related to Cs-of-A at the Phase One Property and at other properties within the Phase One Study Area to represent an environmental concern to the Phase One Property.

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

EcoLog ERIS completed a search of the MOECC 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 search of the ECA database identified no ECAs for the Phase One Property and two ECAs for other properties within the Phase One Study Area. Both of these ECAs were issued to Shell Canada, located at 1331 Brant Street, and were related to sewage works. No ECAs were identified for discharge to groundwater, which is considered the primary pathway of concern for contaminant impacts on the Phase One Property. As such, Pinchin does not consider the activities related to ECAs at the

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Phase One Property and other properties within the Phase One Study Area to represent an environmental concern to the Phase One Property.

The EcoLog ERIS search of the PTTW database identified no information regarding PTTWs for the Phase One Study Area.

The EcoLog ERIS search of the CPU database identified no information regarding 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 MOECC 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
- Five spill records were identified for other properties located within the Phase One Study Area.
    - Approximately 12-L of transformer oil was spilled to the ground as a result of a leaking transformer on December 10, 2007, at 1397 Charles Drive. This spill was located approximately 60 m northeast of the Site and was inferred to be situated hydraulically transgradient of the Site relative to the inferred groundwater flow direction. Based on the distance from the Site, as well as the inferred groundwater flow direction, it is Pinchin's opinion that this spill does not represent an APEC in relation to the Phase One Property; and

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- The remainder of the recorded spills were to the paved 407 Highway or were releases to air. 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 no information regarding the Phase One Property.

Four other properties located within the Phase One Study Area were listed within the database search results as waste generators. Of these waste generators, the following were identified as potential sources of impacts to the Phase One Property based on the types of hazardous wastes generated:

- Pioneer Cleaners, located at 2043 Mount Forest Drive, was registered with the MOECC as a generator (Generator #ON0254902) of halogenated solvents from 1986 to 1998. Based on a review of Pinchin's in-house waste generator database, approximately 2,556 kilograms (kg) of halogenated solvents were generated at this property from 1987 to 1994. This property is located approximately 165 m southwest of the Site and is situated hydraulically downgradient of the Phase One Property in relation to the inferred groundwater flow direction. Based on the distance from the Site, as well as the inferred groundwater flow direction, it is Pinchin's opinion that this historical dry cleaning operation does not represent an APEC in relation to the Phase One Property;
- Mount Royal IDA Pharmacy, located at 2047 Mount Forest Drive, was registered with the MOECC as a generator (Generator #ON1565719) of pathological wastes and pharmaceuticals from 2000 to 2007. Based on a review of Pinchin's in-house waste generator database, approximately 164 kg of pharmaceuticals and 361 kg of pathological wastes were generated by this tenant in 2006 and 2007. This property is located approximately 165 m southwest of the Site and is situated hydraulically downgradient of

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the Phase One Property in relation to the inferred groundwater flow direction. Based on the distance from the Site, as well as the inferred groundwater flow direction and types of wastes generated, it is Pinchin's opinion that the potential for the historical generation of hazardous wastes at this property to cause environmental concern to the Phase One Property is considered low;

- Mountain Gardens Public School, located at 2054 Mountainside Drive, was registered with the MOECC as a generator (Generator #ON0258200) of unspecified waste classes. Based on a review of Pinchin's in-house waste generator database, no wastes were generated by this registered generator. As such, it is Pinchin's opinion that the potential for the historical generation of hazardous wastes at this property to cause environmental concern to the Phase One Property is considered low; and
- The Balmoral Condominium, located at 2075 Amherst Heights Drive, was registered with the MOECC as a generator (Generator #ON8209988) of aliphatic solvents in 2009. This property is located approximately 215 m northwest of the Site and is situated hydraulically transgradient of the Phase One Property in relation to the inferred groundwater flow direction. Based on the distance from the Site, as well as the inferred groundwater flow direction and types of wastes generated, it is Pinchin's opinion that the potential for the historical generation of hazardous wastes at this property to cause environmental concern to the Phase One Property is considered low.

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.

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The EcoLog ERIS search of the chemical or fuel storage tank databases found no information regarding the Phase One Property or 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 database for filed RSCs.

The EcoLog ERIS search of the Environmental Registry and Record of Site Condition 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.

### *4.2.2 Ministry of the Environment and Climate Change Freedom of Information Search*

The MOECC 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 6, 2018, and a response was received from the MOECC on February 28, 2018. The MOECC response indicated that no records were available for the Phase One Property. A copy of the MOECC response is provided in Appendix G.

### *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*

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*Code*; *Ontario Regulation 213/01 – Fuel Oil*; *Ontario Regulation 217/01 – Liquid Fuels*) require that all fuel storage devices such as aboveground storage tanks (ASTs) and underground storage tanks (USTs) be registered with the TSSA.

Pinchin contacted the TSSA to determine whether any ASTs or USTs are, or were, registered for the Phase One Property, and to determine whether any records of regulatory non-compliance exist. 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 H of this report.

#### *4.2.4 City of Burlington and Halton Region Freedom of Information Search*

The City of Burlington and Halton Region were contacted to determine if records exist for environmental matters such as sewer emissions violations or other environmental violations associated with the Phase One Property. At the time of writing this report, no response had been received from the City of Burlington or from the Halton Region. 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 City of Burlington and the Halton Region are provided in Appendix H of this report.

#### *4.2.5 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 contacted Opta to obtain copies of PURs and PUPs related to the Phase One Property. Opta provided Pinchin with a copy of a PUR dated 1993 (see Appendix D).

Based on Pinchin's review of the PUR, the following was noted:

- The Site Building was constructed in the late 1960s and consisted of ten residential apartments.
- Heating was provided by natural gas-fired forced air units.

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The PURs and PUPs for the Phase One Property did not contain any pertinent information which Pinchin considers to represent an environmental concern to the Phase One Property.

#### *4.2.6 City Directories*

City directories for the years 1963 to 2013 were reviewed by Pinchin at the Central Public Library in Burlington, Ontario. It should be noted that no city directories were available for the City of Burlington subsequent to 2013. 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 |
|---|---|
| 1963 to 1967 | Not Listed |
| 1967 to 2013 | Maisonnettes (residential listings). |

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 commercial and residential land uses since approximately 1963. Based on Pinchin's review of the above-noted city directories, the following PCAs were identified within the Phase One Study Area outside of the Phase One Property:

- Various dry cleaning operations were listed at 2007 Mount Forest Drive from 1963 to 2013. This property is located approximately 165 m southwest of the Site and is situated hydraulically downgradient of the Phase One Property in relation to the inferred groundwater flow direction. Based on the distance from the Site, as well as the inferred groundwater flow direction, it is Pinchin's opinion that these historical dry cleaning operations are a PCA that does not represent an APEC in relation to the Phase One Property; and
- Historical RFOs and dry cleaners were listed within the city directories reviewed for the Phase One Study Area. However, based on the distance of these facilities to the Phase One Property, the inferred groundwater flow direction and the fact that the majority of these properties have been redeveloped, it is Pinchin's opinion that these historical facilities are do not represent APECs in relation to the Phase One Property.

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## 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 1961, 1969, 1974, 1978, 1979 and 1992 were obtained from the Mills Memorial Library at McMaster University in Hamilton, Ontario and reviewed by Pinchin. In addition, Pinchin reviewed Google Earth™ imagery dated 2004, 2005, 2006, 2009, 2014, and 2016. The 1961 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 |
|---|---|
| 1961 | Due to the resolution of the aerial photograph, fine details are difficult to discern. The Site appears to consist of agricultural land. |
| 1969 | Due to the resolution of the aerial photograph, fine details are difficult to discern. A building that is similar in size and configuration to the present-day Site Building is observed on the Phase One Property. |
| 1974 | Due to the resolution of the aerial photograph, fine details are difficult to discern. A building that is similar in size and configuration to the present-day Site Building is observed on the Phase One Property. |
| 1978 | A building that is similar in size and configuration to the present-day Site Building is observed on the Phase One Property. |

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| Year of Photograph | Phase One Property |
|---|---|
| 1979 | Due to the resolution of the aerial photograph, fine details are difficult to discern. A building that is similar in size and configuration to the present-day Site Building is observed on the Phase One Property. |
| 1992 | Same as above. |
| 2004 | A building that is similar in size and configuration to the present-day Site Building is observed on the Phase One Property. |
| 2005 | A building that is similar in size and configuration to the present-day Site Building is observed on the Phase One Property. |
| 2006 | A building that is similar in size and configuration to the present-day Site Building is observed on the Phase One Property. |
| 2009 | A building that is similar in size and configuration to the present-day Site Building is observed on the Phase One Property. |
| 2014 | A building that is similar in size and configuration to the present-day Site Building is observed on the Phase One Property. |
| 2016 | A building that is similar in size and configuration to the present-day Site Building is observed on the Phase One Property. |

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 |
|---|---|---|---|---|
| 1961 | Vacant undeveloped land. | Vacant undeveloped land, followed by residential dwellings. | Vacant undeveloped land, followed by an inferred commercial building at the northwest corner of roads similar in location and orientation to present-day Mount Forest Drive and Brant Street. | Vacant undeveloped land, followed by a road similar in location and orientation to present-day Brant Street. |

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| Year of Photograph | North | East | South | West |
|---|---|---|---|---|
| 1969 | Residential buildings along a road similar in location and orientation to present-day Charles Drive, followed by additional residential buildings. | Residential buildings along roads similar in location and orientation to present-day Meadowbrook Drive and Charles Drive. | A road similar in location and orientation to present-day Meadowbrook Road, followed by residential buildings. | Coverage not provided by the 1969 aerial photograph. |
| 1974, 1978, 1979, 1992 | Similar to 1969. | Similar to 1969. | Similar to 1969. | A road similar in location and orientation to present-day Meadowbrook Road, followed by residential dwellings, followed by vacant undeveloped land. |
| 2004, 2009, 2014, 2016 | Similar to 1992. | Similar to 1992. | Similar to 1992. | Similar to 1992; however, a highway similar in location and orientation to present-day Highway 407 was visible approximately 130 m west of the Site. |

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 1961 and 1969.

The aerial photograph review did not identify any PCAs within the Phase One Study Area or APECs on the Phase One Property. Copies of the aerial photographs of the Phase One Property and surrounding area are provided in Appendix I.

### *4.3.2 Topography, Hydrology and Geology*

The elevation of the Phase One Property, based on information obtained from the Ontario Base Map series, is approximately 128 m above mean sea level (mamsl). The general topography in the local and surrounding area is generally flat with a slight grade upwards in elevation to the north and northwest. No

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bedrock outcrops were observed on-Site or in the surrounding area. Based on data from the Ontario Geological Survey, the overburden thickness on-Site (i.e., depth to bedrock) is approximately 10 m.

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 drumlinized till plains as the dominant landform with the primary native material consisting of till. Bedrock is expected to consist of shale, limestone, dolostone, and siltstone of the Queenston Formation at an elevation of 118 mamsl. A review of the available surficial geology data indicates that the Phase One Property and the surrounding properties located within Phase One Study Area are underlain by Halton Till, consisting of silty clay to clayey silt tills.

The Phase One Property is relatively flat with little relief. The area surrounding the Phase One Property slopes gradually to the southeast towards Lake Ontario. Based on general hydrogeological principles and Pinchin's familiarity with subsurface conditions at and 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 southeasterly direction. An unnamed tributary of Hager Creek is located approximately 175 m southwest of the Phase One Property. This unnamed creek flows southeast and discharges into Hager Creek. Hager Creek flows south and southeast to discharge into Lake Ontario. Lake Ontario is the nearest major body of water, and is located approximately 3.9 kilometres (km) southeast of the Phase One Property, at an elevation of approximately 77 mamsl.

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

#### *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 late 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.

#### *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:

- An unnamed tributary of Hager Creek is located approximately 175 m southwest of the Phase One Property. This unnamed creek flows southeast and discharges into Hager Creek. Hager Creek flows south and southeast to discharge into Lake Ontario. Lake Ontario is the nearest major body of water, and is located approximately 3.9 km southeast of the Phase One Property, at an elevation of approximately 77 mamsl.

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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 did not identify water well records for the Phase One Property or for the Phase One Study Area. The Water Well Information System database search results are provided in the EcoLog ERIS report in Appendix K.

### 4.4 Site Operating Records

There are no current land uses or records of historical 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. George Bouzianis | Current owner of Phase One Property | February 13, 2018<br>(Phase One Property) | In-person interview during Site reconnaissance. |

Mr. Bouzianis was chosen to be interviewed given that he has owned the Phase One Property since 2014 and is familiar with the recent operational history of the Phase One Property. Mr. Bouzianis is referred to herein as the “Site Representative”, and accompanied the Pinchin representative (Ms. Maria Strybos) during the Site reconnaissance.

Pinchin compared the information obtained from the interviews with information obtained from the historical records. The information provided by the interviewees was corroborated by the available historical records. As such, Pinchin has no concerns regarding the validity of the information provided by the individuals 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.

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# 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 13, 2018, by a Pinchin representative (i.e., Ms. Maria Strybos), under the direct supervision of Pinchin's QP overseeing this project. Ms. Strybos is an Environmental Technologist with 5 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 2:00 PM and 3:30 PM. During the Site reconnaissance, the weather was clear and sunny, and the ambient temperature was approximately -2° Celsius with a slight breeze from the west. Pinchin notes that the majority of the Phase One Property was snow-covered at the time of the Site reconnaissance, limited exterior observations. The Phase One Property reconnaissance was conducted on foot and consisted of a full walk-through of the property. It should be noted that Pinchin only gained access to approximately 20 percent of residential units located within the Site Buildings to reduce the disturbance of the tenants. There were no access restrictions for Pinchin for the Phase One Property with the exception of the crawl space and rooftop of the Site Building which could not be accessed at the time of the Site reconnaissance. At the time of the Site reconnaissance, the Phase One Property was occupied by ten multi-tenant residential units. All ten residential units were occupied at the time of the Site reconnaissance.

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. With reference to Appendix B, the following table provides a summary of photographs that illustrate PCAs and APECs identified at the Phase One Property during the Site reconnaissance:

| Photograph No. | Orientation | Description |
|---|---|---|
| 1 | Looking southwest | Northwest elevation of the Site Building. |
| 2 | Looking south | Northeast elevation of the Site Building. |
| 3 | Looking north | Southeast elevation of the Site Building. |

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| Photograph No. | Orientation | Description |
|---|---|---|
| 4 | Looking east | Southwest elevation of the Site Building. |
| 5 | Looking south | View of Unit 1, located in the southeast portion of the Site Building. |
| 6 | Looking southeast | View of the common hallway in the centre portion of the Site Building. |

With reference to Appendix B, the following table provides a summary of photographs that illustrate the immediately surrounding properties within the Phase One Study Area during the Site reconnaissance:

| Photograph No. | Orientation | Description |
|---|---|---|
| 7 | Looking northwest | Surrounding properties to the northwest. |
| 8 | Looking northeast | Surrounding properties to the northeast. |
| 9 | Looking southeast | Surrounding properties to the southeast. |
| 10 | Looking southwest | Surrounding properties to the southwest. |

## 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 two-story structure constructed circa the late 1960s. The building consists of a concrete block frame, with a shingled roof and brick veneer. The building was divided into ten separate residential units, each consisting of two stories. Access to the ten residential units was provided via a common hallway. A common laundry room with crawl space access was observed in the centre southwest portion of the Site Building.

The portion of the Phase One Property outside of the Site Building comprised primarily of a paved parking lot and landscaped areas.

### *6.2.2 Description of Below-Ground Structures*

During the Site reconnaissance, Pinchin did not observe any current below-ground structures on the Phase One Property, with the exception of a crawl space below the Site Building. The crawl space consisted of a poured concrete structure, and some utilities entered the Site Building at the southwest and southeast elevations (i.e., telephone, sanitary sewer, water and electricity).

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### *6.2.3 Description of Tanks*

During the Site reconnaissance, Pinchin did not observe any tanks on the Phase One Property for the purpose of either fuel dispensing or storage, or other unidentified substance storage.

### *6.2.4 Potable and Non-Potable Water Sources*

During the Site reconnaissance, Pinchin did not observe potable or non-potable water sources on the Phase One Property. The Phase One Property is reportedly serviced by a municipal water supply via underground piping running northeast from Meadowbrook Road into the crawl space of the Site Building.

### *6.2.5 Description and Location of Underground Utilities*

A number of underground utilities were reportedly located on the Phase One Property, including natural gas, telephone and electrical lines, and municipal water, storm and sanitary sewer lines. According to the Site Representative, the natural gas, telephone, electrical, water and sewer services enter the Site Building via underground lines running from Meadowbrook into the crawl space on the southeast and southwest elevations of the Site Building. The exact entry points of these utilities could not be confirmed at the time of the Site reconnaissance.

### *6.2.6 Entry and Exit Points*

Two man-door entry/exit points for residents of the Site Building are located at the centre portion of the northwest and southeast ground floor elevations of the Site Building. The southeast entry/exit point is located adjacent to the parking area. Each residential unit was observed to contain an individual entry/exit point to their respective outdoor yards.

### *6.2.7 Details of Heating System*

During the Site reconnaissance, Pinchin observed natural gas-fired forced air heating units within each residential unit. According to the Site Representative, the Site Building had always been heated by natural gas.

### *6.2.8 Details of Cooling System*

No cooling for the Site Building was observed at the time of the Site reconnaissance. The Site Representative indicated that window-mounted air conditioning units are installed by the tenants in the summer months.

### *6.2.9 Details of Drains, Pits and Sumps*

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

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### *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. 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. No water supply or groundwater monitoring wells were reported by the Site owner to have been on-Site, prior to, or during their occupancy.

### *6.2.13 Details of Sewage Works*

During the Site reconnaissance, Pinchin did not observe any sewage works or evidence of sewage disposal on the Phase One Property. According to the Site Representative, the main sanitary sewer pipe exits through the southeast elevation of the Site Building and connects underneath the parking lot to the municipal sewer under Meadowbrook Road.

### *6.2.14 Details of Ground Cover*

During the Site reconnaissance, Pinchin visually inspected the Phase One Property ground cover. Pinchin notes that the majority of the Phase One Property was snow-covered at the time of the Site reconnaissance, limited exterior observations. Seasonally dormant vegetated areas were observed northwest, northeast and southwest of the Site Building to the perimeters of the Phase One Property. The remainder of the Phase One Property exterior consists of an asphalt-paved driveway, access routes and parking 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. Pinchin notes that the majority of the Phase One Property was snow-covered at the time of the Site reconnaissance, limited exterior observations.

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*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. Pinchin notes that the majority of the Phase One Property was snow-covered at the time of the Site reconnaissance, limited 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.

*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.

*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 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.

*6.3.1 Phase One Property*

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

- Review of available historical records, including chain of title search, previous environmental reports, EcoLog ERIS regulatory search, information obtained through MOECC FOI and TSSA requests, PURs, city directories, aerial photographs, and Site operating records,
- A Site reconnaissance completed on February 13, 2018, by Ms. Maria Strybos of Pinchin that included an assessment of structures at the Phase One Property and the exterior of the Phase One Property;

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- 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 did not identify any PCAs.

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

### *6.3.2 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 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.

The following PCA was identified within the Phase One Study Area outside of the Phase One Property:

- PCA 37 – Operation of Dry Cleaning Equipment (where chemicals are used) (historical dry cleaning operations were listed in the reviewed city directories at 2043 Mount Forest Drive, located 165 m southwest of the Phase One Property and hydraulically downgradient).

This PCA is not consider to represent an APEC at the Phase One Property given the distance from the PCA to the Phase One Property and the downgradient location of the PCA relative to the Phase One Property.

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 for which this Phase One ESA applies to is provided as Figure 4.

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## 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, FIPs, etc. |
|---|---|---|---|---|
| Pre-1798 | Crown | Assumed agricultural | Agricultural or other use | None. |
| 1798-1810 | Joseph Brant | Assumed agricultural | Agricultural or other use | None. |
| 1810-1842 | Nicholas Karn | Assumed agricultural | Agricultural or other use | None. |
| 1842-1873 | Joshua Kerns | Assumed agricultural | Agricultural or other use | None. |
| 1873-1896 | Ernest Kerns | Assumed agricultural | Agricultural or other use | None. |
| 1896-1907 | Isaac Devitt | Assumed agricultural | Agricultural or other use | None. |
| 1907-1918 | John Fothergill Mitchell | Assumed agricultural | Agricultural or other use | None. |
| 1918-1925 | Joseph Henry Baker | Assumed agricultural | Agricultural or other use | None. |
| 1925-1945 | Charles Douglas Eaton | Assumed agricultural | Agricultural or other use | None. |
| 1945-1959 | Charles Douglas Eaton & Harold Eaton | Assumed agricultural | Agricultural or other use | None. |
| 1959-June 1963 | Surbiton Developments Limited | Assumed agricultural | Agricultural or other use | Based on a review of the 1961 aerial photograph, the Phase One Property consisted of agricultural land. |

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| Year | Name of Owner | Description of Property Use | Property Use | Other Observations from Aerial Photographs, FIPs, etc. |
|---|---|---|---|---|
| June 1963-July 1963 | Tammy Limited | Assumed agricultural or residential | Agricultural, residential, or other use | None. |
| July 1963-July 1966 | Mak-Ver Limited | Assumed agricultural or residential | Agricultural, residential, or other use | None. |
| July 1966 - August 1966 | Porto Bello Estates Limited | Assumed agricultural or residential | Agricultural, residential, or other use | None. |
| August 1966-1968 | Orchard Village Estates Limited | Assumed residential | Residential use | None. |
| 1968-1973 | John Royal Williams | Multi-tenant residential | Residential use | Based on a review of the 1969 aerial photograph, the Phase One Property was developed with a building similar in size and configuration to the present-day Site Building. |
| 1973-1977 | Glover Developments Limited | Multi-tenant residential | Residential use | Based on a review of the 1974 aerial photograph, the Phase One Property was developed with a building similar in size and configuration to the present-day Site Building. |

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| Year | Name of Owner | Description of Property Use | Property Use | Other Observations from Aerial Photographs, FIPs, etc. |
|---|---|---|---|---|
| 1977-1981 | Dorsey Construction Limited | Multi-tenant residential | Residential use | Based on a review of the 1978 and 1979 aerial photographs, the Phase One Property was developed with a building similar in size and configuration to the present-day Site Building. |
| 1981-1982 | Morgan Stewart | Multi-tenant residential | Residential use | None. |
| 1982-1986 | Emil Wentrot & Donna Wentrot | Multi-tenant residential | Residential use | None. |
| 1986-1990 | William Heck & Carolann Heck | Multi-tenant residential | Residential use | None. |
| 1990-2014 | Michendi Holdings Limited | Multi-tenant residential | Residential use | Based on a review of the 1992 aerial photograph and the 2004, 2005, 2006, 2009 and 2014 satellite images, the Phase One Property was developed with a building similar in size and configuration to the present-day Site Building. |
| 2014-Present | 1053052 Ontario Inc. | Multi-tenant residential | Residential use | Based on a review of the 2015 satellite image, the Phase One Property was developed with a building similar in size and configuration to the present-day Site Building. |

A review of the chain of title and city directory search results determined that the Phase One Property was owned by various private landowners between 1798 and 1959 when it was purchased by

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Surbiton Developments Limited. The Phase One Property was first listed in the city directories in 1967, at which time the Phase One Property was listed as being occupied for residential purposes.

To the best of Pinchin's knowledge, no building or structure had been constructed on the Phase One Property prior to the late 1960s, based on a review of a 1961 aerial photograph that showed the Phase One Property to be undeveloped, vacant land. Based on a comparison of the 1961 aerial photograph and the 1969 aerial photograph, as well a review of the city directories, the first developed use of the Phase One Property occurred sometime in the late 1960s.

The date of the first developed use of the Phase One Property was determined through a review of a chain of title search, 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.

### 7.2 Potentially Contaminating Activities

Pinchin's investigation of the Phase One Property did not identify any PCAs. One PCA was identified within the Phase One Study Area outside of the Phase One Property. This PCA is not considered to represent an environmental concern for the Phase One Property due to the distance from the Phase One Property and the downgradient location of the PCA relative to the Phase One Property.

### 7.3 Areas of Potential Environmental Concern

No APECs were identified for 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 Figure 3, 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.

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

- The Phase One Property is a rectangular-shaped parcel of land approximately 0.27 hectares (0.68 acres) in area located on the northeast side of Meadowbrook Road, approximately 65 m northwest of the intersection of Meadowbrook Road and Bluefields Drive in the City of Burlington. The Phase One Property is improved with a two-storey multi-tenant residential building (Site Building) that occupies the centre portion of the Phase One Property. The Phase One Property has been used for multi-tenant residential purposes since initial development circa the late 1960s. There is no record of industrial use or of a commercial use (e.g., garage, bulk liquid dispensing facility or dry cleaner) that would require classifying the Phase One Property as an enhanced investigation property.
- Meadowbrook Road is located adjacent to the southwest of the Phase One Property. The adjacent properties to the northwest, northeast, and southeast are occupied by multi-tenant residential buildings and residential dwellings.
- The Phase One Property and the surrounding properties within the Phase One Study Area are located within drumlinized till plains as the dominant landform with the primary native material consisting of silt till. Bedrock is expected to consist of shale, limestone, dolostone and siltstone of the Queenston Formation at a depth of approximately 10 mbgs.
- The Phase One Property is relatively flat with little relief. The area surrounding the Phase One Property slopes gradually to the southeast towards Lake Ontario. An unnamed tributary of Hager Creek is located approximately 175 m southwest of the Phase One Property. This unnamed creek flows southeast and discharges into Hager Creek. Hager Creek flows south and southeast to discharge into Lake Ontario. Lake Ontario is the nearest major body of water, and is located approximately 3.9 km southeast of the Phase One Property, at an elevation of approximately 77 mamsl. Local groundwater flow is inferred to be to the southeast, based on the topography of the area surrounding the Phase One Property and the location of Lake Ontario. Regional groundwater flow is inferred to be to the southeast towards Lake Ontario.
- No areas of natural significance were identified at the Phase One Property or within the Phase One Study Area. The Phase One Property is not considered to be a sensitive property.
- No drinking water wells were located on the Phase One Property.
- Underground utilities at the Phase One Property provide potable water, natural gas, electrical, communication and sewer services to the Site Building. According to

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the Site Representative, the natural gas, telephone, electrical, water and sewer services enter the Site Building via underground lines running from Meadowbrook into the crawl space on the southeast and southwest elevations of the Site Building. The exact entry points of these utilities could not be confirmed at the time of the Site reconnaissance.

- No PCAs were identified at the Phase One Property and two PCAs were identified within the Phase One study, outside of the Phase One Property. As shown on Figure 3, the off-Site PCA is located at a downgradient property and is at least 50 m from the Phase One Property. As such, this off-Site PCA is not considered to result in an APEC at the Phase One Property.

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 in accordance with O. Reg. 153/04.

The review of information obtained from historical records, interviews and a Site reconnaissance completed by Pinchin for the Phase One ESA did not identify any PCAs at the Phase One Property. One PCA was identified within the Phase One Study Area outside of the Phase One Property. This PCA is not considered to represent an environmental concern for the Phase One Property due to the distance from the Phase One Property and the downgradient location of the PCA relative to the Phase One Property. Based on these findings, nothing was identified that is likely to have resulted in impacts to the soil and groundwater at the Phase One Property and would require the completion of a Phase Two ESA. As such, it is Pinchin's opinion that the Phase One Property is suitable for the intended future residential land use.

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 Francesco Gagliardi, C.E.T., LET, $QP_{ESA}$ in accordance with the requirements of O. Reg. 153/04. The conclusions and recommendations provided in this report represent the best judgement of the assessor based on the Site conditions observed on February 13, 2018, and a review of available historical information and information obtained from interviews.

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This report has been issued without having received a response to a request for information from the TSSA. Pinchin reserves the right to amend our conclusions and recommendations based on information obtained from this regulatory agency.

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 2086 Meadowbrook Road in Burlington, 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 1053052 Ontario Inc. o/a Fresco Investments (Client) subject to the terms, conditions and limitations contained within the duly authorized proposal 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.

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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:

- Pinchin Ltd. Phase II Environmental Site Assessment, 2086 Meadowbrook Road, Burlington, Ontario. June 23, 2017.
- 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.
- 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 312/17 on July 28, 2017.



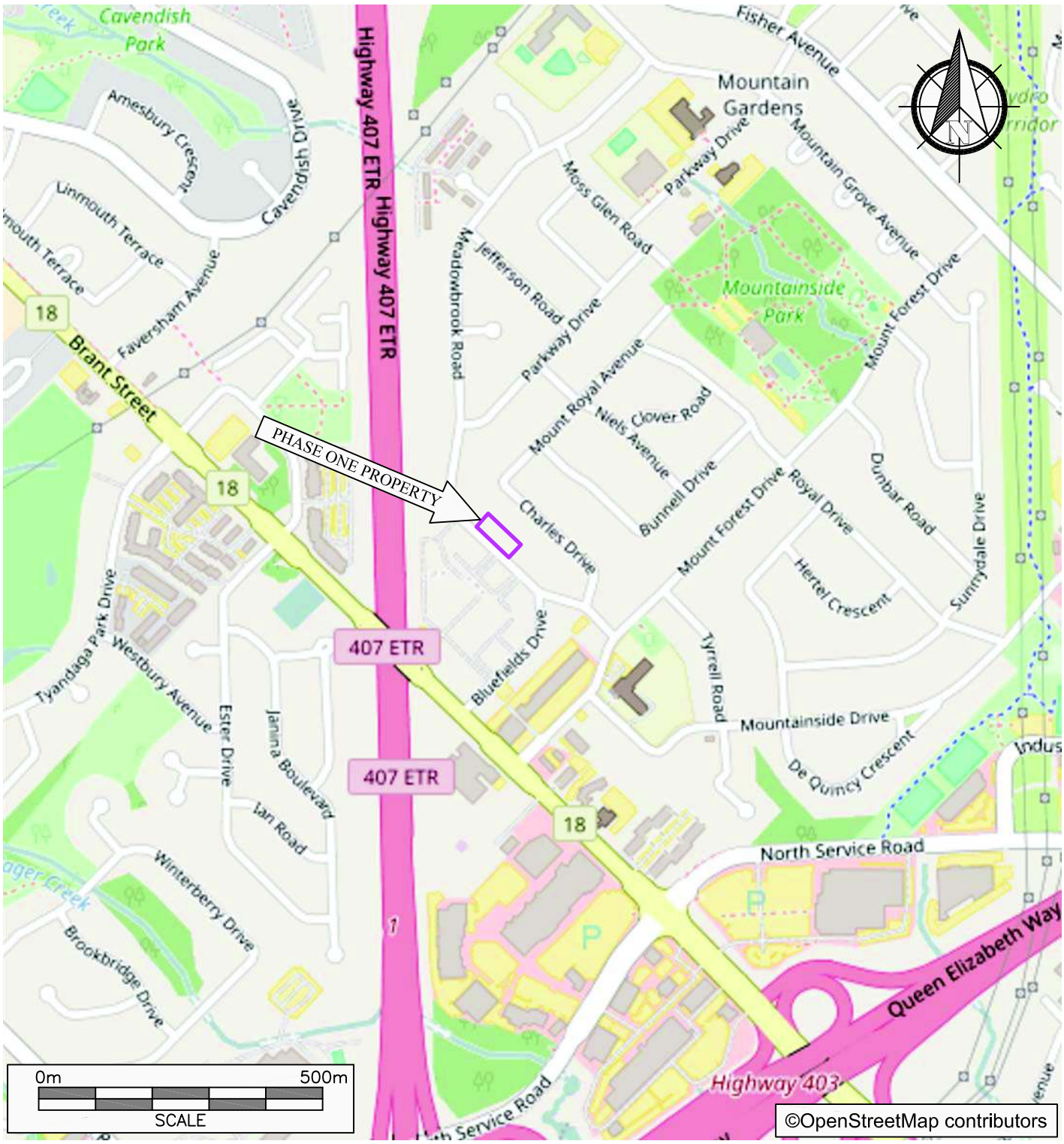
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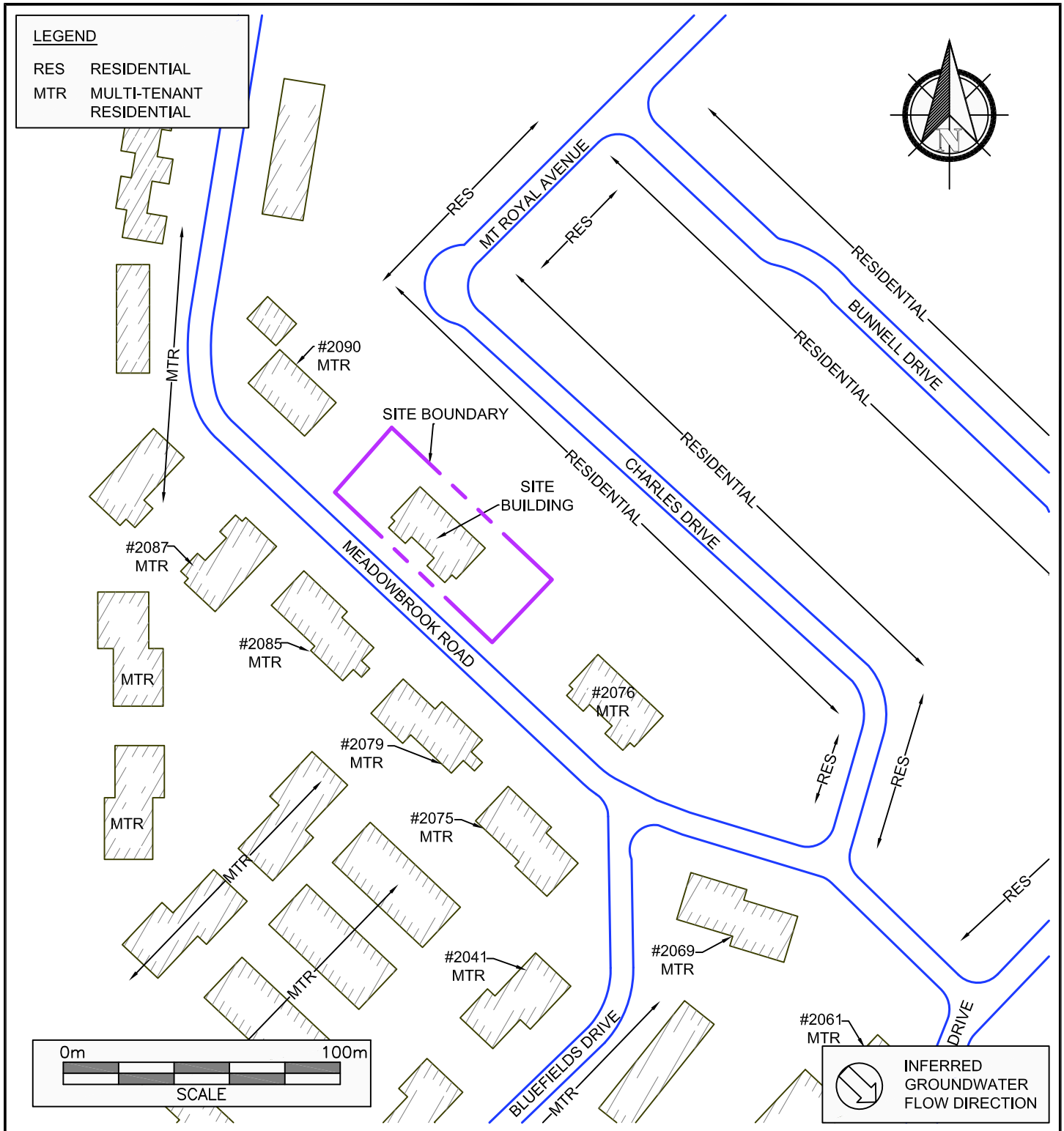
# 10.0 APPENDICES

# APPENDIX A
## Figures



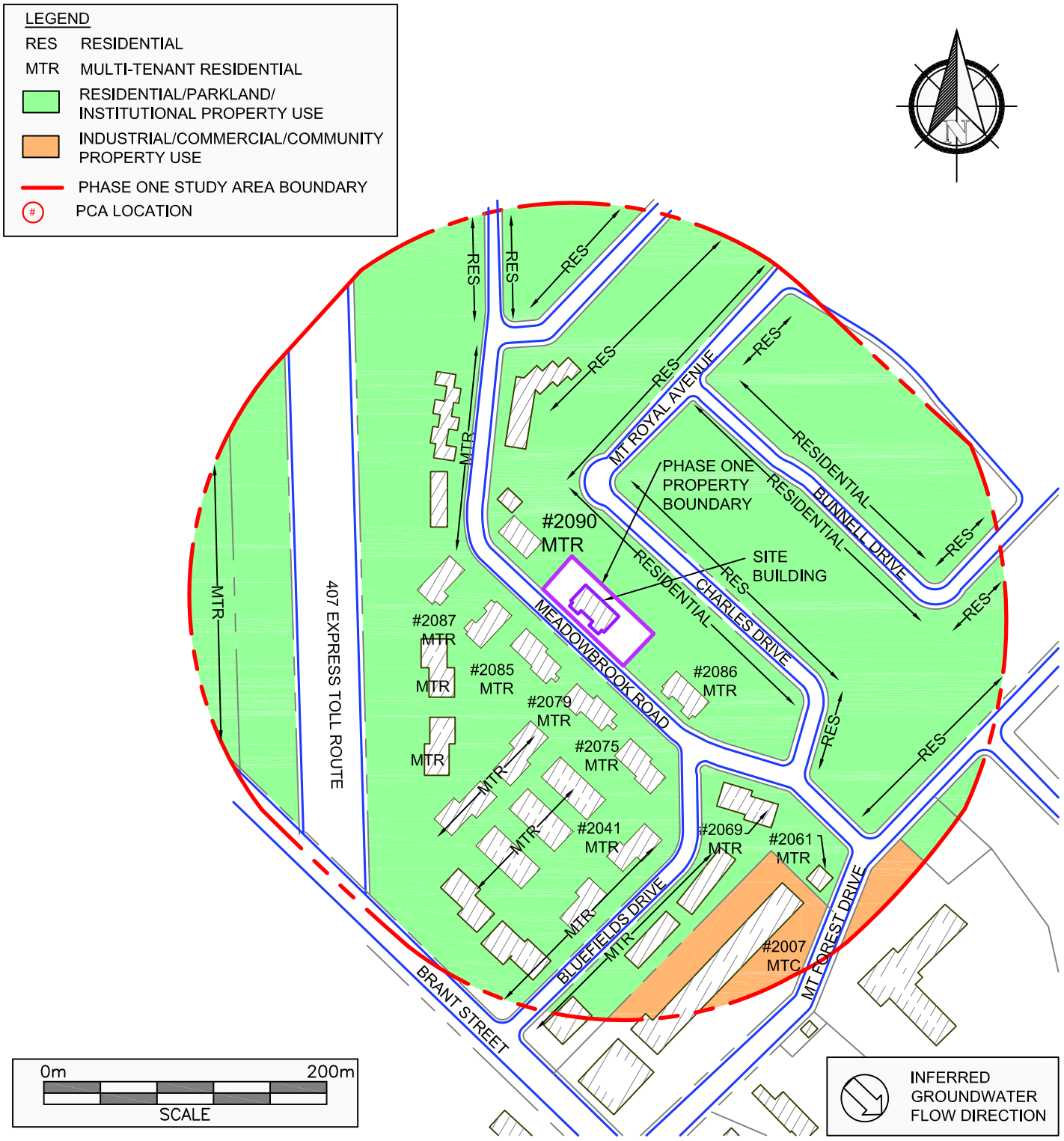

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| | | |
|---|---|---|
| PROJECT NAME: PHASE ONE ENVIRONMENTAL SITE ASSESSMENT | | |
| CLIENT NAME: 1906452 ONTARIO INC. O/A FRESCO INVESTMENTS | | |
| PROJECT LOCATION: 2086 MEADOWBROOK ROAD, BURLINGTON, ONTARIO | | |
| FIGURE NAME: KEY MAP | | FIGURE NO.: 1 |
| SCALE: AS SHOWN | PROJECT NO.: 206972.001 | DATE: MARCH 2018 |



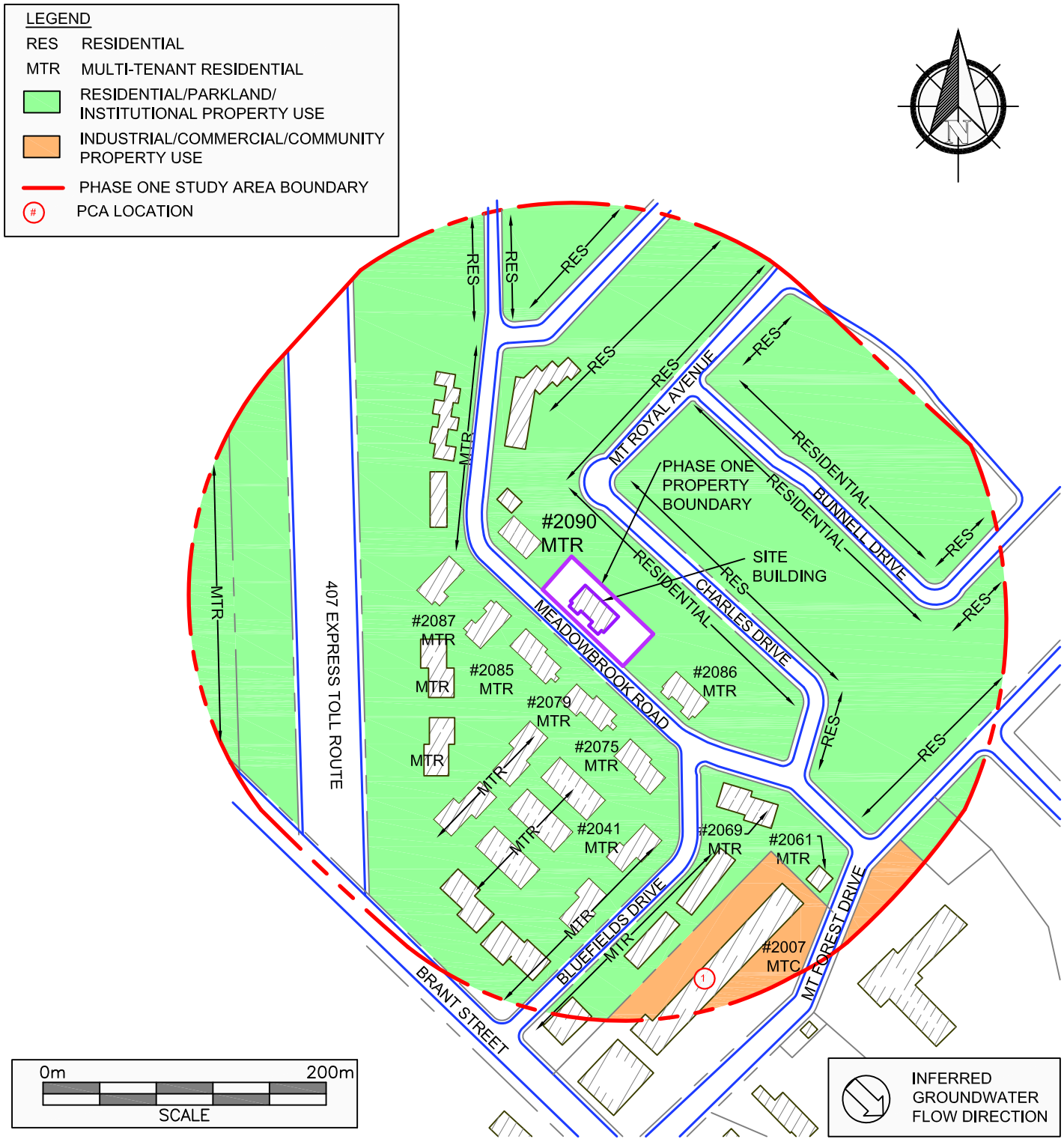

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|---|---|---|---|
| PROJECT NAME: PHASE ONE ENVIRONMENTAL SITE ASSESSMENT | | | |
| CLIENT NAME: 1906452 ONTARIO INC. O/A FRESCO INVESTMENTS | | | |
| PROJECT LOCATION: 2086 MEADOWBROOK ROAD, BURLINGTON, ONTARIO | | | |
| FIGURE NAME: SITE AND SURROUNDING LAND USE PLAN | | | FIGURE NO.: 2 |
| SCALE: AS SHOWN | PROJECT NO.: 206972.001 | DATE: MARCH 2018 | |




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|---|---|---|---|
| PROJECT NAME: PHASE ONE ENVIRONMENTAL SITE ASSESSMENT | | | |
| CLIENT NAME: 1906452 ONTARIO INC. O/A FRESCO INVESTMENTS | | | |
| PROJECT LOCATION: 2086 MEADOWBROOK ROAD, BURLINGTON, ONTARIO | | | |
| FIGURE NAME: PHASE ONE STUDY AREA AND | | | FIGURE NO. 3 |
| SCALE: AS SHOWN | PROJECT NO.: 206972.001 | DATE: MARCH 2018 | |




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| | | | |
|---|---|---|---|
| PROJECT NAME: PHASE ONE ENVIRONMENTAL SITE ASSESSMENT | | | |
| CLIENT NAME: 1906452 ONTARIO INC. O/A FRESCO INVESTMENTS | | | |
| PROJECT LOCATION: 2086 MEADOWBROOK ROAD, BURLINGTON, ONTARIO | | | |
| FIGURE NAME: POTENTIALLY CONTAMINATING ACTIVITY | | | FIGURE NO.: 4 |
| SCALE: AS SHOWN | PROJECT NO.: 206972.001 | DATE: MARCH 2018 | |

**APPENDIX B**

**Photographs**



Photo 1 – Northwest elevation of the Site Building, looking southwest.



Photo 2 – Northeast elevation of the Site Building, looking south.

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Photo 3 – Southeast elevation of the Site Building, looking southwest.



Photo 4 – Southwest elevation of the Site Building, looking southeast.

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Photo 5 – View of Unit 1, located in the southeast portion of the Site Building.



Photo 6 – View of the common hallway in the centre portion of the Site Building.

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Photo 7 – Surrounding properties to the northwest.



Photo 8 – Surrounding properties to the northeast.

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Photo 9 – Surrounding properties to the southeast.



Photo 10 – Surrounding properties to the southwest.

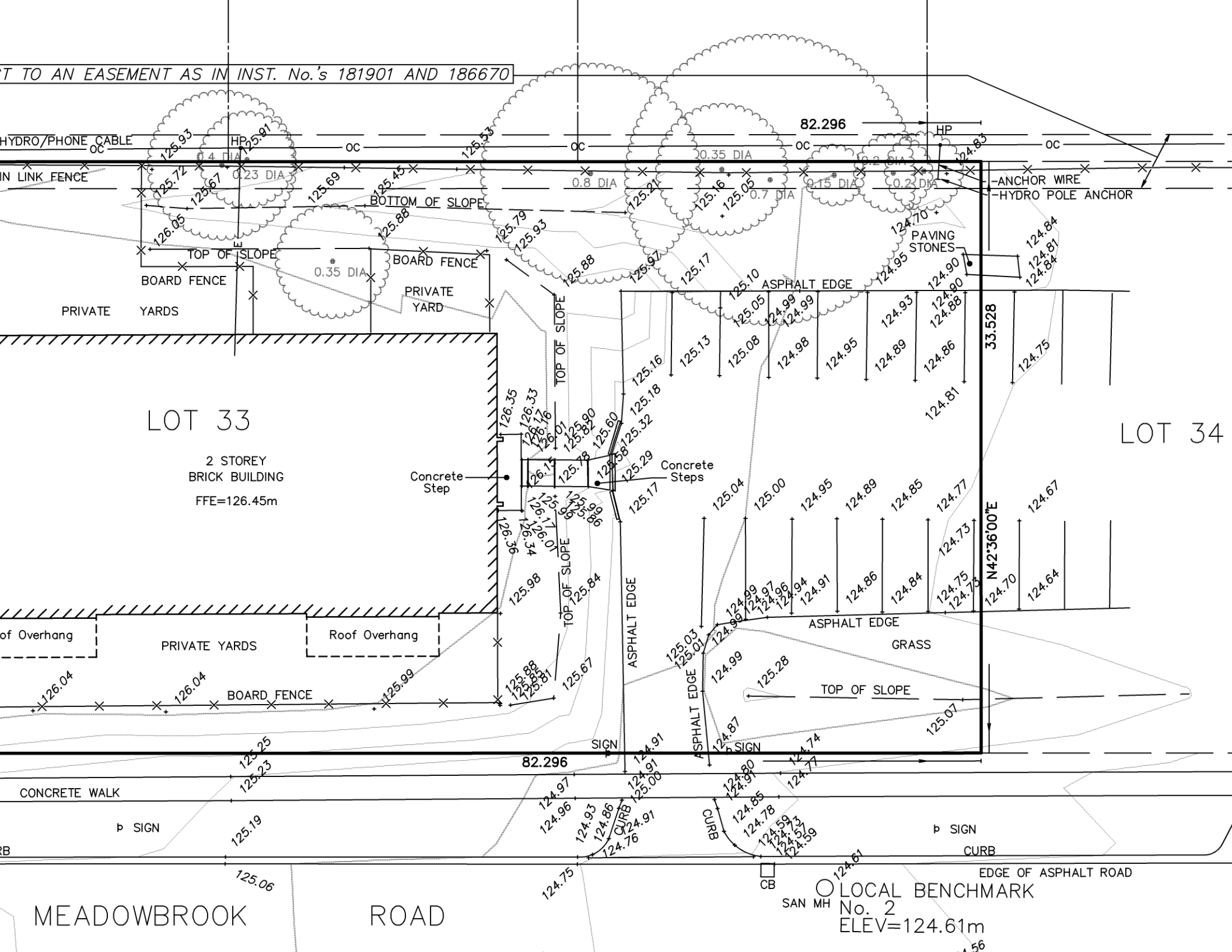
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**APPENDIX C**

**Survey Plan**


T TO AN EASEMENT AS IN INST. No.'s 181901 AND 186670
HYDRO/PHONE CABLE
OC
HP
IN LINK FENCE
0.4 DIA
0.23 DIA
0.35 DIA
0.8 DIA
0.7 DIA
0.15 DIA
0.2 DIA
82.296
-ANCHOR WIRE
-HYDRO POLE ANCHOR
BOTTOM OF SLOPE
TOP OF SLOPE
BOARD FENCE
PRIVATE YARDS
PRIVATE YARD
PAVING STONES
ASPHALT EDGE
LOT 33
2 STOREY
BRICK BUILDING
FFE=126.45m
Concrete Step
Concrete Steps
LOT 34
33.528
N42°36'00"E
Roof Overhang
PRIVATE YARDS
GRASS
SIGN
CONCRETE WALK
CURB
EDGE OF ASPHALT ROAD
CB
SAN MH
LOCAL BENCHMARK
No. 2
ELEV=124.61m
MEADOWBROOK
ROAD

**APPENDIX D**

**Opta Records**




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An SCM Company

175 Commerce Valley Drive W
Markham, Ontario L3T 7Z3

T: 905-882-6300
W: www.optaintel.ca

Report Completed By:

Stephanie

Site Address:

2086 Meadowbrook Rd Burlington On

Project No:

20170607017

Opta Order ID:

37409

Requested by:

Eleanor Goolab
ERIS

Date Completed:

6/13/2017 10:53:52 AM

Project Name: unknown

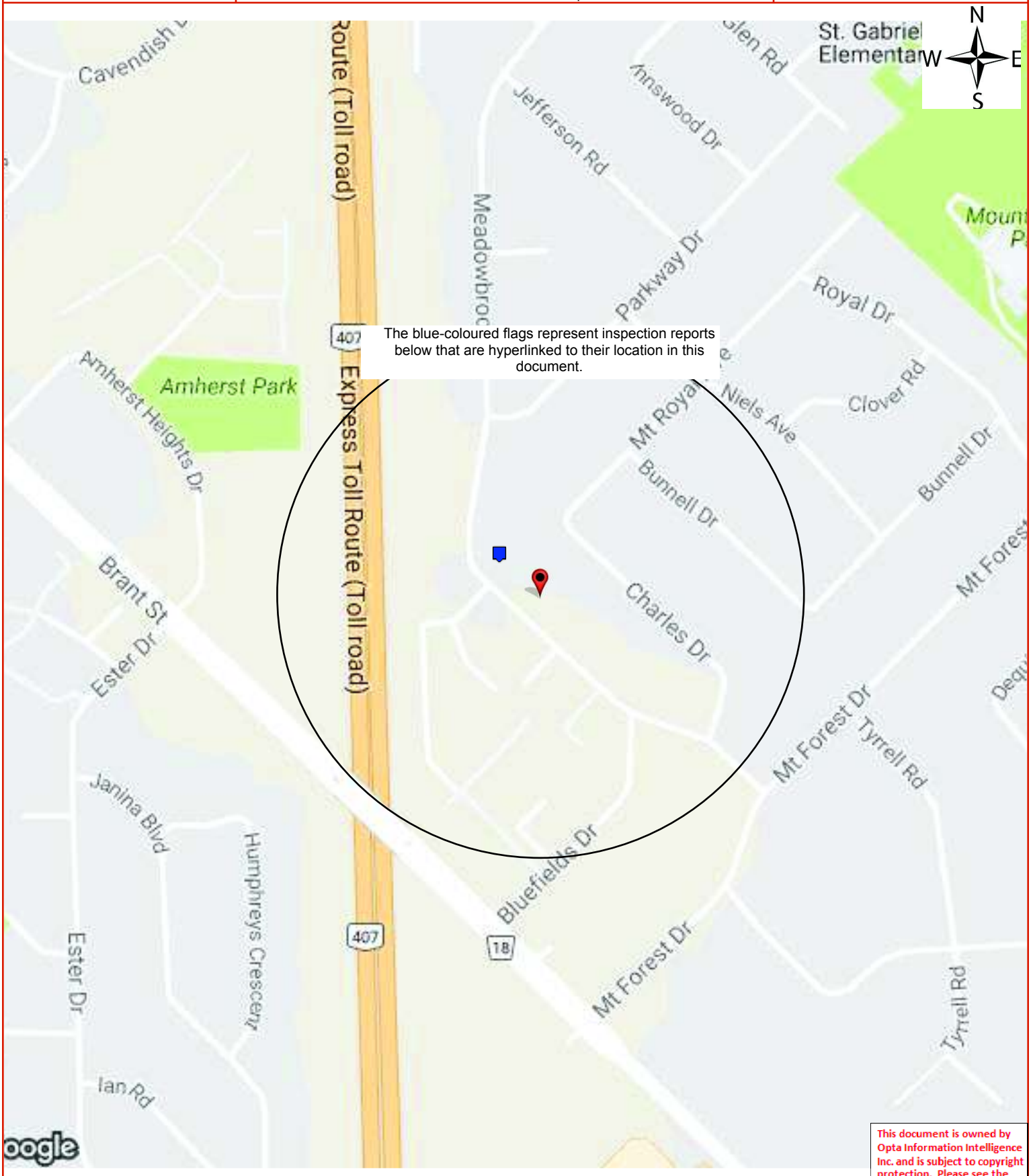
Project #: 20170607017
P.O. #: 206972

# ENVIROSCAN Report

## Search Area: 2086 Meadowbrook Rd Burlington On

**Requested by:**
Eleanor Goolab
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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.

**ENVIROSCAN Report**

**Report Index**

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| Page | Report Title |
|---|---|
| 5 | (1993) Multirisk Report - 1993 WILLIAM HECK 2086 MEADOWBROOK AV BURLINGTON ON L7P 2A4 Reference No: 70056043 (distance = 91 metres*) |

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**ENVIROSCAN Report**

**Multirisk Report - 1993 WILLIAM HECK 2086 MEADOWBROOK AV BURLINGTON ON L7P 2A4**
**Reference No: 70056043**

**Requested by:**
Eleanor Goolab
Date Completed: 06/13/2017 10:53:52

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**APPENDIX E**

**Chain of Title Search Results**

CHAIN OF TITLE REPORT

0180206084
076 Meadowbrook Road, Burlington
ot 34 Plan 1319

7142-0042 (LT)

Searched at: Milton
LRO #: 20



| DOC. TYPE | REG. DATE | PARTY FROM | PARTY TO |
|---|---|---|---|
| Patent | 14 02 1798 | Crown | Joseph BRANT |
| Deed | 21 03 1810 | Joseph Brant | Nicholas KARN |
| Will | 11 05 1842 | Nicholas Karn - Estate | Joshua KERNS |
| Will | 18 08 1873 | Joshua Kerns - Estate | Ernest KERNS (Karn) |
| Deed | 04 04 1896 | Ernest Kerns | Isaac DEVITT |
| Deed | 22 11 1907 | Isaac Devitt | John Fothergill MITCHELL |
| Deed | 22 08 1918 | John Fothergill Mitchell | Joseph Henry BAKER |
| Deed | 02 04 1925 | Joseph Henry Baker | Charles D. EATON |
| Deed | 19 04 1945 | Charles D. Eaton | Harold EATON & Charles EATON |

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CHAIN OF TITLE REPORT

0180206084
076 Meadowbrook Road, Burlington
ot 34 Plan 1319

7142-0042 (LT)

Searched at: Milton
LRO #: 20



| DOC. TYPE | REG. DATE | PARTY FROM | PARTY TO |
|---|---|---|---|
| Deed | 06 01 1959 | Charles Douglas Eaton & Harold Eaton | Surbiton Developments Limited |
| Deed | 20 06 1963 | Surbiton Developments Limited | Tammy Limited |
| Deed | 05 07 1963 | Tammy Limited | Mak-Ver Limited |
| Easement | 09 04 1965 | Surbiton Developments Limited | The Bell Telephone Company of Canada<br>The Public Utilities Commission of The Town of Burlington |
| Easement | 15 07 1965 | Surbiton Developments Limited | United Gas Limited |
| Deed | 15 07 1966 | Mak-Ver Limited | Porto Bello Estates Limited |
| Deed | 18 08 1966 | Porto Bello Estates Limited | Orchard Village Estates Limited |
| Deed | 04 11 1968 | Orchard Village Estates Limited | Alexander GEORGE & Louis GEORGE |
| Deed | 29 06 1973 | Alexander George & Louis George | Morris BARSKY, Milton BARSKY & Gilbert BARSKY |

Cont'd on Page 3

CHAIN OF TITLE REPORT

180206084
076 Meadowbrook Road, Burlington
ot 34 Plan 1319

7142-0042 (LT)

Searched at: Milton
LRO #: 20



| DOC. TYPE | REG. DATE | PARTY FROM | PARTY TO |
|---|---|---|---|
| Deed | 01 09 1981 | Morris Barsky, Milton Barsky & Gilbert Barsky | Frances STEINER |
| Deed | 04 01 2006 | Frances Steiner | K. & H. Creek Investments Ltd. |
| Deed (Present Owner) | 30 06 2014 | K. & H. Creek Investments Ltd. | **1906452 Ontario Limited** |

* CERTIFIED IN ACCORDANCE WITH THE LAND TITLES ACT * SUBJECT TO RESERVATIONS IN CROWN GRANT *

TION: LT 34 , PL 1319 ; S/T 181901,186670 BURLINGTON

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FIRST CONVERSION FROM BOOK

PIN CREATION DATE:
1996/01/18

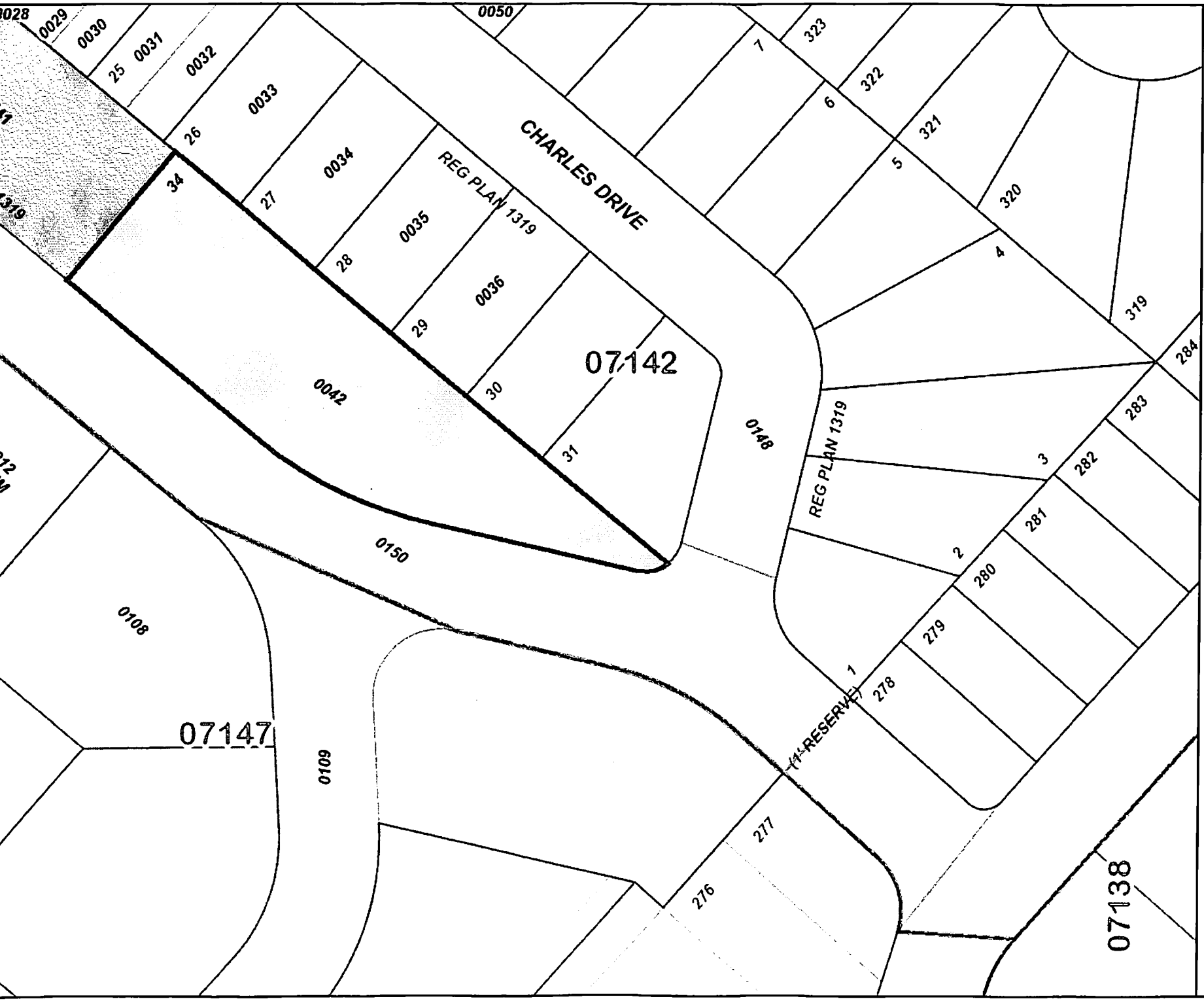
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| DATE | INSTRUMENT TYPE | AMOUNT | PARTIES FROM | PARTIES TO |
|---|---|---|---|---|
| *0/07/29* | *THE NOTATION OF THE "BLOCK IMPLEMENTATION DATE" OF 1996/01/18 ON THIS PIN*** | | | |
| *WITH THE* | *"PIN CREATION DATE" OF 1996/01/18*** | | | |
| *LUDES ALL* | *DOCUMENT TYPES AND DELETED INSTRUMENTS SINCE 1996/01/17 *** | | | |
| *IRST REG* | *ISTRATION UNDER THE LAND TITLES ACT, TO:* | | | |
| *ECTION 44* | *(1) OF THE LAND TITLES ACT, EXCEPT PARAGRAPH 11, PARAGRAPH 14, PROVINCIAL SUCCESSION DUTIES ** | | | |
| *ESCHEATS* | *OR FORFEITURE TO THE CROWN.* | | | |
| *RIGHTS OF* | *ANY PERSON WHO WOULD, BUT FOR THE LAND TITLES ACT, BE ENTITLED TO THE LAND OR ANY PART OF* | | | |
| *HROUGH L* | *ENGTH OF ADVERSE POSSESSION, PRESCRIPTION, MISDESCRIPTION OR BOUNDARIES SETTLED BY* | | | |
| *ENTION.* | | | | |
| *LEASE TO* | *WHICH THE SUBSECTION 70(2) OF THE REGISTRY ACT APPLIES.* | | | |
| *RSION TO* | *LAND TITLES: 1996/01/18 *** | | | |
| /01/25 | BYLAW | | | |
| /02/20 | AGREEMENT | | | THE CORPORATION OF THE TOWN OF BURLINGTON |
| /04/09 | TRANSFER EASEMENT | | | THE BELL TELEPHONE COMPANY OF CANADA<br>THE PUBLIC UTILITIES COMMISSION OF THE TOWN OF BURLINGTON |
| /07/15 | TRANSFER EASEMENT | | | UNITED GAS LIMITED |
| /09/01 | TRANSFER | | *** COMPLETELY DELETED *** | STEINER, FRANCES |
| /06/10 | CERT PENDING LIT | | *** COMPLETELY DELETED *** | |
| /10/29 | APL AMEND ORDER | | *** COMPLETELY DELETED *** | |

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NOTE: ENSURE THAT YOUR PRINTOUT STATES THE TOTAL NUMBER OF PAGES AND THAT YOU HAVE PICKED THEM ALL UP.

| DATE | INSTRUMENT TYPE | AMOUNT | PARTIES FROM | PARTIES TO |
|---|---|---|---|---|
| : *DELETE* | *668502* | | ONTARIO SUPERIOR COURT OF JUSTICE - MILTON | HECK, CAROLANN LOU |
| /01/04 | TRANSFER | | *** COMPLETELY DELETED ***<br>STEINER, FRANCES | K. & H. CREEK INVESTMENTS LTD. |
| /06/30 | TRANSFER | $1,000,000 | K. & H. CREEK INVESTMENTS LTD. | 1906452 ONTARIO LIMITED |
| /06/30 | CHARGE | $700,000 | 1906452 ONTARIO LIMITED | K. & H. CREEK INVESTMENTS LTD. |

NOTE: ADJOINING PROPERTIES SHOULD BE INVESTIGATED TO ASCERTAIN DESCRIPTIVE INCONSISTENCIES, IF ANY, WITH DESCRIPTION REPRESENTED FOR THIS PROPERTY.
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CHAIN OF TITLE REPORT

0180206084
086 Meadowbrook Road, Burlington
ot 33 Plan 1319

7142-0041 (LT)

Searched at: Milton
LRO #: 20



| DOC. TYPE | REG. DATE | PARTY FROM | PARTY TO |
|---|---|---|---|
| Patent | 14 02 1798 | Crown | Joseph BRANT |
| Deed | 21 03 1810 | Joseph Brant | Nicholas KARN |
| Will | 11 05 1842 | Nicholas Karn - Estate | Joshua KERNS |
| Will | 18 08 1873 | Joshua Kerns - Estate | Ernest KERNS (Karn) |
| Deed | 04 04 1896 | Ernest Kerns | Isaac DEVITT |
| Deed | 22 11 1907 | Isaac Devitt | John Fothergill MITCHELL |
| Deed | 22 08 1918 | John Fothergill Mitchell | Joseph Henry BAKER |
| Deed | 02 04 1925 | Joseph Henry Baker | Charles D. EATON |
| Deed | 19 04 1945 | Charles D. Eaton | Harold EATON & Charles EATON |

Cont'd on Page 2

CHAIN OF TITLE REPORT

0180206084
086 Meadowbrook Road, Burlington
ot 33 Plan 1319

7142-0041 (LT)

Searched at: Milton
LRO #: 20



| DOC. TYPE | REG. DATE | PARTY FROM | PARTY TO |
|---|---|---|---|
| Deed | 06 01 1959 | Charles Douglas Eaton & Harold Eaton | Surbiton Developments Limited |
| Deed | 20 06 1963 | Surbiton Developments Limited | Tammy Limited |
| Deed | 05 07 1963 | Tammy Limited | Mak-Ver Limited |
| Easement | 09 04 1965 | Surbiton Developments Limited | The Bell Telephone Company of Canada<br>The Public Utilities Commission of The Town of Burlington |
| Easement | 15 07 1965 | Surbiton Developments Limited | United Gas Limited |
| Deed | 08 07 1966 | Mak-Ver Limited | Porto Bello Estates Limited |
| Deed | 18 08 1966 | Porto Bello Estates Limited | Orchard Village Estates Limited |
| Deed | 30 09 1968 | Orchard Village Estates Limited | John Royal WILLIAMS |

Cont'd on Page 3

CHAIN OF TITLE REPORT

180206084
86 Meadowbrook Road, Burlington
t 33 Plan 1319

142-0041 (LT)

Searched at: Milton
LRO #: 20



| DOC. TYPE | REG. DATE | PARTY FROM | PARTY TO |
|---|---|---|---|
| Deed | 22 06 1973 | John Royal Williams | Glover Developments Limited |
| Mortgage | 22 06 1973 | Glover Developments Limited | Fidelity Mortgage and Savings Corp. (Mortgagee) |
| Deed (Power of Sale) | 30 06 1977 | Fidelity Mortgage and Savings Corp. (Glover Developments Limited defaulted in Mt 365165) | Dorsey Construction Limited Skylark Planes Inc. |
| Deed | 10 07 1981 | Dorsey Construction Limited Skylark Planes Inc. | Morgan STEWART |
| Deed | 28 01 1982 | Morgan Stewart | Emil WENTROT & Donna WENTROT |
| Deed | 04 02 1986 | Emil Wentrot & Donna Wentrot | William HECK & Carolann HECK |
| Deed | 09 03 1990 | William Heck & Carolann Heck | William HECK, in trust |
| Deed | 29 05 1990 | William Heck | Michendi Holdings Limited |
| Deed (Present Owner) | 30 06 2014 | Michendi Holdings Limited | **1053052 Ontario Inc.** |

TION: LT 33 , PL 1319 ; S/T 181901,186670 BURLINGTON

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RECENTLY:
FIRST CONVERSION FROM BOOK

PIN CREATION DATE:
1996/01/18

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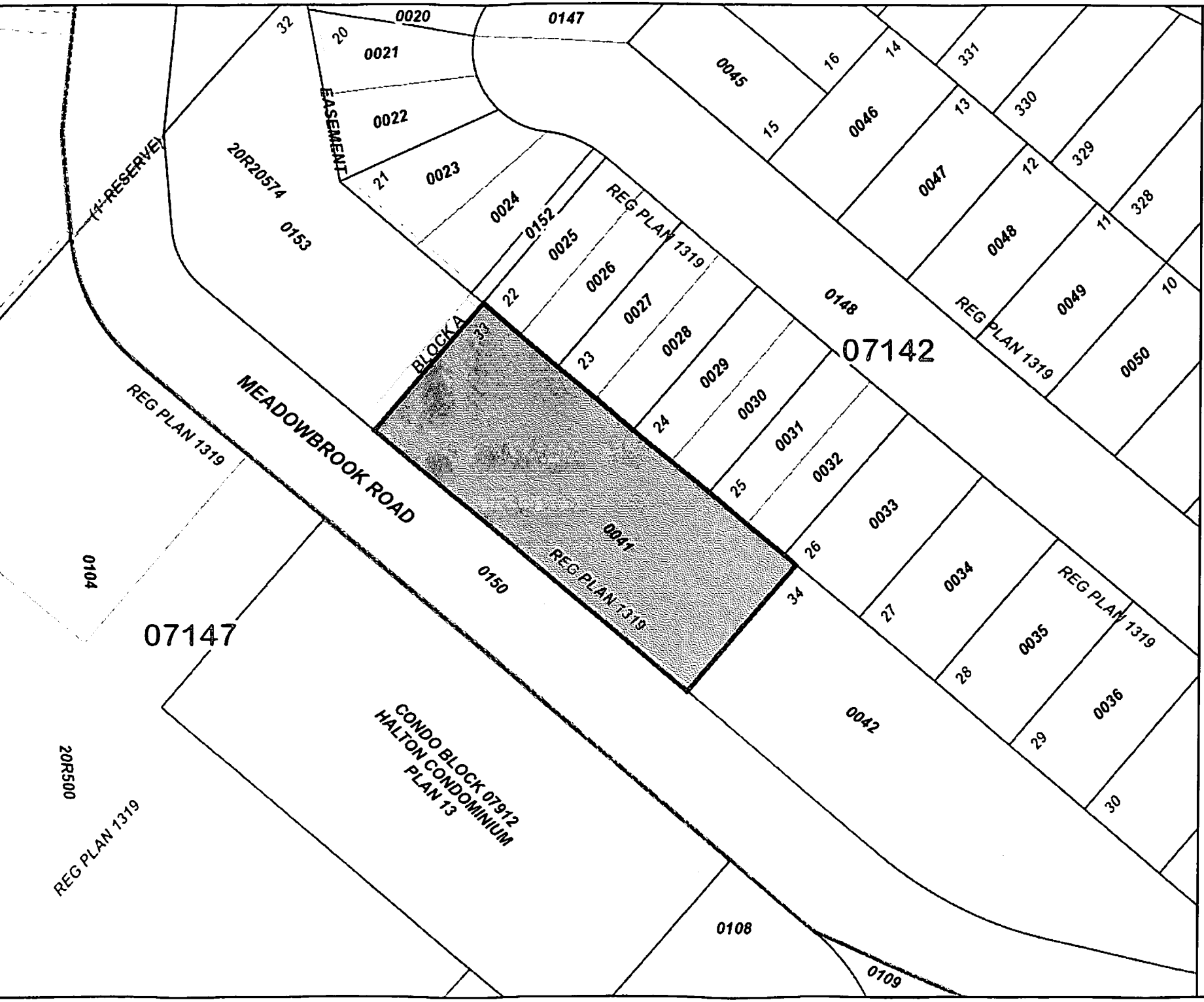
INC.

| DATE | INSTRUMENT TYPE | AMOUNT | PARTIES FROM | PARTIES TO |
|---|---|---|---|---|
| /07/29 | *THE NOTATION OF THE "BLOCK IMPLEMENTATION DATE" OF 1996/01/18 ON THIS PIN**<br>*WITH THE "PIN CREATION DATE" OF 1996/01/18**<br>*LUDES ALL DOCUMENT TYPES AND DELETED INSTRUMENTS SINCE 1996/01/17 **<br>*IRST REGISTRATION UNDER THE LAND TITLES ACT, TO:<br>*ECTION 44(1) OF THE LAND TITLES ACT, EXCEPT PARAGRAPH 11, PARAGRAPH 14, PROVINCIAL SUCCESSION DUTIES *<br>*ESCHEATS OR FORFEITURE TO THE CROWN.<br>*RIGHTS OF ANY PERSON WHO WOULD, BUT FOR THE LAND TITLES ACT, BE ENTITLED TO THE LAND OR ANY PART OF<br>*HROUGH LENGTH OF ADVERSE POSSESSION, PRESCRIPTION, MISDESCRIPTION OR BOUNDARIES SETTLED BY<br>*ENTION.<br>*LEASE TO WHICH THE SUBSECTION 70(2) OF THE REGISTRY ACT APPLIES.<br>*RSION TO LAND TITLES: 1996/01/18 ** | | | |
| /01/25 | BYLAW | | | |
| /02/20 | AGREEMENT | | | THE CORPORATION OF THE TOWN OF BURLINGTON |
| /04/09 | TRANSFER EASEMENT | | | THE BELL TELEPHONE COMPANY OF CANADA<br>THE PUBLIC UTILITIES COMMISSION OF THE TOWN OF BURLINGTON |
| /07/15 | TRANSFER EASEMENT | | | UNITED GAS LIMITED |
| /11/01 | CHARGE | | *** COMPLETELY DELETED *** | HECK, CAROLANN L. |
| /06/10 | CERT PENDING LIT | | *** COMPLETELY DELETED *** | |
| /05/29 | TRANSFER | | *** COMPLETELY DELETED *** | |

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| DATE | INSTRUMENT TYPE | AMOUNT | PARTIES FROM | PARTIES TO |
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| | | | | MICHENDI HOLDINGS LIMITED |
| /06/29 | CHARGE | | *** COMPLETELY DELETED *** | |
| | | | | CIBC MORTGAGE CORPORATION |
| /06/29 | ASSIGNMENT GENERAL | | *** COMPLETELY DELETED *** | |
| *: RENTS* | *839674* | | | |
| /11/15 | DISCH OF CHARGE | | *** COMPLETELY DELETED *** | |
| | | | CIBC MORTGAGE CORPORATION | |
| *: RE: 839674* | | | | |
| /10/29 | APL AMEND ORDER | | *** COMPLETELY DELETED *** | |
| | | | ONTARIO SUPERIOR COURT OF JUSTICE - MILTON | HECK, CAROLANN LOU |
| *: DELETE 668502* | | | | |
| /06/30 | DISCH OF CHARGE | | *** COMPLETELY DELETED *** | |
| | | | HECK, CAROLANN L. | |
| *: 629993.* | | | | |
| /06/30 | TRANSFER | $1,000,000 | MICHENDI HOLDINGS LIMITED | 1053052 ONTARIO INC. |
| *: PLANNING ACT STATEMENTS.* | | | | |
| /06/30 | CHARGE | $700,000 | 1053052 ONTARIO INC. | MICHENDI HOLDINGS LIMITED |

NOTE: ADJOINING PROPERTIES SHOULD BE INVESTIGATED TO ASCERTAIN DESCRIPTIVE INCONSISTENCIES, IF ANY, WITH DESCRIPTION REPRESENTED FOR THIS PROPERTY.
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**APPENDIX F**

**EcoLog ERIS Report**

ENVIRONMENTAL RISK INFORMATION SERVICES

# DATABASE REPORT

| | |
|---|---|
| **Project Property:** | *unknown*<br>*2076 Meadowbrook Rd*<br>*Burlington ON L7P2A4* |
| **Project No:** | *206972.001 and 206976.001* |
| **Report Type:** | *RSC Report (Urban)* |
| **Order No:** | *20180206084* |
| **Requested by:** | *Pinchin Ltd.* |
| **Date Completed:** | *February 9, 2018* |

**Environmental Risk Information Services**
A division of Glacier Media Inc.
P: 1.866.517.5204
E: info@erisinfo.com

**www.erisinfo.com**

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# Executive Summary

***Property Information:***

| | |
|---|---|
| **Project Property:** | *unknown*<br>*2076 Meadowbrook Rd  Burlington ON L7P2A4* |
| **Project No:** | *206972.001 and 206976.001* |

***Order Information:***

| | |
|---|---|
| **Order No:** | *20180206084* |
| **Date Requested:** | *February 6, 2018* |
| **Requested by:** | *Pinchin Ltd.* |
| **Report Type:** | *RSC Report (Urban)* |

***Historical/Products:***

| | |
|---|---|
| **Land Title Search** | *Historical Title Search* |
| **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 | 20 | 20 |
| CA | *Certificates of Approval* | Y | 0 | 4 | 4 |
| CFOT | *Commercial Fuel Oil Tanks* | Y | 0 | 0 | 0 |
| CHEM | *Chemical Register* | Y | 0 | 0 | 0 |
| CNG | *Compressed Natural Gas Stations* | Y | 0 | 0 | 0 |
| COAL | *Inventory of Coal Gasification Plants and Coal Tar Sites* | Y | 0 | 0 | 0 |
| CONV | *Compliance and Convictions* | Y | 0 | 0 | 0 |
| CPU | *Certificates of Property Use* | Y | 0 | 0 | 0 |
| DRL | *Drill Hole Database* | Y | 0 | 0 | 0 |
| EASR | *Environmental Activity and Sector Registry* | Y | 0 | 0 | 0 |
| EBR | *Environmental Registry* | Y | 0 | 0 | 0 |
| ECA | *Environmental Compliance Approval* | Y | 0 | 2 | 2 |
| EEM | *Environmental Effects Monitoring* | Y | 0 | 0 | 0 |
| EHS | *ERIS Historical Searches* | Y | 0 | 2 | 2 |
| 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 | 12 | 12 |
| 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 | 4 | 4 |
| FSTH | *Fuel Storage Tank - Historic* | Y | 0 | 2 | 2 |
| GEN | *Ontario Regulation 347 Waste Generators Summary* | Y | 0 | 13 | 13 |
| 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 | 1 | 1 |
| LIMO | *Landfill Inventory Management Ontario* | Y | 0 | 0 | 0 |
| MINE | *Canadian Mine Locations* | Y | 0 | 0 | 0 |
| MNR | *Mineral Occurrences* | Y | 0 | 0 | 0 |
| NATE | *National Analysis of Trends in Emergencies System (NATES)* | Y | 0 | 0 | 0 |

| Database | Name | Searched | Project Property | Boundary to 0.30km | Total |
|---|---|---|---|---|---|
| NCPL | Non-Compliance Reports | Y | 0 | 0 | 0 |
| NDFT | National Defense & Canadian Forces Fuel Tanks | Y | 0 | 0 | 0 |
| NDSP | National Defense & Canadian Forces Spills | Y | 0 | 0 | 0 |
| NDWD | National Defence & Canadian Forces Waste Disposal Sites | Y | 0 | 0 | 0 |
| NEBI | National Energy Board Pipeline Incidents | Y | 0 | 0 | 0 |
| NEBW | National Energy Board Wells | Y | 0 | 0 | 0 |
| NEES | National Environmental Emergencies System (NEES) | Y | 0 | 0 | 0 |
| NPCB | National PCB Inventory | Y | 0 | 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 | 0 | 4 | 4 |
| PINC | TSSA Pipeline Incidents | Y | 0 | 1 | 1 |
| PRT | Private and Retail Fuel Storage Tanks | Y | 0 | 2 | 2 |
| 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 | 1 | 1 |
| SCT | Scott's Manufacturing Directory | Y | 0 | 0 | 0 |
| SPL | Ontario Spills | Y | 0 | 5 | 5 |
| 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 | 0 | 0 | 0 |
| | **Total:** | | 0 | 73 | 73 |

# Executive Summary: Site Report Summary - Project Property

| Map Key | DB | Company/Site Name | Address | Dir/Dist (m) | Elev diff (m) | Page Number |
|---|---|---|---|---|---|---|

No records found in the selected databases for the project property.

# Executive Summary: Site Report Summary - Surrounding Properties

| Map Key | DB | Company/Site Name | Address | Dir/Dist (m) | Elev Diff (m) | Page Number |
|---|---|---|---|---|---|---|
| 1 | SPL | | 1397 Charles Drive<UNOFFICIAL> Burlington ON L7P 2C8 | NNE/68.4 | -0.47 | 19 |
| 2 | BORE | | ON | WNW/89.5 | 4.90 | 19 |
| 3 | INC | | 2055 MOUNT FOREST DRIVE, BURLINGTON ON | SSE/98.3 | -2.85 | 19 |
| 4 | PES | WHISTLEWOOD LANDSCAPE SERVICES | 2110 MEADOWBROOK ROAD BURLINGTON ON L7P 2A4 | NW/132.3 | 5.24 | 20 |
| 5 | BORE | | ON | SW/154.5 | 0.41 | 21 |
| 6 | GEN | MOUNTAIN GARDENS PUBLIC SCHOOL | 2054 MOUNTAINSIDE DR BURLINGTON ON L7P 1A8 | SE/156.9 | -5.01 | 21 |
| 7 | GEN | MOUNT ROYAL IDA PHARMACY | 2047 MOUNT FOREST DRIVE BURLINGTON ON L7P 1H4 | SSE/162.0 | -4.21 | 21 |
| 7 | GEN | MOUNT ROYAL IDA PHARMACY | 2047 MOUNT FOREST DR BURLINGTON ON L7P 1H4 | SSE/162.0 | -4.21 | 22 |
| 8 | GEN | PIONEER CLEANERS LTD. | 2043 MT. FOREST DR. BURLINGTON ON L7P 1H4 | SSE/172.2 | -4.64 | 22 |
| 8 | GEN | PIONEER CLEANERS LTD. (OUT OF BUSINESS) | 2043 MOUNT FOREST DRIVE BURLINGTON ON L7P 1H4 | SSE/172.2 | -4.64 | 22 |
| 8 | GEN | PIONEER CLEANERS LTD. 31-046 | 2043 MT. FOREST DR. BURLINGTON ON L7P 1H4 | SSE/172.2 | -4.64 | 23 |
| 8 | GEN | PIONEER CLEANERS LTD | 2043 MT. FOREST DR. BURLINGTON ON L7P 1H4 | SSE/172.2 | -4.64 | 23 |
| 8 | GEN | PIONEER CLEANERS(OUT OF BUSINESS) 31-046 | 2043 MT. FOREST DR. BURLINGTON ON L7P 1H4 | SSE/172.2 | -4.64 | 23 |
| 9 | PINC | | 2116 MOUNT ROYAL AVENUE, BURLINGTON ON | NNE/175.5 | 1.00 | 23 |
| 9 | SPL | Union Gas Limited | 2116 Mount Royale Drive Burlington ON | NNE/175.5 | 1.00 | 24 |
| 10 | BORE | | ON | WSW/188.6 | 3.90 | 24 |
| 11 | BORE | | ON | WSW/193.2 | 2.74 | 25 |
| 12 | BORE | | ON | WSW/198.9 | 4.06 | 25 |
| 13 | SPL | | 2129 Mount Forest Drive Burlington ON | E/208.5 | -4.96 | 26 |
| 14 | BORE | | ON | WSW/209.4 | 3.46 | 26 |
| 15 | PES | MOUNT ROYAL HARDWARE | 2027 MOUNT FOREST DRIVE BURLINGTON ON L7P 1H4 | S/214.5 | -4.78 | 27 |
| 16 | EHS | | 2007-2023 Bluefields Drive Burlington ON L7P 1J9 | SSW/232.3 | -1.44 | 27 |
| 17 | BORE | | ON | WSW/232.8 | 0.93 | 27 |

| Map Key | DB | Company/Site Name | Address | Dir/Dist (m) | Elev Diff (m) | Page Number |
|---|---|---|---|---|---|---|
| 18 | BORE | | ON | WSW/233.1 | 1.73 | 28 |
| 19 | BORE | | ON | WSW/234.1 | 3.39 | 28 |
| 20 | BORE | | ON | SW/234.5 | 0.03 | 28 |
| 21 | BORE | | ON | SW/237.2 | 0.01 | 29 |
| 22 | CA | PHILTHY MCNASTY'S SPORTS TAP & GRILL INC | 2011 MOUNT FOREST DRIVE<br>BURLINGTON CITY ON L7P 1H4 | S/245.5 | -2.82 | 29 |
| 23 | SPL | The Corporation of the Town of Essex | 407 East & Brant 407 EASTBOUND BY BRANT<UNOFFICIAL><br>Burlington ON | WSW/245.6 | 1.07 | 30 |
| 23 | SPL | | Hwy 407 westbound (before Brant St)<UNOFFICIAL><br>Burlington ON | WSW/245.6 | 1.07 | 30 |
| 24 | PES | HUTTEN'S GROUND MAINTENANCE | 312 - 2085 AMHERST HEIGHTS DR<br>BURLINGTON ON L7P 5C2 | W/257.0 | 7.63 | 30 |
| 25 | CA | R.M. OF HALTON - BRANT ST. | BRANT ST./BLUEFIELD DR.<br>BURLINGTON CITY ON | SSW/257.1 | -0.85 | 31 |
| 26 | BORE | | ON | WSW/258.0 | 3.08 | 31 |
| 27 | BORE | | ON | SSE/258.1 | -5.78 | 31 |
| 28 | EHS | | Parcel 19<br>Burlington ON | NW/263.9 | 14.13 | 32 |
| 29 | PES | HUTTEN'S GROUND MAINTENANCE | 312 - 2085 AMHERST HEIGHTS DR<br>BURLINGTON ON L7P5C2 | W/264.9 | 9.53 | 32 |
| 30 | BORE | | ON | WSW/265.8 | 2.26 | 32 |
| 31 | BORE | | ON | SW/266.2 | 0.26 | 33 |
| 32 | BORE | | ON | SW/268.2 | 1.55 | 33 |
| 33 | BORE | | ON | SW/270.6 | 0.50 | 34 |
| 34 | BORE | | ON | NNW/272.1 | 10.12 | 34 |
| 35 | BORE | | ON | S/275.8 | -3.57 | 34 |
| 36 | CA | Shell Canada Products Limited | 1331 Brant Street<br>Burlington ON L7P 1X7 | S/280.7 | -3.99 | 35 |
| 36 | CA | Shell Canada OP Inc. and Shell Canada Products Limited | 1331 Brant Street<br>Burlington ON L7P 1X7 | S/280.7 | -3.99 | 35 |
| 36 | EXP | MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON | S/280.7 | -3.99 | 35 |
| 36 | EXP | MINA AUTO SERVICE - SHELL | 1331 BRANT ST<br>BURLINGTON ON | S/280.7 | -3.99 | 36 |
| 36 | EXP | BRANT HILLS SERVICE CENTRE DIV OF MACFARLANE SERVICE CENTRE LTD | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | S/280.7 | -3.99 | 36 |
| 36 | EXP | MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | S/280.7 | -3.99 | 36 |

| Map Key | DB | Company/Site Name | Address | Dir/Dist (m) | Elev Diff (m) | Page Number |
|---|---|---|---|---|---|---|
| 36 | EXP | MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | S/280.7 | -3.99 | 36 |
| 36 | EXP | MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON | S/280.7 | -3.99 | 37 |
| 36 | EXP | MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON | S/280.7 | -3.99 | 37 |
| 36 | EXP | MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON | S/280.7 | -3.99 | 37 |
| 36 | EXP | MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON | S/280.7 | -3.99 | 37 |
| 36 | FSTH | ZAVIAR RETAIL SOLUTIONS | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | S/280.7 | -3.99 | 37 |
| 36 | FSTH | 1389613 ONTARIO INC O/A GAS STN | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | S/280.7 | -3.99 | 38 |
| 36 | PRT | BR SHELL SERVICE BRIAN WEST HOLDINGS | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | S/280.7 | -3.99 | 39 |
| 36 | PRT | BRANT HILLS SERVICE CENTRE DIV OF MACFARLANE SERVI | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | S/280.7 | -3.99 | 39 |
| 36 | RST | MATT'S SHELL | 1331 BRANT ST<br>BURLINGTON ON L7P1X7 | S/280.7 | -3.99 | 39 |
| 37 | ECA | Shell Canada Products Limited | 1331 Brant Street<br>Burlington ON M2N 6Y2 | S/285.1 | -4.01 | 39 |
| 37 | ECA | Shell Canada OP Inc. and Shell Canada Products Limited | 1331 Brant Street<br>Burlington ON M2N 6Y2 | S/285.1 | -4.01 | 39 |
| 37 | EXP | MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | S/285.1 | -4.01 | 40 |
| 37 | EXP | MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | S/285.1 | -4.01 | 40 |
| 37 | EXP | MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | S/285.1 | -4.01 | 40 |
| 37 | FST | 2437356 ONTARIO INC | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | S/285.1 | -4.01 | 40 |
| 37 | FST | 2437356 ONTARIO INC | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | S/285.1 | -4.01 | 41 |
| 37 | FST | 2437356 ONTARIO INC | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | S/285.1 | -4.01 | 41 |
| 37 | FST | 2437356 ONTARIO INC | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | S/285.1 | -4.01 | 41 |
| 37 | GEN | SHELL CANADA | 1331 Brant St.<br>Burlington ON L7P 1X7 | S/285.1 | -4.01 | 42 |
| 37 | GEN | SHELL CANADA | 1331 Brant St.<br>Burlington ON L7P 1X7 | S/285.1 | -4.01 | 42 |
| 37 | GEN | SHELL CANADA | 1331 Brant St.<br>Burlington ON L7P 1X7 | S/285.1 | -4.01 | 42 |
| 37 | GEN | SHELL CANADA | 1331 Brant St.<br>Burlington ON L7P 1X7 | S/285.1 | -4.01 | 42 |
| 38 | GEN | The Balmoral Condominium | 2075 Amherst Heights Drive<br>Burlington ON | WNW/287.9 | 13.99 | 43 |
| 39 | BORE | | ON | SW/289.0 | 1.43 | 43 |

# Executive Summary: Summary By Data Source

## BORE - Borehole

A search of the BORE database, dated 1875-Jul 2014 has found that there are 20 BORE site(s) within approximately 0.30 kilometers of the project property.

| Site | Address | Distance (m) | Map Key |
|---|---|---|---|
| | ON | 89.5 | 2 |
| | ON | 154.5 | 5 |
| | ON | 188.6 | 10 |
| | ON | 193.2 | 11 |
| | ON | 198.9 | 12 |
| | ON | 209.4 | 14 |
| | ON | 232.8 | 17 |
| | ON | 233.1 | 18 |
| | ON | 234.1 | 19 |
| | ON | 234.5 | 20 |
| | ON | 237.2 | 21 |
| | ON | 258.0 | 26 |
| | ON | 258.1 | 27 |
| | ON | 265.8 | 30 |
| | ON | 266.2 | 31 |
| | ON | 268.2 | 32 |
| | ON | 270.6 | 33 |
| | ON | 272.1 | 34 |

| Site | Address | Distance (m) | Map Key |
|---|---|---|---|
| | ON | 275.8 | 35 |
| | ON | 289.0 | 39 |

## CA - Certificates of Approval

A search of the CA database, dated 1985-Oct 30, 2011* has found that there are 4 CA site(s) within approximately 0.30 kilometers of the project property.

| Site | Address | Distance (m) | Map Key |
|---|---|---|---|
| PHILTHY MCNASTY'S SPORTS TAP & GRILL INC | 2011 MOUNT FOREST DRIVE<br>BURLINGTON CITY ON L7P 1H4 | 245.5 | 22 |
| R.M. OF HALTON - BRANT ST. | BRANT ST./BLUEFIELD DR.<br>BURLINGTON CITY ON | 257.1 | 25 |
| Shell Canada Products Limited | 1331 Brant Street<br>Burlington ON L7P 1X7 | 280.7 | 36 |
| Shell Canada OP Inc. and Shell Canada Products Limited | 1331 Brant Street<br>Burlington ON L7P 1X7 | 280.7 | 36 |

## ECA - Environmental Compliance Approval

A search of the ECA database, dated Oct 2011-Oct 2017 has found that there are 2 ECA site(s) within approximately 0.30 kilometers of the project property.

| Site | Address | Distance (m) | Map Key |
|---|---|---|---|
| Shell Canada Products Limited | 1331 Brant Street<br>Burlington ON M2N 6Y2 | 285.1 | 37 |
| Shell Canada OP Inc. and Shell Canada Products Limited | 1331 Brant Street<br>Burlington ON M2N 6Y2 | 285.1 | 37 |

## EHS - ERIS Historical Searches

A search of the EHS database, dated 1999-Aug 2016 has found that there are 2 EHS site(s) within approximately 0.30 kilometers of the project property.

| Site | Address | Distance (m) | Map Key |
|---|---|---|---|
| | 2007-2023 Bluefields Drive<br>Burlington ON L7P 1J9 | 232.3 | 16 |
| | Parcel 19<br>Burlington ON | 263.9 | 28 |

## EXP - List of TSSA Expired Facilities

A search of the EXP database, dated Feb 28, 2017 has found that there are 12 EXP site(s) within approximately 0.30 kilometers of the

project property.

| Site | Address | Distance (m) | Map Key |
|---|---|---|---|
| MINA AUTO SERVICE - SHELL | 1331 BRANT ST<br>BURLINGTON ON | 280.7 | 36 |
| BRANT HILLS SERVICE CENTRE DIV OF MACFARLANE SERVICE CENTRE LTD | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | 280.7 | 36 |
| MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | 280.7 | 36 |
| MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | 280.7 | 36 |
| MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON | 280.7 | 36 |
| MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON | 280.7 | 36 |
| MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON | 280.7 | 36 |
| MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON | 280.7 | 36 |
| MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON | 280.7 | 36 |
| MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | 285.1 | 37 |
| MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | 285.1 | 37 |
| MINA AUTO SERVICE LTD | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | 285.1 | 37 |

## FST - Fuel Storage Tank

A search of the FST database, dated Feb 28, 2017 has found that there are 4 FST site(s) within approximately 0.30 kilometers of the project property.

| Site | Address | Distance (m) | Map Key |
|---|---|---|---|
| 2437356 ONTARIO INC | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | 285.1 | 37 |
| 2437356 ONTARIO INC | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | 285.1 | 37 |
| 2437356 ONTARIO INC | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | 285.1 | 37 |
| 2437356 ONTARIO INC | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | 285.1 | 37 |

## FSTH - Fuel Storage Tank - Historic

A search of the FSTH database, dated Pre-Jan 2010* has found that there are 2 FSTH site(s) within approximately 0.30 kilometers of

the project property.

| Site | Address | Distance (m) | Map Key |
|---|---|---|---|
| ZAVIAR RETAIL SOLUTIONS | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | 280.7 | 36 |
| 1389613 ONTARIO INC O/A GAS STN | 1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | 280.7 | 36 |

## GEN - Ontario Regulation 347 Waste Generators Summary

A search of the GEN database, dated 1986-Jun 2017 has found that there are 13 GEN site(s) within approximately 0.30 kilometers of the project property.

| Site | Address | Distance (m) | Map Key |
|---|---|---|---|
| MOUNTAIN GARDENS PUBLIC SCHOOL | 2054 MOUNTAINSIDE DR<br>BURLINGTON ON L7P 1A8 | 156.9 | 6 |
| MOUNT ROYAL IDA PHARMACY | 2047 MOUNT FOREST DR<br>BURLINGTON ON L7P 1H4 | 162.0 | 7 |
| MOUNT ROYAL IDA PHARMACY | 2047 MOUNT FOREST DRIVE<br>BURLINGTON ON L7P 1H4 | 162.0 | 7 |
| PIONEER CLEANERS(OUT OF BUSINESS) 31-046 | 2043 MT. FOREST DR.<br>BURLINGTON ON L7P 1H4 | 172.2 | 8 |
| PIONEER CLEANERS LTD | 2043 MT. FOREST DR.<br>BURLINGTON ON L7P 1H4 | 172.2 | 8 |
| PIONEER CLEANERS LTD. 31-046 | 2043 MT. FOREST DR.<br>BURLINGTON ON L7P 1H4 | 172.2 | 8 |
| PIONEER CLEANERS LTD. (OUT OF BUSINESS) | 2043 MOUNT FOREST DRIVE<br>BURLINGTON ON L7P 1H4 | 172.2 | 8 |
| PIONEER CLEANERS LTD. | 2043 MT. FOREST DR.<br>BURLINGTON ON L7P 1H4 | 172.2 | 8 |
| SHELL CANADA | 1331 Brant St.<br>Burlington ON L7P 1X7 | 285.1 | 37 |
| SHELL CANADA | 1331 Brant St.<br>Burlington ON L7P 1X7 | 285.1 | 37 |
| SHELL CANADA | 1331 Brant St.<br>Burlington ON L7P 1X7 | 285.1 | 37 |
| SHELL CANADA | 1331 Brant St.<br>Burlington ON L7P 1X7 | 285.1 | 37 |
| The Balmoral Condominium | 2075 Amherst Heights Drive<br>Burlington ON | 287.9 | 38 |

## INC - TSSA Incidents

A search of the INC database, dated Feb 28, 2017 has found that there are 1 INC site(s) within approximately 0.30 kilometers of the project property.

| Site | Address | Distance (m) | Map Key |
|---|---|---|---|
| | 2055 MOUNT FOREST DRIVE, BURLINGTON ON | 98.3 | 3 |

## PES - Pesticide Register

A search of the PES database, dated 1988-Aug 2017 has found that there are 4 PES site(s) within approximately 0.30 kilometers of the project property.

| Site | Address | Distance (m) | Map Key |
|---|---|---|---|
| WHISTLEWOOD LANDSCAPE SERVICES | 2110 MEADOWBROOK ROAD BURLINGTON ON L7P 2A4 | 132.3 | 4 |
| MOUNT ROYAL HARDWARE | 2027 MOUNT FOREST DRIVE BURLINGTON ON L7P 1H4 | 214.5 | 15 |
| HUTTEN'S GROUND MAINTENANCE | 312 - 2085 AMHERST HEIGHTS DR BURLINGTON ON L7P 5C2 | 257.0 | 24 |
| HUTTEN'S GROUND MAINTENANCE | 312 - 2085 AMHERST HEIGHTS DR BURLINGTON ON L7P5C2 | 264.9 | 29 |

## PINC - TSSA Pipeline Incidents

A search of the PINC database, dated Feb 28, 2017 has found that there are 1 PINC site(s) within approximately 0.30 kilometers of the project property.

| Site | Address | Distance (m) | Map Key |
|---|---|---|---|
| | 2116 MOUNT ROYAL AVENUE, BURLINGTON ON | 175.5 | 9 |

## PRT - Private and Retail Fuel Storage Tanks

A search of the PRT database, dated 1989-1996* has found that there are 2 PRT site(s) within approximately 0.30 kilometers of the project property.

| Site | Address | Distance (m) | Map Key |
|---|---|---|---|
| BR SHELL SERVICE BRIAN WEST HOLDINGS | 1331 BRANT ST BURLINGTON ON L7P 1X7 | 280.7 | 36 |
| BRANT HILLS SERVICE CENTRE DIV OF MACFARLANE SERVI | 1331 BRANT ST BURLINGTON ON L7P 1X7 | 280.7 | 36 |

## RST - Retail Fuel Storage Tanks

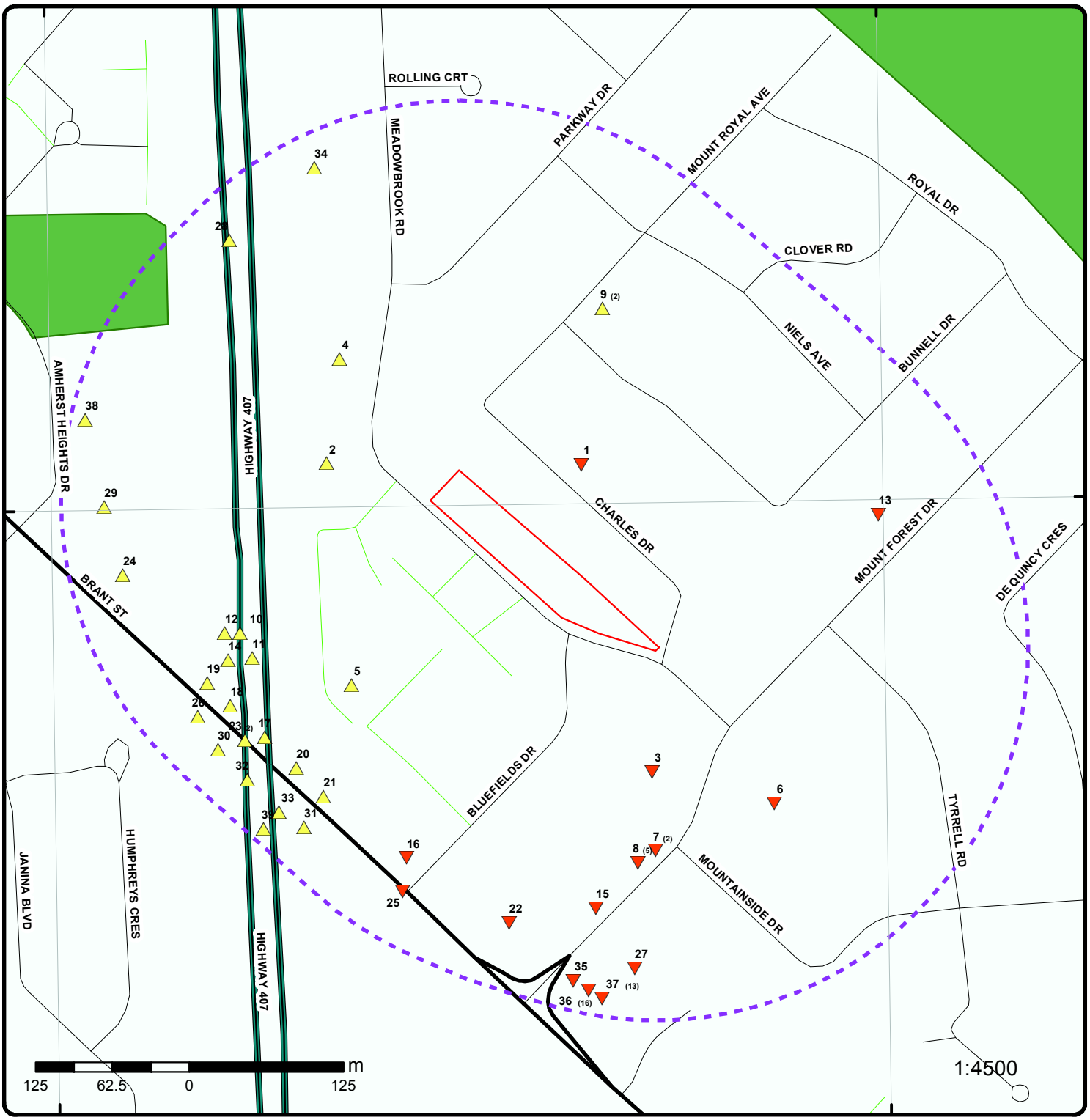
A search of the RST database, dated 1999-May 2017 has found that there are 1 RST site(s) within approximately 0.30 kilometers of the project property.

| Site | Address | Distance (m) | Map Key |
|---|---|---|---|
| MATT'S SHELL | 1331 BRANT ST BURLINGTON ON L7P1X7 | 280.7 | 36 |

## SPL - Ontario Spills

A search of the SPL database, dated 1988-Sep 2017 has found that there are 5 SPL site(s) within approximately 0.30 kilometers of the project property.

| Site | Address | Distance (m) | Map Key |
|---|---|---|---|
| | 1397 Charles Drive<UNOFFICIAL><br>Burlington ON L7P 2C8 | 68.4 | 1 |
| Union Gas Limited | 2116 Mount Royale Drive<br>Burlington ON | 175.5 | 9 |
| | 2129 Mount Forest Drive<br>Burlington ON | 208.5 | 13 |
| The Corporation of the Town of Essex | 407 East & Brant 407 EASTBOUND BY BRANT<UNOFFICIAL><br>Burlington ON | 245.6 | 23 |
| | Hwy 407 westbound (before Brant St)<UNOFFICIAL><br>Burlington ON | 245.6 | 23 |




# Map : 0.3 Kilometer Radius

Order No: 20180206084

Address: 2076 Meadowbrook Rd, Burlington, ON, L7P2A4

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

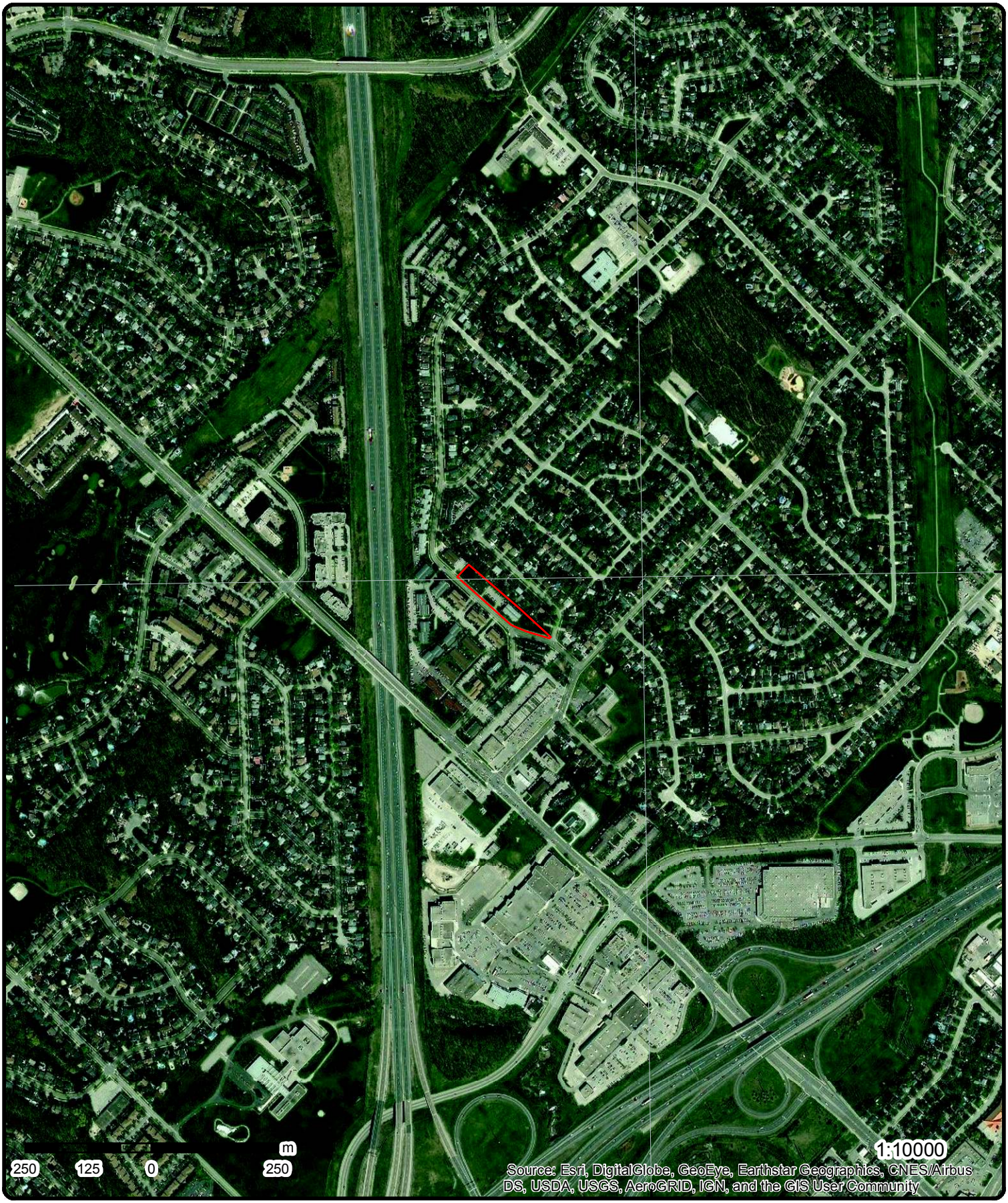
- Project Property
- Buffer Outline
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- Expressway
- Principal Highway
- Secondary Highway
- Major Road
- Local road
- Trail
- Proposed Road
- Ferry Route/Ice Road
-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

**Source:** © 2015 DMTI Spatial Inc.

© ERIS Information Limited Partnership

79°49'30"W

43°21'N




43°21'N

# Aerial (2013)

**Address: 2076 Meadowbrook Rd, Burlington, ON, L7P2A4**

**Source:** ESRI World Imagery

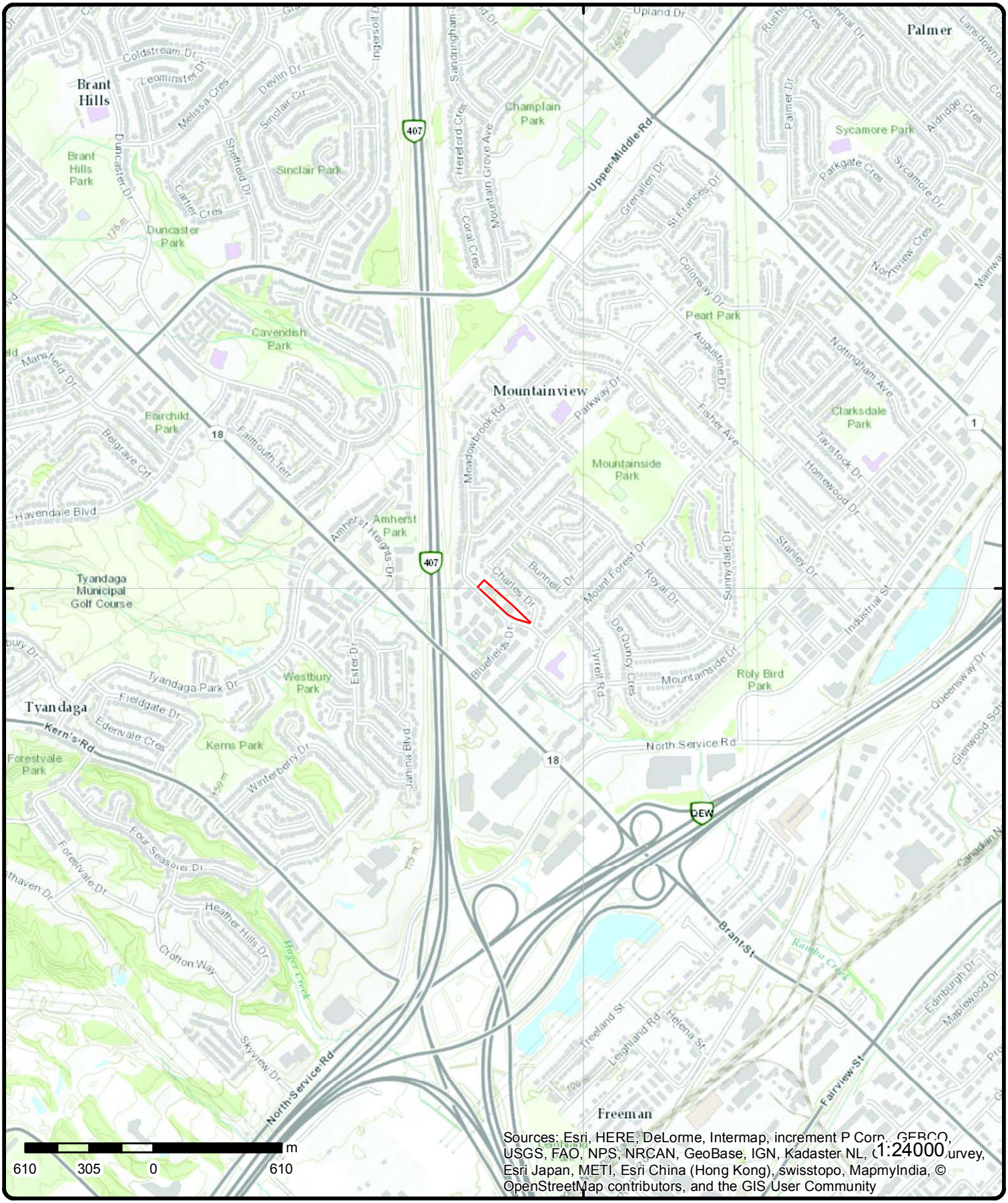
Order No: 20180206084

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

© ERIS Information Limited Partnership

79°49'30"W

43°21'N




43°21'N

# Topographic Map

Order No: 20180206084

**Address: 2076 Meadowbrook Rd, Burlington, ON, L7P2A4**

**Source:** ESRI World Topographic Map

© ERIS Information Limited Partnership

# Detail Report

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| 1 | 1 of 1 | NNE/68.4 | 125.3 | 1397 Charles Drive<UNOFFICIAL> Burlington ON L7P 2C8 | SPL |

| | | | |
|---|---|---|---|
| **Ref No:** | 4327-77WS95 | **Site Address:** | |
| **Contaminant Name:** | TRANSFORMER OIL (N.O.S.) | **Site Conc:** | |
| **Contaminant Code:** | 15 | **Site Lot:** | |
| **Contaminant Limit 1:** | | **Site County/District:** | |
| **Contam. Limit Freq 1:** | | **Site Municipality:** | Burlington |
| **Contaminant UN No 1:** | | **Site Postal Code:** | |
| **Contaminant Qty:** | 12 L | **Sector Type:** | Transformer |
| **MOE Reported Dt:** | 10/12/2007 | **Source Type:** | |
| **Health/Env Conseq:** | | **Receiving Medium:** | Land |
| **Incident Dt:** | | **Receiving Env:** | |
| **Incident Cause:** | Other Discharges | **Environment Impact:** | Not Anticipated |
| **Incident Event:** | | **Nature of Impact:** | Other Impact(s); Soil Contamination |
| **Incident Reason:** | Material Failure - Poor design or substandard materials | **SAC Action Class:** | |
| **Incident Summary:** | Burlington Hydro: 12 L spill, due to aging transformer | | |

| | | | | | |
|---|---|---|---|---|---|
| 2 | 1 of 1 | WNW/89.5 | 130.7 | ON | BORE |

| | | | |
|---|---|---|---|
| **Borehole ID:** | 622232 | **Type:** | Borehole |
| **Use:** | Geotechnical/Geological Investigation | **Status::** | |
| **Drill Method::** | Power auger | **UTM Zone::** | 17 |
| **Easting::** | 594775 | **Northing::** | 4800383 |
| **Location Accuracy::** | | **Orig. Ground Elev m::** | 132 |
| **Elev. Reliability Note::** | | **DEM Ground Elev m::** | 130 |
| **Total Depth m::** | 4.7 | **Primary Name::** | |
| **Township::** | | **Concession::** | |
| **Lot::** | | **Municipality:** | |
| **Completion Date::** | APR-1969 | **Static Water Level::** | -999.9 |
| **Primary Water Use::** | Not Used | **Sec. Water Use::** | |

***--Details--***

| | | | |
|---|---|---|---|
| **Stratum ID:** | 218424875 | **Top Depth(m):** | 0.0 |
| **Bottom Depth(m):** | 0.3 | **Stratum Desc:** | SOIL,CLAY. BROWN,AGE POST-GLACIAL. |
| **Stratum ID:** | 218424876 | **Top Depth(m):** | 0.3 |
| **Bottom Depth(m):** | 0.9 | **Stratum Desc:** | SILT,CLAY,SAND. BROWN,STIFF,AGE GLACIAL. |
| **Stratum ID:** | 218424877 | **Top Depth(m):** | 0.9 |
| **Bottom Depth(m):** | 4.7 | **Stratum Desc:** | SILT,CLAY,SAND. BROWN,HARD,AGE GLACIAL. 019 012 0001000800030066 |

| | | | | | |
|---|---|---|---|---|---|
| 3 | 1 of 1 | SSE/98.3 | 122.9 | 2055 MOUNT FOREST DRIVE, BURLINGTON ON | INC |

| | |
|---|---|
| **Incident No:** | 1488126 |

| | |
|---|---|
| ***Incident ID:*** | |
| ***Attribute Category:*** | FS-Perform L1 Incident Insp |
| ***Status Code:*** | |
| ***Incident Location:*** | 2055 MOUNT FOREST DRIVE, BURLINGTON - VAPOUR RELEASE |
| ***Drainage System:*** | |
| ***Sub Surface Contam.:*** | |
| ***Aff. Prop. Use Water:*** | |
| ***Contam. Migrated:*** | |
| ***Contact Natural Env.:*** | |
| ***Near Body of Water:*** | |
| ***Approx. Quant. Rel.:*** | |
| ***Equipment Model:*** | |
| ***Serial No:*** | |
| ***Residential App. Type:*** | |
| ***Commercial App. Type:*** | |
| ***Industrial App. Type:*** | |
| ***Institutional App. Type:*** | |
| ***Venting Type:*** | |
| ***Vent Connector Mater:*** | |
| ***Vent Chimney Mater:*** | |
| ***Pipeline Type:*** | |
| ***Pipeline Involved:*** | |
| ***Pipe Material:*** | |
| ***Depth Ground Cover:*** | |
| ***Regulator Location:*** | |
| ***Regulator Type:*** | |
| ***Operation Pressure:*** | |
| ***Liquid Prop Make:*** | |
| ***Liquid Prop Model:*** | |
| ***Liquid Prop Serial No:*** | |
| ***Equipment Type:*** | |
| ***Cylinder Capacity:*** | |
| ***Cylinder Capac. Units:*** | |
| ***Cylinder Material Type:*** | |
| ***Tank Capacity:*** | |
| ***Fuels Occurence Type:*** | Vapour Release |
| ***Fuel Type Involved:*** | Natural Gas |
| ***Date of Occurence:*** | 2014/09/27 00:00:00 |
| ***Time of Occurence:*** | NULL |
| ***Occur Insp Start Date:*** | 2014/10/07 00:00:00 |
| ***Any Health Impact:*** | No |
| ***Any Environmental Impact:*** | No |
| ***Was Service Interrupted:*** | Yes |
| ***Was Property Damaged:*** | Yes |
| ***Operation Type Involved:*** | Commercial (e.g. restaurant, business unit, etc) |
| ***Enforcement Policy:*** | NULL |
| ***Prc Escalation Required:*** | NULL |
| ***Task No:*** | 5197120 |
| ***Notes:*** | |
| ***Occurence Narrative:*** | NULL |
| ***Tank Material Type:*** | |
| ***Tank Storage Type:*** | |
| ***Tank Location Type:*** | |
| ***Pump Flow Rate Capac:*** | |
| ***Liquid Prop Notes:*** | |

| | | | | | |
|---|---|---|---|---|---|
| 4 | *1 of 1* | *NW/132.3* | *131.0* | ***WHISTLEWOOD LANDSCAPE SERVICES***<br>***2110 MEADOWBROOK ROAD***<br>***BURLINGTON ON L7P 2A4*** | ***PES*** |

| | | | |
|---|---|---|---|
| ***Licence No.:*** | | ***Operator Box:*** | |
| ***Detail Licence No.:*** | | ***Operator Class:*** | |
| ***Licence Type Code:*** | | ***Operator No.:*** | |
| ***Licence Type:*** | Operator | ***Operator Type:*** | |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|

| | | | |
|---|---|---|---|
| **Licence Class:** | | **Operator Lot:** | |
| **Licence Control:** | | **Oper Concession:** | |
| **Trade Name:** | | **Operator Region:** | |
| **Post Office Box:** | | **Operator District:** | |
| **Lot:** | | **Operator County:** | |
| **Concession:** | | **Oper Phone Area Cd:** | |
| **Region:** | | **Ext:** | |
| **District:** | | **Oper Phone Number:** | |
| **County:** | | **Proponent Ext:** | |

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**5** **1 of 1** **SW/154.5** **126.2** **ON** **BORE**

| | | | |
|---|---|---|---|
| **Borehole ID:** | 622231 | **Type:** | Borehole |
| **Use:** | Geotechnical/Geological Investigation | **Status::** | |
| **Drill Method::** | Power auger | **UTM Zone::** | 17 |
| **Easting::** | 594795 | **Northing::** | 4800203 |
| **Location Accuracy::** | | **Orig. Ground Elev m::** | 129 |
| **Elev. Reliability Note::** | | **DEM Ground Elev m::** | 126 |
| **Total Depth m::** | 6.6 | **Primary Name::** | |
| **Township::** | | **Concession::** | |
| **Lot::** | | **Municipality:** | |
| **Completion Date::** | APR-1969 | **Static Water Level::** | -999.9 |
| **Primary Water Use::** | Not Used | **Sec. Water Use::** | |

***--Details--***

| | | | |
|---|---|---|---|
| **Stratum ID:** | 218424872 | **Top Depth(m):** | 0.0 |
| **Bottom Depth(m):** | 0.3 | **Stratum Desc:** | SOIL,CLAY. BROWN,MAN-MADE, AGE POST-GLACIAL. |
| **Stratum ID:** | 218424873 | **Top Depth(m):** | 0.3 |
| **Bottom Depth(m):** | 1.5 | **Stratum Desc:** | FILL,SILT,CLAY, GRAVEL. BROWN,MAN-MADE,STIFF, AGE POST-GLACIAL. |
| **Stratum ID:** | 218424874 | **Top Depth(m):** | 1.5 |
| **Bottom Depth(m):** | 6.6 | **Stratum Desc:** | SILT,SAND,GRAVEL. BROWN,HARD,AGE GLACIAL. 020 011 0001001500050044 |

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**6** **1 of 1** **SE/156.9** **120.8**

***MOUNTAIN GARDENS PUBLIC SCHOOL***
***2054 MOUNTAINSIDE DR***
***BURLINGTON ON L7P 1A8***

**GEN**

| | | | |
|---|---|---|---|
| **Generator No.:** | ON0258200 | **PO Box No.:** | |
| **Status:** | | **Country:** | |
| **Approval Years:** | 86,87,88,89,90,92,93,94 | **Choice of Contact:** | |
| **Contam. Facility:** | | **Co Admin:** | |
| **MHSW Facility:** | | **Phone No. Admin:** | |
| **SIC Code:** | 0000 | | |
| **SIC Description:** | *** NOT DEFINED *** | | |

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**7** **1 of 2** **SSE/162.0** **121.6**

***MOUNT ROYAL IDA PHARMACY***
***2047 MOUNT FOREST DRIVE***
***BURLINGTON ON L7P 1H4***

**GEN**

| | | | |
|---|---|---|---|
| **Generator No.:** | ON1565719 | **PO Box No.:** | |
| **Status:** | | **Country:** | |
| **Approval Years:** | 00,01 | **Choice of Contact:** | |
| **Contam. Facility:** | | **Co Admin:** | |
| **MHSW Facility:** | | **Phone No. Admin:** | |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|

**SIC Code:** 6031
**SIC Description:** PHARMACIES

**--Details--**
**Waste Code:** 261
**Waste Description:** PHARMACEUTICALS

**Waste Code:** 312
**Waste Description:** PATHOLOGICAL WASTES

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**7** **2 of 2** **SSE/162.0** **121.6**

**MOUNT ROYAL IDA PHARMACY**
**2047 MOUNT FOREST DR**
**BURLINGTON ON L7P 1H4**

**GEN**

**Generator No.:** ON1565719
**Status:**
**Approval Years:** 02,03,04,05,06
**Contam. Facility:**
**MHSW Facility:**
**SIC Code:**
**SIC Description:**

**PO Box No.:**
**Country:**
**Choice of Contact:**
**Co Admin:**
**Phone No. Admin:**

**--Details--**
**Waste Code:** 312
**Waste Description:** PATHOLOGICAL WASTES

**Waste Code:** 261
**Waste Description:** PHARMACEUTICALS

---

**8** **1 of 5** **SSE/172.2** **121.2**

**PIONEER CLEANERS LTD.**
**2043 MT. FOREST DR.**
**BURLINGTON ON L7P 1H4**

**GEN**

**Generator No.:** ON0254902
**Status:**
**Approval Years:** 90
**Contam. Facility:**
**MHSW Facility:**
**SIC Code:** 9721
**SIC Description:** POWER LAUND./CLEANER

**PO Box No.:**
**Country:**
**Choice of Contact:**
**Co Admin:**
**Phone No. Admin:**

**--Details--**
**Waste Code:** 241
**Waste Description:** HALOGENATED SOLVENTS

---

**8** **2 of 5** **SSE/172.2** **121.2**

**PIONEER CLEANERS LTD. (OUT OF BUSINESS)**
**2043 MOUNT FOREST DRIVE**
**BURLINGTON ON L7P 1H4**

**GEN**

**Generator No.:** ON0254902
**Status:**
**Approval Years:** 98
**Contam. Facility:**
**MHSW Facility:**
**SIC Code:** 9721
**SIC Description:** POWER LAUND./CLEANERS

**PO Box No.:**
**Country:**
**Choice of Contact:**
**Co Admin:**
**Phone No. Admin:**

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | | DB |
|---|---|---|---|---|---|---|

***--Details--***
***Waste Code:*** 241
***Waste Description:*** HALOGENATED SOLVENTS

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| | | | | | | |
|---|---|---|---|---|---|---|
| 8 | *3 of 5* | *SSE/172.2* | *121.2* | ***PIONEER CLEANERS LTD.***<br>***2043 MT. FOREST DR.***<br>***BURLINGTON ON L7P 1H4*** | ***31-046*** | ***GEN*** |

***Generator No.:*** ON0254902
***Status:***
***Approval Years:*** 94
***Contam. Facility:***
***MHSW Facility:***
***SIC Code:*** 9721
***SIC Description:*** POWER LAUND./CLEANER

***PO Box No.:***
***Country:***
***Choice of Contact:***
***Co Admin:***
***Phone No. Admin:***

***--Details--***
***Waste Code:*** 241
***Waste Description:*** HALOGENATED SOLVENTS

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| | | | | | | |
|---|---|---|---|---|---|---|
| 8 | *4 of 5* | *SSE/172.2* | *121.2* | ***PIONEER CLEANERS LTD***<br>***2043 MT. FOREST DR.***<br>***BURLINGTON ON L7P 1H4*** | | ***GEN*** |

***Generator No.:*** ON0254902
***Status:***
***Approval Years:*** 86,87,88,89
***Contam. Facility:***
***MHSW Facility:***
***SIC Code:*** 9721
***SIC Description:*** POWER LAUND./CLEANERS

***PO Box No.:***
***Country:***
***Choice of Contact:***
***Co Admin:***
***Phone No. Admin:***

***--Details--***
***Waste Code:*** 241
***Waste Description:*** HALOGENATED SOLVENTS

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| | | | | | | |
|---|---|---|---|---|---|---|
| 8 | *5 of 5* | *SSE/172.2* | *121.2* | ***PIONEER CLEANERS(OUT OF BUSINESS) 31-046***<br>***2043 MT. FOREST DR.***<br>***BURLINGTON ON L7P 1H4*** | | ***GEN*** |

***Generator No.:*** ON0254902
***Status:***
***Approval Years:*** 92,93,95,96,97
***Contam. Facility:***
***MHSW Facility:***
***SIC Code:*** 9721
***SIC Description:*** POWER LAUND./CLEANER

***PO Box No.:***
***Country:***
***Choice of Contact:***
***Co Admin:***
***Phone No. Admin:***

***--Details--***
***Waste Code:*** 241
***Waste Description:*** HALOGENATED SOLVENTS

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| | | | | | | |
|---|---|---|---|---|---|---|
| 9 | *1 of 2* | *NNE/175.5* | *126.8* | ***2116 MOUNT ROYAL AVENUE, BURLINGTON ON*** | | ***PINC*** |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|

| | | | |
|---|---|---|---|
| **Incident ID:** | | **Health Impact:** | |
| **Incident No:** | 1688628 | **Environment Impact:** | |
| **Type:** | FS-Pipeline Incident | **Property Damage:** | No |
| **Status Code:** | Pipeline Damage Reason Est | **Service Interupt:** | |
| **Fuel Occurrence Tp:** | | **Enforce Policy:** | Yes |
| **Fuel Type:** | | **Public Relation:** | |
| **Tank Status:** | RC Established | **Pipeline System:** | |
| **Task No:** | 5679617 | **Depth:** | |
| **Spills Action Centre:** | | **Pipe Material:** | |
| **Method Details:** | E-mail | **PSIG:** | |
| **Fuel Category:** | Natural Gas | **Attribute Category:** | FS-Perform P-line Inc Invest |
| **Date of Occurrence:** | | **Regualtor Location:** | |
| **Occurrence Start Date:** | 2015/09/22 | | |
| **Operation Type:** | | | |
| **Pipeline Type:** | | | |
| **Regulator Type:** | | | |
| **Summary:** | 2116 MOUNT ROYAL AVENUE, BURLINGTON - PIPELINE HIT - 1/2" | | |
| **Reported By:** | John Blakely - UNION GAS | | |
| **Affiliation:** | | | |
| **Occurrence Desc:** | | | |
| **Damage Reason:** | Facility was not located or marked | | |
| **Notes:** | | | |

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**9** | **2 of 2** | **NNE/175.5** | **126.8**

***Union Gas Limited***
***2116 Mount Royale Drive***
***Burlington ON***

**SPL**

| | | | |
|---|---|---|---|
| **Ref No:** | 5510-9YQ5AU | **Site Address:** | 2116 Mount Royale Drive |
| **Contaminant Name:** | NATURAL GAS (METHANE) | **Site Conc:** | |
| **Contaminant Code:** | 35 | **Site Lot:** | |
| **Contaminant Limit 1:** | | **Site County/District:** | |
| **Contam. Limit Freq 1:** | | **Site Municipality:** | Burlington |
| **Contaminant UN No 1:** | | **Site Postal Code:** | |
| **Contaminant Qty:** | 0 other - see incident description | **Sector Type:** | Unknown / N/A |
| **MOE Reported Dt:** | 7/23/2015 | **Source Type:** | |
| **Health/Env Conseq:** | | **Receiving Medium:** | |
| **Incident Dt:** | 7/23/2015 | **Receiving Env:** | |
| **Incident Cause:** | | **Environment Impact:** | |
| **Incident Event:** | | **Nature of Impact:** | |
| **Incident Reason:** | Operator/Human Error | **SAC Action Class:** | TSSA - Fuel Safety Branch - Hydrocarbon Fuel Release/Spill |
| **Incident Summary:** | TSSA FSB 1/2" In damage made safe | | |

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**10** | **1 of 1** | **WSW/188.6** | **129.7**

***ON***

**BORE**

| | | | |
|---|---|---|---|
| **Borehole ID:** | 891408 | **Type:** | Borehole |
| **Use:** | Geotechnical/Geological Investigation | **Status::** | Decommissioned |
| **Drill Method::** | Solid stem auger | **UTM Zone::** | 17 |
| **Easting::** | 594704 | **Northing::** | 4800245 |
| **Location Accuracy::** | | **Orig. Ground Elev m::** | 128 |
| **Elev. Reliability Note::** | | **DEM Ground Elev m::** | 129 |
| **Total Depth m::** | 10.7 | **Primary Name::** | |
| **Township::** | NELSON | **Concession::** | BRANTS BLOCK |
| **Lot::** | | **Municipality:** | |
| **Completion Date::** | 25-NOV-1992 | **Static Water Level::** | 2.2 |
| **Primary Water Use::** | | **Sec. Water Use::** | |

***--Details--***

| | | | |
|---|---|---|---|
| **Stratum ID:** | 8504769 | **Top Depth(m):** | 0.0 |

| | | | |
|---|---|---|---|
| **Bottom Depth(m):** | 2.0 | **Stratum Desc:** | Silt, trace clay (Fill Material) Brown, Compact |
| **Stratum ID:** | 8504770 | **Top Depth(m):** | 2.0 |
| **Bottom Depth(m):** | 9.1 | **Stratum Desc:** | Heterogeneous mixture of clayey silt, sand and gravel (Glacial Till) Grey. Stiff to hard. |
| **Stratum ID:** | 8504771 | **Top Depth(m):** | 9.1 |
| **Bottom Depth(m):** | 10.7 | **Stratum Desc:** | Heterogeneous mixture of silt, sand and gravel (Glacial Till) Greyish red, very dense |

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**11** **1 of 1** **WSW/193.2** **128.5** **ON** **BORE**

| | | | |
|---|---|---|---|
| **Borehole ID:** | 891401 | **Type:** | Borehole |
| **Use:** | Geotechnical/Geological Investigation | **Status::** | Decommissioned |
| **Drill Method::** | Solid stem auger | **UTM Zone::** | 17 |
| **Easting::** | 594714 | **Northing::** | 4800225 |
| **Location Accuracy::** | | **Orig. Ground Elev m::** | 128 |
| **Elev. Reliability Note::** | | **DEM Ground Elev m::** | 129 |
| **Total Depth m::** | 13.7 | **Primary Name::** | |
| **Township::** | NELSON | **Concession::** | BRANTS BLOCK |
| **Lot::** | | **Municipality:** | |
| **Completion Date::** | 25-NOV-1992 | **Static Water Level::** | 2.2 |
| **Primary Water Use::** | | **Sec. Water Use::** | |

***--Details--***

| | | | |
|---|---|---|---|
| **Stratum ID:** | 8504751 | **Top Depth(m):** | 0.0 |
| **Bottom Depth(m):** | 2.0 | **Stratum Desc:** | Silt, Some sand. Brown, compact |
| **Stratum ID:** | 8504752 | **Top Depth(m):** | 2.0 |
| **Bottom Depth(m):** | 9.1 | **Stratum Desc:** | Heterogeneous mixture of clayey silt, sand and gravel (Glacial Till) Grey. Very stiff to Hard |
| **Stratum ID:** | 8504753 | **Top Depth(m):** | 9.1 |
| **Bottom Depth(m):** | 10.7 | **Stratum Desc:** | Heterogeneous mixture of silt, sand and gravel (Glacial Till) Greyish red, very dense |
| **Stratum ID:** | 8504754 | **Top Depth(m):** | 10.7 |
| **Bottom Depth(m):** | 13.7 | **Stratum Desc:** | Weathered to unweathered. Shale bedrock with interbedded siltstone weak to very weak. Greyish Red with interbedded greenish grey |

---

**12** **1 of 1** **WSW/198.9** **129.9** **ON** **BORE**

| | | | |
|---|---|---|---|
| **Borehole ID:** | 891407 | **Type:** | Borehole |
| **Use:** | Geotechnical/Geological Investigation | **Status::** | Decommissioned |
| **Drill Method::** | Solid stem auger | **UTM Zone::** | 17 |
| **Easting::** | 594692 | **Northing::** | 4800245 |
| **Location Accuracy::** | | **Orig. Ground Elev m::** | 128 |
| **Elev. Reliability Note::** | | **DEM Ground Elev m::** | 130 |
| **Total Depth m::** | 12.6 | **Primary Name::** | |
| **Township::** | NELSON | **Concession::** | BRANTS BLOCK |
| **Lot::** | | **Municipality:** | |
| **Completion Date::** | 25-NOV-1992 | **Static Water Level::** | 2.7 |
| **Primary Water Use::** | | **Sec. Water Use::** | |

***--Details--***

| | | | |
|---|---|---|---|
| **Stratum ID:** | 8504767 | **Top Depth(m):** | 0.0 |
| **Bottom Depth(m):** | 9.1 | **Stratum Desc:** | Heterogeneous mixture of clayey silt, sand and gravel (Glacial Till) Brown to grey. Very stiff to |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|

hard

**Stratum ID:** 8504768
**Bottom Depth(m):** 12.6
**Top Depth(m):** 9.1
**Stratum Desc:** Weathered, unweathered. Shale bedrock with interbedded siltstone. Weak to very weak. Greyish red with interbedded greenish grey

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**13** **1 of 1** **E/208.5** **120.8** **2129 Mount Forest Drive Burlington ON** **SPL**

**Ref No:** 5123-AP6MYP
**Contaminant Name:** NATURAL GAS (METHANE)
**Contaminant Code:** 35
**Contaminant Limit 1:**
**Contam. Limit Freq 1:**
**Contaminant UN No 1:** 1075
**Contaminant Qty:** 0 other - see incident description
**MOE Reported Dt:** 7/11/2017
**Health/Env Conseq:** 1 - Administrative
**Incident Dt:** 7/11/2017
**Incident Cause:**
**Incident Event:** Leak/Break
**Incident Reason:** Operator/Human Error
**Incident Summary:** TSSA FSB 1/2" made safe
**Site Address:** 2129 Mount Forest Drive
**Site Conc:**
**Site Lot:**
**Site County/District:** Regional Municipality of Halton
**Site Municipality:** Burlington
**Site Postal Code:**
**Sector Type:** Unknown / N/A
**Source Type:** Pipeline/Components
**Receiving Medium:**
**Receiving Env:** Air
**Environment Impact:**
**Nature of Impact:**
**SAC Action Class:** TSSA - Fuel Safety Branch - Hydrocarbon Fuel Release/Spill

---

**14** **1 of 1** **WSW/209.4** **129.3** **ON** **BORE**

**Borehole ID:** 621729
**Use:** Geotechnical/Geological Investigation
**Drill Method::** Power auger
**Easting::** 594695
**Location Accuracy::**
**Elev. Reliability Note::**
**Total Depth m::** 5.5
**Township::**
**Lot::**
**Completion Date::** MAY-1964
**Primary Water Use::** Not Used
**Type:** Borehole
**Status::**
**UTM Zone::** 17
**Northing::** 4800223
**Orig. Ground Elev m::** 129
**DEM Ground Elev m::** 128
**Primary Name::**
**Concession::**
**Municipality:**
**Static Water Level::** -999.9
**Sec. Water Use::**

***--Details--***

**Stratum ID:** 218422150
**Bottom Depth(m):** 0.3
**Top Depth(m):** 0.0
**Stratum Desc:** SOIL,SILT. BROWN,AGE POST-GLACIAL.

**Stratum ID:** 218422151
**Bottom Depth(m):** 0.8
**Top Depth(m):** 0.3
**Stratum Desc:** SAND,SILT,CLAY. BROWN,FLUVIO-GLACIAL, AGE GLACIAL.

**Stratum ID:** 218422152
**Bottom Depth(m):** 3.0
**Top Depth(m):** 0.8
**Stratum Desc:** TILL,SILT,CLAY. BROWN,GLACIAL,DENSE,UNIFORM, AGE GLACIAL.

**Stratum ID:** 218422153
**Bottom Depth(m):** 3.5
**Top Depth(m):** 3.0
**Stratum Desc:** TILL,SILT,CLAY. BROWN,GLACIAL,VERY HARD, OXIDIZED,AGE GLACIAL.

**Stratum ID:** 218422154
**Bottom Depth(m):** 5.5
**Top Depth(m):** 3.5
**Stratum Desc:** TILL,SILT,CLAY,SAND.GREEN,GLACIAL,VERY HARD, UNIFORM,AGE GLACIAL. 00025040001000600011504 6

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| 15 | 1 of 1 | S/214.5 | 121.0 | MOUNT ROYAL HARDWARE<br>2027 MOUNT FOREST DRIVE<br>BURLINGTON ON L7P 1H4 | PES |

| | | | |
|---|---|---|---|
| Licence No.: | | Operator Box: | |
| Detail Licence No.: | | Operator Class: | |
| Licence Type Code: | | Operator No.: | |
| Licence Type: | Vendor | Operator Type: | |
| Licence Class: | | Operator Lot: | |
| Licence Control: | | Oper Concession: | |
| Trade Name: | | Operator Region: | |
| Post Office Box: | | Operator District: | |
| Lot: | | Operator County: | |
| Concession: | | Oper Phone Area Cd: | |
| Region: | | Ext: | |
| District: | | Oper Phone Number: | |
| County: | | Proponent Ext: | |

| | | | | | |
|---|---|---|---|---|---|
| 16 | 1 of 1 | SSW/232.3 | 124.4 | 2007-2023 Bluefields Drive<br>Burlington ON L7P 1J9 | EHS |

| | |
|---|---|
| Postal Code: | |
| City: | |
| Address2: | |
| Address1: | |
| Provstate: | |
| Order No.: | 20020913005 |
| Addit. Info Ordered:: | |
| Report Date: | 9/17/02 |
| Report Type: | Site Report |
| Search Radius (km): | 0.25 |

| | | | | | |
|---|---|---|---|---|---|
| 17 | 1 of 1 | WSW/232.8 | 126.7 | ON | BORE |

| | | | |
|---|---|---|---|
| Borehole ID: | 891050 | Type: | Borehole |
| Use: | Geotechnical/Geological Investigation | Status:: | Decommissioned |
| Drill Method:: | Solid stem auger | UTM Zone:: | 17 |
| Easting:: | 594724 | Northing:: | 4800160 |
| Location Accuracy:: | | Orig. Ground Elev m:: | 129 |
| Elev. Reliability Note:: | | DEM Ground Elev m:: | 127 |
| Total Depth m:: | 12.2 | Primary Name:: | |
| Township:: | NELSON | Concession:: | BRANTS BLOCK |
| Lot:: | | Municipality: | |
| Completion Date:: | 21-JAN-1985 | Static Water Level:: | -999.9 |
| Primary Water Use:: | | Sec. Water Use:: | |

--Details--

| | | | |
|---|---|---|---|
| Stratum ID: | 8503649 | Top Depth(m): | 0.0 |
| Bottom Depth(m): | 2.4 | Stratum Desc: | Silty clay some sand and gravel. Fill, stiff to very stiff |
| Stratum ID: | 8503650 | Top Depth(m): | 2.4 |
| Bottom Depth(m): | 11.5 | Stratum Desc: | Heterogeneous mixture of silty clay, sand and gravel. Hard glacial till. Occasional cobbles and boulders |
| Stratum ID: | 8503651 | Top Depth(m): | 11.5 |
| Bottom Depth(m): | 12.2 | Stratum Desc: | Bedrock, weathered |

18 1 of 1 WSW/233.1 127.5 ON BORE

| | | | |
|---|---|---|---|
| **Borehole ID:** | 891049 | **Type:** | Borehole |
| **Use:** | Geotechnical/Geological Investigation | **Status::** | Decommissioned |
| **Drill Method::** | Hollow stem auger | **UTM Zone::** | 17 |
| **Easting::** | 594696 | **Northing::** | 4800186 |
| **Location Accuracy::** | | **Orig. Ground Elev m::** | 129 |
| **Elev. Reliability Note::** | | **DEM Ground Elev m::** | 128 |
| **Total Depth m::** | 13.9 | **Primary Name::** | |
| **Township::** | NELSON | **Concession::** | BRANTS BLOCK |
| **Lot::** | | **Municipality:** | |
| **Completion Date::** | 18-JAN-1985 | **Static Water Level::** | -999.9 |
| **Primary Water Use::** | | **Sec. Water Use::** | |

**--Details--**

| | | | |
|---|---|---|---|
| **Stratum ID:** | 8503646 | **Top Depth(m):** | 0.0 |
| **Bottom Depth(m):** | 2.4 | **Stratum Desc:** | Silty clay some sand and gravel, fill, stiff |
| **Stratum ID:** | 8503647 | **Top Depth(m):** | 2.4 |
| **Bottom Depth(m):** | 11.6 | **Stratum Desc:** | Heterogeneous Mixture of silty clay, sand and gravel. Hard glacial till. Occasional cobbles and boulders |
| **Stratum ID:** | 8503648 | **Top Depth(m):** | 11.6 |
| **Bottom Depth(m):** | 13.9 | **Stratum Desc:** | Bedrock, weathered sound queenston shale |

19 1 of 1 WSW/234.1 129.2 ON BORE

| | | | |
|---|---|---|---|
| **Borehole ID:** | 891048 | **Type:** | Borehole |
| **Use:** | Geotechnical/Geological Investigation | **Status::** | Decommissioned |
| **Drill Method::** | Hollow stem auger | **UTM Zone::** | 17 |
| **Easting::** | 594677 | **Northing::** | 4800205 |
| **Location Accuracy::** | | **Orig. Ground Elev m::** | 130 |
| **Elev. Reliability Note::** | | **DEM Ground Elev m::** | 129 |
| **Total Depth m::** | 13.5 | **Primary Name::** | |
| **Township::** | NELSON | **Concession::** | BRANTS BLOCK |
| **Lot::** | | **Municipality:** | |
| **Completion Date::** | 17-JAN-1985 | **Static Water Level::** | 3.5 |
| **Primary Water Use::** | | **Sec. Water Use::** | |

**--Details--**

| | | | |
|---|---|---|---|
| **Stratum ID:** | 8503643 | **Top Depth(m):** | 0.0 |
| **Bottom Depth(m):** | 2.7 | **Stratum Desc:** | Silty clay, some gravel and sand. Fill. Stiff |
| **Stratum ID:** | 8503644 | **Top Depth(m):** | 2.7 |
| **Bottom Depth(m):** | 11.9 | **Stratum Desc:** | Heterogeneous Mixture of silty clay; sand and gravel. Hard Glacial Till. Occasional cobbles and boulders |
| **Stratum ID:** | 8503645 | **Top Depth(m):** | 11.9 |
| **Bottom Depth(m):** | 13.5 | **Stratum Desc:** | Bedrock weathered, Queeston Shale |

20 1 of 1 SW/234.5 125.8 ON BORE

| | | | |
|---|---|---|---|
| **Borehole ID:** | 891051 | **Type:** | Borehole |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|

| | | | |
|---|---|---|---|
| ***Use:*** | Geotechnical/Geological Investigation | ***Status::*** | Decommissioned |
| ***Drill Method::*** | Solid stem auger | ***UTM Zone::*** | 17 |
| ***Easting::*** | 594750 | ***Northing::*** | 4800135 |
| ***Location Accuracy::*** | | ***Orig. Ground Elev m::*** | 128 |
| ***Elev. Reliability Note::*** | | ***DEM Ground Elev m::*** | 126 |
| ***Total Depth m::*** | 16.7 | ***Primary Name::*** | |
| ***Township::*** | NELSON | ***Concession::*** | BRANTS BLOCK |
| ***Lot::*** | | ***Municipality:*** | |
| ***Completion Date::*** | 22-JAN-1985 | ***Static Water Level::*** | 2 |
| ***Primary Water Use::*** | | ***Sec. Water Use::*** | |

***--Details--***

| | | | |
|---|---|---|---|
| ***Stratum ID:*** | 8503653 | ***Top Depth(m):*** | 2.3 |
| ***Bottom Depth(m):*** | 11.9 | ***Stratum Desc:*** | heterogeneous mixture of silty clay, sand, and gravel. Very stiff to hard glacial till |
| ***Stratum ID:*** | 8503654 | ***Top Depth(m):*** | 11.9 |
| ***Bottom Depth(m):*** | 16.7 | ***Stratum Desc:*** | Bedrock weathered, sound queenston shale |
| ***Stratum ID:*** | 8503652 | ***Top Depth(m):*** | 0.0 |
| ***Bottom Depth(m):*** | 2.3 | ***Stratum Desc:*** | Silty clay some sand and gravel fill, firm |

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**21** ***1 of 1*** ***SW/237.2*** ***125.8*** ***ON*** ***BORE***

| | | | |
|---|---|---|---|
| ***Borehole ID:*** | 891052 | ***Type:*** | Borehole |
| ***Use:*** | Geotechnical/Geological Investigation | ***Status::*** | Decommissioned |
| ***Drill Method::*** | Solid stem auger | ***UTM Zone::*** | 17 |
| ***Easting::*** | 594772 | ***Northing::*** | 4800112 |
| ***Location Accuracy::*** | | ***Orig. Ground Elev m::*** | 127 |
| ***Elev. Reliability Note::*** | | ***DEM Ground Elev m::*** | 125 |
| ***Total Depth m::*** | 13.7 | ***Primary Name::*** | |
| ***Township::*** | NELSON | ***Concession::*** | BRANTS BLOCK |
| ***Lot::*** | | ***Municipality:*** | |
| ***Completion Date::*** | 21-JAN-1985 | ***Static Water Level::*** | 9 |
| ***Primary Water Use::*** | | ***Sec. Water Use::*** | |

***--Details--***

| | | | |
|---|---|---|---|
| ***Stratum ID:*** | 8503655 | ***Top Depth(m):*** | 0.0 |
| ***Bottom Depth(m):*** | 2.2 | ***Stratum Desc:*** | Silty clay some sand and gravel. Fill, very stiff |
| ***Stratum ID:*** | 8503656 | ***Top Depth(m):*** | 2.2 |
| ***Bottom Depth(m):*** | 11.8 | ***Stratum Desc:*** | heterogeneous mixture of silty clay, sand and gravel. Very stiff to hard, glacial till. Occasional cobbles and boulders |
| ***Stratum ID:*** | 8503657 | ***Top Depth(m):*** | 11.8 |
| ***Bottom Depth(m):*** | 13.7 | ***Stratum Desc:*** | Bedrock weathered, queenston shale |

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**22** ***1 of 1*** ***S/245.5*** ***123.0***

***PHILTHY MCNASTY'S SPORTS TAP & GRILL INC***
***2011 MOUNT FOREST DRIVE***
***BURLINGTON CITY ON L7P 1H4*** ***CA***

| | |
|---|---|
| ***Certificate #:*** | 8-3489-96- |
| ***Application Year:*** | 96 |
| ***Issue Date:*** | 10/24/1996 |
| ***Approval Type:*** | Industrial air |
| ***Status:*** | Approved |
| ***Application Type:*** | |
| ***Client Name::*** | |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|

***Client Address::***
***Client City::***
***Client Postal Code::***
***Project Description::*** COMMERCIAL KITCHEN EXHAUST HOOD
***Contaminants::***
***Emission Control::***

---

**23** ***1 of 2*** ***WSW/245.6*** ***126.9*** ***The Corporation of the Town of Essex 407 East & Brant 407 EASTBOUND BY BRANT<UNOFFICIAL> Burlington ON*** ***SPL***

| | | | |
|---|---|---|---|
| ***Ref No:*** | 7287-6T5JK3 | ***Site Address:*** | MANHOLE 200 FT. FROM 280 WABASSO RD., HARROW |
| ***Contaminant Name:*** | MINERAL OIL | ***Site Conc:*** | |
| ***Contaminant Code:*** | 13 | ***Site Lot:*** | |
| ***Contaminant Limit 1:*** | | ***Site County/District:*** | |
| ***Contam. Limit Freq 1:*** | | ***Site Municipality:*** | Essex |
| ***Contaminant UN No 1:*** | | ***Site Postal Code:*** | |
| ***Contaminant Qty:*** | 10 L | ***Sector Type:*** | Transformer |
| ***MOE Reported Dt:*** | 3/7/2006 | ***Source Type:*** | |
| ***Health/Env Conseq:*** | | ***Receiving Medium:*** | Land |
| ***Incident Dt:*** | 3/7/2006 | ***Receiving Env:*** | |
| ***Incident Cause:*** | Other Discharges | ***Environment Impact:*** | Possible |
| ***Incident Event:*** | | ***Nature of Impact:*** | Soil Contamination |
| ***Incident Reason:*** | Equipment Failure | ***SAC Action Class:*** | |
| ***Incident Summary:*** | Transformer oil spill on 407, non pcb, cleaned | | |

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**23** ***2 of 2*** ***WSW/245.6*** ***126.9*** ***Hwy 407 westbound (before Brant St)<UNOFFICIAL> Burlington ON*** ***SPL***

| | | | |
|---|---|---|---|
| ***Ref No:*** | 6120-7BEVMB | ***Site Address:*** | |
| ***Contaminant Name:*** | GASOLINE | ***Site Conc:*** | |
| ***Contaminant Code:*** | 12 | ***Site Lot:*** | |
| ***Contaminant Limit 1:*** | | ***Site County/District:*** | |
| ***Contam. Limit Freq 1:*** | | ***Site Municipality:*** | Burlington |
| ***Contaminant UN No 1:*** | | ***Site Postal Code:*** | |
| ***Contaminant Qty:*** | 20 L | ***Sector Type:*** | Other Motor Vehicle |
| ***MOE Reported Dt:*** | 2/1/2008 | ***Source Type:*** | |
| ***Health/Env Conseq:*** | | ***Receiving Medium:*** | |
| ***Incident Dt:*** | | ***Receiving Env:*** | |
| ***Incident Cause:*** | Other Transport Accident | ***Environment Impact:*** | Confirmed |
| ***Incident Event:*** | | ***Nature of Impact:*** | Soil Contamination |
| ***Incident Reason:*** | Weather | ***SAC Action Class:*** | Highway Spills (usually highway accidents) |
| ***Incident Summary:*** | MVA, car spilled 4 L oil + 20 L gas to Hwy 407, not cleaned | | |

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**24** ***1 of 1*** ***W/257.0*** ***133.4*** ***HUTTEN'S GROUND MAINTENANCE 312 - 2085 AMHERST HEIGHTS DR BURLINGTON ON L7P 5C2*** ***PES***

| | | | |
|---|---|---|---|
| ***Licence No.:*** | 00813 | ***Operator Box:*** | |
| ***Detail Licence No.:*** | 02-01-00813-0 | ***Operator Class:*** | |
| ***Licence Type Code:*** | 02 | ***Operator No.:*** | |
| ***Licence Type:*** | Operator | ***Operator Type:*** | |
| ***Licence Class:*** | 01 | ***Operator Lot:*** | |
| ***Licence Control:*** | 0 | ***Oper Concession:*** | |
| ***Trade Name:*** | | ***Operator Region:*** | 2 |
| ***Post Office Box:*** | | ***Operator District:*** | |
| ***Lot:*** | | ***Operator County:*** | 68 |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|

| | | | |
|---|---|---|---|
| **Concession:** | | **Oper Phone Area Cd:** | |
| **Region:** | 2 | **Ext:** | |
| **District:** | | **Oper Phone Number:** | |
| **County:** | 68 | **Proponent Ext:** | |

**25** *1 of 1* *SSW/257.1* *124.9* ***R.M. OF HALTON - BRANT ST. BRANT ST./BLUEFIELD DR. BURLINGTON CITY ON*** ***CA***

| | |
|---|---|
| **Certificate #:** | 7-1591-90- |
| **Application Year:** | 90 |
| **Issue Date:** | 10/24/1990 |
| **Approval Type:** | Municipal water |
| **Status:** | Approved |
| **Application Type:** | |
| **Client Name::** | |
| **Client Address::** | |
| **Client City::** | |
| **Client Postal Code::** | |
| **Project Description::** | |
| **Contaminants::** | |
| **Emission Control::** | |

**26** *1 of 1* *WSW/258.0* *128.9* ***ON*** ***BORE***

| | | | |
|---|---|---|---|
| **Borehole ID:** | 891057 | **Type:** | Borehole |
| **Use:** | Geotechnical/Geological Investigation | **Status::** | Decommissioned |
| **Drill Method::** | Solid stem auger | **UTM Zone::** | 17 |
| **Easting::** | 594670 | **Northing::** | 4800177 |
| **Location Accuracy::** | | **Orig. Ground Elev m::** | 130 |
| **Elev. Reliability Note::** | | **DEM Ground Elev m::** | 129 |
| **Total Depth m::** | 13.8 | **Primary Name::** | |
| **Township::** | NELSON | **Concession::** | BRANTS BLOCK |
| **Lot::** | | **Municipality:** | |
| **Completion Date::** | 23-JAN-1985 | **Static Water Level::** | 2.1 |
| **Primary Water Use::** | | **Sec. Water Use::** | |

***--Details--***

| | | | |
|---|---|---|---|
| **Stratum ID:** | 8503668 | **Top Depth(m):** | 0.0 |
| **Bottom Depth(m):** | 2.1 | **Stratum Desc:** | silty clay some sand and gravel. Fill. Firm |
| **Stratum ID:** | 8503669 | **Top Depth(m):** | 2.1 |
| **Bottom Depth(m):** | 13.8 | **Stratum Desc:** | Heterogeneous mixture of silty clay. Sand and gravel. Very stiff to hard. Glacial till. Occasional cobbles and boulders |

**27** *1 of 1* *SSE/258.1* *120.0* ***ON*** ***BORE***

| | | | |
|---|---|---|---|
| **Borehole ID:** | 622383 | **Type:** | Borehole |
| **Use:** | Geotechnical/Geological Investigation | **Status::** | |
| **Drill Method::** | Power auger | **UTM Zone::** | 17 |
| **Easting::** | 595025 | **Northing::** | 4799973 |
| **Location Accuracy::** | | **Orig. Ground Elev m::** | 120 |
| **Elev. Reliability Note::** | | **DEM Ground Elev m::** | 120 |
| **Total Depth m::** | 5 | **Primary Name::** | |
| **Township::** | | **Concession::** | |
| **Lot::** | | **Municipality:** | |
| **Completion Date::** | JUL-1969 | **Static Water Level::** | -999.9 |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|

**Primary Water Use::** Not Used
**Sec. Water Use::**

***--Details--***

**Stratum ID:** 218425380
**Top Depth(m):** 0.0
**Bottom Depth(m):** 2.6
**Stratum Desc:** FILL,CLAY,SILT, ORGANIC. MAN-MADE,COMPACT,UNIFORM, AGE POST-GLACIAL.

**Stratum ID:** 218425381
**Top Depth(m):** 2.6
**Bottom Depth(m):** 5.0
**Stratum Desc:** SILT,CLAY,GRAVEL. BROWN,DENSE,UNIFORM, AGE GLACIAL. 0000001400085045

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**28** | **1 of 1** | **NW/263.9** | **139.9** | **Parcel 19 Burlington ON** | **EHS**

**Postal Code:**
**City:**
**Address2:**
**Address1:**
**Provstate:**
**Order No.:** 19990601019
**Addit. Info Ordered::**
**Report Date:** 6/11/99
**Report Type:** Custom Report
**Search Radius (km):** 0.50

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**29** | **1 of 1** | **W/264.9** | **135.3** | **HUTTEN'S GROUND MAINTENANCE 312 - 2085 AMHERST HEIGHTS DR BURLINGTON ON L7P5C2** | **PES**

**Licence No.:** 07899
**Detail Licence No.:**
**Licence Type Code:** 02
**Licence Type:**
**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:** 905
**Ext:**
**Oper Phone Number:**
**Proponent Ext:**

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**30** | **1 of 1** | **WSW/265.8** | **128.1** | **ON** | **BORE**

**Borehole ID:** 891056
**Type:** Borehole
**Use:** Geotechnical/Geological Investigation
**Status::** Decommissioned
**Drill Method::** Solid stem auger
**UTM Zone::** 17
**Easting::** 594686
**Northing::** 4800150
**Location Accuracy::**
**Orig. Ground Elev m::** 130
**Elev. Reliability Note::**
**DEM Ground Elev m::** 129
**Total Depth m::** 16.8
**Primary Name::**
**Township::** NELSON
**Concession::** BRANTS BLOCK
**Lot::**
**Municipality:**
**Completion Date::** 24-JAN-1985
**Static Water Level::** 10
**Primary Water Use::**
**Sec. Water Use::**

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|

***--Details--***

| | | | |
|---|---|---|---|
| ***Stratum ID:*** | 8503665 | ***Top Depth(m):*** | 0.0 |
| ***Bottom Depth(m):*** | 1.3 | ***Stratum Desc:*** | Silty clay some sand and gravel. Fill - very stiff |
| ***Stratum ID:*** | 8503666 | ***Top Depth(m):*** | 1.3 |
| ***Bottom Depth(m):*** | 13.0 | ***Stratum Desc:*** | Heterogeneous mixture of silty clay, sand and gravel. Very stiff to hard, glacial till. Occasional cobbles and boulders |
| ***Stratum ID:*** | 8503667 | ***Top Depth(m):*** | 13.0 |
| ***Bottom Depth(m):*** | 16.8 | ***Stratum Desc:*** | Bedrock, weathered, sound, queenston shale |

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31 ***1 of 1*** ***SW/266.2*** ***126.1*** ***ON*** ***BORE***

| | | | |
|---|---|---|---|
| ***Borehole ID:*** | 891053 | ***Type:*** | Borehole |
| ***Use:*** | Geotechnical/Geological Investigation | ***Status::*** | Decommissioned |
| ***Drill Method::*** | Solid stem auger | ***UTM Zone::*** | 17 |
| ***Easting::*** | 594756 | ***Northing::*** | 4800087 |
| ***Location Accuracy::*** | | ***Orig. Ground Elev m::*** | 128 |
| ***Elev. Reliability Note::*** | | ***DEM Ground Elev m::*** | 126 |
| ***Total Depth m::*** | 12.2 | ***Primary Name::*** | |
| ***Township::*** | NELSON | ***Concession::*** | BRANTS BLOCK |
| ***Lot::*** | | ***Municipality:*** | |
| ***Completion Date::*** | 25-JAN-1985 | ***Static Water Level::*** | -999.9 |
| ***Primary Water Use::*** | | ***Sec. Water Use::*** | |

***--Details--***

| | | | |
|---|---|---|---|
| ***Stratum ID:*** | 8503659 | ***Top Depth(m):*** | 1.7 |
| ***Bottom Depth(m):*** | 11.7 | ***Stratum Desc:*** | Heterogeneous Mixture of silty clay, sand and gravel. Very stiff to hard. Glacial till |
| ***Stratum ID:*** | 8503660 | ***Top Depth(m):*** | 11.7 |
| ***Bottom Depth(m):*** | 12.2 | ***Stratum Desc:*** | Bedrock - weathered |
| ***Stratum ID:*** | 8503658 | ***Top Depth(m):*** | 0.0 |
| ***Bottom Depth(m):*** | 1.7 | ***Stratum Desc:*** | Silty clay some sand and gravel. Fill very stiff |

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32 ***1 of 1*** ***SW/268.2*** ***127.4*** ***ON*** ***BORE***

| | | | |
|---|---|---|---|
| ***Borehole ID:*** | 891055 | ***Type:*** | Borehole |
| ***Use:*** | Geotechnical/Geological Investigation | ***Status::*** | Decommissioned |
| ***Drill Method::*** | Solid stem auger | ***UTM Zone::*** | 17 |
| ***Easting::*** | 594710 | ***Northing::*** | 4800126 |
| ***Location Accuracy::*** | | ***Orig. Ground Elev m::*** | 129 |
| ***Elev. Reliability Note::*** | | ***DEM Ground Elev m::*** | 128 |
| ***Total Depth m::*** | 15.2 | ***Primary Name::*** | |
| ***Township::*** | NELSON | ***Concession::*** | BRANTS BLOCK |
| ***Lot::*** | | ***Municipality:*** | |
| ***Completion Date::*** | 25-JAN-1985 | ***Static Water Level::*** | 9 |
| ***Primary Water Use::*** | | ***Sec. Water Use::*** | |

***--Details--***

| | | | |
|---|---|---|---|
| ***Stratum ID:*** | 8503663 | ***Top Depth(m):*** | 0.0 |
| ***Bottom Depth(m):*** | 12.3 | ***Stratum Desc:*** | Heterogeneous Mixture of silty clay, sand and gravel. Very stiff to hard. Glacial till. Occasional cobbles and boulders |
| ***Stratum ID:*** | 8503664 | ***Top Depth(m):*** | 12.3 |

| | | | | | |
|---|---|---|---|---|---|
| **Bottom Depth(m):** | 15.2 | | | **Stratum Desc:** | Bedrock, weathered, sound, queenston shale |

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**33** **1 of 1** **SW/270.6** **126.3** **ON** **BORE**

| | | | |
|---|---|---|---|
| **Borehole ID:** | 891054 | **Type:** | Borehole |
| **Use:** | Geotechnical/Geological Investigation | **Status::** | Decommissioned |
| **Drill Method::** | Solid stem auger | **UTM Zone::** | 17 |
| **Easting::** | 594736 | **Northing::** | 4800100 |
| **Location Accuracy::** | | **Orig. Ground Elev m::** | 129 |
| **Elev. Reliability Note::** | | **DEM Ground Elev m::** | 127 |
| **Total Depth m::** | 16.7 | **Primary Name::** | |
| **Township::** | NELSON | **Concession::** | BRANTS BLOCK |
| **Lot::** | | **Municipality:** | |
| **Completion Date::** | 28-JAN-1985 | **Static Water Level::** | 12 |
| **Primary Water Use::** | | **Sec. Water Use::** | |

***--Details--***

| | | | |
|---|---|---|---|
| **Stratum ID:** | 8503661 | **Top Depth(m):** | 0.0 |
| **Bottom Depth(m):** | 12.5 | **Stratum Desc:** | Heterogeneous mixture of silty clay, sand and gravel. Very stiff to hard. Glacial till |
| **Stratum ID:** | 8503662 | **Top Depth(m):** | 12.5 |
| **Bottom Depth(m):** | 16.7 | **Stratum Desc:** | bedrock. Weathered, sound. Queenston shale |

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**34** **1 of 1** **NNW/272.1** **135.9** **ON** **BORE**

| | | | |
|---|---|---|---|
| **Borehole ID:** | 622233 | **Type:** | Borehole |
| **Use:** | Geotechnical/Geological Investigation | **Status::** | |
| **Drill Method::** | Power auger | **UTM Zone::** | 17 |
| **Easting::** | 594765 | **Northing::** | 4800623 |
| **Location Accuracy::** | | **Orig. Ground Elev m::** | 141 |
| **Elev. Reliability Note::** | | **DEM Ground Elev m::** | 136 |
| **Total Depth m::** | 12.3 | **Primary Name::** | |
| **Township::** | | **Concession::** | |
| **Lot::** | | **Municipality:** | |
| **Completion Date::** | APR-1917 | **Static Water Level::** | -999.9 |
| **Primary Water Use::** | Not Used | **Sec. Water Use::** | |

***--Details--***

| | | | |
|---|---|---|---|
| **Stratum ID:** | 218424878 | **Top Depth(m):** | 0.0 |
| **Bottom Depth(m):** | 0.6 | **Stratum Desc:** | SOIL,CLAY. BROWN,AGE POST-GLACIAL. |
| **Stratum ID:** | 218424879 | **Top Depth(m):** | 0.6 |
| **Bottom Depth(m):** | 12.3 | **Stratum Desc:** | SILT,CLAY,SAND. BROWN,HARD,AGE GLACIAL. 011 00020053HARD,AGE |

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**35** **1 of 1** **S/275.8** **122.2** **ON** **BORE**

| | | | |
|---|---|---|---|
| **Borehole ID:** | 622382 | **Type:** | Borehole |
| **Use:** | Geotechnical/Geological Investigation | **Status::** | |
| **Drill Method::** | Power auger | **UTM Zone::** | 17 |
| **Easting::** | 594975 | **Northing::** | 4799963 |
| **Location Accuracy::** | | **Orig. Ground Elev m::** | 122 |
| **Elev. Reliability Note::** | | **DEM Ground Elev m::** | 122 |
| **Total Depth m::** | 5 | **Primary Name::** | |
| **Township::** | | **Concession::** | |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|

***Lot::*** ***Municipality:***
***Completion Date::*** JUL-1969 ***Static Water Level::*** -999.9
***Primary Water Use::*** Not Used ***Sec. Water Use::***

***--Details--***
***Stratum ID:*** 218425379 ***Top Depth(m):*** 0.0
***Bottom Depth(m):*** 5.0 ***Stratum Desc:*** SILT,CLAY,GRAVEL. BROWN,DENSE,UNIFORM, AGE GLACIAL. 00000042CLAY,S

---

**36** ***1 of 16*** ***S/280.7*** ***121.8*** ***Shell Canada Products Limited 1331 Brant Street Burlington ON L7P 1X7*** ***CA***

***Certificate #:*** 7288-6DKKHS
***Application Year:*** 2005
***Issue Date:*** 6/22/2005
***Approval Type:*** Municipal and Private Sewage Works
***Status:*** Approved
***Application Type:***
***Client Name::***
***Client Address::***
***Client City::***
***Client Postal Code::***
***Project Description::***
***Contaminants::***
***Emission Control::***

---

**36** ***2 of 16*** ***S/280.7*** ***121.8*** ***Shell Canada OP Inc. and Shell Canada Products Limited 1331 Brant Street Burlington ON L7P 1X7*** ***CA***

***Certificate #:*** 9694-6AZTSG
***Application Year:*** 2005
***Issue Date:*** 4/15/2005
***Approval Type:*** Industrial Sewage Works
***Status:*** Approved
***Application Type:***
***Client Name::***
***Client Address::***
***Client City::***
***Client Postal Code::***
***Project Description::***
***Contaminants::***
***Emission Control::***

---

**36** ***3 of 16*** ***S/280.7*** ***121.8*** ***MINA AUTO SERVICE LTD 1331 BRANT ST BURLINGTON ON*** ***EXP***

***Instance No:*** 11428686
***Instance ID:*** 83736
***Instance Type:*** FS Piping
***Description:*** FS Piping
***Status:*** EXPIRED
***TSSA Program Area:***
***Maximum Hazard Rank:***
***Facility Type:***
***Expired Date:***

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| 36 | 4 of 16 | S/280.7 | 121.8 | MINA AUTO SERVICE - SHELL<br>1331 BRANT ST<br>BURLINGTON ON | EXP |

| | |
|---|---|
| Instance No: | 10160673 |
| Instance ID: | 12926 |
| Instance Type: | FS Facility |
| Description: | FS Propane Cylr Handling Facility |
| Status: | EXPIRED |
| TSSA Program Area: | |
| Maximum Hazard Rank: | |
| Facility Type: | |
| Expired Date: | |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| 36 | 5 of 16 | S/280.7 | 121.8 | BRANT HILLS SERVICE CENTRE DIV OF<br>MACFARLANE SERVICE CENTRE LTD<br>1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | EXP |

| | |
|---|---|
| Instance No: | 9695137 |
| Instance ID: | |
| Instance Type: | FS Facility |
| Description: | |
| Status: | EXPIRED |
| TSSA Program Area: | |
| Maximum Hazard Rank: | |
| Facility Type: | |
| Expired Date: | 1/1/1991 |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| 36 | 6 of 16 | S/280.7 | 121.8 | MINA AUTO SERVICE LTD<br>1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | EXP |

| | |
|---|---|
| Instance No: | 11268442 |
| Instance ID: | |
| Instance Type: | FS Liquid Fuel Tank |
| Description: | |
| Status: | EXPIRED |
| TSSA Program Area: | |
| Maximum Hazard Rank: | |
| Facility Type: | |
| Expired Date: | 1/25/1996 |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| 36 | 7 of 16 | S/280.7 | 121.8 | MINA AUTO SERVICE LTD<br>1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | EXP |

| | |
|---|---|
| Instance No: | 9855765 |
| Instance ID: | |
| Instance Type: | FS Facility |
| Description: | |
| Status: | EXPIRED |
| TSSA Program Area: | |
| Maximum Hazard Rank: | |
| Facility Type: | |
| Expired Date: | 1/25/1996 |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| 36 | 8 of 16 | S/280.7 | 121.8 | MINA AUTO SERVICE LTD<br>1331 BRANT ST<br>BURLINGTON ON | EXP |

| | |
|---|---|
| **Instance No:** | 11428692 |
| **Instance ID:** | 84172 |
| **Instance Type:** | FS Liquid Fuel Tank |
| **Description:** | FS Liquid Fuel Tank |
| **Status:** | EXPIRED |
| **TSSA Program Area:** | |
| **Maximum Hazard Rank:** | |
| **Facility Type:** | |
| **Expired Date:** | |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| 36 | 9 of 16 | S/280.7 | 121.8 | MINA AUTO SERVICE LTD<br>1331 BRANT ST<br>BURLINGTON ON | EXP |

| | |
|---|---|
| **Instance No:** | 11268462 |
| **Instance ID:** | 76506 |
| **Instance Type:** | FS Liquid Fuel Tank |
| **Description:** | FS Liquid Fuel Tank |
| **Status:** | EXPIRED |
| **TSSA Program Area:** | |
| **Maximum Hazard Rank:** | |
| **Facility Type:** | |
| **Expired Date:** | |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| 36 | 10 of 16 | S/280.7 | 121.8 | MINA AUTO SERVICE LTD<br>1331 BRANT ST<br>BURLINGTON ON | EXP |

| | |
|---|---|
| **Instance No:** | 11268453 |
| **Instance ID:** | 76399 |
| **Instance Type:** | FS Piping |
| **Description:** | FS Piping |
| **Status:** | EXPIRED |
| **TSSA Program Area:** | |
| **Maximum Hazard Rank:** | |
| **Facility Type:** | |
| **Expired Date:** | |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| 36 | 11 of 16 | S/280.7 | 121.8 | MINA AUTO SERVICE LTD<br>1331 BRANT ST<br>BURLINGTON ON | EXP |

| | |
|---|---|
| **Instance No:** | 11428702 |
| **Instance ID:** | 83865 |
| **Instance Type:** | FS Piping |
| **Description:** | FS Piping |
| **Status:** | EXPIRED |
| **TSSA Program Area:** | |
| **Maximum Hazard Rank:** | |
| **Facility Type:** | |
| **Expired Date:** | |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| 36 | 12 of 16 | S/280.7 | 121.8 | ZAVIAR RETAIL SOLUTIONS<br>1331 BRANT ST | FSTH |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| | | | | BURLINGTON ON L7P 1X7 | |

**License Issue Date:** 2/28/2006
**Tank Status:** Licensed
**Tank Status As Of:** August 2007
**Operation Type:** Retail Fuel Outlet
**Facility Type:** Gasoline Station - Self Serve

**--Details--**
**Status:** Active
**Year of Installation:** 2005
**Corrosion Protection:**
**Capacity:** 36300
**Tank Fuel Type:** Liquid Fuel Double Wall UST - Gasoline

**Status:** Active
**Year of Installation:** 2005
**Corrosion Protection:**
**Capacity:** 25000
**Tank Fuel Type:** Liquid Fuel Double Wall UST - Diesel

**Status:** Active
**Year of Installation:** 2005
**Corrosion Protection:**
**Capacity:** 36300
**Tank Fuel Type:** Liquid Fuel Double Wall UST - Gasoline

**Status:** Active
**Year of Installation:** 2005
**Corrosion Protection:**
**Capacity:** 50000
**Tank Fuel Type:** Liquid Fuel Double Wall UST - Gasoline

---

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| 36 | 13 of 16 | S/280.7 | 121.8 | 1389613 ONTARIO INC O/A GAS STN<br>1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | FSTH |

**License Issue Date:** 3/28/2008 12:41:00 PM
**Tank Status:** Licensed
**Tank Status As Of:** December 2008
**Operation Type:** Retail Fuel Outlet
**Facility Type:** Gasoline Station - Self Serve

**--Details--**
**Status:** Active
**Year of Installation:** 2005
**Corrosion Protection:**
**Capacity:** 35000
**Tank Fuel Type:** Liquid Fuel Double Wall UST - Gasoline

**Status:** Active
**Year of Installation:** 2005
**Corrosion Protection:**
**Capacity:** 25000
**Tank Fuel Type:** Liquid Fuel Double Wall UST - Diesel

**Status:** Active
**Year of Installation:** 2005
**Corrosion Protection:**
**Capacity:** 35000
**Tank Fuel Type:** Liquid Fuel Double Wall UST - Gasoline

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|

**Status:** Active
**Year of Installation:** 2005
**Corrosion Protection:**
**Capacity:** 50000
**Tank Fuel Type:** Liquid Fuel Double Wall UST - Gasoline

---

**36** | **14 of 16** | **S/280.7** | **121.8** | **BR SHELL SERVICE BRIAN WEST HOLDINGS**
**1331 BRANT ST**
**BURLINGTON ON L7P 1X7** | **PRT**

**Location ID:** 2395
**Type:** retail
**Expiry Date:** 1995-06-30
**Capacity (L):** 113500
**Licence #:** 0076365097

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**36** | **15 of 16** | **S/280.7** | **121.8** | **BRANT HILLS SERVICE CENTRE DIV OF MACFARLANE SERVI**
**1331 BRANT ST**
**BURLINGTON ON L7P 1X7** | **PRT**

**Location ID:** 2395
**Type:** retail
**Expiry Date:** 1991-12-31
**Capacity (L):** 0
**Licence #:** 0050327001

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**36** | **16 of 16** | **S/280.7** | **121.8** | **MATT'S SHELL**
**1331 BRANT ST**
**BURLINGTON ON L7P1X7** | **RST**

**Code:** 1186800
**Facility:** Service Stations-Gasoline, Oil & Natural Gas
**Description:**
**List Name:**

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**37** | **1 of 13** | **S/285.1** | **121.8** | **Shell Canada Products Limited**
**1331 Brant Street**
**Burlington ON M2N 6Y2** | **ECA**

**Approval No:** 7288-6DKKHS
**Status:** Approved
**Date:** 2005-06-22
**Record Type:** ECA
**Link Source:** IDS
**SWP Area Name:** Halton
**MOE District:** Halton-Peel
**City:**
**Latitude:** 43.346427999999996
**Longitude:** -79.82789
**Project Type:** Municipal and Private Sewage Works
**Approval Type:** ECA-Municipal and Private Sewage Works
**Full Address:**
**Full PDF Link:** https://www.accessenvironment.ene.gov.on.ca/instruments/3441-6DDQ3L-14.pdf

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**37** | **2 of 13** | **S/285.1** | **121.8** | **Shell Canada OP Inc. and Shell Canada Products Limited**
**1331 Brant Street**
**Burlington ON M2N 6Y2** | **ECA**

**Approval No:** 9694-6AZTSG
**Status:** Approved
**SWP Area Name:** Halton
**MOE District:** Halton-Peel

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|

| | | | |
|---|---|---|---|
| **Date:** | 2005-04-15 | **City:** | |
| **Record Type:** | ECA | **Latitude:** | 43.346427999999996 |
| **Link Source:** | IDS | **Longitude:** | -79.82789 |
| **Project Type:** | Industrial Sewage Works | | |
| **Approval Type:** | ECA-Industrial Sewage Works | | |
| **Full Address:** | | | |
| **Full PDF Link:** | https://www.accessenvironment.ene.gov.on.ca/instruments/5951-68Z2BV-14.pdf | | |

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| | | | | | |
|---|---|---|---|---|---|
| 37 | 3 of 13 | S/285.1 | 121.8 | **MINA AUTO SERVICE LTD**<br>**1331 BRANT ST**<br>**BURLINGTON ON L7P 1X7** | EXP |

| | |
|---|---|
| **Instance No:** | 11428692 |
| **Instance ID:** | |
| **Instance Type:** | FS Liquid Fuel Tank |
| **Description:** | FS Gasoline Station - Full Serve |
| **Status:** | EXPIRED |
| **TSSA Program Area:** | |
| **Maximum Hazard Rank:** | |
| **Facility Type:** | FS Liquid Fuel Tank |
| **Expired Date:** | 1/25/1996 |

---

| | | | | | |
|---|---|---|---|---|---|
| 37 | 4 of 13 | S/285.1 | 121.8 | **MINA AUTO SERVICE LTD**<br>**1331 BRANT ST**<br>**BURLINGTON ON L7P 1X7** | EXP |

| | |
|---|---|
| **Instance No:** | 11268442 |
| **Instance ID:** | |
| **Instance Type:** | FS Liquid Fuel Tank |
| **Description:** | FS Gasoline Station - Full Serve |
| **Status:** | EXPIRED |
| **TSSA Program Area:** | |
| **Maximum Hazard Rank:** | |
| **Facility Type:** | FS Liquid Fuel Tank |
| **Expired Date:** | 1/25/1996 |

---

| | | | | | |
|---|---|---|---|---|---|
| 37 | 5 of 13 | S/285.1 | 121.8 | **MINA AUTO SERVICE LTD**<br>**1331 BRANT ST**<br>**BURLINGTON ON L7P 1X7** | EXP |

| | |
|---|---|
| **Instance No:** | 11268462 |
| **Instance ID:** | |
| **Instance Type:** | FS Liquid Fuel Tank |
| **Description:** | FS Gasoline Station - Full Serve |
| **Status:** | EXPIRED |
| **TSSA Program Area:** | |
| **Maximum Hazard Rank:** | |
| **Facility Type:** | FS Liquid Fuel Tank |
| **Expired Date:** | 1/25/1996 |

---

| | | | | | |
|---|---|---|---|---|---|
| 37 | 6 of 13 | S/285.1 | 121.8 | **2437356 ONTARIO INC**<br>**1331 BRANT ST**<br>**BURLINGTON ON L7P 1X7** | FST |

| | |
|---|---|
| **Instance No:** | 34817847 |
| **Cont Name:** | |
| **Instance Type:** | FS Liquid Fuel Tank |
| **Fuel Type:** | Gasoline |
| **Status:** | Active |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| **Capacity:** | | 35000 | | | |
| **Tank Material:** | | Fiberglass (FRP) | | | |
| **Corrosion Protection:** | | Fiberglass | | | |
| **Tank Type:** | | Double Wall UST | | | |
| **Install Year:** | | 1994 | | | |
| **Parent Facility Type:** | | FS Gasoline Station - Self Serve | | | |
| **Facility Type:** | | FS Liquid Fuel Tank | | | |

| | | | | | |
|---|---|---|---|---|---|
| 37 | 7 of 13 | S/285.1 | 121.8 | 2437356 ONTARIO INC<br>1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | FST |
| **Instance No:** | | 34817846 | | | |
| **Cont Name:** | | | | | |
| **Instance Type:** | | FS Liquid Fuel Tank | | | |
| **Fuel Type:** | | Diesel | | | |
| **Status:** | | Active | | | |
| **Capacity:** | | 25000 | | | |
| **Tank Material:** | | Fiberglass (FRP) | | | |
| **Corrosion Protection:** | | Fiberglass | | | |
| **Tank Type:** | | Double Wall UST | | | |
| **Install Year:** | | 2005 | | | |
| **Parent Facility Type:** | | FS Gasoline Station - Self Serve | | | |
| **Facility Type:** | | FS Liquid Fuel Tank | | | |

| | | | | | |
|---|---|---|---|---|---|
| 37 | 8 of 13 | S/285.1 | 121.8 | 2437356 ONTARIO INC<br>1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | FST |
| **Instance No:** | | 34817845 | | | |
| **Cont Name:** | | | | | |
| **Instance Type:** | | FS Liquid Fuel Tank | | | |
| **Fuel Type:** | | Gasoline | | | |
| **Status:** | | Active | | | |
| **Capacity:** | | 35000 | | | |
| **Tank Material:** | | Fiberglass (FRP) | | | |
| **Corrosion Protection:** | | Fiberglass | | | |
| **Tank Type:** | | Double Wall UST | | | |
| **Install Year:** | | 1994 | | | |
| **Parent Facility Type:** | | FS Gasoline Station - Self Serve | | | |
| **Facility Type:** | | FS Liquid Fuel Tank | | | |

| | | | | | |
|---|---|---|---|---|---|
| 37 | 9 of 13 | S/285.1 | 121.8 | 2437356 ONTARIO INC<br>1331 BRANT ST<br>BURLINGTON ON L7P 1X7 | FST |
| **Instance No:** | | 34817848 | | | |
| **Cont Name:** | | | | | |
| **Instance Type:** | | FS Liquid Fuel Tank | | | |
| **Fuel Type:** | | Gasoline | | | |
| **Status:** | | Active | | | |
| **Capacity:** | | 50000 | | | |
| **Tank Material:** | | Fiberglass (FRP) | | | |
| **Corrosion Protection:** | | Fiberglass | | | |
| **Tank Type:** | | Double Wall UST | | | |
| **Install Year:** | | 1994 | | | |
| **Parent Facility Type:** | | FS Gasoline Station - Self Serve | | | |
| **Facility Type:** | | FS Liquid Fuel Tank | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| 37 | 10 of 13 | S/285.1 | 121.8 | SHELL CANADA<br>1331 Brant St.<br>Burlington ON L7P 1X7 | GEN |

**Generator No.:** ON6810502
**Status:**
**Approval Years:** 2016
**Contam. Facility:** No
**MHSW Facility:** No
**SIC Code:** 447110
**SIC Description:** 447110

**PO Box No.:**
**Country:** Canada
**Choice of Contact:** CO_ADMIN
**Co Admin:** Ken Bouchard
**Phone No. Admin:** 6042176413 Ext.

**--Details--**
**Waste Code:** 251
**Waste Description:** OIL SKIMMINGS & SLUDGES

---

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| 37 | 11 of 13 | S/285.1 | 121.8 | SHELL CANADA<br>1331 Brant St.<br>Burlington ON L7P 1X7 | GEN |

**Generator No.:** ON6810502
**Status:**
**Approval Years:** 2015
**Contam. Facility:** No
**MHSW Facility:** No
**SIC Code:** 447110
**SIC Description:** 447110

**PO Box No.:**
**Country:** Canada
**Choice of Contact:** CO_ADMIN
**Co Admin:** Ken Bouchard
**Phone No. Admin:** 6042176413 Ext.

**--Details--**
**Waste Code:** 251
**Waste Description:** OIL SKIMMINGS & SLUDGES

---

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| 37 | 12 of 13 | S/285.1 | 121.8 | SHELL CANADA<br>1331 Brant St.<br>Burlington ON L7P 1X7 | GEN |

**Generator No.:** ON6810502
**Status:** Registered
**Approval Years:** As of Jun 2017
**Contam. Facility:**
**MHSW Facility:**
**SIC Code:**
**SIC Description:**

**PO Box No.:**
**Country:** Canada
**Choice of Contact:**
**Co Admin:**
**Phone No. Admin:**

**--Details--**
**Waste Code:** 251 L
**Waste Description:** Waste oils/sludges (petroleum based)

---

| Map Key | Number of Records | Direction/ Distance (m) | Elevation (m) | Site | DB |
|---|---|---|---|---|---|
| 37 | 13 of 13 | S/285.1 | 121.8 | SHELL CANADA<br>1331 Brant St.<br>Burlington ON L7P 1X7 | GEN |

**Generator No.:** ON6810502
**Status:**
**Approval Years:** 2014
**Contam. Facility:** No
**MHSW Facility:** No
**SIC Code:** 447110

**PO Box No.:**
**Country:** Canada
**Choice of Contact:** CO_ADMIN
**Co Admin:** Kelly West
**Phone No. Admin:** 519-647-3729 Ext.

**SIC Description:** 447110

***--Details--***
**Waste Code:** 251
**Waste Description:** OIL SKIMMINGS & SLUDGES

---

38 **1 of 1** **WNW/287.9** **139.8** **The Balmoral Condominium** **GEN**
**2075 Amherst Heights Drive**
**Burlington ON**

**Generator No.:** ON8209988
**Status:**
**Approval Years:** 2009
**Contam. Facility:**
**MHSW Facility:**
**SIC Code:** 541990
**SIC Description:** All Other Professional Scientific and Technical Services

**PO Box No.:**
**Country:**
**Choice of Contact:**
**Co Admin:**
**Phone No. Admin:**

***--Details--***
**Waste Code:** 212
**Waste Description:** ALIPHATIC SOLVENTS

---

39 **1 of 1** **SW/289.0** **127.2** **ON** **BORE**

**Borehole ID:** 891400
**Use:** Geotechnical/Geological Investigation
**Drill Method::** Solid stem auger
**Easting::** 594723
**Location Accuracy::**
**Elev. Reliability Note::**
**Total Depth m::** 12.2
**Township::** NELSON
**Lot::**
**Completion Date::** 23-NOV-1992
**Primary Water Use::**

**Type:** Borehole
**Status::** Decommissioned
**UTM Zone::** 17
**Northing::** 4800086
**Orig. Ground Elev m::** 126
**DEM Ground Elev m::** 127
**Primary Name::**
**Concession::** BRANTS BLOCK
**Municipality:**
**Static Water Level::** 9
**Sec. Water Use::**

***--Details--***
**Stratum ID:** 8504748
**Bottom Depth(m):** 9.1
**Top Depth(m):** 0.0
**Stratum Desc:** Heterogeneous mixture of clayey silt, sand and gravel (Glacial Till) grey. Very stiff to hard

**Stratum ID:** 8504749
**Bottom Depth(m):** 10.7
**Top Depth(m):** 9.1
**Stratum Desc:** Heterogeneous mixture of silt, sand and gravel (Glacial Till) Greyish Red, very dense

**Stratum ID:** 8504750
**Bottom Depth(m):** 12.2
**Top Depth(m):** 10.7
**Stratum Desc:** Weathered to unweathered. Shale bedrock with interbedded siltstone weak to very weak

# Unplottable Summary

**Total: 7 Unplottable sites**

| DB | Company Name/Site Name | Address | City | Postal |
|---|---|---|---|---|
| CA | JUMBO VIDEO | BRANT ST., BURLINGTON P.C.MALL | BURLINGTON CITY ON | |
| CA | | Mount Royal Ave. and Mount Forest Dr. | Burlington ON | |
| CA | R.M. OF HALTON | BRANT ST/QUE INTERCHANGE | BURLINGTON CITY ON | |
| ECA | The Regional Municipality of Halton | Brant Street | Burlington ON | L6M 3L1 |
| ECA | The Regional Municipality of Halton | Mount Forest Drive Mount Royal Ave | Burlington ON | L6M 3L1 |
| ECA | The Regional Municipality of Halton | Mountainside Dr | Burlington ON | L6M 3L1 |
| NEES | SHELL | | BURLINGTON CITY ON | |

# Unplottable Report

**Site:** ***JUMBO VIDEO***
***BRANT ST., BURLINGTON P.C.MALL BURLINGTON CITY ON***

**Database:** ***CA***

| | |
|---|---|
| ***Certificate #:*** | 8-3278-97- |
| ***Application Year:*** | 97 |
| ***Issue Date:*** | 7/24/1997 |
| ***Approval Type:*** | Industrial air |
| ***Status:*** | Approved |
| ***Application Type:*** | |
| ***Client Name::*** | |
| ***Client Address::*** | |
| ***Client City::*** | |
| ***Client Postal Code::*** | |
| ***Project Description::*** | COMMERCIAL KITCHEN EXHAUST SYSTEM |
| ***Contaminants::*** | Odour/Fumes |
| ***Emission Control::*** | Panel Filter |

---

**Site:**
***Mount Royal Ave. and Mount Forest Dr. Burlington ON***

**Database:** ***CA***

| | |
|---|---|
| ***Certificate #:*** | 4805-4RHPC2 |
| ***Application Year:*** | 00 |
| ***Issue Date:*** | 11/30/00 |
| ***Approval Type:*** | Municipal & Private water |
| ***Status:*** | Approved |
| ***Application Type:*** | New Certificate of Approval |
| ***Client Name::*** | Corporation of the Regional Municipality of Halton |
| ***Client Address::*** | 1151 Bronte Road |
| ***Client City::*** | Oakville |
| ***Client Postal Code::*** | L6M 3L1 |
| ***Project Description::*** | Watermain replacement on Mount Royal Ave. and Mount Forest Dr. |
| ***Contaminants::*** | |
| ***Emission Control::*** | |

---

**Site:** ***R.M. OF HALTON***
***BRANT ST/QUE INTERCHANGE BURLINGTON CITY ON***

**Database:** ***CA***

| | |
|---|---|
| ***Certificate #:*** | 7-1413-88- |
| ***Application Year:*** | 88 |
| ***Issue Date:*** | 9/7/1988 |
| ***Approval Type:*** | Municipal water |
| ***Status:*** | Approved |
| ***Application Type:*** | |
| ***Client Name::*** | |
| ***Client Address::*** | |
| ***Client City::*** | |
| ***Client Postal Code::*** | |
| ***Project Description::*** | |
| ***Contaminants::*** | |
| ***Emission Control::*** | |

---

**Site:** ***The Regional Municipality of Halton***
***Brant Street Burlington ON L6M 3L1***

**Database:** ***ECA***

***Approval No:*** 2285-6S8P4V ***SWP Area Name:***

| | | | |
|---|---|---|---|
| ***Status:*** | Approved | ***MOE District:*** | |
| ***Date:*** | 2006-08-02 | ***City:*** | |
| ***Record Type:*** | ECA | ***Latitude:*** | |
| ***Link Source:*** | IDS | ***Longitude:*** | |
| ***Project Type:*** | Municipal Drinking Water Systems | | |
| ***Approval Type:*** | ECA-Municipal Drinking Water Systems | | |
| ***Full Address:*** | | | |
| ***Full PDF Link:*** | | | |

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***Site:*** ***The Regional Municipality of Halton***
***Mount Forest Drive Mount Royal Ave Burlington ON L6M 3L1***

***Database:*** ***ECA***

| | | | |
|---|---|---|---|
| ***Approval No:*** | 4805-4RHPC2 | ***SWP Area Name:*** | |
| ***Status:*** | Approved | ***MOE District:*** | |
| ***Date:*** | 2000-11-30 | ***City:*** | |
| ***Record Type:*** | ECA | ***Latitude:*** | |
| ***Link Source:*** | IDS | ***Longitude:*** | |
| ***Project Type:*** | Municipal and Private Water Works | | |
| ***Approval Type:*** | ECA-Municipal and Private Water Works | | |
| ***Full Address:*** | | | |
| ***Full PDF Link:*** | | | |

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***Site:*** ***The Regional Municipality of Halton***
***Mountainside Dr Burlington ON L6M 3L1***

***Database:*** ***ECA***

| | | | |
|---|---|---|---|
| ***Approval No:*** | 3515-97SR3P | ***SWP Area Name:*** | |
| ***Status:*** | Approved | ***MOE District:*** | |
| ***Date:*** | 2013-05-31 | ***City:*** | |
| ***Record Type:*** | ECA | ***Latitude:*** | |
| ***Link Source:*** | IDS | ***Longitude:*** | |
| ***Project Type:*** | Municipal and Private Sewage Works | | |
| ***Approval Type:*** | ECA-Municipal and Private Sewage Works | | |
| ***Full Address:*** | | | |
| ***Full PDF Link:*** | https://www.accessenvironment.ene.gov.on.ca/instruments/9450-97RPSL-14.pdf | | |

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***Site:*** ***SHELL***
***BURLINGTON CITY ON***

***Database:*** ***NEES***

| | |
|---|---|
| ***Incident Date:*** | 12/1/88 |
| ***Contaminant:*** | GASOLINE |
| ***Amount::*** | 0 |
| ***Units::*** | Underground Tank Leak |
| ***Quantity::*** | |
| ***Cause::*** | Unknown |
| ***Source::*** | Service Station |
| ***Reason::*** | |
| ***Sector::*** | Petroleum |

# 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 2017***

***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-May 2017***

***Borehole:*** Provincial BORE

A borehole is the generalized term for any narrow shaft drilled in the ground, either vertically or horizontally. The information here includes geotechnical investigations or environmental site assessments, mineral exploration, or as a pilot hole for installing piers or underground utilities. Information is from many sources such as the Ministry of Transportation (MTO) boreholes from engineering reports and projects from the 1950 to 1990's in Southern Ontario. Boreholes from the Ontario Geological Survey (OGS) including The Urban Geology Analysis Information System (UGAIS) and the York Peel Durham Toronto (YPDT) database of the Conservation Authority Moraine Coalition. This database will include fields such as location, stratigraphy, depth, elevation, year drilled, etc. For all water well data or oil and gas well data for Ontario please refer to WWIS and OOGW.

***Government Publication Date: 1875-Jul 2014***

***Certificates of Approval:*** Provincial CA

This database contains the following types of approvals: Air & Noise, Industrial Sewage, Municipal & Private Sewage, Waste Management Systems and Renewable Energy Approvals. The MOE in Ontario states that any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste, must have a Certificate of Approval before it can operate lawfully. Fields include approval number, business name, address, approval date, approval type and status. This database will no longer be updated, as CofA's have been replaced by either Environmental Activity and Sector Registry (EASR) or Environmental Compliance Approval (ECA). Please refer to those individual databases for any information after Oct.31, 2011.

***Government Publication Date: 1985-Oct 30, 2011****

***Commercial Fuel Oil Tanks:*** Provincial CFOT

Since May 2002, Ontario developed a new act where it became mandatory for fuel oil tanks to be registered with Technical Standards & Safety Authority (TSSA). This data would include all commercial underground fuel oil tanks in Ontario with fields such as location, registration number, tank material, age of tank and tank size.

***Government Publication Date: Feb 28, 2017***

***Chemical Register:*** Private CHEM

This database includes information from both a one time study conducted in 1992 and private source and is a listing of facilities that manufacture or distribute chemicals. The production of these chemical substances may involve one or more chemical reactions and/or chemical separation processes (i.e. fractionation, solvent extraction, crystallization, etc.).

***Government Publication Date: 1999-May 2017***

***Compressed Natural Gas Stations:*** Private CNG

Canada has a network of public access compressed natural gas (CNG) refuelling stations. These stations dispense natural gas in compressed form at 3,000 pounds per square inch (psi), the pressure which is allowed within the current Canadian codes and standards. The majority of natural gas refuelling is located at existing retail gasoline that have a separate refuelling island for natural gas. This list of stations is made available by the Canadian Natural Gas Vehicle Alliance.

***Government Publication Date: Dec 31, 2012***

***Inventory of Coal Gasification Plants and Coal Tar Sites:*** Provincial COAL

This inventory includes both the "Inventory of Coal Gasification Plant Waste Sites in Ontario-April 1987" and the Inventory of Industrial Sites Producing or Using Coal Tar and Related Tars in Ontario-November 1988) collected by the MOE. It identifies industrial sites that produced and continue to produce or use coal tar and other related tars. Detailed information is available and includes: facility type, size, land use, information on adjoining properties, soil condition, site operators/occupants, site description, potential environmental impacts and historic maps available. This was a one-time inventory.*

***Government Publication Date: Apr 1987 and Nov 1988****

***Compliance and Convictions:*** Provincial CONV

This database summarizes the fines and convictions handed down by the Ontario courts beginning in 1989. Companies and individuals named here have been found guilty of environmental offenses in Ontario courts of law.

***Government Publication Date: 1989-Nov 2017***

***Certificates of Property Use:*** Provincial CPU

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all CPU's on the registry such as (EPA s. 168.6) - Certificate of Property Use.

***Government Publication Date: 1994-Oct 2017***

***Drill Hole Database:*** Provincial DRL

The Ontario Drill Hole Database contains information on more than 113,000 percussion, overburden, sonic and diamond drill holes from assessment files on record with the department of Mines and Minerals. Please note that limited data is available for southern Ontario, as it was the last area to be completed. The database was created when surveys submitted to the Ministry were converted in the Assessment File Research Image Database (AFRI) project. However, the degree of accuracy (coordinates) as to the exact location of drill holes is dependent upon the source document submitted to the MNDM. Levels of accuracy used to locate holes are: centering on the mining claim; a sketch of the mining claim; a 1:50,000 map; a detailed company map; or from submitted a "Report of Work".

***Government Publication Date: 1886-Aug 2015***

***Environmental Activity and Sector Registry:*** Provincial EASR

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. The EASR allows businesses to register certain activities with the ministry, rather than apply for an approval. The registry is available for common systems and processes, to which preset rules of operation can be applied. The EASR is currently available for: heating systems, standby power systems and automotive refinishing. Businesses whose activities aren't subject to the EASR may apply for an ECA (Environmental Compliance Approval), Please see our ECA database.

***Government Publication Date: Oct 2011-Oct 2017***

***Environmental Registry:*** Provincial EBR

The Environmental Registry lists proposals, decisions and exceptions regarding policies, Acts, instruments, or regulations that could significantly affect the environment. Through the Registry, thirteen provincial ministries notify the public of upcoming proposals and invite their comments. For example, if a local business is requesting a permit, license, or certificate of approval to release substances into the air or water; these are notified on the registry. Data includes: Approval for discharge into the natural environment other than water (i.e. Air) - EPA s. 9, Approval for sewage works - OWRA s. 53(1), and EPA s. 27 - Approval for a waste disposal site. For information regarding Permit to Take Water (PTTW), Certificate of Property Use (CPU) and (ORD) Orders please refer to those individual databases.

***Government Publication Date: 1994-Oct 2017***

***Environmental Compliance Approval:*** Provincial ECA

On October 31, 2011, a smarter, faster environmental approvals system came into effect in Ontario. In the past, a business had to apply for multiple approvals (known as certificates of approval) for individual processes and pieces of equipment. Today, a business either registers itself, or applies for a single approval, depending on the types of activities it conducts. Businesses whose activities aren't subject to the EASR may apply for an ECA. A single ECA addresses all of a business's emissions, discharges and wastes. Separate approvals for air, noise and waste are no longer required. This database will also include Renewable Energy Approvals. For certificates of approval prior to Nov 1st, 2011, please refer to the CA database. For all Waste Disposal Sites please refer to the WDS database.

***Government Publication Date: Oct 2011-Oct 2017***

***Environmental Effects Monitoring:*** Federal EEM

The Environmental Effects Monitoring program assesses the effects of effluent from industrial or other sources on fish, fish habitat and human usage of fisheries resources. Since 1992, pulp and paper mills have been required to conduct EEM studies under the Pulp and Paper Effluent Regulations. This database provides information on the mill name, geographical location and sub-lethal toxicity data.

***Government Publication Date: 1992-2007****

***ERIS Historical Searches:*** Private EHS

ERIS has compiled a database of all environmental risk reports completed since March 1999. Available fields for this database include: site location, date of report, type of report, and search radius. As per all other databases, the ERIS database can be referenced on both the map and "Statistical Profile" page.

***Government Publication Date: 1999-Aug 2016***

***Environmental Issues Inventory System:*** Federal EIIS

The Environmental Issues Inventory System was developed through the implementation of the Environmental Issues and Remediation Plan. This plan was established to determine the location and severity of contaminated sites on inhabited First Nation reserves, and where necessary, to remediate those that posed a risk to health and safety; and to prevent future environmental problems. The EIIS provides information on the reserve under investigation, inventory number, name of site, environmental issue, site action (Remediation, Site Assessment), and date investigation completed.

***Government Publication Date: 1992-2001****

***Emergency Management Historical Event:*** Provincial EMHE

List of locations of historical occurrences of emergency events, including those assigned to the Ministry of Natural Resources by Order-In-Council (OIC) under the Emergency Management and Civil Protection Act, as well as events where MNR provided requested emergency response assistance. Many of these events will have involved community evacuations, significant structural loss, and/or involvement of MNR emergency response staff. These events fall into one of ten (10) type categories: Dam Failure; Drought / Low Water; Erosion; Flood; Forest Fire; Soil and Bedrock Instability; Petroleum Resource Center Event, EMO Requested Assistance, Continuity of Operations Event, Other Requested Assistance. EMHE record details are reproduced by ERIS under License with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2017.

***Government Publication Date: Dec 31, 2016***

***List of TSSA Expired Facilities:*** Provincial EXP

List of facilities with removed tanks which were once registered with the Fuels Safety Program of the Technical Standards and Safety Authority (TSSA). Includes private fuel outlets, bulk plants, fuel oil tanks, gasoline stations, marinas, propane filling stations, liquid fuel tanks, piping systems, etc. Tanks which have been removed automatically fall under the expired facilities inventory held by TSSA.

***Government Publication Date: Feb 28, 2017***

***Federal Convictions:*** Federal FCON

Environment Canada maintains a database referred to as the "Environmental Registry" that details prosecutions under the Canadian Environmental Protection Act (CEPA) and the Fisheries Act (FA). Information is provided on the company name, location, charge date, offence and penalty.

***Government Publication Date: 1988-Jun 2007****

***Contaminated Sites on Federal Land:*** Federal FCS

The Federal Contaminated Sites Inventory includes information on known federal contaminated sites under the custodianship of departments, agencies and consolidated Crown corporations as well as those that are being or have been investigated to determine whether they have contamination arising from past use that could pose a risk to human health or the environment. The inventory also includes non-federal contaminated sites for which the Government of Canada has accepted some or all financial responsibility. It does not include sites where contamination has been caused by, and which are under the control of, enterprise Crown corporations, private individuals, firms or other levels of government.

***Government Publication Date: Jun 2000-Dec 2017***

***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

The Technical Standards & Safety Authority (TSSA), under the Technical Standards & Safety Act of 2000 maintains a database of registered private and retail fuel storage tanks in Ontario with fields such as location, tank status, license date, tank type, tank capacity, fuel type, installation year and facility type.

***Government Publication Date: Feb 28, 2017***

***Fuel Storage Tank - Historic:*** Provincial FSTH

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks. Public records of private fuel storage tanks are only available since the registration became effective in September 1989. This information is now collected by the Technical Standards and Safety Authority.

***Government Publication Date: Pre-Jan 2010****

***Ontario Regulation 347 Waste Generators Summary:*** Provincial GEN

Regulation 347 of the Ontario EPA defines a waste generation site as any site, equipment and/or operation involved in the production, collection, handling and/or storage of regulated wastes. A generator of regulated waste is required to register the waste generation site and each waste produced, collected, handled, or stored at the site. This database contains the registration number, company name and address of registered generators including the types of hazardous wastes generated. It includes data on waste generating facilities such as: drycleaners, waste treatment and disposal facilities, machine shops, electric power distribution etc. This information is a summary of all years from 1986 including the most currently available data. Some records may contain, within the company name, the phrase "See & Use..." followed by a series of letters and numbers. This occurs when one company is amalgamated with or taken over by another registered company. The number listed as "See & Use", refers to the new ownership and the other identification number refers to the original ownership. This phrase serves as a link between the 2 companies until operations have been fully transferred.

***Government Publication Date: 1986-Jun 2017***

***Greenhouse Gas Emissions from Large Facilities:*** Federal GHG

List of greenhouse gas emissions from large facilities made available by Environment Canada. Greenhouse gas emissions in kilotonnes of carbon dioxide equivalents (kt CO2 eq).

***Government Publication Date: 2013-Dec 2015***

***TSSA Historic Incidents:*** Provincial HINC

This database will cover all incidences recorded by TSSA with their older system, before they moved to their new management system. TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. The TSSA works to protect the public, the environment and property from fuel-related hazards such as spills, fires and explosions. This database will include spills and leaks from pipelines, diesel, fuel oil, gasoline, natural gas, propane and hydrogen recorded by the TSSA.

***Government Publication Date: 2006-June 2009****

***Indian & Northern Affairs Fuel Tanks:*** Federal IAFT

The Department of Indian & Northern Affairs Canada (INAC) maintains an inventory of aboveground & underground fuel storage tanks located on both federal and crown land. Our inventory provides information on the reserve name, location, facility type, site/facility name, tank type, material & ID number, tank contents & capacity, and date of tank installation.

***Government Publication Date: 1950-Aug 2003****

***TSSA Incidents:*** Provincial INC

TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. Includes incidents from fuel-related hazards such as spills, fires and explosions. This database will include spills and leaks from diesel, fuel oil, gasoline, natural gas, propane and hydrogen recorded by the TSSA.

***Government Publication Date: Feb 28, 2017***

***Landfill Inventory Management Ontario:*** Provincial LIMO

The Landfill Inventory Management Ontario (LIMO) database is updated every year, as the ministry compiles new and updated information. The inventory will include small and large landfills. Additionally, each year the ministry will request operators of the larger landfills complete a landfill data collection form that will be used to update LIMO and will include the following information from the previous operating year. This will include additional information such as estimated amount of total waste received, landfill capacity, estimated total remaining landfill capacity, fill rates, engineering designs, reporting and monitoring details, size of location, service area, approved waste types, leachate of site treatment, contaminant attenuation zone and more. The small landfills will include information such as site owner, site location and certificate of approval # and status.

***Government Publication Date: Dec 31, 2013***

***Canadian Mine Locations:*** Private MINE

This information is collected from the Canadian & American Mines Handbook. The Mines database is a national database that provides over 290 listings on mines (listed as public companies) dealing primarily with precious metals and hard rocks. Listed are mines that are currently in operation, closed, suspended, or are still being developed (advanced projects). Their locations are provided as geographic coordinates (x, y and/or longitude, latitude). As of 2002, data pertaining to Canadian smelters and refineries has been appended to this database.

***Government Publication Date: 1998-2009****

***Mineral Occurrences:*** Provincial MNR

In the early 70's, the Ministry of Northern Development and Mines created an inventory of approximately 19,000 mineral occurrences in Ontario, in regard to metallic and industrial minerals, as well as some information on building stones and aggregate deposits. Please note that the "Horizontal Positional Accuracy" is approximately +/- 200 m. Many reference elements for each record were derived from field sketches using pace or chain/tape measurements against claim posts or topographic features in the area. The primary limiting factor for the level of positional accuracy is the scale of the source material. The testing of horizontal accuracy of the source materials was accomplished by comparing the plan metric (X and Y) coordinates of that point with the coordinates of the same point as defined from a source of higher accuracy.

***Government Publication Date: 1846-Feb 2017***

***National Analysis of Trends in Emergencies System (NATES):*** Federal NATE

In 1974 Environment Canada established the National Analysis of Trends in Emergencies System (NATES) database, for the voluntary reporting of significant spill incidents. The data was to be used to assist in directing the work of the emergencies program. NATES ran from 1974 to 1994. Extensive information is available within this database including company names, place where the spill occurred, date of spill, cause, reason and source of spill, damage incurred, and amount, concentration, and volume of materials released.

***Government Publication Date: 1974-1994****

***Non-Compliance Reports:*** Provincial NCPL

The Ministry of the Environment provides information about non-compliant discharges of contaminants to air and water that exceed legal allowable limits, from regulated industrial and municipal facilities. A reported non-compliance failure may be in regard to a Control Order, Certificate of Approval, Sectoral Regulation or specific regulation/act.

***Government Publication Date: Dec 31, 2014***

***National Defense & Canadian Forces Fuel Tanks:*** Federal NDFT

The Department of National Defense and the Canadian Forces maintains an inventory of all aboveground & underground fuel storage tanks located on DND lands. Our inventory provides information on the base name, location, tank type & capacity, tank contents, tank class, date of tank installation, date tank last used, and status of tank as of May 2001. This database will no longer be updated due to the new National Security protocols which have prohibited any release of this database.

***Government Publication Date: Up to May 2001****

***National Defense & Canadian Forces Spills:*** Federal NDSP

The Department of National Defense and the Canadian Forces maintains an inventory of spills to land and water. All spill sites have been classified under the "Transportation of Dangerous Goods Act - 1992". Our inventory provides information on the facility name, location, spill ID #, spill date, type of spill, as well as the quantity of substance spilled & recovered.

***Government Publication Date: Mar 1999-Aug 2010***

***National Defence & Canadian Forces Waste Disposal Sites:*** Federal NDWD

The Department of National Defence and the Canadian Forces maintains an inventory of waste disposal sites located on DND lands. Where available, our inventory provides information on the base name, location, type of waste received, area of site, depth of site, year site opened/closed and status.

***Government Publication Date: 2001-Apr 2007****

***National Energy Board Pipeline Incidents:*** Federal NEBI

Locations of pipeline incidents from 2008 to present, made available by the National Energy Board (NEB). Includes incidents reported under the Onshore Pipeline Regulations and the Processing Plant Regulations related to pipelines under federal jurisdiction, does not include incident data related to pipelines under provincial or territorial jurisdiction.

***Government Publication Date: 2008-Dec 31, 2017***

***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-Sep 2017***

***Ontario Oil and Gas Wells:*** Provincial OOGW

In 1998, the MNR handed over to the Ontario Oil, Gas and Salt Resources Corporation, the responsibility of maintaining a database of oil and gas wells drilled in Ontario. The OGSR Library has over 20,000+ wells in their database. Information available for all wells in the ERIS database include well owner/operator, location, permit issue date, and well cap date, license No., status, depth and the primary target (rock unit) of the well being drilled. All geology/stratigraphy table information, plus all water table information is also provide for each well record.

***Government Publication Date: 1800-Oct 2017***

***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-Oct 2017***

***Canadian Pulp and Paper:*** Private PAP

This information is part of the Pulp and Paper Canada Directory. The Directory provides a comprehensive listing of the locations of pulp and paper mills and the products that they produce.

***Government Publication Date: 1999, 2002, 2004, 2005, 2009***

***Parks Canada Fuel Storage Tanks:*** Federal PCFT

Canadian Heritage maintains an inventory of known fuel storage tanks operated by Parks Canada, in both National Parks and at National Historic Sites. The database details information on site name, location, tank install/removal date, capacity, fuel type, facility type, tank design and owner/operator.

***Government Publication Date: 1920-Jan 2005****

***Pesticide Register:*** Provincial PES

The Ontario Ministry of the Environment and Climate Change maintains a database of licensed operators and vendors of registered pesticides.

***Government Publication Date: 1988-Aug 2017***

***TSSA Pipeline Incidents:*** Provincial PINC

TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. This database will include spills, strike and leaks from recorded by the TSSA.

***Government Publication Date: Feb 28, 2017***

***Private and Retail Fuel Storage Tanks:*** Provincial PRT

The Fuels Safety Branch of the Ontario Ministry of Consumer and Commercial Relations maintained a database of all registered private fuel storage tanks and licensed retail fuel outlets. This database includes an inventory of locations that have gasoline, oil, waste oil, natural gas and/or propane storage tanks on their property. The MCCR no longer collects this information. This information is now collected by the Technical Standards and Safety Authority (TSSA).

***Government Publication Date: 1989-1996****

***Permit to Take Water:*** Provincial PTTW

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all PTTW's on the registry such as OWRA s. 34 - Permit to take water.

***Government Publication Date: 1994-Oct 2017***

***Ontario Regulation 347 Waste Receivers Summary:*** Provincial REC

Part V of the Ontario Environmental Protection Act ("EPA") regulates the disposal of regulated waste through an operating waste management system or a waste disposal site operated or used pursuant to the terms and conditions of a Certificate of Approval or a Provisional Certificate of Approval. Regulation 347 of the Ontario EPA defines a waste receiving site as any site or facility to which waste is transferred by a waste carrier. A receiver of regulated waste is required to register the waste receiving facility. This database represents registered receivers of regulated wastes, identified by registration number, company name and address, and includes receivers of waste such as: landfills, incinerators, transfer stations, PCB storage sites, sludge farms and water pollution control plants. This information is a summary of all years from 1986 including the most currently available data.

***Government Publication Date: 1986-2016***

***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-Nov 2017***

***Retail Fuel Storage Tanks:*** Private RST

This database includes an inventory of retail fuel outlet locations (including marinas) that have on their property gasoline, oil, waste oil, natural gas and / or propane storage tanks.

***Government Publication Date: 1999-May 2017***

***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 2017***

***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.

***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 31, 2017***

***Waste Disposal Sites - MOE 1991 Historical Approval Inventory:*** Provincial WDSH

In June 1991, the Ontario Ministry of Environment, Waste Management Branch, published the "June 1991 Waste Disposal Site Inventory", of all known active and closed waste disposal sites as of October 30st, 1990. For each "active" site as of October 31st 1990, information is provided on site location, site/CA number, waste type, site status and site classification. For each "closed" site as of October 31st 1990, information is provided on site location, site/CA number, closure date and site classification. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number.

***Government Publication Date: Up to Oct 1990****

***Water Well Information System:*** Provincial WWIS

This database describes locations and characteristics of water wells found within Ontario in accordance with Regulation 903. It includes such information as coordinates, construction date, well depth, primary and secondary use, pump rate, static water level, well status, etc. Also included are detailed stratigraphy information, approximate depth to bedrock and the approximate depth to the water table.

***Government Publication Date: Mar 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 G**

**MOECC FOI Search Results**

**Ministry of the Environment and Climate Change**

Freedom of Information and Protection of Privacy Office

12th Floor
40 St. Clair Avenue West
Toronto ON M4V 1M2
Tel: (416) 314-4075
Fax: (416) 314-4285

**Ministère de l'Environnement et de l'Action en matière de changement climatique**

Bureau de l'accès à l'information et de la protection de la vie privée

12e étage
40, avenue St. Clair ouest
Toronto ON M4V 1M2
Tél. : (416) 314-4075
Téléc.: (416) 314-4285

Ontario

February 28, 2018

Grace Thompson
Pinchin Environmental Ltd.
6-875 Main St W, Suite 200
Hamilton, ON L8S 4R9

Dear Grace Thompson:

RE: ***Freedom of Information and Protection of Privacy Act* Request**
**Our File # A-2018-00844, Your Reference 206972.001**

This letter is in response to your request made pursuant to the *Freedom of Information and Protection of Privacy Act* relating to 2086 Meadowbrook Road, Burlington.

After a thorough search through the files of the Ministry's Halton-Peel District Office, Investigations and Enforcement Branch, Environmental Monitoring and Reporting Branch, Sector Compliance Branch and Safe Drinking Water Branch, no records were located responsive to your request. To provide you with this response and in accordance with Section 57 of the *Freedom of Information and Protection of Privacy Act*, the fee owed is $30.00 for 1 hour of search time @ $30.00 per hour. **We have applied the $30.00 for this request from your initial payment.**

To conduct a search through the files of the Environmental Assessment and Permissions Branch requires an additional 8 hours. If you would like us to search for Environmental Compliance Approvals/Certificates of Approval at the Environmental Assessment and Permissions Branch (EAPB), please forward to me at the above address payment by money order or cheque (made payable to the "Minister of Finance (FOI)") or by credit card in the amount of $240.00. Please note that there is no guarantee any records will be located responsive to your request. Credit card forms are available on the Ministry's website http://www.ontario.ca/environment-and-energy/freedom-information-request-form. Please note, a request for records must usually be answered within 30 calendar days, however Section 27 allows for time extensions under certain circumstances. If you choose to have the search conducted at the Environmental Assessment and Permissions Branch, the time for answering your request will be extended for an additional 30 days.

**When remitting payment please quote our file number or attach a copy of this letter.**

You may request a review of my decision by contacting the Information and Privacy Commissioner/Ontario, 2 Bloor Street East, Suite 1400, Toronto, ON M4W 1A8 (800-387-0073 or 416-326-3333). Please note that there is a $25.00 fee and you only have 30 days from receipt of this letter to request a review.

If you have any questions regarding this matter, please contact Rebeka Bogdan at Rebeka.bogdan@ontario.ca.

Yours truly,

Janet Dadufalza
FOI Manager

**APPENDIX H**

**TSSA Search Results**

Technical Standards and Safety Authority
345 Carlingview Drive
Toronto, Ontario M9W 6N9
Customer Service: 1.877.682.8772
Fax: 416.231.4903
Email:publicinformationservices@tssa.org
www.tssa.org

# Application for Release of Public Information
## Issued under the Access and Privacy Code

Clear Form

Print Form

**A. REQUESTOR INFORMATION:**

Your File/Project/Reference No: 206972.001 Date: Feb 6 2018

| | | | |
|---|---|---|---|
| Requestor Name : Grace Thompson | | Organization Pinchin Ltd. | |
| Suite/Unit No: 200 | Street No: 6-875 | Street Name: Main Street West | |
| City: Hamilton | Province: ON | Postal Code: L8S 4P9 | |
| Primary Phone: 905-577-6206 ext. 1717 | | Secondary Phone: 289-308-6270 | |
| Email: gthompson@pinchin.com | | Fax: 905-577-6207 | |

| For Office Use Only |
|---|
| Date |
| Account No. |
| SR No. |
| P.I No: |

**B. PROGRAM (check ALL that apply)**

☐ Boilers & Pressure Vessels ☐ Elevating & Amusement Devices ☑ Fuels ☐ Upholstered and Stuffed Articles

**C. DETAILS OF REQUEST** (please list in detail the information you require)

Can you please complete a full database search of current and archived files to see if there are any outstanding instructions, petroleum tank registrations, incident reports, fuel/oil spills or contamination records associated with respect to noted property.

**D. PLEASE ANSWER ALL THAT APPLY:**

Address of Subject Location (one address per form)
2076 Meadowbrook Road, Burlington, ON

Device/equipment Type: _____ Owner: _____

Installation Number: _____

CRN: _____ OIN: _____ Serial #:_____

Victim Name (if applicable): _____

Certificate Holder Name (if applicable): _____ Certificate Holder Date of Birth: _____ (DD-MM-YYYY)

Date /period requested:

☐ From (date): _____ to (date) _____

☐ Most recent record

Technical Standards and Safety Authority
345 Carlingview Drive
Toronto, Ontario M9W 6N9
Fax: 416.231.4903
Customer Service: 1.877.682.8772
Email:publicinformationservices@tssa.org
www.tssa.org

# Application for Release of Public Information
## Issued under the Access and Privacy Code

**E. REASON FOR REQUEST** (please explain the reason for your request)

We are conducting an assessment on the property for the owner.

**F. FEES & PAYMENT:**

TSSA will provide a fee quote for multiple record requests, which must be approved by the Applicant before a record search commences. For fees for single searches, please refer to Fee Schedule Website Fee Schedule.pdf

Payment for single record search is attached (please check if payment attached)

Technical Standards and Safety Authority
345 Carlingview Drive
Toronto, Ontario M9W 6N9

**COMPLETE FOR CREDIT CARD PAYMENTS**

Card Type: ☑ VISA ☐ MASTERCARD

Amount of Payment $ 56.50

Card# | | | | | | | | | | | | | | | |

Expiry Date | | |

In payment of _____

Name of Card Holder _____ Client Tel. No. _____
*First Name* *Last Name*

Signature of Card Holder _____ Date _____
( DD-MM-YYYY)

**G. TERMS AND CONDITIONS:**

Please refer to the link for our Access and Privacy Code Access and Privacy Code.pdf. If this request includes a release of personal information, TSSA will require consent from the effected party.

| Applicant Signature | | Date |
|---|---|---|

**Please Print and sign before returning to TSSA**

**APPENDIX I**

**Aerial Photographs**



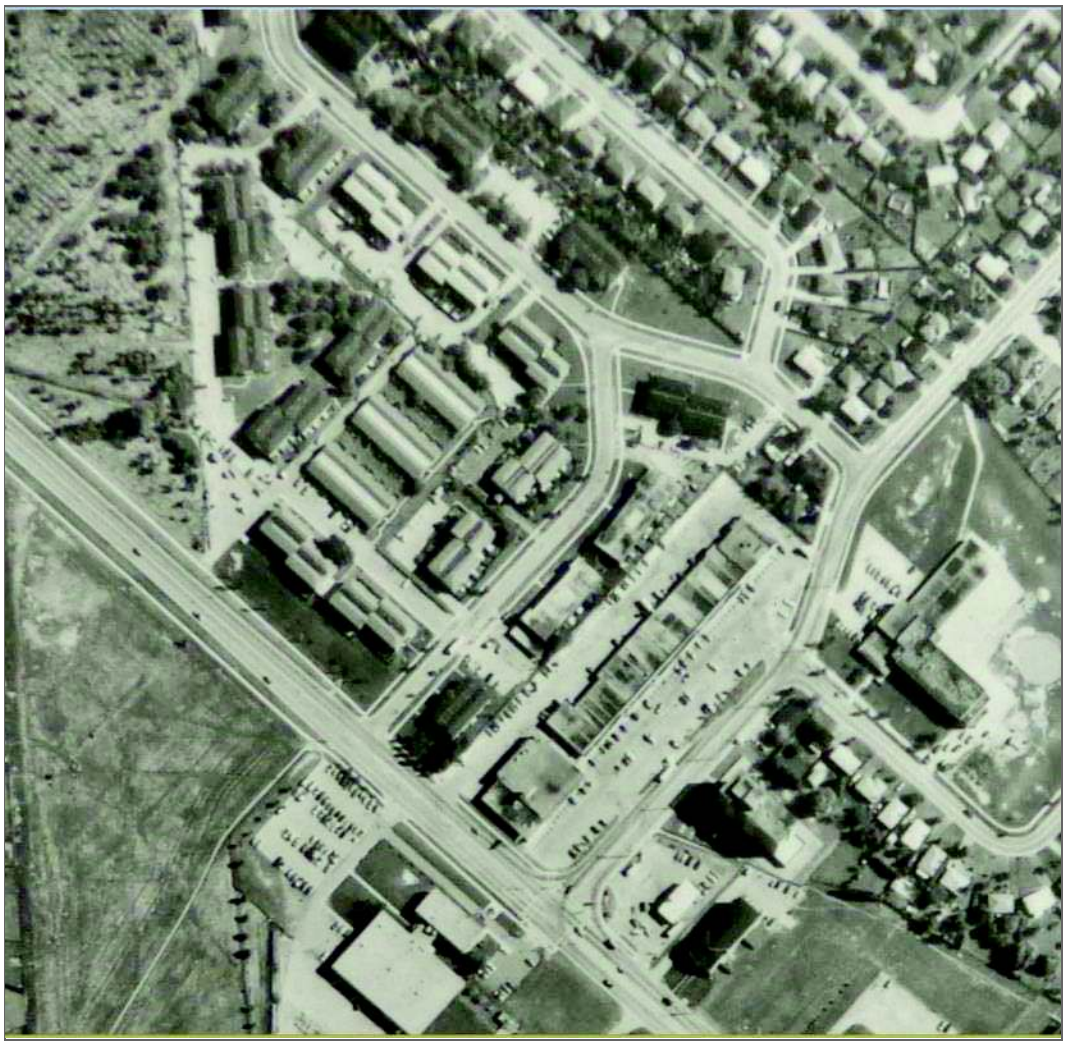
Aerial Photograph – 1961



Aerial Photograph – 1969



Aerial Photograph – 1974



Aerial Photograph – 1978



Aerial Photograph – 1979



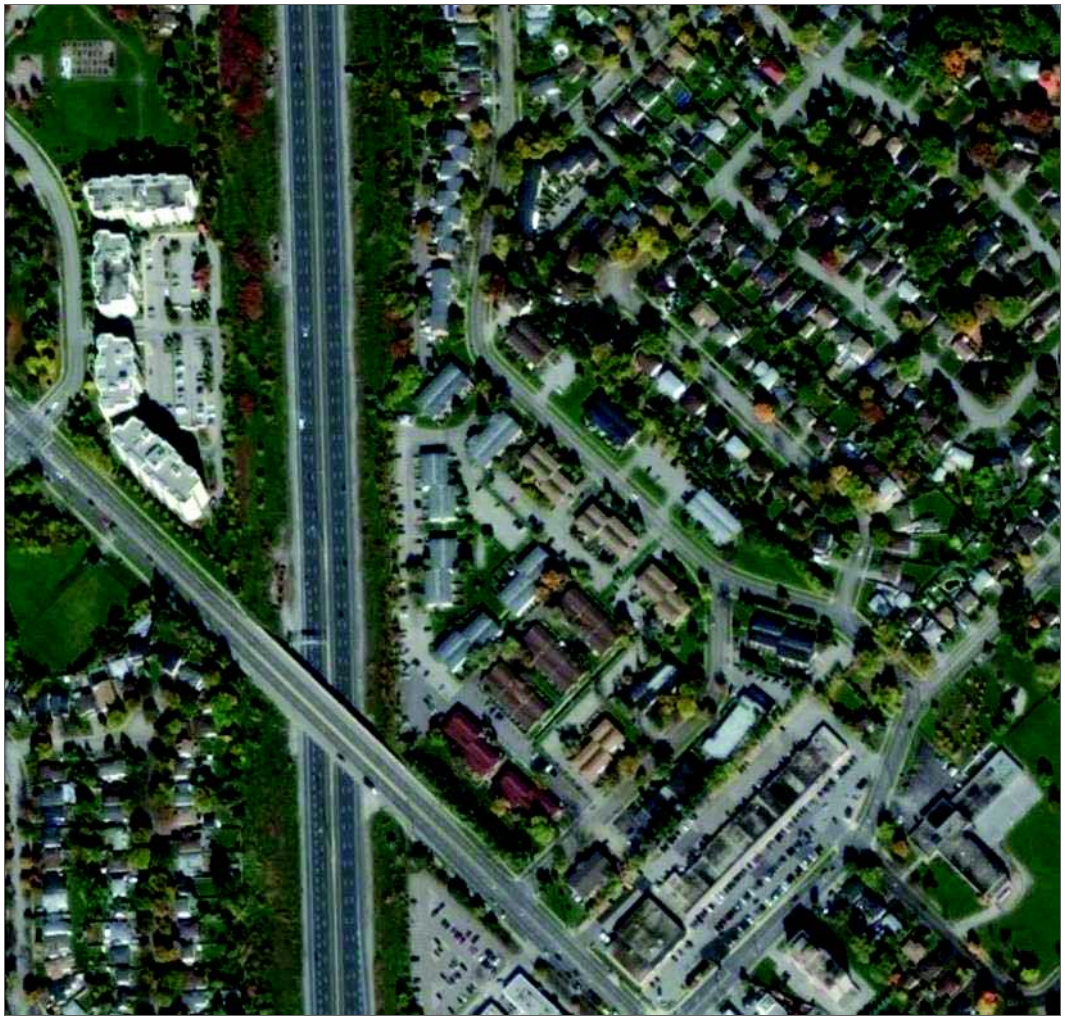
Aerial Photograph – 1992



Aerial Photograph –2004



Aerial Photograph –2009

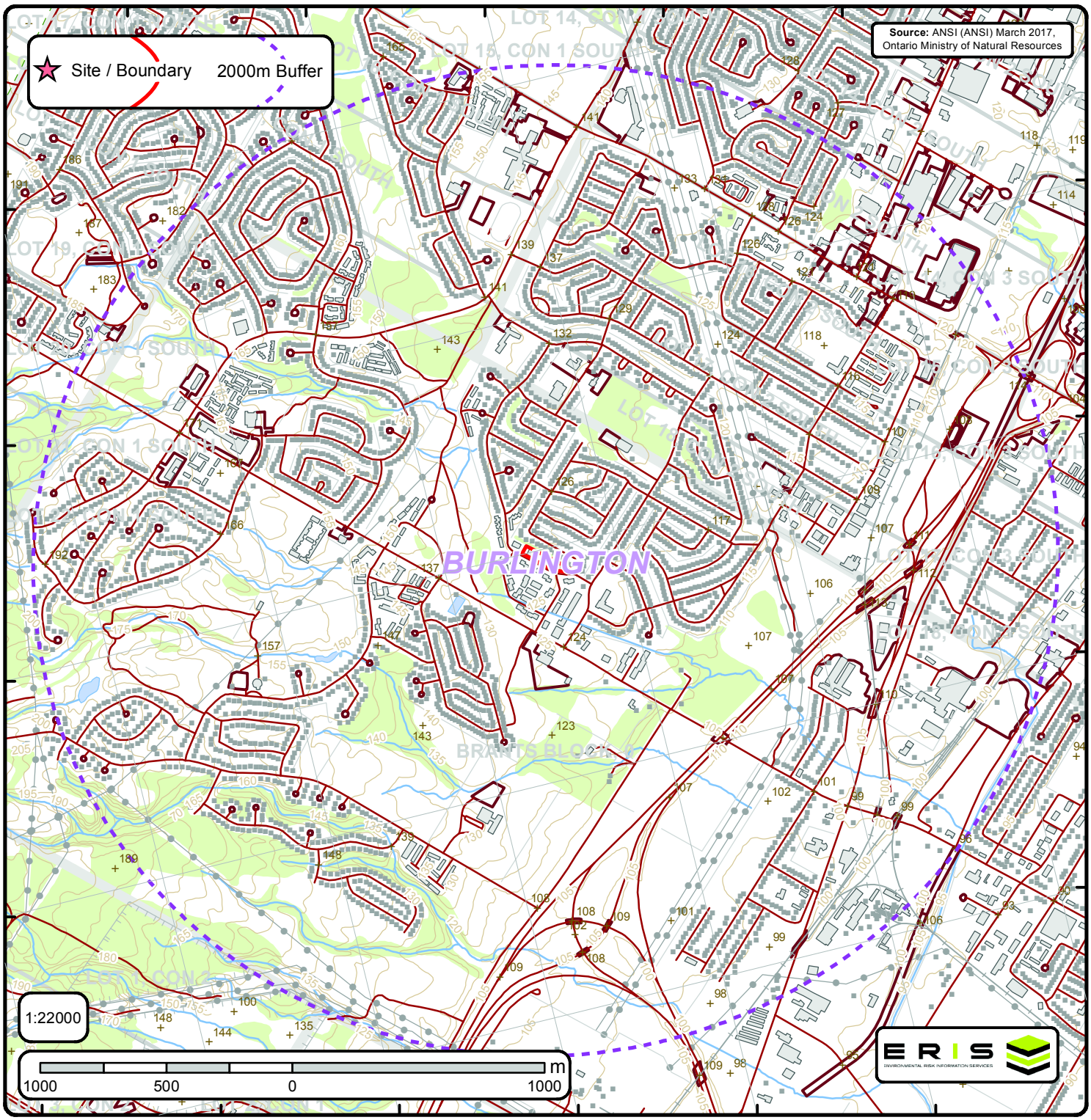


Aerial Photograph –2014



Aerial Photograph –2016

# APPENDIX J
## Maps




# Area of Natural & Scientific Interest (ANSI) Order No. 20180206084

| | | | |
|---|---|---|---|
| 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 | Municipalitiy | Nature Reserve |
| Trail | Building to Scale | Land Ownership | ANSI Area |

# ANSI Report

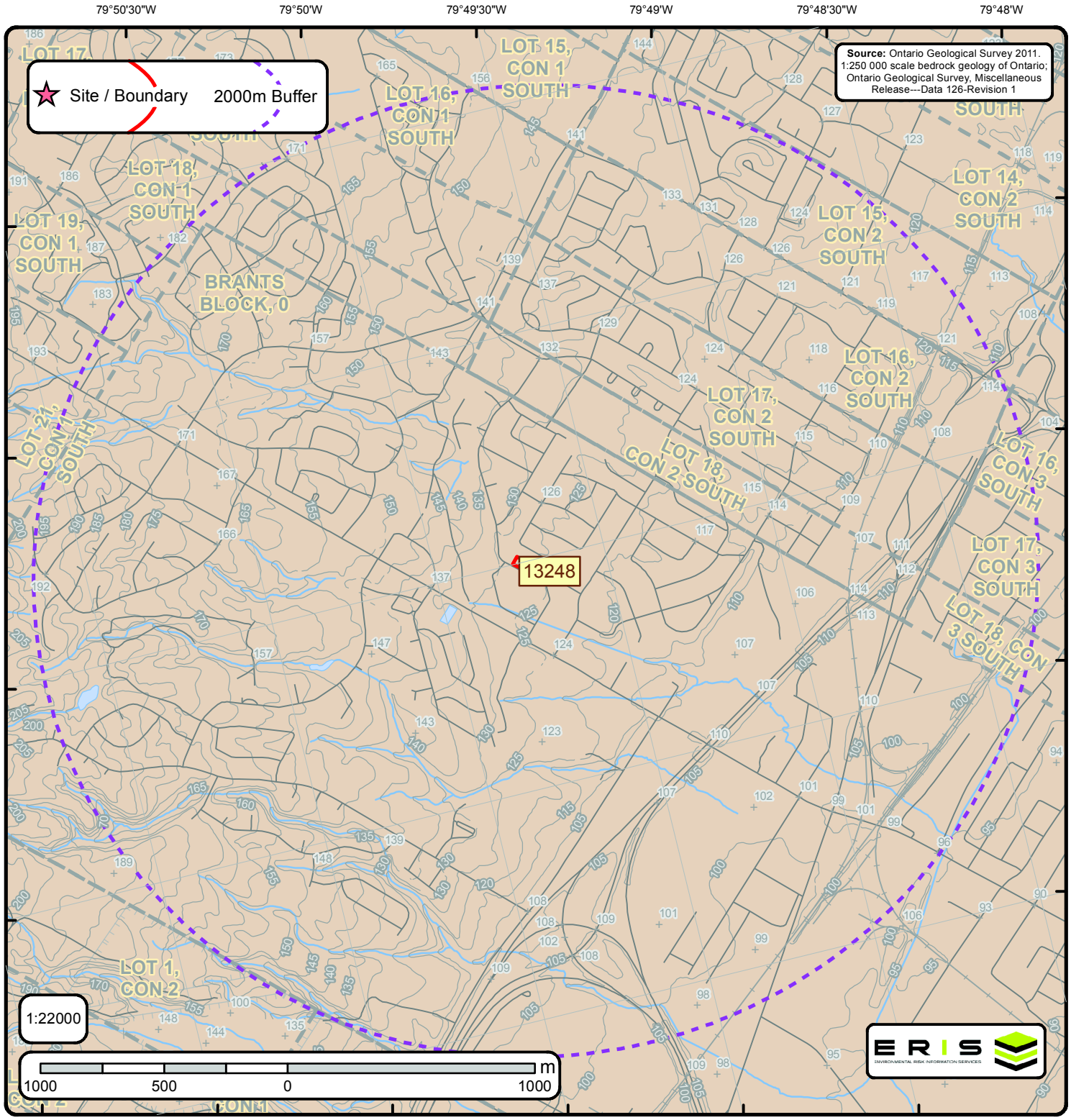
ANSI Units Found within 2000 m of

100 Main Street, Toronto, ON

**Order ID:**
1234567891



No ANSI units found within search area.




# Bedrock Geology of Ontario

Order No. 20180206084

Spot Height
Roads
Contour Lines
Streams
Railroads
Lots
Pit or Quarry
Airports
Waterbody
Wetlands

**Bedrock Geology Lines**

- CONTACT, GEOPHYSICAL, TREND, INTERPRETED
- CONTACT, SHARP, TREND, INTERPRETED
- CONTACT, SHARP, TREND, OBSERVED
- FAULT, DEXTRAL HORIZONTAL COMPONENT, TREND, INTERPRETED, UNKNOWN GENERATION
- FAULT, PROJECTED FAULT, INTERPRETED, UNKNOWN GENERATION
- FAULT, SINISTRAL HORIZONTAL COMPONENT, TREND, INTERPRETED, UNKNOWN GENERATION
- FAULT, SINISTRAL HORIZONTAL COMPONENT, TREND, OBSERVED, UNKNOWN GENERATION
- FAULT, UNKNOWN HORIZONTAL COMPONENT, INCLINED-REVERSE, INTERPRETED, UNKNOWN GENERATION
- FAULT, UNKNOWN HORIZONTAL COMPONENT, INCLINED-REVERSE, OBSERVED, UNKNOWN GENERATION
- FAULT, UNKNOWN HORIZONTAL COMPONENT, TREND, INTERPRETED, UNKNOWN GENERATION
- FAULT, UNKNOWN HORIZONTAL COMPONENT, TREND, OBSERVED, UNKNOWN GENERATION
- NEATLINE
- ONTARIO BORDER
- Marble, chert, iron formation, minor metavolcanic rocks

**Dikes**

- Abitibi mafic dike
- Biscotasing mafic dike
- Empey Lake mafic dike
- Felsic to intermediate intrusive rocks
- Fort Frances mafic dike
- Frontenac mafic dike
- Grenville mafic dike
- Logan and Nipigon mafic sills
- Mackenzie mafic dike
- Mafic dikes of uncertain age
- Mafic sills and dikes
- Marathon mafic dike
- Marathon, Kapuskasing or Biscotasing mafic dike
- Matachewan mafic dike
- Mine Centre mafic dike
- Molson mafic dike
- North Channel mafic dike
- Pickle Crow mafic dike (Molson swarm) normal
- Pickle Crow mafic dike (Molson swarm) reverse
- Rideau mafic dike
- Sudbury mafic dike
- Ultramafic, gabbroic and granophyric intrusions
- Unsubdivided mafic dike
- Unsubdivided mafic dike (Keweenawan age)
- unknown

**C Lines**

- FOLD, ANTICLINE, INTERPRETED, UNKNOWN GENERATION
- FOLD, ANTICLINE, OBSERVED, UNKNOWN GENERATION
- FOLD, ANTICLINE, SYNFORMAL, INTERPRETED, SECOND GENERATION
- FOLD, ANTIFORM, INTERPRETED, UNKNOWN GENERATION
- FOLD, SYNCLINE, INTERPRETED, UNKNOWN GENERATION
- FOLD, SYNCLINE, OBSERVED, UNKNOWN GENERATION
- FOLD, SYNFORM, INTERPRETED, UNKNOWN GENERATION

Kimberlite

# Bedrock Geology Report

Bedrock Geology units found within 2000 m of

2076 Meadowbrook Rd, Burlington, ON, L7P2A4


**Order ID:** 20180206084



**ID:** 13248 | **Unit Name:** |

**Type (All):** 55a | **Type (Primary):** 55a | **Type (Secondary):** | **Type (Tertiary):** | **Rock Type (Primary):** Shale, limestone, dolostone, siltstone | **Strata (Primary):** Queenston Formation | **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):**

# Bedrock Geology Report Metadata

**Ontario Geological Survey 2011. 1:250 000 scale bedrock geology of Ontario; Ontario Geological Survey, Miscellaneous Release-Data 126 Revision1**

ONTARIO MINISTRY OF NORTHERN DEVELOPMENT, MINES AND FORESTRY



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

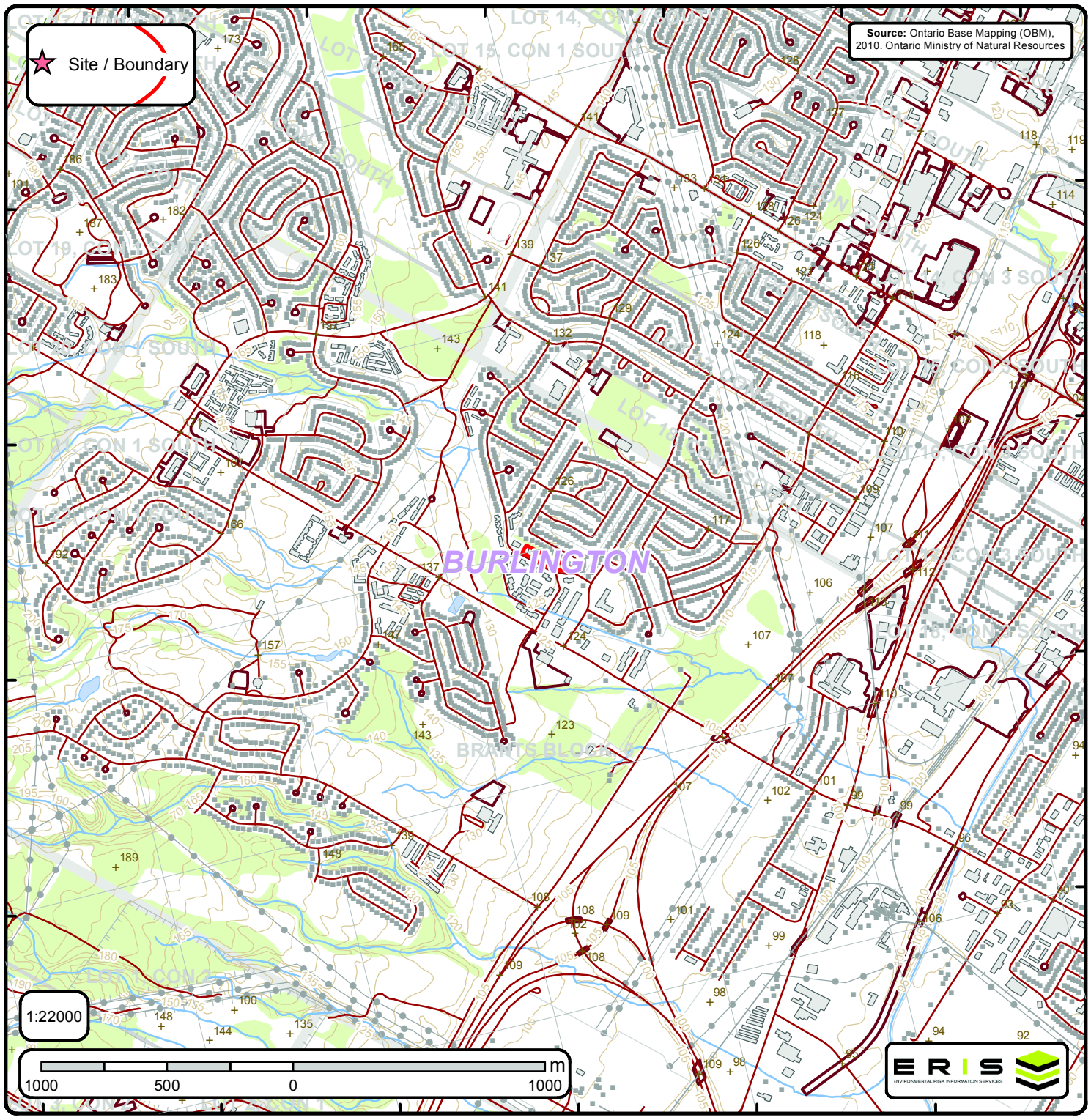
```
CAMBRIAN (488.3 Ma to 542.0 Ma)
ORDOVICIAN (443.7 Ma to 488.3 Ma)
SILURIAN (416.0 Ma to 443.7 Ma)
DEVONIAN (359.2 Ma to 416.0 Ma)
MISSISSIPPIAN TO DEVONIAN (318.1 Ma to 416.0 Ma)
JURASSIC (145.5 Ma to 199.6 Ma)
CRETACEOUS AND JURASSIC (65.5 Ma to 199.6 Ma)
```

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

```
LOWER ORDOVICIAN
MIDDLE ORDOVICIAN
UPPER ORDOVICIAN
MIDDLE AND LOWER SILURIAN
UPPER SILURIAN TO LOWER DEVONIAN
UPPER SILURIAN
LOWER DEVONIAN
MIDDLE DEVONIAN
UPPER 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:

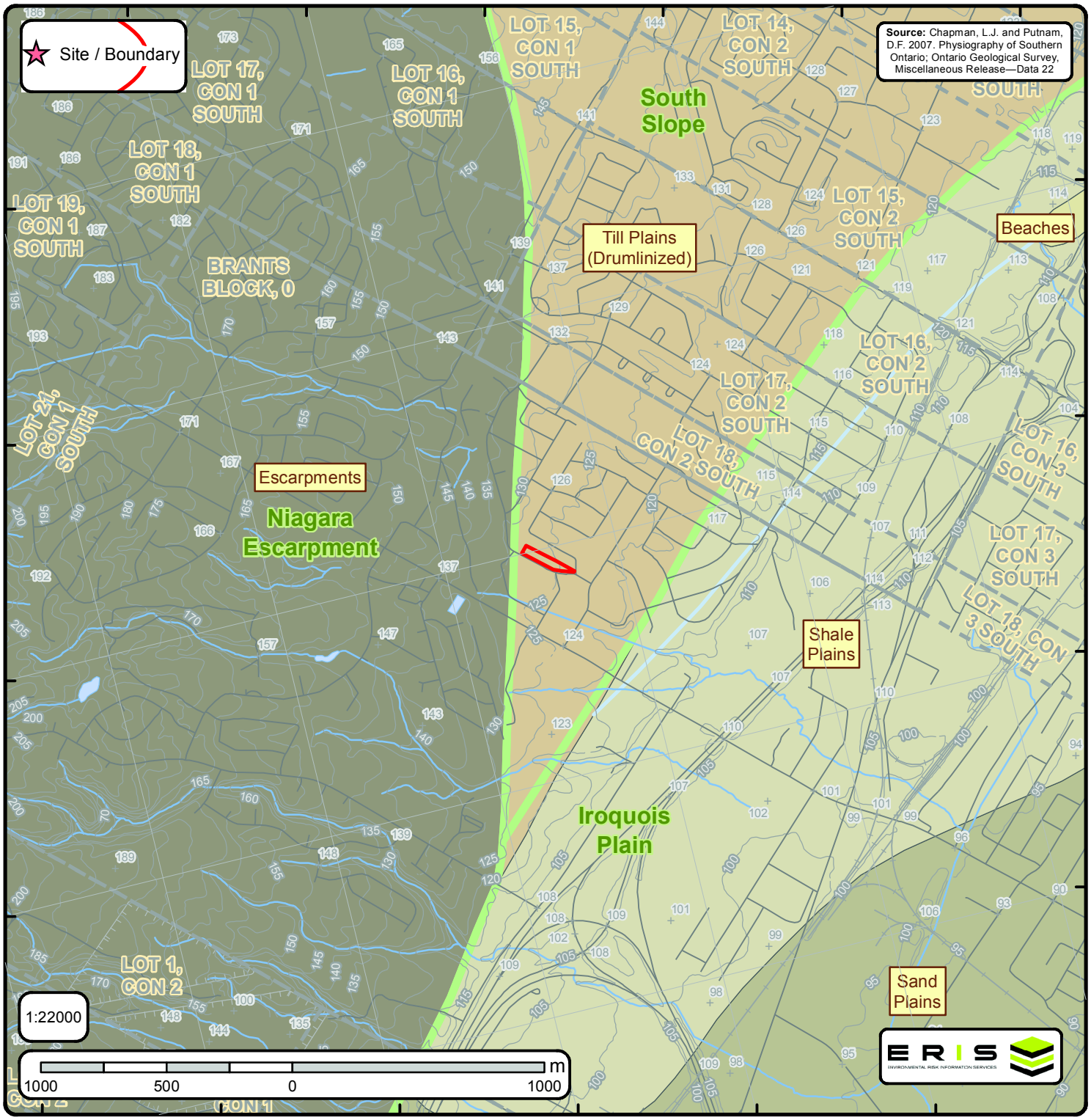
```
SUPERIOR
SOUTHERN
SUPERIOR
GRENVILLE
```




# Ontario Base Mapping (OBM) Data

Order No. 20180206084

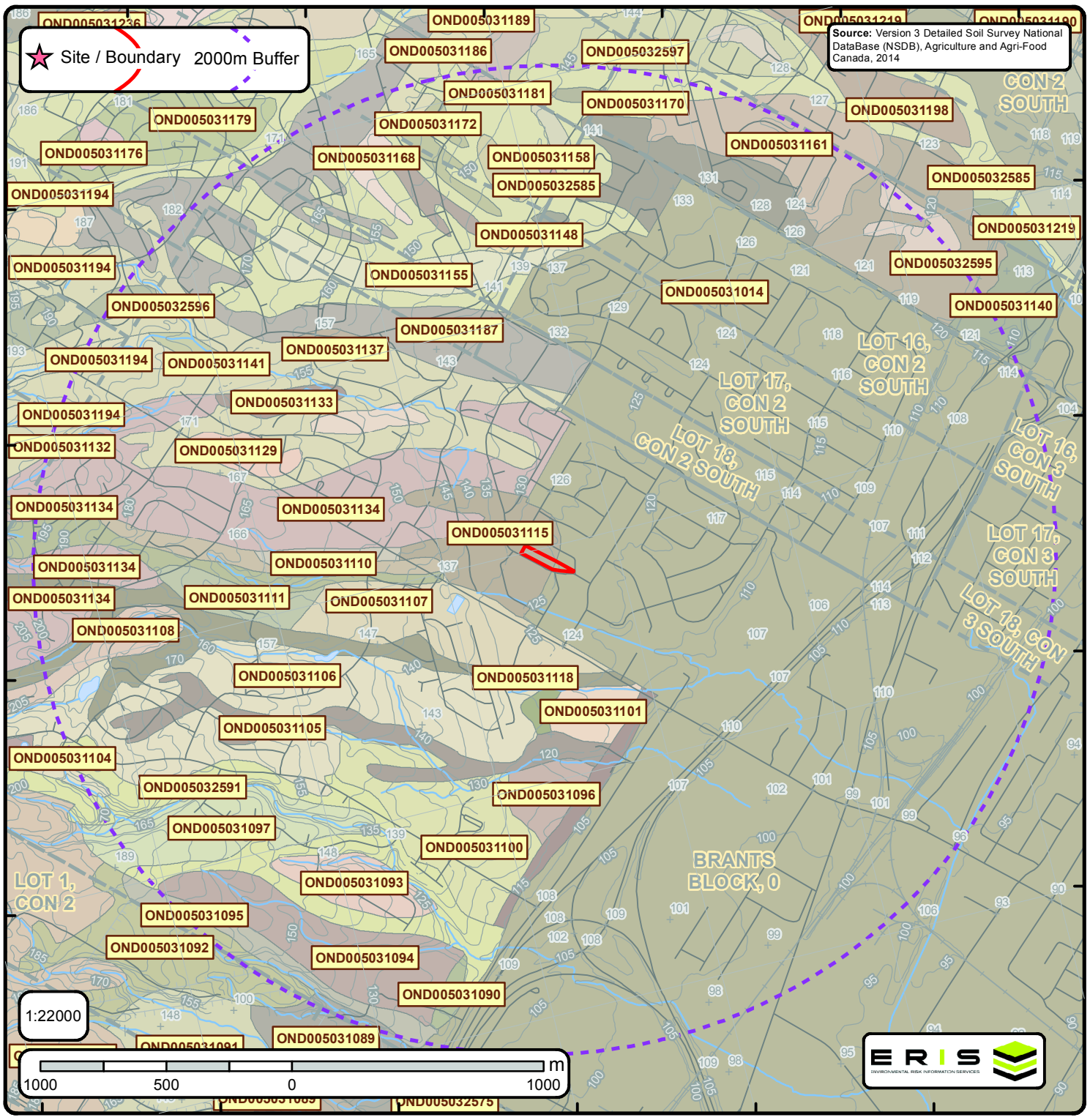
| | | | |
|---|---|---|---|
| Spot Height (metre) | Transportation Structure | Contour Line | Wooded Area |
| Building Point | Utility Line | Pit or Quarry | Conservation Authority |
| Towers | Water Structure | Waterbody | Conservation Area |
| Utility Site Point | Drainage Line Feature | Wetlands |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




# Physiography of Southern Ontario

Order No. 20180206084

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




# Detailed Soil Survey (ON Soils)

Order No. 20180206084

- Spot Height
- Railroads
- Roads
- Contour Lines
- Streams
- Lots
- Pit or Quarry
- Airports
- Wetlands
- Waterbody

# Soils Report

Soil Map Units Found within 2000 m of

2076 Meadowbrook Rd, Burlington, ON, L7P2A4

**Order ID:**
20180206084



**Soil ID:** OND005031164

**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031118

**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 37.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : Natural grazing only; no improvements feasible. | **First CLI Limitation Subclass** : Presence of adverse Topography | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031119

**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONJDD~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : 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** : clay loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Adverse soil structure (i.e. Depth of rooting zone is restricted) | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-13 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 7 | **Total Sand(%)** : 17 | **Total Silt(%)** : 49 | **Total Clay(%)** : 34 | **Organic Carbon(%)** : 2.6 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.385 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 13-24 | **Horizon** : Bg | **Layer No** : 2 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 12 | **Total Silt(%)** : 42 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 6.3 | **Saturated Hydraulic Conductivity(cm/h)** : 0.207 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 24-49 | **Horizon** : Bg | **Layer No** : 3 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 12 | **Total Silt(%)** : 43 | **Total Clay(%)** : 45 | **Organic Carbon(%)** : 0.3 | **pH in Calc Chloride** : 6.4 | **Saturated Hydraulic Conductivity(cm/h)** : 0.209 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 49-100 | **Horizon** : Ckg | **Layer No** : 4 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 11 | **Total Silt(%)** : 50 | **Total Clay(%)** : 39 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.6 | **Saturated Hydraulic Conductivity(cm/h)** : 0.141 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031134
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031133
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 0.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031102
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONCGU~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop 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** : clay loam | **Field Crops Capability** : No significant limitations in 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(%)** : 11 | **Total Sand(%)** : 21 | **Total Silt(%)** : 50 | **Total Clay(%)** : 29 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.368 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 27-40 | **Horizon** : Btgj | **Layer No** : 2 | **Very Fine Sand(%)** : 8 | **Total Sand(%)** : 21 | **Total Silt(%)** : 43 | **Total Clay(%)** : 36 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 0.228 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 40-100 | **Horizon** : Ckgj | **Layer No** : 3 | **Very Fine Sand(%)** : 7 | **Total Sand(%)** : 20 | **Total Silt(%)** : 49 | **Total Clay(%)** : 31 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.7 | **Saturated Hydraulic Conductivity(cm/h)** : 0.159 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031110
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031111
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 0.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031115
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONCGU~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop 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** : clay loam | **Field Crops Capability** : No significant limitations in 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(%)** : 11 | **Total Sand(%)** : 21 | **Total Silt(%)** : 50 | **Total Clay(%)** : 29 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.368 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 27-40 | **Horizon** : Btgj | **Layer No** : 2 | **Very Fine Sand(%)** : 8 | **Total Sand(%)** : 21 | **Total Silt(%)** : 43 | **Total Clay(%)** : 36 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 0.228 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 40-100 | **Horizon** : Ckgj | **Layer No** : 3 | **Very Fine Sand(%)** : 7 | **Total Sand(%)** : 20 | **Total Silt(%)** : 49 | **Total Clay(%)** : 31 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.7 | **Saturated Hydraulic Conductivity(cm/h)** : 0.159 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031172
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031155
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031170
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONCGU~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop 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** : clay loam | **Field Crops Capability** : No significant limitations in 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(%)** : 11 | **Total Sand(%)** : 21 | **Total Silt(%)** : 50 | **Total Clay(%)** : 29 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.368 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 27-40 | **Horizon** : Btgj | **Layer No** : 2 | **Very Fine Sand(%)** : 8 | **Total Sand(%)** : 21 | **Total Silt(%)** : 43 | **Total Clay(%)** : 36 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 0.228 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 40-100 | **Horizon** : Ckgj | **Layer No** : 3 | **Very Fine Sand(%)** : 7 | **Total Sand(%)** : 20 | **Total Silt(%)** : 49 | **Total Clay(%)** : 31 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.7 | **Saturated Hydraulic Conductivity(cm/h)** : 0.159 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031100
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 12.0 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031152
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONCGU~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop 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** : clay loam | **Field Crops Capability** : No significant limitations in 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(%)** : 11 | **Total Sand(%)** : 21 | **Total Silt(%)** : 50 | **Total Clay(%)** : 29 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.368 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 27-40 | **Horizon** : Btgj | **Layer No** : 2 | **Very Fine Sand(%)** : 8 | **Total Sand(%)** : 21 | **Total Silt(%)** : 43 | **Total Clay(%)** : 36 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 0.228 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 40-100 | **Horizon** : Ckgj | **Layer No** : 3 | **Very Fine Sand(%)** : 7 | **Total Sand(%)** : 20 | **Total Silt(%)** : 49 | **Total Clay(%)** : 31 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.7 | **Saturated Hydraulic Conductivity(cm/h)** : 0.159 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031153
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 0.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031107
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 0.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031158
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONCGU~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop 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** : clay loam | **Field Crops Capability** : No significant limitations in 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(%)** : 11 | **Total Sand(%)** : 21 | **Total Silt(%)** : 50 | **Total Clay(%)** : 29 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.368 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 27-40 | **Horizon** : Btgj | **Layer No** : 2 | **Very Fine Sand(%)** : 8 | **Total Sand(%)** : 21 | **Total Silt(%)** : 43 | **Total Clay(%)** : 36 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 0.228 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 40-100 | **Horizon** : Ckgj | **Layer No** : 3 | **Very Fine Sand(%)** : 7 | **Total Sand(%)** : 20 | **Total Silt(%)** : 49 | **Total Clay(%)** : 31 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.7 | **Saturated Hydraulic Conductivity(cm/h)** : 0.159 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005032597
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 0.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031095
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONJDD~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : 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** : clay loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Adverse soil structure (i.e. Depth of rooting zone is restricted) | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-13 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 7 | **Total Sand(%)** : 17 | **Total Silt(%)** : 49 | **Total Clay(%)** : 34 | **Organic Carbon(%)** : 2.6 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.385 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 13-24 | **Horizon** : Bg | **Layer No** : 2 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 12 | **Total Silt(%)** : 42 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 6.3 | **Saturated Hydraulic Conductivity(cm/h)** : 0.207 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 24-49 | **Horizon** : Bg | **Layer No** : 3 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 12 | **Total Silt(%)** : 43 | **Total Clay(%)** : 45 | **Organic Carbon(%)** : 0.3 | **pH in Calc Chloride** : 6.4 | **Saturated Hydraulic Conductivity(cm/h)** : 0.209 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 49-100 | **Horizon** : Ckg | **Layer No** : 4 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 11 | **Total Silt(%)** : 50 | **Total Clay(%)** : 39 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.6 | **Saturated Hydraulic Conductivity(cm/h)** : 0.141 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031094
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 0.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031097
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031096
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONZUN~~~~~N | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : None | **Slop Length(m)** : -9 | **Drainage** : Not Applicable | **Hydrological Soil Groups** : None | **Soil Texture of A Horizon** : None | **Field Crops Capability** : No capability for agriculture. | **First CLI Limitation Subclass** : Presence of consolidated bedrock within one metre of the soil surface | **Second CLI Limitation Subclass** : Presence of adverse Topography | **Soil Name** : UNCLASSIFIED | **Water Table Charateristics** : 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:** OND005031194
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 0.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031163
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 0.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031093
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 0.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031092
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONZUN~~~~~N | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : None | **Slop Length(m)** : -9 | **Drainage** : Not Applicable | **Hydrological Soil Groups** : None | **Soil Texture of A Horizon** : None | **Field Crops Capability** : No capability for agriculture. | **First CLI Limitation Subclass** : Presence of adverse Topography | **Second CLI Limitation Subclass** : None | **Soil Name** : UNCLASSIFIED | **Water Table Charateristics** : 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:** OND005031187
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031089
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 12.0 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : Severe limitations on use for crops. | **First CLI Limitation Subclass** : Presence of adverse Topography | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031098
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 12.0 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : Severe limitations on use for crops. | **First CLI Limitation Subclass** : Presence of adverse Topography | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031090
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 12.0 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : Severe limitations on use for crops. | **First CLI Limitation Subclass** : Presence of adverse Topography | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031014
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONZUN~~~~~N | **Surface Stoniness Class** : Nonstony | **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 Charateristics** : 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:** OND005031108
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 0.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031168
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Moderately stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031126
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031129
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 0.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031128
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031101
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 0.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031166
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONCGU~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop 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** : clay loam | **Field Crops Capability** : No significant limitations in 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(%)** : 11 | **Total Sand(%)** : 21 | **Total Silt(%)** : 50 | **Total Clay(%)** : 29 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.368 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 27-40 | **Horizon** : Btgj | **Layer No** : 2 | **Very Fine Sand(%)** : 8 | **Total Sand(%)** : 21 | **Total Silt(%)** : 43 | **Total Clay(%)** : 36 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 0.228 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 40-100 | **Horizon** : Ckgj | **Layer No** : 3 | **Very Fine Sand(%)** : 7 | **Total Sand(%)** : 20 | **Total Silt(%)** : 49 | **Total Clay(%)** : 31 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.7 | **Saturated Hydraulic Conductivity(cm/h)** : 0.159 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031161
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONCGU~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop 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** : clay loam | **Field Crops Capability** : No significant limitations in 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(%)** : 11 | **Total Sand(%)** : 21 | **Total Silt(%)** : 50 | **Total Clay(%)** : 29 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.368 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 27-40 | **Horizon** : Btgj | **Layer No** : 2 | **Very Fine Sand(%)** : 8 | **Total Sand(%)** : 21 | **Total Silt(%)** : 43 | **Total Clay(%)** : 36 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 0.228 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 40-100 | **Horizon** : Ckgj | **Layer No** : 3 | **Very Fine Sand(%)** : 7 | **Total Sand(%)** : 20 | **Total Silt(%)** : 49 | **Total Clay(%)** : 31 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.7 | **Saturated Hydraulic Conductivity(cm/h)** : 0.159 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031106
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 0.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031105
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 22.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : Very severe limitations preclude annual cultivation; improvements feasible. | **First CLI Limitation Subclass** : Presence of adverse Topography | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031162
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031143
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONJDD~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : 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** : clay loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Adverse soil structure (i.e. Depth of rooting zone is restricted) | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-13 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 7 | **Total Sand(%)** : 17 | **Total Silt(%)** : 49 | **Total Clay(%)** : 34 | **Organic Carbon(%)** : 2.6 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.385 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 13-24 | **Horizon** : Bg | **Layer No** : 2 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 12 | **Total Silt(%)** : 42 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 6.3 | **Saturated Hydraulic Conductivity(cm/h)** : 0.207 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 24-49 | **Horizon** : Bg | **Layer No** : 3 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 12 | **Total Silt(%)** : 43 | **Total Clay(%)** : 45 | **Organic Carbon(%)** : 0.3 | **pH in Calc Chloride** : 6.4 | **Saturated Hydraulic Conductivity(cm/h)** : 0.209 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 49-100 | **Horizon** : Ckg | **Layer No** : 4 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 11 | **Total Silt(%)** : 50 | **Total Clay(%)** : 39 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.6 | **Saturated Hydraulic Conductivity(cm/h)** : 0.141 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031141
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONCGU~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop 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** : clay loam | **Field Crops Capability** : No significant limitations in 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(%)** : 11 | **Total Sand(%)** : 21 | **Total Silt(%)** : 50 | **Total Clay(%)** : 29 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.368 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 27-40 | **Horizon** : Btgj | **Layer No** : 2 | **Very Fine Sand(%)** : 8 | **Total Sand(%)** : 21 | **Total Silt(%)** : 43 | **Total Clay(%)** : 36 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 0.228 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 40-100 | **Horizon** : Ckgj | **Layer No** : 3 | **Very Fine Sand(%)** : 7 | **Total Sand(%)** : 20 | **Total Silt(%)** : 49 | **Total Clay(%)** : 31 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.7 | **Saturated Hydraulic Conductivity(cm/h)** : 0.159 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031137
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONCGU~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop 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** : clay loam | **Field Crops Capability** : No significant limitations in 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(%)** : 11 | **Total Sand(%)** : 21 | **Total Silt(%)** : 50 | **Total Clay(%)** : 29 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.368 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 27-40 | **Horizon** : Btgj | **Layer No** : 2 | **Very Fine Sand(%)** : 8 | **Total Sand(%)** : 21 | **Total Silt(%)** : 43 | **Total Clay(%)** : 36 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 0.228 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 40-100 | **Horizon** : Ckgj | **Layer No** : 3 | **Very Fine Sand(%)** : 7 | **Total Sand(%)** : 20 | **Total Silt(%)** : 49 | **Total Clay(%)** : 31 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.7 | **Saturated Hydraulic Conductivity(cm/h)** : 0.159 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031140
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONCGU~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 1.2 | **Slop 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** : clay loam | **Field Crops Capability** : No significant limitations in 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(%)** : 11 | **Total Sand(%)** : 21 | **Total Silt(%)** : 50 | **Total Clay(%)** : 29 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.368 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 27-40 | **Horizon** : Btgj | **Layer No** : 2 | **Very Fine Sand(%)** : 8 | **Total Sand(%)** : 21 | **Total Silt(%)** : 43 | **Total Clay(%)** : 36 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 0.228 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 40-100 | **Horizon** : Ckgj | **Layer No** : 3 | **Very Fine Sand(%)** : 7 | **Total Sand(%)** : 20 | **Total Silt(%)** : 49 | **Total Clay(%)** : 31 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.7 | **Saturated Hydraulic Conductivity(cm/h)** : 0.159 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005031148
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONCGU~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop 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** : clay loam | **Field Crops Capability** : No significant limitations in 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(%)** : 11 | **Total Sand(%)** : 21 | **Total Silt(%)** : 50 | **Total Clay(%)** : 29 | **Organic Carbon(%)** : 1.9 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.368 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 27-40 | **Horizon** : Btgj | **Layer No** : 2 | **Very Fine Sand(%)** : 8 | **Total Sand(%)** : 21 | **Total Silt(%)** : 43 | **Total Clay(%)** : 36 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 7.2 | **Saturated Hydraulic Conductivity(cm/h)** : 0.228 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 40-100 | **Horizon** : Ckgj | **Layer No** : 3 | **Very Fine Sand(%)** : 7 | **Total Sand(%)** : 20 | **Total Silt(%)** : 49 | **Total Clay(%)** : 31 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.7 | **Saturated Hydraulic Conductivity(cm/h)** : 0.159 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005032595
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Nonstony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031181
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 3.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

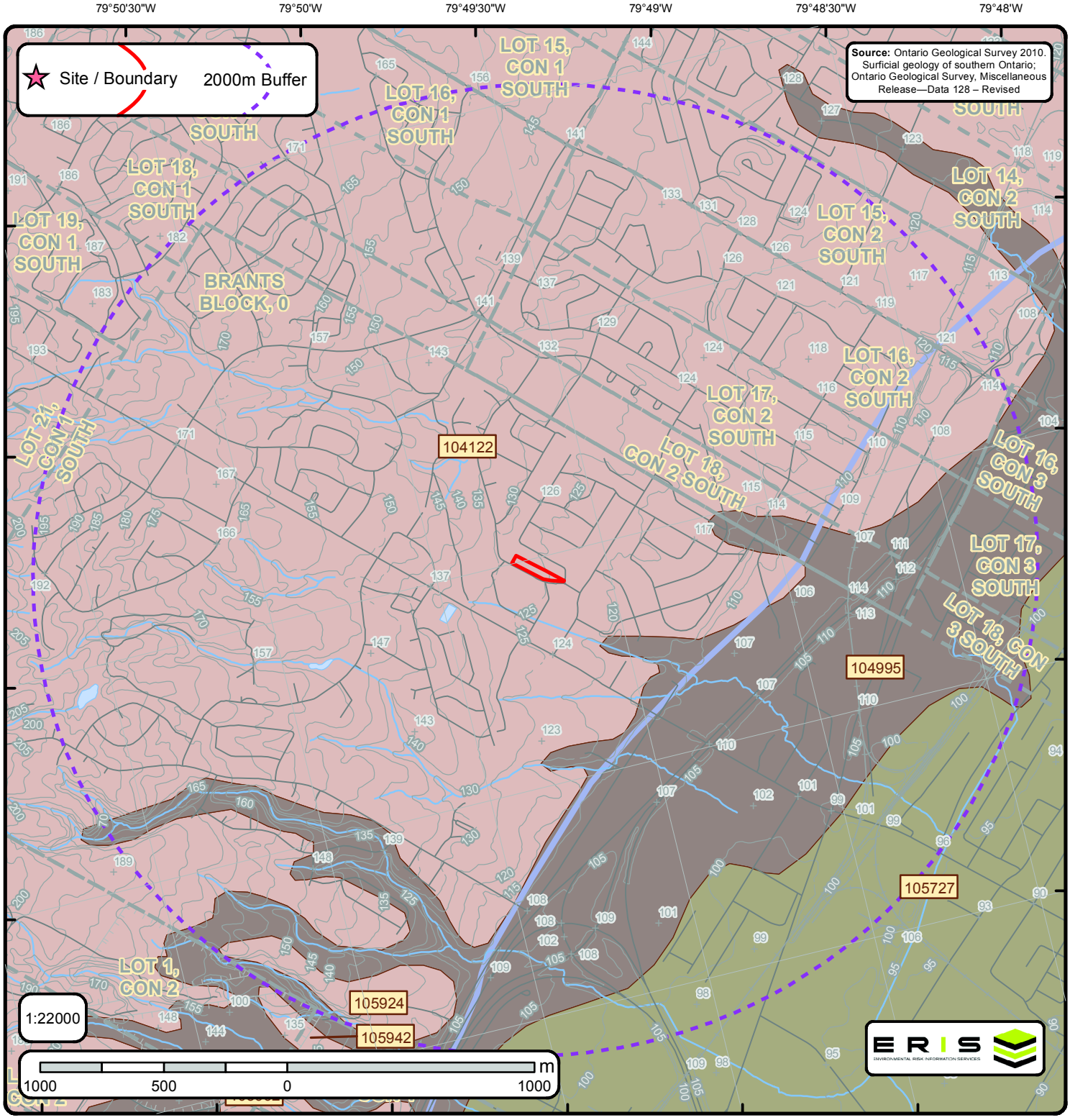
**Soil ID:** OND005032596
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONJDD~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Poorly | **Hydrological Soil Groups** : Soils have a high runoff potential 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** : clay loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Adverse soil structure (i.e. Depth of rooting zone is restricted) | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-13 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 7 | **Total Sand(%)** : 17 | **Total Silt(%)** : 49 | **Total Clay(%)** : 34 | **Organic Carbon(%)** : 2.6 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.385 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 13-24 | **Horizon** : Bg | **Layer No** : 2 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 12 | **Total Silt(%)** : 42 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 6.3 | **Saturated Hydraulic Conductivity(cm/h)** : 0.207 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 24-49 | **Horizon** : Bg | **Layer No** : 3 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 12 | **Total Silt(%)** : 43 | **Total Clay(%)** : 45 | **Organic Carbon(%)** : 0.3 | **pH in Calc Chloride** : 6.4 | **Saturated Hydraulic Conductivity(cm/h)** : 0.209 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 49-100 | **Horizon** : Ckg | **Layer No** : 4 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 11 | **Total Silt(%)** : 50 | **Total Clay(%)** : 39 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.6 | **Saturated Hydraulic Conductivity(cm/h)** : 0.141 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005032591
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 22.5 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : Very severe limitations preclude annual cultivation; improvements feasible. | **First CLI Limitation Subclass** : Presence of adverse Topography | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |



**Soil ID:** OND005031186
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONOID~~~~~A | **Surface Stoniness Class** : Moderately stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : Well | **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** : No significant limitations in use for Crops | **First CLI Limitation Subclass** : None | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-8 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 39 | **Total Silt(%)** : 34 | **Total Clay(%)** : 27 | **Organic Carbon(%)** : 2.7 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.609 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 8-15 | **Horizon** : Ae | **Layer No** : 2 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 44 | **Total Clay(%)** : 26 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.348 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 15-23 | **Horizon** : Ae | **Layer No** : 3 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 30 | **Total Silt(%)** : 42 | **Total Clay(%)** : 28 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.336 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 23-38 | **Horizon** : Bt | **Layer No** : 4 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 22 | **Total Silt(%)** : 32 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.2 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.221 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 38-68 | **Horizon** : Bt | **Layer No** : 5 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 20 | **Total Silt(%)** : 32 | **Total Clay(%)** : 48 | **Organic Carbon(%)** : 0.4 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.216 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 68-100 | **Horizon** : Ck | **Layer No** : 6 | **Very Fine Sand(%)** : 0 | **Total Sand(%)** : 21 | **Total Silt(%)** : 39 | **Total Clay(%)** : 40 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 5.0 | **Saturated Hydraulic Conductivity(cm/h)** : 0.215 | **Electrical Conductivity(dS/m)** : 0 |

**Soil ID:** OND005032585
**Component No** : 1 | **Components(%)** : 100 | **Soil Name ID** : ONJDD~~~~~A | **Surface Stoniness Class** : Slightly stony | **Slop Steepness(%)** : 1.2 | **Slop Length(m)** : -9 | **Drainage** : 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** : clay loam | **Field Crops Capability** : moderately severe limitations on use for crops. | **First CLI Limitation Subclass** : Adverse soil structure (i.e. Depth of rooting zone is restricted) | **Second CLI Limitation Subclass** : None | **Depth(cm)** : 0-13 | **Horizon** : Ap | **Layer No** : 1 | **Very Fine Sand(%)** : 7 | **Total Sand(%)** : 17 | **Total Silt(%)** : 49 | **Total Clay(%)** : 34 | **Organic Carbon(%)** : 2.6 | **pH in Calc Chloride** : 7.1 | **Saturated Hydraulic Conductivity(cm/h)** : 0.385 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 13-24 | **Horizon** : Bg | **Layer No** : 2 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 12 | **Total Silt(%)** : 42 | **Total Clay(%)** : 46 | **Organic Carbon(%)** : 0.5 | **pH in Calc Chloride** : 6.3 | **Saturated Hydraulic Conductivity(cm/h)** : 0.207 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 24-49 | **Horizon** : Bg | **Layer No** : 3 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 12 | **Total Silt(%)** : 43 | **Total Clay(%)** : 45 | **Organic Carbon(%)** : 0.3 | **pH in Calc Chloride** : 6.4 | **Saturated Hydraulic Conductivity(cm/h)** : 0.209 | **Electrical Conductivity(dS/m)** : 0] | **Depth(cm)** : 49-100 | **Horizon** : Ckg | **Layer No** : 4 | **Very Fine Sand(%)** : 4 | **Total Sand(%)** : 11 | **Total Silt(%)** : 50 | **Total Clay(%)** : 39 | **Organic Carbon(%)** : 0.0 | **pH in Calc Chloride** : 7.6 | **Saturated Hydraulic Conductivity(cm/h)** : 0.141 | **Electrical Conductivity(dS/m)** : 0 |




# The Surficial Geology of Southern Ontario

Order No. 20180206084

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Spot Height | Streams | Dune | Beach | Esker | karst | pitsg | | |
| Waterbody | Contour Lines | Lake | Bluff | Esker ND | linfeat | popup | | |
| Wetlands | Roads | Rib | Crevasse | Fluvial DL | megarip | ribl | | |
| Airports | Railroads | Scab | Crest | fluvndl | mfluvdl | slidel | | |
| Pit or Quarry | Morains | Slide | End | iceberg | mfluvndl | slumpb | | |
| Lots | | NOF Dune | Escarpment | icslope | moraine | terrace | | |

# Surface Geology Report

Surface Geology units found within 2000 m of
2076 Meadowbrook Rd, Burlington, ON, L7P2A4


**Order ID:**
20180206084



**ID:** 104122 | **Unit Name:** Halton Till |
**Deposit Type Code:** 10 | **Deposit Age:** Late Wisconsinan | **Map Number:** m2509 | **Map Name:** Hamilton | **Source Map Scale:** 1:50 000 | **Primary Material:** diamicton | **Primary Material Modifier:** silty clay to clayey silt | **Secondary Material:** | **Primary General:** glacial | **Primary General Modifier:** | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** Port Huron | **Stratus Modifier:** Surface | **Provenance:** Erie-Ontario | **Carbon Content:** medium | **Formation:** Halton Till | **Permeability:** Low | **Material Description:** Clay or silt till

**ID:** 104995 | **Unit Name:** Bedrock |
**Deposit Type Code:** 1 | **Deposit Age:** Ordovician and Silurian | **Map Number:** m2509 | **Map Name:** Hamilton | **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:** Shale and dolomite

**ID:** 105727 | **Unit Name:** Lacustrine and outwash sand |
**Deposit Type Code:** 12 | **Deposit Age:** Late Wisconsinan | **Map Number:** m2509 | **Map Name:** Hamilton | **Source Map Scale:** 1:50 000 | **Primary Material:** sand | **Primary Material Modifier:** | **Secondary Material:** | **Primary General:** glaciolacustrine | **Primary General Modifier:** foreshore/basinal | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** | **Stratus Modifier:** Surface | **Provenance:** | **Carbon Content:** | **Formation:** | **Permeability:** High | **Material Description:** Sand

**ID:** 105924 | **Unit Name:** Halton Till |
**Deposit Type Code:** 10 | **Deposit Age:** Late Wisconsinan | **Map Number:** m2509 | **Map Name:** Hamilton | **Source Map Scale:** 1:50 000 | **Primary Material:** diamicton | **Primary Material Modifier:** silty clay to clayey silt | **Secondary Material:** | **Primary General:** glacial | **Primary General Modifier:** | **Veneer:** | **Episode:** Wisconsin | **Sub Episode:** Michigan | **Phase:** Port Huron | **Stratus Modifier:** Surface | **Provenance:** Erie-Ontario | **Carbon Content:** medium | **Formation:** Halton Till | **Permeability:** Low | **Material Description:** Clay or silt till

# Surface Geology Report Metadata

**Ontario Geological Survey 2010. Surficial geology of southern Ontario; Ontario Geological Survey, Miscellaneous Release - Data 128 - Revised.**

ONTARIO MINISTRY OF NORTHERN DEVELOPMENT, MINES AND FORESTRY



**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'.