



Contamination Overview Study

Highway 401 Nagle Road Interchange Study
(GWP 4059-17-00), Northumberland County

February 12, 2019

Prepared for:

Ontario Ministry of Transportation

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Executive Summary

The Ontario Ministry of Transportation (MTO) and the Town of Cobourg have retained Stantec Consulting Ltd. (Stantec) to undertake a Preliminary Design, and Class Environmental Assessment (Class EA) Study on Highway 401 for a new interchange near Nagle Road in the Town of Cobourg and the Township of Hamilton. The study is located from approximately 1 km west of Nagle Road to approximately 1.3 km east of Nagle Road in Northumberland County (approximately 2.3 km). This length of Highway 401 will hereinafter be referred to as the "Site" (**Figure 1, Appendix A**). As part of this study, Stantec has completed a Contamination Overview Study (COS). The specific purpose of the COS was to assess if evidence of potential and actual environmental contamination exists at the Site as a result of current and past activities on the Site or adjacent/neighbouring properties.

To fulfill the objective of the COS, historical records and documentation available for the Site and the surrounding areas were reviewed and a site reconnaissance was completed on July 10, 2018. Following the review of historical records and the site reconnaissance, potential sources of contamination (PSOC) to the Site were identified, as summarized below. PSOC were ranked as either high, moderate, or low depending on the distance of the potential source from the Site and the activity associated with the potential source. Following the review of historical records and the site reconnaissance, PSOC to the Site were identified, as summarized below.

Table 1: Summary of Potential Sources of Contamination

| PSOC ID No. | Description of Potential Source | Location | Approximate Distance from the Site | Contaminant of Concern | Potential for Concern | Explanation of Potential for Concern |
|-------------|---|---|------------------------------------|--|-----------------------|--|
| 1 | Historical Spills from Vehicular Accidents on Highway 401 | Road allowance along Highway 401 | On Site | Polycyclic aromatic hydrocarbons (PAH), Petroleum Hydrocarbons (PHC), and Volatile Organic Compounds (VOC) | Moderate | Records were identified for spills related to vehicular accidents on Highway 401 and at the intersection of Nagle and Danforth within the Study Area. The specific locations of the spills are unknown. |
| 2 | Historical Aggregate Activities | Lot 8, Concession 1, Hamilton Township (north of Highway 401) | On-Site | PAH, PHC, Metals, and Inorganics | Moderate | An Abandoned Aggregate Inventory record was identified that identified a rehabilitated pit or quarry at Lot 8, Concession 1, Hamilton Twp., which could have been located within the Site boundaries, based on the review of aerial photographs. |



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| PSOC ID No. | Description of Potential Source | Location | Approximate Distance from the Site | Contaminant of Concern | Potential for Concern | Explanation of Potential for Concern |
|-------------|---|-------------|------------------------------------|----------------------------------|-----------------------|--|
| 3 | Berms, Stockpiles, and Imported Fill Material | Entire Site | On-Site and within the Study Area | PAH, PHC, Metals, and Inorganics | High | Multiple large berms were observed on either side of the Highway 401 along the length of the Site. Several stockpiles were observed that may extend onto the Site boundaries (Lot 12, Concession 1, Hamilton Twp.). Furthermore, it is expected that fill materials were imported onto the Site for the purposes of road construction. |

Based on the above, the following recommendations are provided:

- A Preliminary Site Screening (PSS), Phase I ESA, and Phase II ESA (if recommended as part of the PSS or Phase I ESA) should be completed in accordance with the requirements of the MTO's *Environmental Guide for Contaminated Property Identification and Management* (MTO, 2006) and *Environmental Reference for Highway Design* (MTO, 2013) for any property that will be acquired by MTO and a site-specific evaluation of PSOCs should be completed. If building demolition will be required, designated substance surveys should be completed for buildings or structures prior to demolition.
- Soil and/or groundwater that will be disturbed during construction should be sampled and analyzed for metals and inorganics (including salt-related parameters), polycyclic aromatic hydrocarbons (PAHs), petroleum hydrocarbons (PHCs), and volatile organic compounds (VOCs). The selection of soil for analysis should take into consideration if there are observations of material containing anthropogenic substances, petroleum hydrocarbons odours/staining, solvent odours/staining or debris/waste.
- Should excess soil be generated at the Site during future construction activities, soil that does not meet the Standards listed in Table 1 of the Ontario Ministry of the Environment, Conservation and Parks (MECP) *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act* (April 15, 2011) may not be considered inert fill upon excavation, and off-site management options for excess soils that cannot be reused within the Site must be considered. It is understood that salt-related parameters may not be considered to be contaminants in a road alignment, when de-icing salt has been used for winter road maintenance (Ontario Regulation (O.Reg.) 153/04 s.48 (3)); however, soil impacted by salt would be subject to special management measures if it is to be removed from the right-of-way.
- Should excess water be generated at the Site during future construction activities, water quality analyses should be conducted to determine appropriate management methods. This work should be done in coordination with a qualified person to conduct or supervise the ESA (QP_{ESA}) as defined by O.Reg. 153/04, to maintain data quality and provide an appropriate assessment of water quality.
- Should evidence of soil or water impacts be identified during construction (e.g., staining, odours, petroleum hydrocarbon sheen) samples should be collected for laboratory analysis to confirm concentrations of potential contaminants to develop appropriate handling and health and safety guidelines.
- It is possible that some of the pole-mounted transformers within the Site boundary contain PCBs. If the pole-mounted transformers need to be removed during construction, the equipment should be managed in accordance with applicable regulations.

The statements made in this Executive Summary text are subject to the limitations included in **Section 5.0**, and are to be read in conjunction with the remainder of this report.



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Introduction
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1.0 INTRODUCTION

The Ontario Ministry of Transportation (MTO) and the Town of Cobourg have retained Stantec Consulting Ltd. (Stantec) to complete a Planning, Preliminary Design and Class Environmental Assessment (Class EA) Study on Highway 401 for a new interchange near Nagle Road in the Town of Cobourg and the Township of Hamilton. The study (GWP 4059-17-00) is located from approximately 1 km west of Nagle Road to approximately 1.3 km east of Nagle Road in Northumberland County (approximately 2.3 km).



This length of Highway 401 will hereinafter be referred to as the “Site” (Figure 1, Appendix A). As part of this study, Stantec has completed a Contamination Overview Study (COS). The specific purpose of the COS was to assess if evidence of potential and actual environmental contamination exists at the Site as a result of current and past activities on the Site or adjacent/neighbouring properties.

1.1 OBJECTIVE

The objective of the COS was to identify properties or areas that represented the potential for Site contamination at the time of the investigation. The Canadian Standards Association (CSA) Standard Z768-01 for Phase I Environmental Site Assessment (ESA) defines contamination as the presence of a substance of concern, or a condition, in concentrations above appropriate pre-established criteria in soil, water, groundwater, air, or structures (CSA, R2016). Potential sources of contamination (PSOC) were qualitatively ranked as either a high, moderate, or low concern. **Section 2.0** provides a definition of each qualitative ranking.



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1.2 SCOPE OF WORK

The scope of work completed to fulfill the objective of the COS entailed a modified Phase I ESA, as follows:

- Review of historical records and documentation available for the Site and study area. This review included a database search and a review of historical aerial photographs.
- Completion of a site reconnaissance of the Site and study area where accessible by public roadways.

The COS used the following documents as guidance to conduct the investigation:

- CSA 2001 Standard Z768-01: *Phase I Environmental Site Assessment*. November 2001, reaffirmed 2016.
- MTO, 2013. *Environmental Reference for Highway Design*. June 2013.

The COS is considered to be a modified Phase I ESA because site interviews were not completed with individual landowners, fire insurance plans were not ordered, city directory searches and title searches were not completed for the road alignment, well records were not reviewed, and requests were not directly made to the Ontario Ministry of the Environment, Conservation and Parks (MECP) for information they have on file for the Site and adjacent properties. Much of this information was obtained through a database search completed by Environmental Risk Information Services (ERIS). A buffer of 100 m around proposed interchange limits and beyond the western and eastern project limits was defined for the database search, which was consistent with typical COS that focus on the identification of PSOC directly adjacent to the road alignments that form the Site. The site reconnaissance comprised a windshield survey that was conducted only in areas accessible by public roadways.

Note that an excess materials management plan is not considered part of the scope of a COS.



Methodology
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2.0 METHODOLOGY

This section describes the methods used to complete the historical records review and the Site reconnaissance activities. A list of PSOCs contributing to potential environmental concerns at the Site was developed using the information obtained from the COS (refer to **Table 1, Appendix B**).

High, Moderate, and Low potential concerns identified within the study area were generally defined as follows:

- High: Current or former potentially contaminating activity at which soil and/or groundwater contamination is typically found (e.g., gasoline service station, dry cleaning operation, known soil and/or groundwater contamination, heavy industrial operations) adjacent to the Site or within 50 m of the Site in the inferred upgradient direction.
- Moderate: Current or former potentially contaminating activity at which soil and/or groundwater contamination is typically found (e.g., gasoline service station, dry cleaning operation, known soil and/or groundwater contamination, heavy industrial operations, reported spills) within 50 m of the Site in the inferred downgradient direction or within 75 m of the Site in the inferred upgradient direction.
- Low: Current or former potentially contaminating activity between 75 m and 100 m from the Site in the inferred downgradient direction OR between 75 m and 100 m from the Site in the inferred upgradient direction, or a source of potential contamination where the source has likely been remediated or the contamination has likely attenuated (e.g., the potential for concern associated with a spill of a limited quantity of fuel (<50 L) to a roadway).

Section 4.0 summarizes PSOCs that represent environmental concerns at the Site, while **Table 1 (Appendix B)** provides the justification for ranking the PSOC as High, Moderate, or Low.

2.1 HISTORICAL RECORDS REVIEW

The historical records review consisted of a review of information available from government, public, and other agencies or parties, and information on file at Stantec. In addition, topographic mapping and geological reference maps were reviewed to develop a conceptual understanding of site physiography and hydrogeology. Information was reviewed from the following sources:

- Aerial/Satellite Imagery
 - ESRI World Imagery from ERIS
 - Google Earth Pro imagery 2014 (2005, 2007, 2009, 2012, 2014, 2015, 2016, 2017, and 2018)
 - National Air Photo Library (Natural Resources Canada) (1929, 1965, 1976, 1981, and 1987) from ERIS
- ERIS – The ERIS report documented the database search for the Site and properties within 100 m on either side of the proposed interchange limits and beyond the western and eastern project limits. The ERIS report, including full references for each database searched, is provided in **Appendix D**, and included searches of the following:
 - Federal Databases, including but not limited to: federal tank, spills, polychlorinated biphenyl (PCB) storage site, and waste disposal site databases
 - Private Databases, including but not limited to: private tank listings, waste disposal site databases, and manufacturing directories
 - Provincial Databases, including but not limited to: provincial tank, certificates of approval/environmental compliance approvals, waste generation, waste disposal, and spill databases



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- Topographic/Geologic/Physiographic Mapping:
 - Ontario Geological Survey, 1991. *Quaternary Geology of Ontario*, Southern Sheet; Map 2556, Scale 1: 1,000,000
 - Ontario Geological Survey, 1991. *Bedrock Geology of Ontario*, Southern Sheet; Map 2544, Scale 1: 1,000,000
 - Ministry of Natural Resources and Forestry, 2015. Topographic Map

A search of MECP Freedom of Information (FOI) files and the Technical Standards and Safety Authority (TSSA) was not completed. Information typically available through the FOI and TSSA offices was accessed by the ERIS database search.

2.2 SITE RECONNAISSANCE

Site reconnaissance activities included:

- A windshield survey of the Site and surrounding area, which included observations and photographic documentation of the Site from publicly accessible roadways.
- Observation of properties adjacent to the Site to determine land use, where visible from public roadways.

Ms. Janice Cooper, M.Sc., EIT, of Stantec carried out the site reconnaissance on July 10, 2018.



Results
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3.0 RESULTS

3.1 HISTORICAL RECORDS REVIEW

This section presents the findings of the historical records review. The site location is presented on **Figure 1** (**Appendix A**). The ERIS report prepared for the Site is included in **Appendix D**.

3.1.1 Aerial and Satellite Imagery

The earliest available aerial photograph was from 1929. Aerial photographs and satellite imagery were reviewed for the Study Area.

Available Photographs

- 1929, 1965, 1976, 1981, and 1987, from ERIS
- 2009, 2012, 2014, 2015, 2016, 2017 from Google Earth

The table below provides a summary of pertinent information obtained from the aerial photographs and satellite imagery listed above:

| Year | Summary |
|-------------|--|
| 1929 | The study area appeared to consist of agricultural or wooded areas, with some agricultural buildings and residential homes. A few low-lying wet areas and two creeks were visible within the study area. |
| 1965 - 1976 | The study area was generally consistent with the layout as shown on the 1929 aerial photograph, with the exception of the appearance of Highway 401 extending through the Site, and some reconfiguring of the surrounding roads to their current alignments. A number of residential or agricultural buildings were visible south of Highway 401, south of Danforth Road (Lot 12, Concession 1, Hamilton Township) and north of Danforth Road (Lot 9, Concession 1, Hamilton Township). |
| 1981 - 1987 | The study area was generally consistent with the layout as shown on the 1965 and 1976 aerial photographs, with the exception of a set of pits or area of ground disturbance east of Nagle Road and north of Highway 401 that appeared in 1981. |
| 2009 - 2014 | The study area was generally consistent with the layout as shown on the 1981 and 1987 aerial photographs, with the exception of development at two properties south of Highway 401 and north of Danforth Road (Lot 12, Concession 1, Hamilton Township). Parked vehicles, containers, and/or buildings can be observed, along with some areas of ground disturbance/ stockpiles. The pits or ground disturbance noted in the 1981 and 1987 aerial photographs north of Highway 401 appeared to be overgrown in 2009. |
| 2015 - 2017 | The study area was generally consistent with the layout as shown on the 2014 aerial photographs, with the exception that work along the shoulder of the westbound 401 to create a berm or lagoon was visible east of Nagle Road in the 2015 photograph. |



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3.1.2 Physiographic Setting

According to available physiographic information (Chapman and Putnam, 1984), the Site is within the Iroquois Plain Physiographic Region that is characterized by till and sand plains with occasional drumlins. According to the Quaternary Geology of Ontario map published by the Ontario Geologic Survey (Map 2556), the surficial soil in the vicinity of the Site generally consists of glaciolacustrine deposits with sand, gravelly sand, and gravel, as well as occasional glaciolacustrine deposits containing silt, clay, and minor sand.

Two borehole records within the study area were provided by ERIS. In general, the overburden material of the boreholes or wells within 100 m of the Site was described as a layer of topsoil, underlain by a layer of gravel sandy loam till with occasional boulders. The depth of the overburden material in the vicinity of the Site ranged from 6.2 metres below ground surface (m BGS) to 9.4 m BGS.

According to bedrock geology mapping published by the Ontario Geologic Survey (Map 2544), bedrock in the vicinity of the Site is classified as the Shadow Lake Formation and consists of limestone, dolostone, shale, arkose, and sandstone.

3.1.3 Hydrogeological Setting

The Site was observed to consist of rolling hills. The adjacent properties were generally above the typical site grade on the northwestern side of the highway, and occasionally below the site grade on the southeastern side of the highway. Often, there was an elevated berm along the roadway.

Based on a review of available maps and the topography observed in the vicinity of the Site, the inferred regional groundwater flow appears to be directed generally to the southwest and toward Lake Ontario, which was approximately 4 km south of Highway 401. The elevation of the local groundwater table can generally mimic the local topography and may not reflect the regional trend in drainage. The local shallow groundwater flow pattern also can be influenced by subsurface structures in the vicinity, such as building foundations, weeping tiles, and utility trenches. There are also several local streams that flowed through and near the Site from in a northeast to southwest direction (see **Figure 2, Appendix A**) that could influence shallow groundwater flow.

3.1.4 ERIS Historical Database Review

This section summarizes pertinent information provided by the ERIS database review. The complete ERIS report is included in **Appendix D** and additional details regarding identified PSOCs are included in **Table 1 (Appendix B)**.

3.1.4.1 Historical Spills

Records for spills related to vehicular incidents on Highway 401 within the study area were noted in both the plottable and unplotable sections of the ERIS report. Several spills of up to 400 L of diesel fuel and one spill of 3000 L of hydraulic oil that likely occurred within the Study Area (i.e., were identified at Nagle Road, 2 km to 3 km east of Cobourg, or in the vicinity of "mile marker" 477) were reported between 2004 and 2013, associated with traffic accidents. One release of 23 L of furnace oil from a tanker truck was noted to have occurred in 1994 at the intersection of Jarvis and Danforth Roads, in the southeastern portion of the Site. Full details can be found in the ERIS report (**Appendix D**).



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Residual impacts to soil and/or water that may remain following these releases represents a PSOC (**PSOC 1**) that extends along the entire Site; however, the approximate locations, if provided in the ERIS report, are indicated on **Figure 2 (Appendix A)**.

3.1.4.2 Other Records

ERIS provided several unplotable records that may be associated with the study area. The following is a summary of the unplotable records that may represent a PSOC to the Site:

- An Abandoned Aggregate Inventory record was identified that described a rehabilitated pit or quarry that may be within the study area. Insufficient details were included to confirm the exact location or size of this aggregate development; however, the record was listed for Lot 8, Concession 1, Hamilton Twp., which may be the pit or ground disturbance indicated in the 1981 and 1987 aerial photos. If so, this pit or quarry would have been located within the Site boundary. Therefore, this was identified as a PSOC (**PSOC 2**), for the potential for unknown fill quality on the Site, in addition to the potential for past fuel or other materials storage that could have impacted the Site.

3.2 SITE RECONNAISSANCE

The results of the site reconnaissance conducted on July 10, 2018 are summarized in the following sections.

Pertinent photographs of the Site are provided in **Appendix C**, and the site details are indicated on **Figure 2 (Appendix A)**.

3.2.1 General Site Layout and Observations

The Site included the proposed limits of the Nagle Road interchange alternatives, extending on either side of Highway 401 and to approximately 1.0 km to the east and west of Nagle Road, Northumberland County (**Figure 2, Appendix A**). The observed surface features included asphalt, concrete, and gravel associated with the highway. Adjacent surface features included fields, wooded areas, swamps, low-lying vegetation, and surface water drainage culverts and creeks. Photographs of the Site and surrounding area are provided in **Appendix C**.

During the windshield survey, bermed areas were observed on either side of Highway 401 along the length of the Site (**PSOC 3**). Additionally, two sets of stockpiles were observed alongside parked vehicles or storage containers at properties adjacent to the Site and within the Study Area (south of Highway 401 on Lot 12, Concession 1, Hamilton Twp.), see **Figure 2 (Appendix A)**. Given that some of these stockpiles or filled areas may extend onto the Site, general fill of unknown quality was identified as a PSOC (**PSOC 3**).

Although much of the surrounding land use appeared to be cultivated fields, wooded lands, or residential properties, commercial activities were apparent immediately to the south of the western limit of the Site along Danforth Road, and farming buildings that may include storage facilities for fuel and other materials were observed to the southeast of the Nagle Road underpass, along Danforth Road, and on the east side of Nagle Road to the north of Highway 401. Furthermore, a disturbed area and a narrow lagoon were observed along the northern side of Highway 401 near the eastern site limit, which may have been a former aggregate pit. None of these properties were associated with waste generation, spills, tanks, or other records in the ERIS report referenced above.



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Given the site use as a highway, it is likely that road de-icing materials have impacted the soil and/or groundwater quality along much of the Site. Salt-related parameters are not considered to be contaminants on a highway project when de-icing salt has been used for winter road maintenance (O.Reg. 153/04 s.48 (3)); however, salt-impacted soil or water would require special management measures if being removed off-site.

3.2.1.1 Site Services

Overhead electrical lines, roadside ditches and culverts were observed along Highway 401 and along the interchanges. Various underground telecommunication or other services are also expected to be present at the Site.

3.2.2 Storage Tanks

No storage tanks were observed on the Site.

3.2.3 Building Materials

Typical road construction materials (e.g., asphalt, concrete, etc.) were present in surfaces covering the road allowance. Building materials associated with culverts are also present along the Site.

3.2.4 PCBs

Potentially PCB-containing electrical equipment (i.e., pole-mounted transformers) was identified along the roadways of the Site. The PCB status of the pole-mounted transformers was not confirmed, and older transformers may contain PCBs. Therefore, there is the potential for transformers on Site to contain PCBs, and any equipment should be managed appropriately if removal is required.

3.2.5 Chemical Storage

Chemical storage was not observed on the Site.

3.2.6 Waste Generation and Disposal

No evidence of waste generation or disposal was observed on the Site.

3.2.7 Surficial Staining, Fill, Debris, and Vegetation Observations

Surficial staining or stressed vegetation was not observed at the Site; however, fill piles were observed within the study area, some of which appeared to be within the site boundaries. It is also likely that fill materials were imported onto the Site for the purposes of road construction, and fill may be present at adjacent properties from historical activities in the southwestern and northeastern portions of the Site. The environmental quality of the imported and stockpiled fill is unknown and represents a PSOC (PSOC 3).



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4.0 ENVIRONMENTAL CONCERNS

PSOC were identified that may contribute to environmental concerns at the Site. The PSOC are summarized in Section 4.1 and are listed in **Table 1 (Appendix B)**, along with a ranking of the likelihood (i.e., high, moderate, or low) that the soil and/or groundwater quality at the Site has been impacted.

4.1 POTENTIAL SOURCES OF CONTAMINATION

Properties or features identified as being PSOCs to the Site are summarized below:

- **PSOC 1** – Historical spills at various locations on the Site. The ERIS report records indicated that a number of historical spills occurred on Highway 401, and one occurred at the intersection of Danforth Road and Jarvis Road within the Site. Although most of the reported spills were indicated to have been cleaned up, were minor, or occurred several years ago, the potential for this PSOC to have impacted site soil or groundwater quality is considered to be moderate.
- **PSOC 2** – The potential presence of a historical aggregate development on the Site. The ERIS report indicated that an abandoned aggregate development was present on Lot 8, Concession 1, Hamilton Twp., which may have corresponded to ground disturbance observed in the aerial photographs from 1981 and 1987. There is the potential for importation of unknown fill at this development, in addition to the potential for storage of fuel or other materials. The potential for this PSOC to have impacted site soil or groundwater quality is considered to be moderate.
- **PSOC 3** – Fill of unknown quality at various locations on the Site. At the time of the Site visit, bermed areas were observed on either side of Highway 401 and two adjacent properties had stockpiles that suggest that filling activities may have extended onto the Site. The environmental quality of this imported fill, in addition to any other fill imported for the purposes of road construction, is unknown. The potential for this PSOC to have impacted site soil or groundwater quality is considered to be high.

4.2 RECOMMENDATIONS

Based on the PSOCs identified in Section 4.1, the following recommendations are provided:

- A Preliminary Site Screening (PSS), Phase I ESA and Phase II ESA (if recommended as part of the PSS or Phase I ESA) should be completed for any property that will be acquired by MTO in accordance with the requirements of the MTO's *Environmental Guide for Contaminated Property Identification and Management* (MTO, 2006) and *Environmental Reference for Highway Design* (MTO, 2013). If building or structure demolition will be required, designated substance surveys should be completed for buildings or structures prior to demolition.
- Soil and groundwater that will be disturbed during construction should be sampled and analyzed for metals and inorganics (including electrical conductivity and SAR), PAHs, PHCs and VOCs. The selection of soil for analysis should take into consideration the presence of anthropogenic substances such as debris/waste, and PHC, solvent, or other unusual odours or staining.
- Should excess soil be generated at the Site during future construction activities, soils that do not meet the Standards listed in Table 1 of the MECP document *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act* (April 15, 2011) may not be considered inert fill upon excavation, and off-site management options for excess soils that cannot be reused within the Site must be considered. It is understood that salt-related parameters may not be considered to be contaminants in a road alignment, when



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de-icing salt has been used for winter road maintenance (O.Reg. 153/04 s.48 (3)); however, soil or water impacted by salt would be subject to special management measures if it is to be removed from the right-of-way.

- Should excess water be generated at the Site during future construction activities, water quality analyses should be conducted to determine appropriate management methods. This work should be done in coordination with a QP_{ESA} as defined by Ontario Regulation 153/04, to maintain data quality and provide an appropriate assessment of water quality.
- Should evidence of soil or water impacts be identified during construction (e.g., staining, odours, petroleum hydrocarbon sheen) samples should be collected for laboratory analyses to confirm concentrations of potential contaminants so as to develop appropriate material management, and health and safety guidelines.
- It is possible that some of the pole-mounted transformers within the Site boundary contain PCBs. If the pole-mounted transformers need to be removed during construction, the equipment should be managed in accordance with applicable regulations.



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5.0 LIMITATIONS

This report documents work that was performed in accordance with generally accepted professional standards at the time and location in which the services were provided. No other representations, warranties or guarantees are made concerning the accuracy or completeness of the data or conclusions contained within this report, including no assurance that this work has uncovered all potential liabilities associated with the identified properties.

This report provides an evaluation of selected environmental conditions associated with the identified portion of the property that was assessed at the time the work was conducted and is based on information obtained by and/or provided to Stantec at that time. There are no assurances regarding the accuracy and completeness of this information. All information received from the client or third parties in the preparation of this report has been assumed by Stantec to be correct. Stantec assumes no responsibility for any deficiency or inaccuracy in information received from others.

The opinions in this report can only be relied upon as they relate to the condition of the portion of the identified property that was assessed at the time the work was conducted. Activities at the property subsequent to Stantec's assessment may have significantly altered the property's condition. Stantec cannot comment on other areas of the property that were not assessed.

Conclusions made within this report consist of Stantec's professional opinion as of the time of the writing of this report, and are based solely on the scope of work described in the report, the limited data available and the results of the work. They are not a certification of the property's environmental condition. This report should not be construed as legal advice.

This report has been prepared for the exclusive use of the client identified herein and any use by any third party is prohibited. Stantec assumes no responsibility for losses, damages, liabilities, or claims, howsoever arising, from third party use of this report.

This report is limited by the following:

- Review of the specific databases and information sources listed.
- Site visit included observations from publicly accessible areas only.

The locations of any utilities, buildings and structures, and property boundaries illustrated in or described within this report, if any, including pole lines, conduits, water mains, sewers and other surface or sub-surface utilities and structures are not guaranteed. If future work is planned at the Site, the exact location of all such utilities and structures should be confirmed and Stantec assumes no liability for damage to them.

The conclusions are based on the site conditions encountered by Stantec at the time the work was performed. Due to the nature of the investigation and the limited data available, Stantec does not warrant against undiscovered environmental liabilities. As the purpose of this report is to identify site conditions which may pose an environmental risk; the identification of non-environmental risks to structures or people on the site is beyond the scope of this assessment.



**CONTAMINATION OVERVIEW STUDY, HIGHWAY 401 NAGLE ROAD INTERCHANGE STUDY
(GWP 4059-17-00)**

Limitations

February 12, 2019

Should additional information become available which differs significantly from our understanding of conditions presented in this report, Stantec specifically disclaims any responsibility to update the conclusions in this report.

This report was prepared by Janice Cooper, M.Sc., EIT, and reviewed by Grace Ferguson, M.Sc., P.Eng.

All of which is respectfully submitted,

STANTEC CONSULTING LTD.



Digitally signed by Janice
Cooper
Date: 2019.02.12
20:45:41 -05'00'



Digitally signed by Grace
Ferguson
Date: 2019.02.12
16:10:58 -05'00'

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References
February 12, 2019

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APPENDICES

**CONTAMINATION OVERVIEW STUDY, HIGHWAY 401 NAGLE ROAD INTERCHANGE STUDY
(GWP 4059-17-00)**

Appendix A Figures
February 12, 2019

Appendix A FIGURES





Legend
Proposed Nagle Road Interchange Site
Boundary
Highway
Major Road
Local Road
Railway
Watercourse
Wellland
Waterbody
Woods Area
Municipal Boundary - Lower Tier

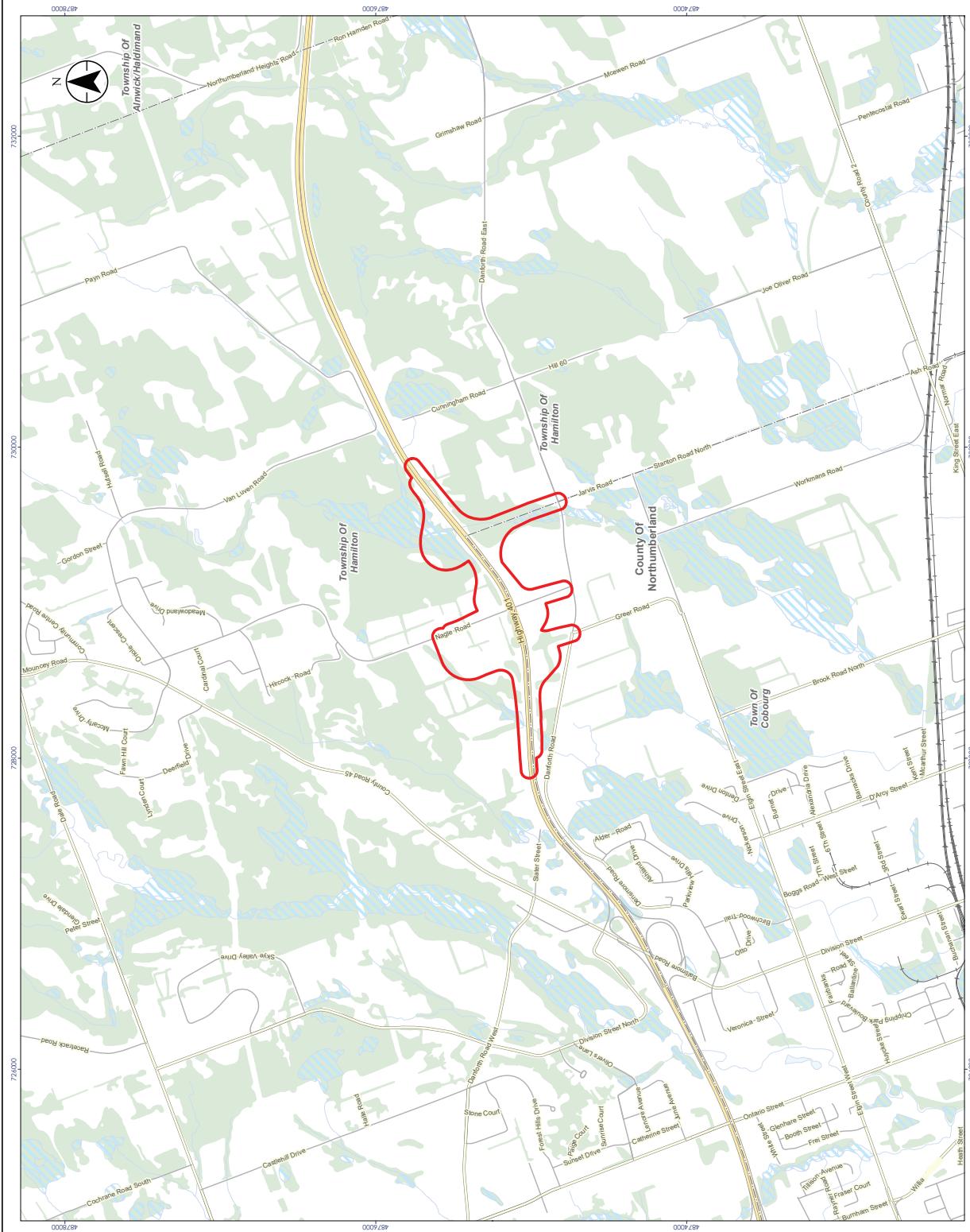
0 500 1,000 Metres
1:25,000 (A) original document scale of 1:17

Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
2. This document is the intellectual property of Northumbria Resources and is for the exclusive use of the Client for the period of October 2018
3. This figure is to be viewed in the context of the accompanying report and is subject to the limitations specified in that report.



Project Location
Northumberland
County
165030106 REVA
Prepared by If on 2018-11-09
Client/Project
HIGHWAY 401 PLANNING STUDY FOR THE
NAGLE ROAD INTERCHANGE (GWP 4059-17-00)

Figure No.
1
Title
Site Location



Disclaimer: This document is not a survey or map. The data contained in this document is not intended to be used for surveying or mapping purposes. It is the responsibility of the user to verify the content and accuracy of the data. The data is not intended for use in the construction or modification of roads, bridges, or other infrastructure. It is the responsibility of the user to ensure that the data is used in accordance with applicable laws and regulations.



Legend
Boundary
Study Area
Watercourse
Lot Lines

0 250 500 Metres

1/12000 (At original document size of 11x17)

Notes
1. Coordinate Systems: NAD 1983 UTM Zone 17N
2. Base Features produced under contract with Ontario Ministry of Natural Resources.
3. Base Feature: Natural Resources, Esri, HERE, DeLorme, Intermap, Inveneo P Corp, GBCO, USGS, FAO, NRCAN, Great Lakes, IGN, Kadaster NL, Ordinance Survey, Esri, Arcadia, MLL, Esri, China, Esri, Hong Kong, Justgis, MapmyIndia, ©
4. The feature is to be allowed in the context of the accompanying report and is subject
to the limitations specified in that report.

Project Location: Northumberland County
Client/Project: HIGHWAY 401 PLANNING STUDY FOR THE NAGLE ROAD INTERCHANGE (GWP 4059-17-00)
Figure No.: 2
Title: Site Plan



Disclaimer: This document does not contain any recommendations or conclusions of the Ontario Ministry of Natural Resources. The document is the sole responsibility of the author(s) and is to be used only in the context of the accompanying report and is subject to the limitations specified in that report.

**CONTAMINATION OVERVIEW STUDY, HIGHWAY 401 NAGLE ROAD INTERCHANGE STUDY
(GWP 4059-17-00)**

Appendix B PSOC Table
February 12, 2019

Appendix B PSOC TABLE



Table 1: Summary of Potential Sources of Contamination

| PSOC ID No. | Description of Potential Source | Location | Approximate Distance from the Site | Contaminant of Concern | Potential for Concern | Explanation of Potential for Concern |
|-------------|---|---|------------------------------------|--|-----------------------|--|
| 1 | Historical Spills from Vehicular Accidents on Highway 401 | Road allowance along Highway 401 | On Site | Polycyclic aromatic hydrocarbons (PAH), Petroleum Hydrocarbons (PHC), and Volatile Organic Compounds (VOC) | Moderate | Records were identified for spills related to vehicular accidents on Highway 401 within the Study Area. The specific locations of the spills are unknown. |
| 2 | Historical Aggregate Activities | Lot 8, Concession 1, Hamilton Township (north of Highway 401) | On-Site | PAH, PHC, Metals, and Inorganics | Moderate | An Abandoned Aggregate Inventory record was identified that identified a rehabilitated pit or quarry at Lot 8, Concession 1, Hamilton Twp., which could have been located within the Site boundaries, based on the review of aerial photographs. |
| 3 | Berms, Stockpiles, and Imported Fill Material | Entire Site | On-Site and within the Study Area | PAH, PHC, Metals, and Inorganics | High | Multiple large berms were observed on either side of the Highway 401 along the length of the Site. Several stockpiles were observed that may extend onto the Site boundaries (Lot 12, Concession 1, Hamilton Twp.). Furthermore, it is expected that fill materials were imported onto the Site for the purposes of road construction. |

**CONTAMINATION OVERVIEW STUDY, HIGHWAY 401 NAGLE ROAD INTERCHANGE STUDY
(GWP 4059-17-00)**

Appendix C Photographic Log
February 12, 2019

Appendix C PHOTOGRAHIC LOG





Photo 1 View of residential properties on southbound Nagle Road, south of Highway 401.



Photo 2 Agricultural and vacant land on northbound Nagle Road, north of Highway 401.



Photo 3 Stone berm, south side of Highway 401, Lot 8 Concession 1 Hamilton Twp.



Photo 4 Berm and field just west of Cunningham Road, generally representative of the areas surrounding Highway 401, located south of Highway 401 at Lot 7, Concession 1 – Hamilton Twp.



Photo 5 Wooded and grassy area, generally representative of areas surrounding Highway 401, located north of Highway 401 at Lot 7, Concession 1 – Hamilton Twp.

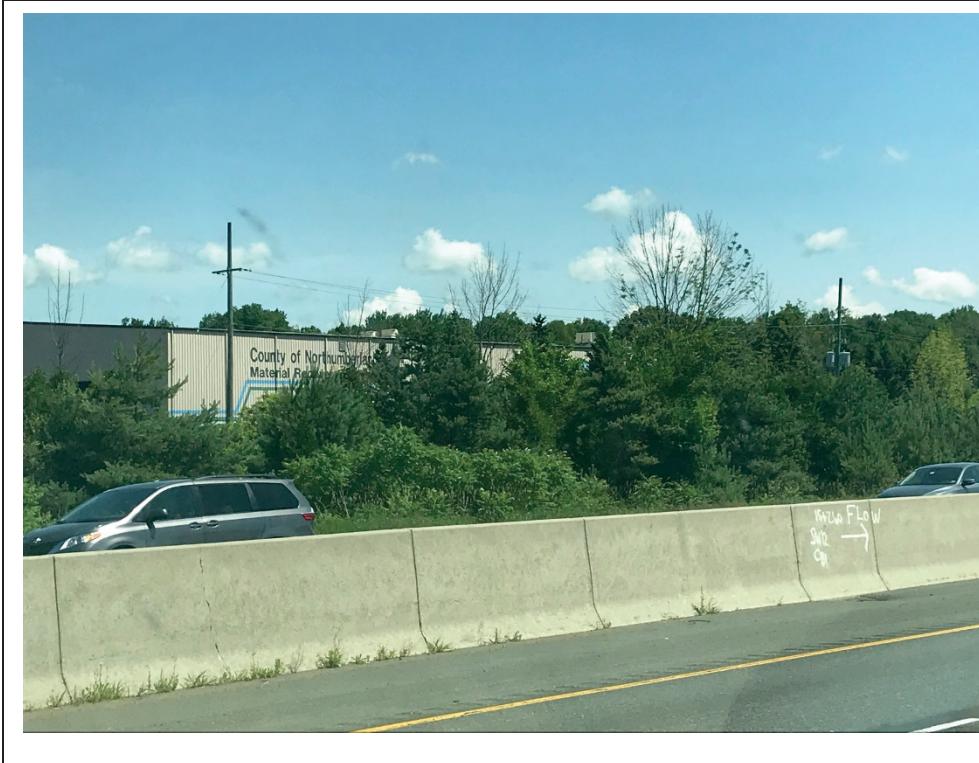


Photo 6 Example of pole-mounted transformer along Highway 401.

**CONTAMINATION OVERVIEW STUDY, HIGHWAY 401 NAGLE ROAD INTERCHANGE STUDY
(GWP 4059-17-00)**

Appendix D Relevant Historical Information
February 12, 2019

Appendix D RELEVANT HISTORICAL INFORMATION





DATABASE REPORT

Project Property: MTO Eastern Region
n/a
Cobourg ON
Project No: 165001090.307.106
Report Type: Quote - Custom-Build Your Own Report
Order No: 20180704101
Requested by: Stantec Consulting Ltd.
Date Completed: August 30, 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: *MTO Eastern Region
n/a Cobourg ON*

Project No: *165001090.307.106*

Order Information:

Order No: *20180704101*
Date Requested: *July 4, 2018*
Requested by: *Stantec Consulting Ltd.*
Report Type: *Quote - Custom-Build Your Own Report*

Historical/Products:

Executive Summary: Report Summary

| Database | Name | Searched | Project Property | Boundary to 0.10km | 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 | 2 | 0 | 2 |
| CA | Certificates of Approval | Y | 0 | 0 | 0 |
| CFOT | Commercial Fuel Oil Tanks | Y | 0 | 0 | 0 |
| CHEM | Chemical Register | Y | 0 | 0 | 0 |
| CNG | Compressed Natural Gas Stations | Y | 0 | 0 | 0 |
| COAL | Inventory of Coal Gasification Plants and Coal Tar Sites | Y | 0 | 0 | 0 |
| CONV | Compliance and Convictions | Y | 0 | 0 | 0 |
| CPU | Certificates of Property Use | Y | 0 | 0 | 0 |
| DRL | Drill Hole Database | Y | 0 | 0 | 0 |
| DRYCLEANERS | Dry Cleaning Facilities | Y | 0 | 0 | 0 |
| EASR | Environmental Activity and Sector Registry | Y | 0 | 0 | 0 |
| EBR | Environmental Registry | Y | 0 | 0 | 0 |
| ECA | Environmental Compliance Approval | Y | 0 | 0 | 0 |
| EEM | Environmental Effects Monitoring | Y | 0 | 0 | 0 |
| EHS | ERIS Historical Searches | Y | 0 | 0 | 0 |
| EIIS | Environmental Issues Inventory System | Y | 0 | 0 | 0 |
| EMHE | Emergency Management Historical Event | Y | 0 | 0 | 0 |
| EXP | List of TSSA Expired Facilities | Y | 0 | 0 | 0 |
| FCON | Federal Convictions | Y | 0 | 0 | 0 |
| FCS | Contaminated Sites on Federal Land | Y | 0 | 0 | 0 |
| FOFT | Fisheries & Oceans Fuel Tanks | Y | 0 | 0 | 0 |
| FST | Fuel Storage Tank | Y | 0 | 0 | 0 |
| FSTH | Fuel Storage Tank - Historic | Y | 0 | 0 | 0 |
| GEN | Ontario Regulation 347 Waste Generators Summary | Y | 0 | 0 | 0 |
| GHG | Greenhouse Gas Emissions from Large Facilities | Y | 0 | 0 | 0 |
| HINC | TSSA Historic Incidents | Y | 0 | 0 | 0 |
| IAFT | Indian & Northern Affairs Fuel Tanks | Y | 0 | 0 | 0 |
| INC | TSSA Incidents | Y | 0 | 0 | 0 |
| LIMO | Landfill Inventory Management Ontario | Y | 0 | 0 | 0 |
| MINE | Canadian Mine Locations | Y | 0 | 0 | 0 |
| MISA PENALTY | Environmental Penalty Annual Report | Y | 0 | 0 | 0 |

| Database | Name | Searched | Project Property | Boundary to 0.10km | Total |
|----------|--|----------|------------------|--------------------|-------|
| MNR | Mineral Occurrences | Y | 0 | 0 | 0 |
| NATE | National Analysis of Trends in Emergencies System (NATES) | Y | 0 | 0 | 0 |
| NCPL | Non-Compliance Reports | Y | 0 | 0 | 0 |
| NDFT | National Defense & Canadian Forces Fuel Tanks | Y | 0 | 0 | 0 |
| NDSP | National Defense & Canadian Forces Spills | Y | 0 | 0 | 0 |
| NDWD | National Defence & Canadian Forces Waste Disposal Sites | Y | 0 | 0 | 0 |
| NEBI | National Energy Board Pipeline Incidents | Y | 0 | 0 | 0 |
| NEBW | National Energy Board Wells | Y | 0 | 0 | 0 |
| NEES | National Environmental Emergencies System (NEES) | Y | 0 | 0 | 0 |
| NPCB | National PCB Inventory | Y | 0 | 0 | 0 |
| NPRI | National Pollutant Release Inventory | Y | 0 | 0 | 0 |
| OGW | Oil and Gas Wells | Y | 0 | 0 | 0 |
| OOGW | Ontario Oil and Gas Wells | Y | 0 | 0 | 0 |
| OPCB | Inventory of PCB Storage Sites | Y | 0 | 0 | 0 |
| ORD | Orders | Y | 0 | 0 | 0 |
| PAP | Canadian Pulp and Paper | Y | 0 | 0 | 0 |
| PCFT | Parks Canada Fuel Storage Tanks | Y | 0 | 0 | 0 |
| PES | Pesticide Register | Y | 0 | 0 | 0 |
| PINC | TSSA Pipeline Incidents | Y | 0 | 0 | 0 |
| PRT | Private and Retail Fuel Storage Tanks | Y | 0 | 0 | 0 |
| PTTW | Permit to Take Water | Y | 0 | 0 | 0 |
| REC | Ontario Regulation 347 Waste Receivers Summary | Y | 0 | 0 | 0 |
| RSC | Record of Site Condition | Y | 0 | 0 | 0 |
| RST | Retail Fuel Storage Tanks | Y | 0 | 0 | 0 |
| SCT | Scott's Manufacturing Directory | Y | 0 | 0 | 0 |
| SPL | Ontario Spills | Y | 1 | 1 | 2 |
| SRDS | Wastewater Discharger Registration Database | Y | 0 | 0 | 0 |
| TANK | Anderson's Storage Tanks | Y | 0 | 0 | 0 |
| TCFT | Transport Canada Fuel Storage Tanks | Y | 0 | 0 | 0 |
| VAR | TSSA Variances for Abandonment of Underground Storage Tanks | Y | 0 | 0 | 0 |
| WDS | Waste Disposal Sites - MOE CA Inventory | Y | 0 | 0 | 0 |
| WDSH | Waste Disposal Sites - MOE 1991 Historical Approval Inventory | Y | 0 | 0 | 0 |
| WWIS | Water Well Information System | N | - | - | - |

Total:

3

1

4

Executive Summary: Site Report Summary - Project Property

| Map Key | DB | Company/Site Name | Address | Dir/Dist (m) | Elev diff (m) | Page Number |
|----------|------|--|-----------------------------|--------------|---------------|-------------|
| <u>1</u> | BORE | | ON | -/0.0 | -10.96 | <u>12</u> |
| <u>2</u> | SPL | Aecon Construction and Materials Limited | 401 and Nagle Rd Cobourg ON | -/0.0 | -12.50 | <u>12</u> |
| <u>3</u> | BORE | | ON | -/0.0 | -12.79 | <u>13</u> |

Executive Summary: Site Report Summary - Surrounding Properties

| <i>Map Key</i> | <i>DB</i> | <i>Company/Site Name</i> | <i>Address</i> | <i>Dir/Dist (m)</i> | <i>Elev Diff (m)</i> | <i>Page Number</i> |
|----------------|-----------|--------------------------|---|---------------------|----------------------|--------------------|
| <u>4</u> | SPL | ULTRAMAR | R.R. 5, AT CORNER OF JARVIS & DANFORTH TANK TRUCK (CARGO) COBOURG TOWN ON | ESE/1.7 | -33.48 | <u>13</u> |

Executive Summary: Summary By Data Source

BORE - Borehole

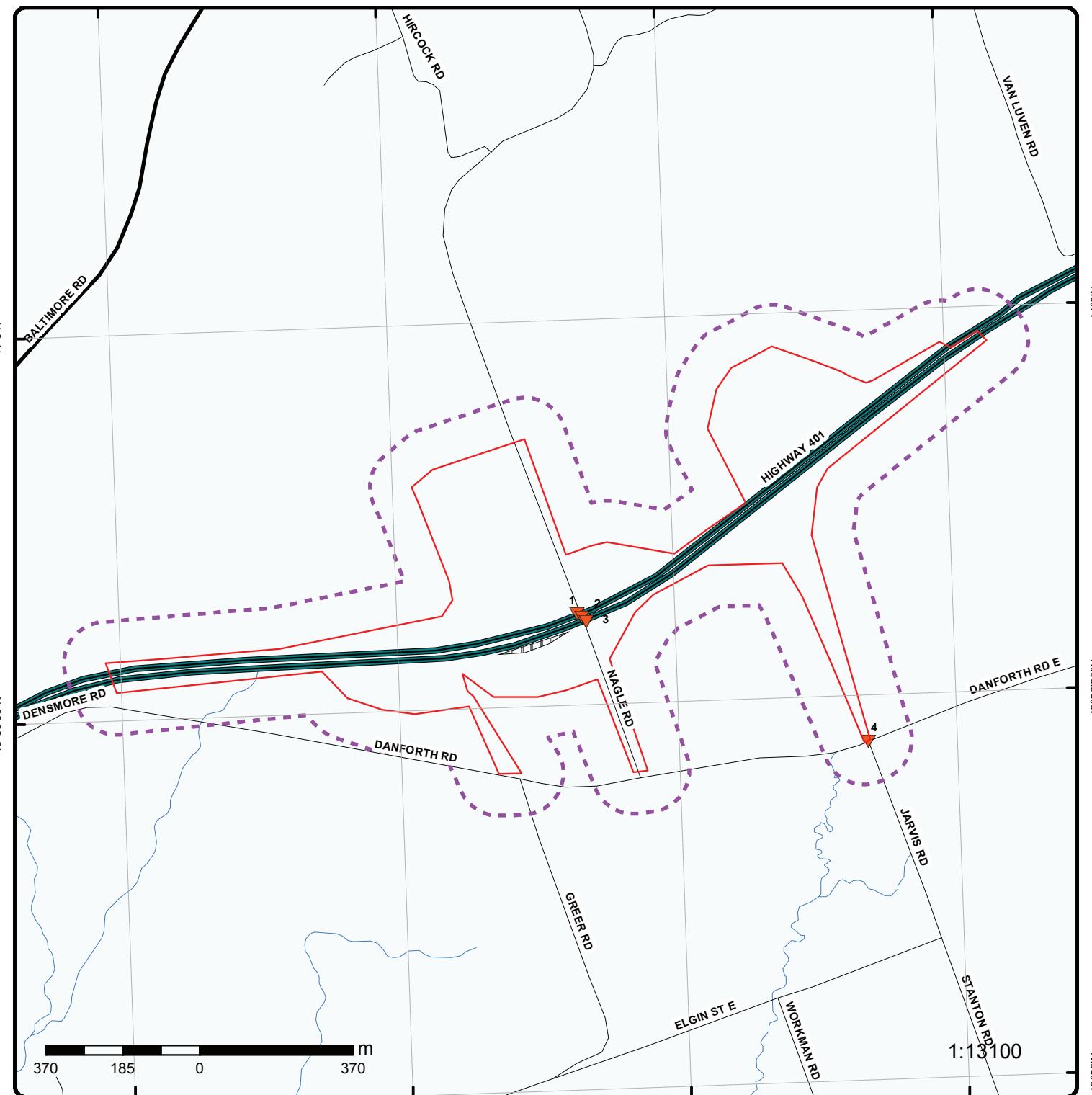
A search of the BORE database, dated 1875-Jul 2014 has found that there are 2 BORE site(s) within approximately 0.10 kilometers of the project property.

| <u>Site</u> | <u>Address</u> | <u>Distance (m)</u> | <u>Map Key</u> |
|-------------|----------------|---------------------|----------------|
| | ON | 0.0 | <u>1</u> |
| | ON | 0.0 | <u>3</u> |

SPL - Ontario Spills

A search of the SPL database, dated 1988-May 2018 has found that there are 2 SPL site(s) within approximately 0.10 kilometers of the project property.

| <u>Site</u> | <u>Address</u> | <u>Distance (m)</u> | <u>Map Key</u> |
|--|---|---------------------|----------------|
| Aecon Construction and Materials Limited | 401 and Nagle Rd Cobourg ON | 0.0 | <u>2</u> |
| ULTRAMAR | R.R. 5, AT CORNER OF JARVIS & DANFORTH TANK TRUCK (CARGO) COBOURG TOWN ON | 1.7 | <u>4</u> |



Map : 0.1 Kilometer Radius

Order No: 20180704101
Address: n/a, Cobourg, ON



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

78°9'W

44°0'N

44°0'N



Aerial (2017)

Address: n/a, Cobourg, ON

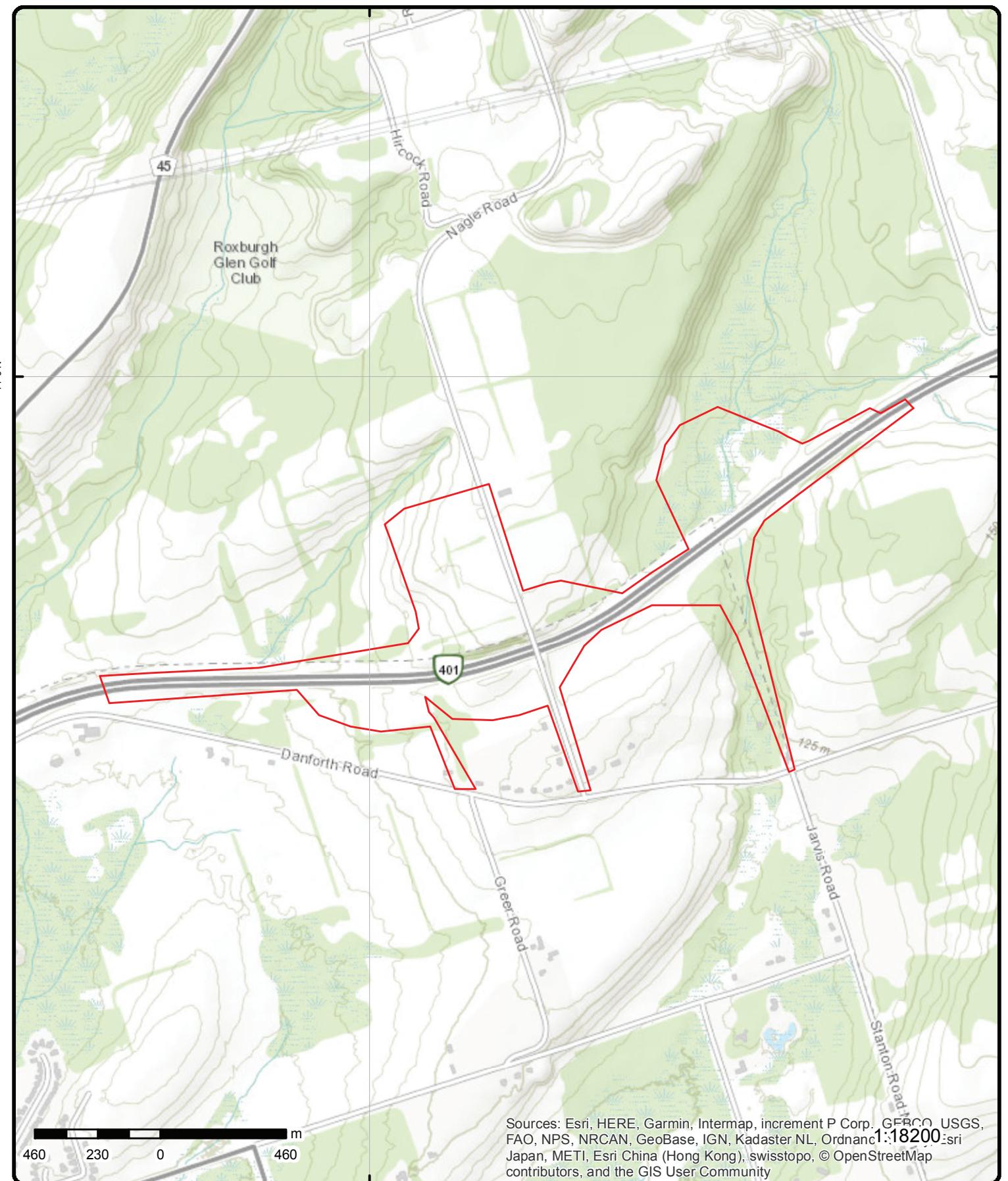
Source: ESRI World Imagery

Order No: 20180704101

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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78°9'W



Topographic Map

Address: n/a, Cobourg, ON

Source: ESRI World Topographic Map

Order No: 20180704101

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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Detail Report

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|-----------------------------|--|-------------------------|----------------|---|-----------------------------------|
| 1 | 1 of 1 | -/0.0 | 141.7 / -10.96 | ON | BORE |
| Borehole ID: | 847060 | | | Type: | Borehole |
| Use: | Geotechnical/Geological Investigation | | | Status:: | Decommissioned |
| Drill Method:: | Diamond Drill | | | UTM Zone:: | 17 |
| Easting:: | 728951 | | | Northing:: | 4875131 |
| Location Accuracy:: | | | | Orig. Ground Elev m:: | 146 |
| Elev. Reliability | | | | DEM Ground Elev m:: | 140 |
| Note:: | | | | | |
| Total Depth m:: | 9.4 | | | Primary Name:: | |
| Township:: | HAMILTON | | | Concession:: | CON 1 |
| Lot:: | LOT 10 | | | Municipality: | |
| Completion Date:: | 25-NOV-1957 | | | Static Water Level:: | -999.9 |
| Primary Water Use:: | | | | Sec. Water Use:: | |
| --Details-- | | | | | |
| Stratum ID: | 6555783 | | | Top Depth(m): | 0.0 |
| Bottom Depth(m): | 9.4 | | | Stratum Desc: | GRAVEL - SANDY LOAM TILL BOULDERY |
| 2 | 1 of 1 | -/0.0 | 140.1 / -12.50 | Aecon Construction and Materials Limited 401 and Nagle Rd Cobourg ON | SPL |
| Ref No: | 2266-9ZBRM9 | | | Discharger Report: | |
| Site No: | NA | | | Material Group: | |
| Incident Dt: | 8/12/2015 | | | Client Type: | |
| Year: | | | | Sector Type: | Miscellaneous Industrial |
| Incident Cause: | | | | Source Type: | |
| Incident Event: | | | | Nearest Watercourse: | |
| Contaminant Code: | 43 | | | Site Name: | Brook Creek West<UNOFFICIAL> |
| Contaminant Name: | SEDIMENT(SUSPENDED SOLIDS/ SAND/ SILT) | | | Site Address: | 401 and Nagle Rd |
| Contaminant Limit 1: | | | | Site District Office: | |
| Contam Limit Freq 1: | | | | Site County/District: | |
| Contaminant UN No 1: | | | | Site Postal Code: | |
| Contaminant Qty: | 0 other - see incident description | | | Site Region: | |
| Environment Impact: | | | | Site Municipality: | Cobourg |
| Nature of Impact: | | | | Site Lot: | |
| Receiving Medium: | | | | Site Conc: | |
| Receiving Env: | | | | Northing: | |
| Health/Env Conseq: | | | | Eastng: | |
| MOE Response: | No | | | Site Geo Ref Accu: | |
| Dt MOE Arvl on Scn: | | | | Site Geo Ref Meth: | |
| MOE Reported Dt: | 8/12/2015 | | | Site Map Datum: | |
| Dt Document Closed: | | | | | |
| Agency Involved: | | | | | |
| SAC Action Class: | Watercourse Spills | | | | |
| Incident Reason: | Equipment Failure | | | | |
| Incident Summary: | Sediment laden water to Brook Creek West | | | | |

| Map Key | Number of Records | Direction/ Distance (m) | Elev/Diff (m) | Site | DB |
|-----------------------------|--|-------------------------|----------------|---|---------------------------------|
| <u>3</u> | 1 of 1 | -/0.0 | 139.8 / -12.79 | ON | BORE |
| Borehole ID: | 847059 | | | Type: | Borehole |
| Use: | Geotechnical/Geological Investigation | | | Status:: | Decommissioned |
| Drill Method:: | Diamond Drill | | | UTM Zone:: | 17 |
| Easting:: | 728973 | | | Northing:: | 4875111 |
| Location Accuracy:: | | | | Orig. Ground Elev m:: | 141 |
| Elev. Reliability | | | | DEM Ground Elev m:: | 141 |
| Note:: | | | | | |
| Total Depth m:: | 6.2 | | | Primary Name:: | |
| Township:: | HAMILTON | | | Concession:: | CON 1 |
| Lot:: | LOT 10 | | | Municipality: | |
| Completion Date:: | 25-NOV-1957 | | | Static Water Level:: | -999.9 |
| Primary Water Use:: | | | | Sec. Water Use:: | |
| --Details-- | | | | | |
| Stratum ID: | 6555781 | | | Top Depth(m): | 0.0 |
| Bottom Depth(m): | 0.6 | | | Stratum Desc: | BOULDERS |
| Stratum ID: | 6555782 | | | Top Depth(m): | 0.6 |
| Bottom Depth(m): | 6.2 | | | Stratum Desc: | GRAVEL SANDY LOAM TILL BOULDERY |
| <u>4</u> | 1 of 1 | ESE/1.7 | 119.1 / -33.48 | ULTRAMAR R.R. 5, AT CORNER OF JARVIS & DANFORTH TANK TRUCK (CARGO) COBOURG TOWN ON | SPL |
| Ref No: | 95129 | | | Discharger Report: | |
| Site No: | | | | Material Group: | |
| Incident Dt: | 1/8/1994 | | | Client Type: | |
| Year: | | | | Sector Type: | |
| Incident Cause: | OTHER CONTAINER LEAK | | | Source Type: | |
| Incident Event: | | | | Nearest Watercourse: | |
| Contaminant Code: | | | | Site Name: | |
| Contaminant Name: | | | | Site Address: | |
| Contaminant Limit 1: | | | | Site District Office: | |
| Contam Limit Freq 1: | | | | Site County/District: | |
| Contaminant UN No 1: | | | | Site Postal Code: | |
| Contaminant Qty: | | | | Site Region: | |
| Environment Impact: | NOT ANTICIPATED | | | Site Municipality: | 61403 |
| Nature of Impact: | | | | Site Lot: | |
| Receiving Medium: | LAND | | | Site Conc: | |
| Receiving Env: | | | | Northing: | |
| Health/Env Conseq: | | | | Easting: | OPP, FIRE DEPT. |
| MOE Response: | | | | Site Geo Ref Accu: | |
| Dt MOE Arvl on Scn: | | | | Site Geo Ref Meth: | |
| MOE Reported Dt: | 1/8/1994 | | | Site Map Datum: | |
| Dt Document Closed: | | | | | |
| Agency Involved: | | | | | |
| SAC Action Class: | | | | | |
| Incident Reason: | UNKNOWN | | | | |
| Incident Summary: | ULTRAMAR - 23L FURNACE OIL TO ROAD FROM TANKER TRUCK | | | | |

Unplottable Summary

Total: 46 Unplottable sites

| DB | Company Name/Site Name | Address | City | Postal |
|------|---|---|------------------|---------|
| AAGR | | Lot 8 Con 1 | Hamilton ON | |
| CA | Multi-Area Developments Inc. | Part of Lot 7, Block 5, Concession 1, Township of Binbrook | Hamilton ON | |
| CA | The Corporation of the Town of Cobourg | Densmore Road | Cobourg ON | |
| CA | JOURNEY'S END MOTELS | DENSMORE RD. | COBOURG TOWN ON | |
| CA | Wellington Estates, Phase 4 | Part of Lot 7, Concession 1 | Hamilton ON | |
| CA | Elissa Heights | Part of Park Lot 8, Registered Plan 196 | Hamilton ON | |
| CA | Elissa Heights | Part of Park Lot 8, Registered Plan 196 | Hamilton ON | |
| CA | HAMILTON TWP. - LOTS 8 & 9, CONC. 2 | NAGLE RD./STM-WATER MANAGEMENT | HAMILTON TWP. ON | |
| CA | The Corporation of the Township of Hamilton | Danforth Rd Lot 17 & 18, Concession 2 | Hamilton ON | |
| CA | MINISTRY OF TRANSPORTATION & COMM. | DANFORTH RD. | HAMILTON TWP. ON | |
| ECA | Multi-Area Developments Inc. | Part of Lot 7, Block 5, Concession 1, Township of Binbrook | Hamilton ON | L8E 5M1 |
| ECA | Multi-Area Developments Inc. | Part of Lot 7, Block 5, Concession 1, Township of Binbrook | Hamilton ON | L8E 5M1 |
| GEN | HAMILTON-WENTWORTH (OUT OF BUSINESS) | CATHEDRAL PARK, PART LOT 7, 8, 9, 10 SIR ALLAN NAPIER MCNAB SURREY, UNREG'D | HAMILTON ON | |
| GEN | HAMILTON-WENTWORTH, REGION OF | CATHEDRAL PARK, PART LOT 7, 8, 9, 10 AIR ALLAN NAPIER MCNAB SURREY, UNREG'D | HAMILTON ON | |
| PTTW | Dundas Valley Golf and Curling Club | Lot 10, 11, Concession 1 | Hamilton ON | |
| PTTW | Dundas Valley Golf and Curling Club | Lot 10, 11, Concession 1, Woodley Hamilton Dundas | ON | |

| | | | | |
|-----|------------------------------------|--|-----------------------------|---------|
| REC | HAMILTON, TOWNSHIP OF | PT LOT 7 & 8, CONC. 2, TWP OF HAMILTON C/O RR #6 | COBOURG ON | K9A 4J9 |
| SCT | PINE RIDGE MACHINE & TOOL 1982 | DANFORTH RD W | COBOURG ON | |
| SPL | | Hwy 401 W mile marker 473 | Cobourg ON | |
| SPL | | Hwy 401 WB N shoulder, mile marker 473 | Cobourg ON | |
| SPL | | Hwy 403 between Main St and York Blvd | Hamilton ON | |
| SPL | TRANSPORT SYLVAIN ROUSSEAU INC. | Hwy 401 E at mile marker 478 just east of Colbourne | Hamilton ON | |
| SPL | Edward Fuels Limited | Hwy. 401 W.bnd @ Nagle Road - near MM477 | Cobourg ON | |
| SPL | 3735931 Canada Inc<UNOFFICIAL> | 401 eastbound Mile Marker 461 | Cobourg ON | |
| SPL | Rangi Brothers<UNOFFICIAL> | Hwy 401WB at mile 477, near Cobourg | Hamilton ON | |
| SPL | TransX Ltd. | Hwy 401 East Bound Lane, 1km east of mile marker 474 | Cobourg ON | |
| SPL | TRANSPORT TRUCK | 401 W-BOUND LANE AT COBOURG TRANSPORT TRUCK (CARGO) | COBOURG TOWN ON | |
| SPL | TRANSPORT TRUCK | HWY 401 WEST OF COBOURG MOTOR VEHICLE (OPERATING FLUID) | HAMILTON TWP. ON | |
| SPL | Turan Trucking<UNOFFICIAL> | Hwy 401 westbound at mile marker 474<UNOFFICIAL> | Cobourg ON | |
| SPL | TRANSPORT TRUCK | HWY 401 EAST, EAST OF #45, @ GULLY RD OVERPASS. MOTOR VEHICLE (OPERATING FLUID) | COBOURG TOWN ON | K9A 4J8 |
| SPL | | Hwy 401 East, 2 km east of County Rd. 45<UNOFFICIAL> | Cobourg ON | |
| SPL | ROBERT TRANSPORT | HWY 401, 2-3KM. EAST OF COBOURG, GARNEAU BRIDGE. TRANSPORT TRUCK (CARGO) | NORTHUMBERLAND COUNTY ON | |
| SPL | | EB Mile Marker 480, Hwy 401<UNOFFICIAL> | Cobourg ON | |
| SPL | UNKNOWN | HWY 401 WEST BOUND | HAMILTON TWP. ON | |
| SPL | UNKNOWN | 401 EASTBOUND LANE, WEST OF HYW 28 EXIT | COBOURG TOWN ON | |
| SPL | S.21 | MVA, EASTBOUND HWY 401, MILE-MARKER 472, EAST OF BURNHAM ROAD OVERPASS<UNOFFICIAL> | Cobourg ON | |
| SPL | TRANSPORT TRUCK | 401 WEST OFF RAMP. MOTOR VEHICLE (OPERATING FLUID) | COBOURG TOWN ON | |

| | | | |
|-----|--|--|--------------------------|
| SPL | Cooney Bulk Sale Ltd<UNOFFICIAL> | HWY 401 WB RAMP ON HWY 45 NEAR COBOURG<UNOFFICIAL> | Cobourg ON |
| SPL | PRIVATE OWNER | 401 WESTBOUND (NEAR SECOND EXIT INTO COBOURG) MOTOR VEHICLE (OPERATING FLUID) | COBOURG ON |
| SPL | Enbridge Gas Distribution Inc. | Lot 10 Sunrow Gate | Hamilton ON |
| SPL | Aecon Construction and Materials Limited | Cobourg Creek and Highway 401 | Cobourg ON |
| SPL | Sebastien Dismarais<UNOFFICIAL> | HWY. 401, E-BOUND, 2 KM W OF BURNHAM ST. IN COBOURG<UNOFFICIAL> | Cobourg ON |
| SPL | XTL TRANSPORT LTD. | 401 EASTBOUND IN SOUTH DITCH, 5KM EAST OF COBOURG TRANSPORT TRUCK (CARGO) | HAMILTON TWP. ON |
| SPL | TRANSPORT TRUCK | HIGHWAY 401, NEAR LOT 34, CON I MOTOR VEHICLE (OPERATING FLUID) | HAMILTON TWP. ON |
| SPL | PRIVately OWNED | HWY 401 EAST AT BOYSES BRIDGE MILE MARKER 492, 494 MOTOR VEHICLE (OPERATING FLUID) | NORTHUMBERLAND COUNTY ON |
| SPL | TRANSPORT TRUCK | HIGHWAY 401 JUST EAST OF COBOURG TRANSPORT TRUCK (CARGO) | COBOURG TOWN ON |

Unplottable Report

Site: *Lot 8 Con 1 Hamilton ON* **Database:** *AAGR*

Type: Pit
Region/County: Northumberland
Township: Hamilton
Concession:: 1
Lot:: 8
Size (ha)::
Landuse::
Comments:: rehabilitated, pond

Site: *Multi-Area Developments Inc.* **Database:** *CA*
Part of Lot 7, Block 5, Concession 1, Township of Binbrook Hamilton ON

Certificate #: 0624-6PFRQT
Application Year: 2006
Issue Date: 5/6/2006
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Site: *The Corporation of the Town of Cobourg* **Database:** *CA*
Densmore Road Cobourg ON

Certificate #: 6636-5RGGUG
Application Year: 2003
Issue Date: 9/22/2003
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Site: *JOURNEY'S END MOTELS* **Database:** *CA*
DENSMORE RD. COBOURG TOWN ON

Certificate #: 3-0112-89-
Application Year: 89
Issue Date: 3/31/1989
Approval Type: Municipal sewage
Status: Approved
Application Type:

Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Site: **Wellington Estates, Phase 4**
Part of Lot 7, Concession 1 **Hamilton ON**

Database:
CA

Certificate #: 6261-59NSN9
Application Year: 02
Issue Date: 5/1/02
Approval Type: Municipal & Private sewage
Status: Approved
Application Type: New Certificate of Approval
Client Name:: 839891 Ontario Inc.
Client Address:: c/o 161 Rebecca St.
Client City:: Hamilton
Client Postal Code:: L8R 1B9
Project Description:: This application is for approval to install sanitary and storm sewers on Jacqueline Boulevard.
Contaminants::
Emission Control::

Site: **Elissa Heights**
Part of Park Lot 8, Registered Plan 196 **Hamilton ON**

Database:
CA

Certificate #: 0417-52GH4Y
Application Year: 01
Issue Date: 9/14/01
Approval Type: Municipal & Private water
Status: Approved
Application Type: New Certificate of Approval
Client Name:: Terra Homes (Hamilton) Inc.
Client Address:: 6 Durrell Court
Client City:: Hamilton
Client Postal Code:: L9A 5H5
Project Description:: Construction of Watermains in Elissa Heights Subdivision Development in the City of Hamilton
Contaminants::
Emission Control::

Site: **Elissa Heights**
Part of Park Lot 8, Registered Plan 196 **Hamilton ON**

Database:
CA

Certificate #: 7357-4YPL2M
Application Year: 01
Issue Date: 7/20/01
Approval Type: Municipal & Private sewage
Status: Approved
Application Type: New Certificate of Approval
Client Name:: Terra Homes (Hamilton) Inc.
Client Address:: 6 Durrell Court
Client City:: Hamilton
Client Postal Code:: L9A 5H5
Project Description:: Stormwater management facility for the development known as Elissa Heights Subdivision in the City of Hamilton, consisting of a Stormceptor STC 1000 oil/grid separator with a total storage volume of 5125 litres, designed to provide Level 2 Quality Control. The facility discharges into the proposed 675 mm diameter storm sewers located on Westoby Court, which in turn discharges into existing 825 mm diameter storm sewer on Weston's Lane. Storm sewer system within the development is designed and sized to convey the total 100 year flow from the upstream areas and 5 year flow from the proposed development to the Watson's Lane trunk sewers. Major flows from the proposed development will travel overland and ultimately to Watson's Lane. The final design and drawings prepared by Planning and Engineering Initiatives Limited address the recommendations in the Stormwater Management Report and have been prepared to implement the requirements to the satisfaction of municipal and

regulatory agencies.

Contaminants::
Emission Control::

Site: HAMILTON TWP. - LOTS 8 & 9, CONC. 2
NAGLE RD./STM-WATER MANAGEMENT HAMILTON TWP. ON

Database:
CA

Certificate #: 3-0294-92-
Application Year: 92
Issue Date: 8/7/1992
Approval Type: Municipal sewage
Status: Approved
Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Site: The Corporation of the Township of Hamilton
Danforth Rd Lot 17 & 18, Concession 2 Hamilton ON

Database:
CA

Certificate #: 0216-78KSB7
Application Year: 2007
Issue Date: 12/19/2007
Approval Type: Municipal and Private Sewage Works
Status: Approved
Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Site: MINISTRY OF TRANSPORTATION & COMM.
DANFORTH RD. HAMILTON TWP. ON

Database:
CA

Certificate #: 7-0172-86-
Application Year: 86
Issue Date: 3/21/1986
Approval Type: Municipal water
Status: Approved
Application Type:
Client Name::
Client Address::
Client City::
Client Postal Code::
Project Description::
Contaminants::
Emission Control::

Site: Multi-Area Developments Inc.
Part of Lot 7, Block 5, Concession 1, Township of Binbrook Hamilton ON L8E 5M1

Database:
ECA

| | | |
|-----------------------|-------------|-----------------------|
| Approval No: | 0624-6PFRQT | SWP Area Name: |
| Approval Date: | 2006-05-06 | MOE District: |
| Status: | Approved | City: Hamilton |
| Record Type: | ECA | Longitude: |

Link Source: IDS **Latitude:**
Approval Type: ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS
Project Type: MUNICIPAL AND PRIVATE SEWAGE WORKS
Address: Part of Lot 7, Block 5, Concession 1, Township of Binbrook
Full Address:
Full PDF Link: <https://www.accessenvironment.ene.gov.on.ca/instruments/6631-6PALQE-14.pdf>

Site: *Multi-Area Developments Inc.* **Database:**
Part of Lot 7, Block 5, Concession 1, Township of Binbrook Hamilton ON L8E 5M1 **ECA**

Approval No: 6214-6TNUHZ **SWP Area Name:**
Approval Date: 2006-09-19 **MOE District:**
Status: Approved **City:** Hamilton
Record Type: ECA **Longitude:**
Link Source: IDS **Latitude:**
Approval Type: ECA-MUNICIPAL AND PRIVATE SEWAGE WORKS
Project Type: MUNICIPAL AND PRIVATE SEWAGE WORKS
Address: Part of Lot 7, Block 5, Concession 1, Township of Binbrook
Full Address:
Full PDF Link: <https://www.accessenvironment.ene.gov.on.ca/instruments/4632-6TLRA2-14.pdf>

Site: *HAMILTON-WENTWORTH (OUT OF BUSINESS)* **Database:**
CATHEDRAL PARK, PART LOT 7, 8, 9, 10 SIR ALLAN NAPIER MCNAB SURREY, UNREG'D HAMILTON ON **GEN**

Generator No.: ON0217725 **PO Box No.:**
Status: **Country:**
Approval Years: 98 **Choice of Contact:**
Contam. Facility:
MHSW Facility:
SIC Code: 8373 **Co Admin:**
SIC Description: ENVIRON. ADMIN. **Phone No. Admin:**

--Details--
Waste Code: 146
Waste Description: OTHER SPECIFIED INORGANICS

Site: *HAMILTON-WENTWORTH, REGION OF* **Database:**
CATHEDRAL PARK, PART LOT 7, 8, 9, 10 AIR ALLAN NAPIER MCNAB SURREY, UNREG'D HAMILTON ON **GEN**

Generator No.: ON0217725 **PO Box No.:**
Status: **Country:**
Approval Years: 94,95,96,97 **Choice of Contact:**
Contam. Facility:
MHSW Facility:
SIC Code: 8373 **Co Admin:**
SIC Description: ENVIRON. ADMIN. **Phone No. Admin:**

--Details--
Waste Code: 146
Waste Description: OTHER SPECIFIED INORGANICS

Site: *Dundas Valley Golf and Curling Club* **Database:**
Lot 10, 11, Concession 1 Hamilton ON **PTTW**

EBR Registry No.: 012-3307
Ministry Ref. No.: 4345-9SAKUP
Notice Type: Instrument Proposal
Notice Date:
Proposal Date: December 30, 2014
Year: 2014
Proponent Address: P.O. Box 8240, Dundas Ontario, L9H 5G1

Instrument Type: (OWRA s. 34) - Permit to take water

Location Other:

Location:

Lot 10, 11, Concession 1, Woodley Hamilton Dundas

Site: *Dundas Valley Golf and Curling Club*
Lot 10, 11, Concession 1, Woodley Hamilton Dundas ON

Database:
PTTW

EBR Registry No.: 012-3307
Ministry Ref. No.: 4345-9SAKUP
Notice Type: Instrument Decision
Notice Date: April 16, 2015
Proposal Date: December 30, 2014
Year: 2014
Proponent Address: P.O. Box 8240, Dundas Ontario, L9H 5G1
Instrument Type: (OWRA s. 34) - Permit to Take Water
Location Other:

Location:

Lot 10, 11, Concession 1, Woodley Hamilton Dundas

Site: *HAMILTON, TOWNSHIP OF*
PT LOT 7 & 8, CONC. 2, TWP OF HAMILTON C/O RR #6 COBOURG ON K9A 4J9

Database:
REC

Rec Op Div:
Co Admin:
Phone No Admin:
Rec Div:
Rec Op Name:
Choice of Contact:
Site Bldg:
Site PO Box:
Receiver #: A311801
Facility Type: LANDFILL
Approval Yrs.: 92,93,94,95,96

Site: *PINE RIDGE MACHINE & TOOL 1982*
DANFORTH RD W COBOURG ON

Database:
SCT

Established: 1982
Plant Size (ft²):
Employment: 1

--Details--
Description: SPECIAL DIES & TOOLS & INDUSTRIAL MOLDS
SIC/NAICS Code: 3544

Site: *Hwy 401 W mile marker 473 Cobourg ON*

Database:
SPL

Ref No: 3673-7MGMZM
Site No:
Incident Dt:
Year:
Incident Cause:
Incident Event:
Contaminant Code: 13

Discharger Report:
Material Group:
Client Type:
Sector Type:
Source Type:
Nearest Watercourse:
Site Name: Hwy 401 W<UNOFFICIAL>

Contaminant Name: DIESEL FUEL
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Contaminant Qty: 20 L
Environment Impact: Possible
Nature of Impact:
Receiving Medium:
Receiving Env:
Health/Env Conseq:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 12/19/2008
Dt Document Closed:
Agency Involved:
SAC Action Class: Highway Spills (usually highway accidents)
Incident Reason:
Incident Summary: MVA Hwy 401 W: 20L diesel from saddle tanks to rd

Site Address:
Site District Office: Peterborough
Site County/District:
Site Postal Code:
Site Region:
Site Municipality: Cobourg
Site Lot:
Site Conc:
Northing:
Easting:
Site Geo Ref Accu:
Site Geo Ref Meth:
Site Map Datum:

Site: Hwy 401 WB N shoulder, mile marker 473 Cobourg ON

Database: **SPL**

Ref No: 7267-9RPU4
Site No: NA
Incident Dt: 2014/12/11
Year:
Incident Cause: Collision/Accident
Incident Event:
Contaminant Code: 12
Contaminant Name: GASOLINE
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Contaminant Qty: 50 L
Environment Impact:
Nature of Impact: Land
Receiving Medium:
Receiving Env:
Health/Env Conseq:
MOE Response: N
Dt MOE Arvl on Scn:
MOE Reported Dt: 2014/12/11
Dt Document Closed: 2015/01/14
Agency Involved:
SAC Action Class: Highway Spills (usually highway accidents)
Incident Reason:
Incident Summary: Weather Conditions
MVA, Hwy 401 WB, 50L gasoline to rd, contained

Discharger Report:
Material Group:
Client Type:
Sector Type: Motor Vehicle
Source Type:
Nearest Watercourse:
Site Name: Hwy 401 WB <UNOFFICIAL>
Site Address: Hwy 401 WB N shoulder, mile marker 473
Site District Office:
Site County/District:
Site Postal Code:
Site Region:
Site Municipality: Cobourg
Site Lot:
Site Conc:
Northing: 4873689
Easting: 725572
Site Geo Ref Accu:
Site Geo Ref Meth:
Site Map Datum:

Site: Hwy 403 between Main St and York Blvd Hamilton ON

Database: **SPL**

Ref No: 2157-9RAN3H
Site No: NA
Incident Dt: 2014/11/28
Year:
Incident Cause: Leak/Break
Incident Event:
Contaminant Code: 99
Contaminant Name: SILT
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Contaminant Qty: 0 other - see incident description
Environment Impact:
Nature of Impact: Land; Surface Water
Receiving Medium:

Discharger Report:
Material Group:
Client Type:
Sector Type: Water Supply
Source Type:
Nearest Watercourse: Desjardins Canal
Site Name: Hwy 403<UNOFFICIAL>
Site Address: Hwy 403 between Main St and York Blvd
Site District Office:
Site County/District:
Site Postal Code:
Site Region:
Site Municipality: Hamilton
Site Lot:
Site Conc:

Receiving Env:
Health/Env Conseq:
MOE Response: Y
Dt MOE Arvl on Scn: 2014/11/28
MOE Reported Dt: 2014/11/28
Dt Document Closed: 2014/12/09
Agency Involved:
SAC Action Class: Primary Assessment of Incident
Incident Reason: Equipment Failure
Incident Summary: Mud-slide due to watermain break

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

Site: **TRANSPORT SYLVAIN ROUSSEAU INC.** **Database:** **SPL**
Hwy 401 E at mile marker 478 just east of Colbourne Hamilton ON

| | | |
|-----------------------------|---|------------------------------|
| Ref No: | 2755-99GCW2 | Discharger Report: |
| Site No: | | Material Group: |
| Incident Dt: | 2013/07/10 | Client Type: |
| Year: | | Sector Type: |
| Incident Cause: | Collision/Accident | Source Type: |
| Incident Event: | | Nearest Watercourse: |
| Contaminant Code: | 13 | Site Name: |
| Contaminant Name: | DIESEL FUEL | Site Address: |
| Contaminant Limit 1: | | Site District Office: |
| Contam Limit Freq 1: | | Site County/District: |
| Contaminant UN No 1: | | Site Postal Code: |
| Contaminant Qty: | 400 L | Site Region: |
| Environment Impact: | Confirmed | Site Municipality: |
| Nature of Impact: | Soil Contamination | Site Lot: |
| Receiving Medium: | | Site Conc: |
| Receiving Env: | | Northing: |
| Health/Env Conseq: | | Easting: |
| MOE Response: | Planned Field Response | Site Geo Ref Accu: |
| Dt MOE Arvl on Scn: | 2013/07/10 | Site Geo Ref Meth: |
| MOE Reported Dt: | 2013/07/10 | Site Map Datum: |
| Dt Document Closed: | 2013/07/15 | |
| Agency Involved: | | |
| SAC Action Class: | Primary Assessment of Spills | |
| Incident Reason: | Operator/Human Error | |
| Incident Summary: | TT accident/ Hamilton - 3-400 L dsl to shoulder | |

Site: **Edward Fuels Limited** **Database:** **SPL**
Hwy. 401 W.bnd @ Nagle Road - near MM477 Cobourg ON

| | | |
|-----------------------------|---|------------------------------|
| Ref No: | 6325-67EPFY | Discharger Report: |
| Site No: | | Material Group: |
| Incident Dt: | 12/6/2004 | Client Type: |
| Year: | | Sector Type: |
| Incident Cause: | Other Transport Accident | Source Type: |
| Incident Event: | | Nearest Watercourse: |
| Contaminant Code: | 15 | Site Name: |
| Contaminant Name: | HYDRAULIC OIL | Site Address: |
| Contaminant Limit 1: | | Site District Office: |
| Contam Limit Freq 1: | | Site County/District: |
| Contaminant UN No 1: | | Site Postal Code: |
| Contaminant Qty: | 3000 L | Site Region: |
| Environment Impact: | Possible | Site Municipality: |
| Nature of Impact: | Soil Contamination; Surface Water Pollution | Site Lot: |
| Receiving Medium: | Land & Water | Site Conc: |
| Receiving Env: | | Northing: |
| Health/Env Conseq: | | Easting: |
| MOE Response: | | Site Geo Ref Accu: |
| Dt MOE Arvl on Scn: | | Site Geo Ref Meth: |
| MOE Reported Dt: | 12/6/2004 | Site Map Datum: |
| Dt Document Closed: | | |

Agency Involved:
SAC Action Class: Spill to Highway (Accident)
Incident Reason: Equipment/Vehicles
Incident Summary: MVA - Edwards Fuel - pup rupture, Hydraulic oil.

Site: 3735931 Canada Inc<UNOFFICIAL>
401 eastbound Mile Marker 461 Cobourg ON **Database:** SPL

| | | |
|-----------------------------|--|---|
| Ref No: | 5448-86BUN3 | Discharger Report: |
| Site No: | | Material Group: |
| Incident Dt: | | Client Type: |
| Year: | | Sector Type: Motor Vehicle |
| Incident Cause: | Other Discharges | Source Type: |
| Incident Event: | | Nearest Watercourse: |
| Contaminant Code: | 13 | Site Name: tractor trailer<UNOFFICIAL> |
| Contaminant Name: | DIESEL FUEL | Site Address: |
| Contaminant Limit 1: | | Site District Office: |
| Contam Limit Freq 1: | | Site County/District: |
| Contaminant UN No 1: | | Site Postal Code: |
| Contaminant Qty: | 1500 L | Site Region: |
| Environment Impact: | Confirmed | Site Municipality: |
| Nature of Impact: | Soil Contamination | Site Lot: |
| Receiving Medium: | | Site Conc: |
| Receiving Env: | | Northing: |
| Health/Env Conseq: | | Easting: |
| MOE Response: | Deferred Field Response | Site Geo Ref Accu: |
| Dt MOE Arvl on Scn: | 6/12/2010 | Site Geo Ref Meth: |
| MOE Reported Dt: | 6/11/2010 | Site Map Datum: |
| Dt Document Closed: | | |
| Agency Involved: | | |
| SAC Action Class: | Land Spills | |
| Incident Reason: | Error- Operator error | |
| Incident Summary: | MVA: tractor trailer, 500 L diesel spill Port Hope | |

Site: Rangi Brothers<UNOFFICIAL>
Hwy 401WB at mile 477, near Cobourg Hamilton ON **Database:** SPL

| | | |
|-----------------------------|--|--|
| Ref No: | 2868-82X52Y | Discharger Report: |
| Site No: | | Material Group: |
| Incident Dt: | | Client Type: |
| Year: | | Sector Type: Transport Truck |
| Incident Cause: | Tank (Above Ground) Leak | Source Type: |
| Incident Event: | | Nearest Watercourse: |
| Contaminant Code: | 13 | Site Name: Hwy 401 WB<UNOFFICIAL> |
| Contaminant Name: | DIESEL FUEL | Site Address: |
| Contaminant Limit 1: | | Site District Office: |
| Contam Limit Freq 1: | | Site County/District: |
| Contaminant UN No 1: | | Site Postal Code: |
| Contaminant Qty: | 20 L | Site Region: |
| Environment Impact: | Confirmed | Site Municipality: |
| Nature of Impact: | Other Impact(s); Surface Water Pollution | Site Lot: |
| Receiving Medium: | | Site Conc: |
| Receiving Env: | | Northing: |
| Health/Env Conseq: | | Easting: |
| MOE Response: | No Field Response | Site Geo Ref Accu: |
| Dt MOE Arvl on Scn: | | Site Geo Ref Meth: |
| MOE Reported Dt: | 2/22/2010 | Site Map Datum: |
| Dt Document Closed: | 5/7/2010 | |
| Agency Involved: | | |
| SAC Action Class: | Highway Spills (usually highway accidents) | |
| Incident Reason: | | |
| Incident Summary: | Rangi Brothers: Hwy 401WB, diesel to ditch | |

Site: TransX Ltd. **Database:**

| | | | |
|-----------------------------|--|------------------------------|--|
| Ref No: | 2576-7J2VA9 | Discharger Report: | |
| Site No: | | Material Group: | |
| Incident Dt: | | Client Type: | |
| Year: | | Sector Type: | Transport Truck |
| Incident Cause: | Other Transport Accident | Source Type: | |
| Incident Event: | | Nearest Watercourse: | |
| Contaminant Code: | 13 | Site Name: | Hwy 401 - East Bound Lane, 1km east of mile marker 474<UNOFFICIAL> |
| Contaminant Name: | DIESEL FUEL | Site Address: | |
| Contaminant Limit 1: | | Site District Office: | Peterborough |
| Contam Limit Freq 1: | | Site County/District: | |
| Contaminant UN No 1: | | Site Postal Code: | |
| Contaminant Qty: | 290 L | Site Region: | |
| Environment Impact: | Confirmed | Site Municipality: | Cobourg |
| Nature of Impact: | Human Health/Safety; Other Impact(s); Soil Contamination | Site Lot: | |
| Receiving Medium: | | Site Conc: | |
| Receiving Env: | | Northing: | |
| Health/Env Conseq: | | Easting: | |
| MOE Response: | No Field Response | Site Geo Ref Accu: | |
| Dt MOE Arvl on Scn: | | Site Geo Ref Meth: | |
| MOE Reported Dt: | 8/31/2008 | Site Map Datum: | |
| Dt Document Closed: | 11/22/2008 | | |
| Agency Involved: | | | |
| SAC Action Class: | Highway Spills (usually highway accidents) | | |
| Incident Reason: | | | |
| Incident Summary: | HWY 401 Cobourg -TT MVA 290L of diesel to ground, clng | | |

Site: TRANSPORT TRUCK
401 W-BOUND LANE AT COBOURG TRANSPORT TRUCK (CARGO) COBOURG TOWN ON

Database:
SPL

| | | | |
|-----------------------------|---|------------------------------|-------|
| Ref No: | 147501 | Discharger Report: | |
| Site No: | | Material Group: | |
| Incident Dt: | 10/7/1997 | Client Type: | |
| Year: | | Sector Type: | |
| Incident Cause: | OTHER CONTAINER LEAK | Source Type: | |
| Incident Event: | | Nearest Watercourse: | |
| Contaminant Code: | | Site Name: | |
| Contaminant Name: | | Site Address: | |
| Contaminant Limit 1: | | Site District Office: | |
| Contam Limit Freq 1: | | Site County/District: | |
| Contaminant UN No 1: | | Site Postal Code: | |
| Contaminant Qty: | | Site Region: | |
| Environment Impact: | POSSIBLE | Site Municipality: | 61403 |
| Nature of Impact: | Soil contamination | Site Lot: | |
| Receiving Medium: | LAND | Site Conc: | |
| Receiving Env: | | Northing: | |
| Health/Env Conseq: | | Easting: | OPP |
| MOE Response: | | Site Geo Ref Accu: | |
| Dt MOE Arvl on Scn: | | Site Geo Ref Meth: | |
| MOE Reported Dt: | 10/7/1997 | Site Map Datum: | |
| Dt Document Closed: | | | |
| Agency Involved: | | | |
| SAC Action Class: | | | |
| Incident Reason: | UNKNOWN | | |
| Incident Summary: | R.S. ALLISON & SONS LTD. - ANIMAL BLOOD TO HWY. FROM TRANSPORT TRUCK. | | |

Site: TRANSPORT TRUCK
HWY 401 WEST OF COBOURG MOTOR VEHICLE (OPERATING FLUID) HAMILTON TWP. ON

Database:
SPL

| | | | |
|---------------------|------------|---------------------------|--|
| Ref No: | 133657 | Discharger Report: | |
| Site No: | | Material Group: | |
| Incident Dt: | 10/30/1996 | Client Type: | |
| Year: | | Sector Type: | |

| | | | |
|-----------------------------|--|------------------------------|--------------|
| Incident Cause: | OTHER TRANSPORTATION ACCIDENT | Source Type: | |
| Incident Event: | | Nearest Watercourse: | |
| Contaminant Code: | | Site Name: | |
| Contaminant Name: | | Site Address: | |
| Contaminant Limit 1: | | Site District Office: | |
| Contam Limit Freq 1: | | Site County/District: | |
| Contaminant UN No 1: | | Site Postal Code: | |
| Contaminant Qty: | | Site Region: | |
| Environment Impact: | NOT ANTICIPATED | Site Municipality: | 61609 |
| Nature of Impact: | Soil contamination | Site Lot: | |
| Receiving Medium: | LAND | Site Conc: | |
| Receiving Env: | | Northing: | |
| Health/Env Conseq: | | Easting: | FD, OPP, MTO |
| MOE Response: | | Site Geo Ref Accu: | |
| Dt MOE Arvl on Scn: | | Site Geo Ref Meth: | |
| MOE Reported Dt: | 10/30/1996 | Site Map Datum: | |
| Dt Document Closed: | | | |
| Agency Involved: | | | |
| SAC Action Class: | | | |
| Incident Reason: | ERROR | | |
| Incident Summary: | TRANSPORT TRUCK: DIESEL FUEL TO HWY; MVA. PAPER BOARD CARGO ON FIRE. FD. | | |

| | | | |
|-----------------------------|--|------------------------------|--|
| Site: | Turan Trucking<UNOFFICIAL> | Database: | |
| | Hwy 401 westbound at mile marker 474<UNOFFICIAL> Cobourg ON | SPL | |
| Ref No: | 7847-75UJ5W | Discharger Report: | |
| Site No: | | Material Group: | Oil |
| Incident Dt: | | Client Type: | |
| Year: | | Sector Type: | Transport Truck |
| Incident Cause: | Other Transport Accident | Source Type: | |
| Incident Event: | | Nearest Watercourse: | |
| Contaminant Code: | 13 | Site Name: | Hwy 401 westbound at mile marker 474<UNOFFICIAL> |
| Contaminant Name: | DIESEL FUEL | Site Address: | |
| Contaminant Limit 1: | | Site District Office: | |
| Contam Limit Freq 1: | | Site County/District: | |
| Contaminant UN No 1: | | Site Postal Code: | |
| Contaminant Qty: | 10 L | Site Region: | |
| Environment Impact: | Confirmed | Site Municipality: | Cobourg |
| Nature of Impact: | Soil Contamination | Site Lot: | |
| Receiving Medium: | Land | Site Conc: | |
| Receiving Env: | | Northing: | |
| Health/Env Conseq: | | Easting: | |
| MOE Response: | | Site Geo Ref Accu: | |
| Dt MOE Arvl on Scn: | | Site Geo Ref Meth: | |
| MOE Reported Dt: | 8/7/2007 | Site Map Datum: | |
| Dt Document Closed: | | | |
| Agency Involved: | | | |
| SAC Action Class: | | | |
| Incident Reason: | Error- Operator error | | |
| Incident Summary: | Turan Trucking;20 L diesel & engine oil to median;cleaning | | |

| | | | |
|-----------------------------|--|------------------------------|--|
| Site: | TRANSPORT TRUCK | Database: | |
| | HWY 401 EAST, EAST OF #45, @ GULLY RD OVERPASS. MOTOR VEHICLE (OPERATING FLUID) COBOURG TOWN ON K9A 4J8 | SPL | |
| Ref No: | 124699 | Discharger Report: | |
| Site No: | | Material Group: | |
| Incident Dt: | 4/9/1996 | Client Type: | |
| Year: | | Sector Type: | |
| Incident Cause: | OTHER CONTAINER LEAK | Source Type: | |
| Incident Event: | | Nearest Watercourse: | |
| Contaminant Code: | | Site Name: | |
| Contaminant Name: | | Site Address: | |
| Contaminant Limit 1: | | Site District Office: | |
| Contam Limit Freq 1: | | Site County/District: | |

Contaminant UN No 1:
Contaminant Qty:
Environment Impact: POSSIBLE
Nature of Impact: Soil contamination
Receiving Medium: LAND
Receiving Env:
Health/Env Conseq:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 4/9/1996
Dt Document Closed:
Agency Involved:
SAC Action Class:
Incident Reason: ADVERSE ROAD CONDITION
Incident Summary: ROBERT TRANSPORT - 680L DIESEL FUEL TO SHOULDER DAMAGED FUEL TANKS.

Site: Hwy 401 East, 2 km east of County Rd. 45<UNOFFICIAL> Cobourg ON **Database:** SPL
Ref No: 7712-778GET **Discharger Report:**
Site No: **Material Group:** Oil
Incident Dt: **Client Type:**
Year: **Sector Type:** Transport Truck
Incident Cause: Unknown **Source Type:**
Incident Event: **Nearest Watercourse:**
Contaminant Code: 13 **Site Name:** Hwy 401 East, 2 km east of County Rd.
Contaminant Name: DIESEL FUEL **Site Address:**
Contaminant Limit 1: **Site District Office:**
Contam Limit Freq 1: **Site County/District:**
Contaminant UN No 1: **Site Postal Code:**
Contaminant Qty: 100 L **Site Region:**
Environment Impact: Not Anticipated **Site Municipality:** Cobourg
Nature of Impact: Soil Contamination **Site Lot:**
Receiving Medium: Land **Site Conc:**
Receiving Env: **Northing:**
Health/Env Conseq: **Easting:**
MOE Response: **Site Geo Ref Accu:**
Dt MOE Arvl on Scn: **Site Geo Ref Meth:**
MOE Reported Dt: 9/20/2007 **Site Map Datum:**
Dt Document Closed:
Agency Involved:
SAC Action Class:
Incident Reason: Unknown - Reason not determined
Incident Summary: Hwy 401 Cobourg-mva (Clark Transport), 100 L to road, ctnd.

Site: ROBERT TRANSPORT HWY 401, 2-3KM. EAST OF COBOURG, GARNEAU BRIDGE. TRANSPORT TRUCK (CARGO) NORTHUMBERLAND COUNTY ON **Database:** SPL
Ref No: 12324 **Discharger Report:**
Site No: **Material Group:**
Incident Dt: 11/30/1988 **Client Type:**
Year: **Sector Type:**
Incident Cause: TRUCK/TRAILER OVERTURN **Source Type:**
Incident Event: **Nearest Watercourse:**
Contaminant Code: **Site Name:**
Contaminant Name: **Site Address:**
Contaminant Limit 1: **Site District Office:**
Contam Limit Freq 1: **Site County/District:**
Contaminant UN No 1: **Site Postal Code:**
Contaminant Qty: NOT ANTICIPATED **Site Region:**
Environment Impact: **Site Municipality:** 61000
Nature of Impact: **Site Lot:**
Receiving Medium: LAND **Site Conc:**
Receiving Env: **Northing:**

Health/Env Conseq:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 11/30/1988
Dt Document Closed:
Agency Involved:
SAC Action Class:
Incident Reason: ERROR
Incident Summary: ROBERT LTD - UNKNOWN QTY ANIONIC DETERGENT TO HWY (OVERTURNED TRAILER).

Site: **EB Mile Marker 480, Hwy 401<UNOFFICIAL> Cobourg ON** **Database:** **SPL**
Ref No: 4715-6XZQB2 **Discharger Report:**
Site No: **Material Group:** Oil
Incident Dt: **Client Type:**
Year: **Sector Type:** other
Incident Cause: **Source Type:**
Incident Event: **Nearest Watercourse:**
Contaminant Code: 13 **Site Name:** EB Mile Marker 480, Hwy 401<UNOFFICIAL>
Contaminant Name: motor vehicle fluids **Site Address:**
Contaminant Limit 1: **Site District Office:**
Contam Limit Freq 1: **Site County/District:**
Contaminant UN No 1: **Site Postal Code:**
Contaminant Qty: unknown L **Site Region:**
Environment Impact: Confirmed **Site Municipality:** Cobourg
Nature of Impact: Surface Water Pollution; human health/safety, soil contamination **Site Lot:**
Receiving Medium: Land & Water **Site Conc:**
Receiving Env: **Northing:**
Health/Env Conseq: **Easting:**
MOE Response: Planned Field Response **Site Geo Ref Accu:**
Dt MOE Arvl on Scn: **Site Geo Ref Meth:**
MOE Reported Dt: 2/1/2007 **Site Map Datum:**
Dt Document Closed:
Agency Involved:
SAC Action Class:
Incident Reason:
Incident Summary: MVA: 30-40vehicles incl TT involved, tanker on fire

Site: **UNKNOWN HWY 401 WEST BOUND HAMILTON TWP. ON** **Database:** **SPL**
Ref No: 15801 **Discharger Report:**
Site No: **Material Group:**
Incident Dt: 2/23/1989 **Client Type:**
Year: **Sector Type:**
Incident Cause: TRUCK/TRAILER OVERTURN **Source Type:**
Incident Event: **Nearest Watercourse:**
Contaminant Code: **Site Name:**
Contaminant Name: **Site Address:**
Contaminant Limit 1: **Site District Office:**
Contam Limit Freq 1: **Site County/District:**
Contaminant UN No 1: **Site Postal Code:**
Contaminant Qty: **Site Region:**
Environment Impact: **Site Municipality:** 61609
Nature of Impact: **Site Lot:**
Receiving Medium: LAND **Site Conc:**
Receiving Env: **Northing:**
Health/Env Conseq: **Easting:** MTO, OPP
MOE Response: **Site Geo Ref Accu:**
Dt MOE Arvl on Scn: **Site Geo Ref Meth:**
MOE Reported Dt: 3/13/1989 **Site Map Datum:**
Dt Document Closed:
Agency Involved:
SAC Action Class:

Incident Reason: ERROR
Incident Summary: 450 L. DIESEL FUEL IN ROADSIDE DITCH.

Site: UNKNOWN
401 EASTBOUND LANE, WEST OF HYW 28 EXIT COBOURG TOWN ON **Database:** SPL

Ref No: 6779 **Discharger Report:**
Site No: **Material Group:**
Incident Dt: 7/17/1988 **Client Type:**
Year: **Sector Type:**
Incident Cause: OTHER TRANSPORTATION ACCIDENT **Source Type:**
Incident Event: **Nearest Watercourse:**
Contaminant Code: **Site Name:**
Contaminant Name: **Site Address:**
Contaminant Limit 1: **Site District Office:**
Contam Limit Freq 1: **Site County/District:**
Contaminant UN No 1: **Site Postal Code:**
Contaminant Qty: **Site Region:**
Environment Impact: **Site Municipality:** 61403
Nature of Impact: **Site Lot:**
Receiving Medium: LAND **Site Conc:**
Receiving Env: **Northing:**
Health/Env Conseq: **Easting:**
MOE Response: **Site Geo Ref Accu:**
Dt MOE Arvl on Scn: **Site Geo Ref Meth:**
MOE Reported Dt: 7/17/1988 **Site Map Datum:**
Dt Document Closed:
Agency Involved:
SAC Action Class:
Incident Reason: UNKNOWN
Incident Summary: 20 TONS CALCIUM CARBONATE TO ROAD FROM TRACTOR TRAILER.

Site: S.21
MVA, EASTBOUND HWY 401, MILE-MARKER 472, EAST OF BURNHAM ROAD OVERPASS<UNOFFICIAL> Cobourg **Database:** SPL

Ref No: 3178-5V69ST **Discharger Report:**
Site No: **Material Group:** Oil
Incident Dt: 1/13/2004 **Client Type:**
Year: **Sector Type:** Transport Truck
Incident Cause: Other Transport Accident **Source Type:**
Incident Event: **Nearest Watercourse:**
Contaminant Code: 13 **Site Name:** MVA, EASTBOUND HWY 401, MILE-MARKER 472,
Contaminant Name: DIESEL FUEL **Site Address:**
Contaminant Limit 1: **Site District Office:** Peterborough
Contam Limit Freq 1: **Site County/District:**
Contaminant UN No 1: **Site Postal Code:**
Contaminant Qty: 1365 L **Site Region:** Eastern
Confirmed **Site Municipality:** Cobourg
Environment Impact: Soil Contamination; Surface Water Pollution **Site Lot:**
Nature of Impact: Land & Water **Site Conc:**
Receiving Medium: **Northing:**
Receiving Env: **Easting:**
Health/Env Conseq: **Site Geo Ref Accu:**
MOE Response: **Site Geo Ref Meth:**
Dt MOE Arvl on Scn: **Site Map Datum:**
MOE Reported Dt: 1/13/2004
Dt Document Closed:
Agency Involved:
SAC Action Class:
Incident Reason: Spill to Highway (Accident); Spill to Inland Watercourses; Spill to Land
Incident Summary: Weather
MVA, Hwy 401, 300 gal to grnd + crk

Site: TRANSPORT TRUCK **Database:** SPL

401 WEST OFF RAMP. MOTOR VEHICLE (OPERATING FLUID) COBOURG TOWN ON

| | | | |
|-----------------------------|--|------------------------------|----------|
| Ref No: | 161917 | Discharger Report: | |
| Site No: | | Material Group: | |
| Incident Dt: | 11/11/1998 | Client Type: | |
| Year: | | Sector Type: | |
| Incident Cause: | PIPE/HOSE LEAK | Source Type: | |
| Incident Event: | | Nearest Watercourse: | |
| Contaminant Code: | | Site Name: | |
| Contaminant Name: | | Site Address: | |
| Contaminant Limit 1: | | Site District Office: | |
| Contam Limit Freq 1: | | Site County/District: | |
| Contaminant UN No 1: | | Site Postal Code: | |
| Contaminant Qty: | | Site Region: | |
| Environment Impact: | NOT ANTICIPATED | Site Municipality: | 61403 |
| Nature of Impact: | | Site Lot: | |
| Receiving Medium: | LAND | Site Conc: | |
| Receiving Env: | | Northing: | |
| Health/Env Conseq: | | Easting: | OPP,MTO. |
| MOE Response: | | Site Geo Ref Accu: | |
| Dt MOE Arvl on Scn: | | Site Geo Ref Meth: | |
| MOE Reported Dt: | 11/11/1998 | Site Map Datum: | |
| Dt Document Closed: | | | |
| Agency Involved: | | | |
| SAC Action Class: | | | |
| Incident Reason: | UNKNOWN | | |
| Incident Summary: | TRANSPORT TRUCK-UKN QTY DIESEL TO RAMP & HWY,OPP, MTO. | | |

| | | | |
|-----------------------------|---|------------------------------|---------------------|
| Site: | Cooney Bulk Sale Ltd<UNOFFICIAL> HWY 401 WB RAMP ON HWY 45 NEAR COBOURG<UNOFFICIAL> Cobourg ON | Database: | SPL |
| Ref No: | 4275-6SABSB | Discharger Report: | |
| Site No: | | Material Group: | Oils |
| Incident Dt: | 8/2/2006 | Client Type: | |
| Year: | | Sector Type: | Other Motor Vehicle |
| Incident Cause: | Other Transport Accident | Source Type: | |
| Incident Event: | | Nearest Watercourse: | |
| Contaminant Code: | 12 | Site Name: | |
| Contaminant Name: | GASOLINE | Site Address: | |
| Contaminant Limit 1: | | Site District Office: | Peterborough |
| Contam Limit Freq 1: | | Site County/District: | |
| Contaminant UN No 1: | | Site Postal Code: | |
| Contaminant Qty: | 45 L | Site Region: | |
| Environment Impact: | Possible | Site Municipality: | Cobourg |
| Nature of Impact: | Soil Contamination; Surface Water Pollution | Site Lot: | |
| Receiving Medium: | Land & Water | Site Conc: | |
| Receiving Env: | | Northing: | |
| Health/Env Conseq: | | Easting: | |
| MOE Response: | | Site Geo Ref Accu: | |
| Dt MOE Arvl on Scn: | | Site Geo Ref Meth: | |
| MOE Reported Dt: | 8/2/2006 | Site Map Datum: | |
| Dt Document Closed: | | | |
| Agency Involved: | | | |
| SAC Action Class: | | | |
| Incident Reason: | Other - Reason not otherwise defined | | |
| Incident Summary: | MVA spill 10 gal gasoline to grnd, Hwy 401, Cobourg | | |

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|------------------------|---|-----------------------------|-----|
| Site: | PRIVATE OWNER 401 WESTBOUND (NEAR SECOND EXIT INTO COBOURG) MOTOR VEHICLE (OPERATING FLUID) COBOURG ON | Database: | SPL |
| Ref No: | 189411 | Discharger Report: | |
| Site No: | | Material Group: | |
| Incident Dt: | 10/28/2000 | Client Type: | |
| Year: | | Sector Type: | |
| Incident Cause: | OTHER TRANSPORTATION ACCIDENT | Source Type: | |
| Incident Event: | | Nearest Watercourse: | |

Contaminant Code:
Contaminant Name:
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Contaminant Qty:
Environment Impact: POSSIBLE
Nature of Impact: Multi Media Pollution
Receiving Medium: LAND/WATER
Receiving Env:
Health/Env Conseq:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 10/28/2000
Dt Document Closed:
Agency Involved:
SAC Action Class:
Incident Reason:
Incident Summary: OTHER

Site Name:
Site Address:
Site District Office:
Site County/District:
Site Postal Code:
Site Region:
Site Municipality: 61403
Site Lot:
Site Conc:
Northing:
Easting: OPP, MTO
Site Geo Ref Accu:
Site Geo Ref Meth:
Site Map Datum:

PRIVATE OWNER:SPILL OF GAS TO SWAMPY AREA DUE TOMVA.OPP, MTO.

Site: **Enbridge Gas Distribution Inc.**
Lot 10 Sunrow Gate Hamilton ON **Database:** **SPL**

Ref No: 8646-AL3JXR **Discharger Report:**
Site No:
Incident Dt: 4/3/2017 **Material Group:**
Year:
Incident Cause:
Incident Event: Leak/Break **Client Type:** Corporation
Contaminant Code: 35 **Sector Type:** Unknown / N/A
Contaminant Name: NATURAL GAS (METHANE) **Source Type:** Pipeline/Components
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1: 1075 **Nearest Watercourse:** Subdivision<UNOFFICIAL>
Contaminant Qty: 0 L **Site Name:** Lot 10 Sunrow Gate
Environment Impact:
Nature of Impact:
Receiving Medium:
Receiving Env: Air **Site Address:** Hamilton - District
Health/Env Conseq:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 4/3/2017 **Site District Office:**
Dt Document Closed:
Agency Involved:
SAC Action Class:
Incident Reason:
Incident Summary: Operator/Human Error **Site County/District:**

Site Postal Code:
Site Region: West Central
Site Municipality: Hamilton
Site Conc:
Northing:
Easting:
Site Geo Ref Accu:
Site Geo Ref Meth:
Site Map Datum:

TSSA FSB: 2" plastic main strike; made safe

Site: **Aecon Construction and Materials Limited**
Cobourg Creek and Highway 401 Cobourg ON **Database:** **SPL**

Ref No: 4815-ACVPZ4 **Discharger Report:**
Site No: NA **Material Group:**
Incident Dt: 8/16/2016 **Client Type:**
Year:
Incident Cause:
Incident Event: Leak/Break **Sector Type:** Miscellaneous Industrial
Contaminant Code: 99 **Source Type:**
Contaminant Name: SILT **Nearest Watercourse:** Cobourg Brook
Contaminant Limit 1:
Contam Limit Freq 1:
Contaminant UN No 1:
Contaminant Qty: 0 other - see incident description **Site Name:** Cobourg Creek<UNOFFICIAL>
Environment Impact:
Nature of Impact: **Site Address:** Cobourg Creek and Highway 401
Site District Office:
Site County/District:
Site Postal Code:
Site Region:
Site Municipality: Cobourg
Site Lot:

Receiving Medium: Surface Water
Receiving Env:
Health/Env Conseq:
MOE Response:
Dt MOE Arvl on Scn:
MOE Reported Dt: 8/16/2016
Dt Document Closed:
Agency Involved:
SAC Action Class: Watercourse Spills
Incident Reason: Equipment Failure
Incident Summary: Aecon Construction: Silt to Cobourg Creek

Site Conc:
Northing: 4873681
Easting: 726091
Site Geo Ref Accu:
Site Geo Ref Meth:
Site Map Datum:

Site: *Sebastien Dismarais<UNOFFICIAL>*
HWY. 401, E-BOUND, 2 KM W OF BURNHAM ST. IN COBOURG<UNOFFICIAL> Cobourg ON

Database: *SPL*

| | | | |
|-----------------------------|-------------------------------------|------------------------------|---|
| Ref No: | 6272-5VU7AW | Discharger Report: | |
| Site No: | | Material Group: | Oil |
| Incident Dt: | 2/3/2004 | Client Type: | |
| Year: | | Sector Type: | |
| Incident Cause: | Container Leak (Fuel Tank Barrels) | Source Type: | |
| Incident Event: | | Nearest Watercourse: | |
| Contaminant Code: | 13 | Site Name: | HWY. 401, E-BOUND, 2 KM W OF BURNHAM ST. IN COBOURG<UNOFFICIAL> |
| Contaminant Name: | DIESEL FUEL | Site Address: | |
| Contaminant Limit 1: | | Site District Office: | Peterborough |
| Contam Limit Freq 1: | | Site County/District: | |
| Contaminant UN No 1: | | Site Postal Code: | |
| Contaminant Qty: | | Site Region: | Eastern |
| Environment Impact: | | Site Municipality: | Cobourg |
| Nature of Impact: | | Site Lot: | |
| Receiving Medium: | Land | Site Conc: | |
| Receiving Env: | | Northing: | |
| Health/Env Conseq: | | Easting: | |
| MOE Response: | | Site Geo Ref Accu: | |
| Dt MOE Arvl on Scn: | | Site Geo Ref Meth: | |
| MOE Reported Dt: | 2/3/2004 | Site Map Datum: | |
| Dt Document Closed: | | | |
| Agency Involved: | | | |
| SAC Action Class: | | | |
| Incident Reason: | Unknown - Reason not determined | | |
| Incident Summary: | Transport (n.O.S.) - diesel to hwy. | | |

Site: *XTL TRANSPORT LTD.*
401 EASTBOUND IN SOUTH DITCH, 5KM EAST OF COBOURG TRANSPORT TRUCK (CARGO) HAMILTON TWP. ON

Database: *SPL*

| | | | |
|-----------------------------|-------------------------------|------------------------------|-----------|
| Ref No: | 123162 | Discharger Report: | |
| Site No: | | Material Group: | |
| Incident Dt: | 1/29/1996 | Client Type: | |
| Year: | | Sector Type: | |
| Incident Cause: | OTHER TRANSPORTATION ACCIDENT | Source Type: | |
| Incident Event: | | Nearest Watercourse: | |
| Contaminant Code: | | Site Name: | |
| Contaminant Name: | | Site Address: | |
| Contaminant Limit 1: | | Site District Office: | |
| Contam Limit Freq 1: | | Site County/District: | |
| Contaminant UN No 1: | | Site Postal Code: | |
| Contaminant Qty: | | Site Region: | |
| Environment Impact: | POSSIBLE | Site Municipality: | 61609 |
| Nature of Impact: | Soil contamination | Site Lot: | |
| Receiving Medium: | LAND | Site Conc: | |
| Receiving Env: | | Northing: | |
| Health/Env Conseq: | | Easting: | OPP, MTO. |
| MOE Response: | | Site Geo Ref Accu: | |
| Dt MOE Arvl on Scn: | | Site Geo Ref Meth: | |
| MOE Reported Dt: | 1/29/1996 | Site Map Datum: | |
| Dt Document Closed: | | | |

Agency Involved:
SAC Action Class:
Incident Reason:
Incident Summary: DAMAGE BY MOVING EQUIPMENT
 XTL TRANSPORT- 700L DIESEL TO DITCH FROM RUPTURED SADDLE TANK.

Site: **TRANSPORT TRUCK**
Highway 401, Near Lot 34, Con I Motor Vehicle (Operating Fluid) HAMILTON TWP. ON **Database:** **SPL**

Ref No: 134731 **Discharger Report:**
Site No: **Material Group:**
Incident Dt: 11/28/1996 **Client Type:**
Year: **Sector Type:**
Incident Cause: OTHER TRANSPORTATION ACCIDENT **Source Type:**
Incident Event: **Nearest Watercourse:**
Contaminant Code: **Site Name:**
Contaminant Name: **Site Address:**
Contaminant Limit 1: **Site District Office:**
Contam Limit Freq 1: **Site County/District:**
Contaminant UN No 1: **Site Postal Code:**
Contaminant Qty: **Site Region:**
Environment Impact: NOT ANTICIPATED **Site Municipality:** 61609
Nature of Impact: **Site Lot:**
Receiving Medium: LAND **Site Conc:**
Receiving Env: **Northing:**
Health/Env Conseq: **Easting:** MTO
MOE Response: **Site Geo Ref Accu:**
Dt MOE Arvl on Scn: **Site Geo Ref Meth:**
MOE Reported Dt: 11/28/1996 **Site Map Datum:**
Dt Document Closed:
Agency Involved:
SAC Action Class:
Incident Reason: ERROR
Incident Summary: TRANSPORT TRUCK: 140 L DIESEL FUEL PLUS COOLANT TO ROAD

Site: **PRIVATELY OWNED**
HWY 401 EAST AT BOYSES BRIDGE MILE MARKER 492, 494 MOTOR VEHICLE (OPERATING FLUID) **Database:** **SPL**
NORTHUMBERLAND COUNTY ON

Ref No: 13665 **Discharger Report:**
Site No: **Material Group:**
Incident Dt: 1/12/1989 **Client Type:**
Year: **Sector Type:**
Incident Cause: TRUCK/TRAILER OVERTURN **Source Type:**
Incident Event: **Nearest Watercourse:**
Contaminant Code: **Site Name:**
Contaminant Name: **Site Address:**
Contaminant Limit 1: **Site District Office:**
Contam Limit Freq 1: **Site County/District:**
Contaminant UN No 1: **Site Postal Code:**
Contaminant Qty: **Site Region:**
Environment Impact: **Site Municipality:** 61000
Nature of Impact: **Site Lot:**
Receiving Medium: LAND **Site Conc:**
Receiving Env: **Northing:**
Health/Env Conseq: **Easting:**
MOE Response: **Site Geo Ref Accu:**
Dt MOE Arvl on Scn: **Site Geo Ref Meth:**
MOE Reported Dt: 1/12/1989 **Site Map Datum:**
Dt Document Closed:
Agency Involved:
SAC Action Class:
Incident Reason: ADVERSE ROAD CONDITION
Incident Summary:

Site: TRANSPORT TRUCK
HIGHWAY 401 JUST EAST OF COBOURG TRANSPORT TRUCK (CARGO) COBOURG TOWN ON

Database:
SPL

| | | |
|-----------------------------|--|---------------------------------|
| Ref No: | 108440 | Discharger Report: |
| Site No: | | Material Group: |
| Incident Dt: | 12/20/1994 | Client Type: |
| Year: | | Sector Type: |
| Incident Cause: | OTHER CONTAINER LEAK | Source Type: |
| Incident Event: | | Nearest Watercourse: |
| Contaminant Code: | | Site Name: |
| Contaminant Name: | | Site Address: |
| Contaminant Limit 1: | | Site District Office: |
| Contam Limit Freq 1: | | Site County/District: |
| Contaminant UN No 1: | | Site Postal Code: |
| Contaminant Qty: | | Site Region: |
| Environment Impact: | POSSIBLE | Site Municipality: 61403 |
| Nature of Impact: | Air Pollution | Site Lot: |
| Receiving Medium: | AIR | Site Conc: |
| Receiving Env: | | Northing: |
| Health/Env Conseq: | | Easting: FIRE, OPP |
| MOE Response: | | Site Geo Ref Accu: |
| Dt MOE Arvl on Scn: | | Site Geo Ref Meth: |
| MOE Reported Dt: | 12/20/1994 | Site Map Datum: |
| Dt Document Closed: | | |
| Agency Involved: | | |
| SAC Action Class: | | |
| Incident Reason: | FIRE/EXPLOSION | |
| Incident Summary: | TRANSPORT TRUCK - SMOKE TO AIR FROM TRUCK FIRE, FIBREGLASS BEING BURNED. | |

Commercial Fuel Oil Tanks:

Provincial

CFOT

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

Government Publication Date: Feb 28, 2017

Chemical Register:

Private

CHEM

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

Government Publication Date: 1999-Jan 31, 2018

Compressed Natural Gas Stations:

Private

CNG

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

Government Publication Date: Dec 2012 - Apr 2018

Inventory of Coal Gasification Plants and Coal Tar Sites:

Provincial

COAL

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

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

Compliance and Convictions:

Provincial

CONV

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

Government Publication Date: 1989-Apr 2018

Certificates of Property Use:

Provincial

CPU

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

Government Publication Date: 1994-Jul 31, 2018

Drill Hole Database:

Provincial

DRL

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

Government Publication Date: 1886-Nov 30, 2017

Dry Cleaning Facilities:

Federal

DRYCLEANERS

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

Government Publication Date: Jan 2004-Dec 2016

Environmental Activity and Sector Registry:

Provincial

EASR

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

Government Publication Date: Oct 2011-Jul 31, 2018

Environmental Registry:

Provincial

EBR

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

Government Publication Date: 1994-Jul 31, 2018

Environmental Compliance Approval:

Provincial

ECA

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

Government Publication Date: Oct 2011-Jul 31, 2018

Environmental Effects Monitoring:

Federal

EEM

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

*Government Publication Date: 1992-2007**

ERIS Historical Searches:

Private

EHS

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

Government Publication Date: 1999-Feb 28, 2018

Environmental Issues Inventory System:

Federal

EIIS

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

*Government Publication Date: 1992-2001**

Emergency Management Historical Event:

Provincial

EMHE

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

Government Publication Date: Dec 31, 2016

List of TSSA Expired Facilities:

Provincial

EXP

List of facilities and tanks - for which there was once a registration - no longer registered with the Fuels Safety Program of the Technical Standards and Safety Authority (TSSA). Includes private fuel outlets, bulk plants, fuel oil tanks, gasoline stations, marinas, propane filling stations, liquid fuel tanks, piping systems, etc. Tanks which have been removed from the ground are included in the expired facilities inventory held by the TSSA. Notes: The Fuels Safety Division did not register private fuel underground/aboveground storage tanks prior to January of 1990, or furnace oil tanks prior to May 1, 2002; nor does the Division register waste oil tanks in apartments, office buildings, residences, etc., or aboveground gas or diesel tanks. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of expired tanks/tank facilities in the province. The TSSA updates information in its system on an ongoing basis; this listing is hence limited by the record date provided here.

Government Publication Date: Feb 28, 2017

Federal Convictions:

Federal

FCON

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

*Government Publication Date: 1988-Jun 2007**

Contaminated Sites on Federal Land:

Federal

FCS

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

Government Publication Date: Jun 2000-May 2018

Fisheries & Oceans Fuel Tanks:

Federal

FOFT

Fisheries & Oceans Canada maintains an inventory of aboveground & underground fuel storage tanks located on Fisheries & Oceans property or controlled by DFO. Our inventory provides information on the site name, location, tank owner, tank operator, facility type, storage tank location, tank contents & capacity, and date of tank installation.

Government Publication Date: 1964-Sep 2017

Fuel Storage Tank:

Provincial

FST

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

Government Publication Date: Feb 28, 2017

Fuel Storage Tank - Historic:

Provincial

FSTH

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

*Government Publication Date: Pre-Jan 2010**

Ontario Regulation 347 Waste Generators Summary:

Provincial

GEN

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

Government Publication Date: 1986-December 31, 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 2016

TSSA Historic Incidents:

Provincial

HINC

List of historic incidences of spills and leaks of diesel, fuel oil, gasoline, natural gas, propane, and hydrogen recorded by the TSSA in their previous incident tracking system. The TSSA's Fuels Safety Program administers the Technical Standards & Safety Act 2000, providing fuel-related safety services associated with the safe transportation, storage, handling and use of fuels such as gasoline, diesel, propane, natural gas and hydrogen. Under this Act, the TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors and equipment or appliances that use fuels. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of historical fuel spills and leaks in the province. This listing is a copy of the data captured at one moment in time and is hence limited by the record date provided here.

*Government Publication Date: 2006-June 2009**

Indian & Northern Affairs Fuel Tanks:

Federal

IAFT

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

*Government Publication Date: 1950-Aug 2003**

TSSA Incidents:Provincial **INC**

List of spills and leaks of diesel, fuel oil, gasoline, natural gas, propane, and hydrogen reported to the Spills Action Centre (SAC) and made available by the Technical Standards and Safety Authority (TSSA). Under the Technical Standards & Safety Act (2000), the TSSA regulates fuel suppliers, storage facilities, transport trucks, pipelines, contractors, and equipment or appliances that use fuels. Includes incidents from fuel-related hazards such as spills, fires, and explosions. Records are not verified for accuracy or completeness. This is not a comprehensive or complete inventory of fuel-related leaks, spills, and incidents in the province. The TSSA updates information in its system on an ongoing basis; this listing is hence limited by the record date provided here.

Government Publication Date: Feb 28, 2017

Landfill Inventory Management Ontario:Provincial **LIMO**

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

Government Publication Date: 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*

Environmental Penalty Annual Report:Provincial **MISA PENALTY**

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

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

Mineral Occurrences:Provincial **MNR**

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

Government Publication Date: 1846-Jan 2018

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

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

Government Publication Date: 1974-1994*

Non-Compliance Reports:Provincial **NCPL**

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

Government Publication Date: Dec 31, 2016

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

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

Government Publication Date: Up to May 2001*

National Defense & Canadian Forces Spills:

Federal

NDSP

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

Government Publication Date: Mar 1999-Apr 2018**National Defence & Canadian Forces Waste Disposal Sites:**

Federal

NDWD

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

Government Publication Date: 2001-Apr 2007***National Energy Board Pipeline Incidents:**

Federal

NEBI

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

Government Publication Date: 2008-Mar 31, 2018**National Energy Board Wells:**

Federal

NEBW

The NEBW database contains information on onshore & offshore oil and gas wells that are outside provincial jurisdiction(s) and are thereby regulated by the National Energy Board. Data is provided regarding the operator, well name, well ID No./UWI, status, classification, well depth, spud and release date.

Government Publication Date: 1920-Feb 2003***National Environmental Emergencies System (NEES):**

Federal

NEES

In 2000, the Emergencies program implemented NEES, a reporting system for spills of hazardous substances. For the most part, this system only captured data from the Atlantic Provinces, some from Quebec and Ontario and a portion from British Columbia. Data for Alberta, Saskatchewan, Manitoba and the Territories was not captured. However, NEES is also a repository for previous Environment Canada spill datasets. NEES is composed of the historic datasets ' or Trends ' which dates from approximately 1974 to present. NEES Trends is a compilation of historic databases, which were merged and includes data from NATES (National Analysis of Trends in Emergencies System), ARTS (Atlantic Regional Trends System), and NEES. In 2001, the Emergencies Program determined that variations in reporting regimes and requirements between federal and provincial agencies made national spill reporting and trend analysis difficult to achieve. As a consequence, the department has focused efforts on capturing data on spills of substances which fall under its legislative authority only (CEPA and FA). As such, the NEES database will be decommissioned in December 2004.

Government Publication Date: 1974-2003***National PCB Inventory:**

Federal

NPCB

Environment Canada's National PCB inventory includes information on in-use PCB containing equipment in Canada including federal, provincial and private facilities. Federal out-of-service PCB containing equipment and PCB waste owned by the federal government or by federally regulated industries such as airlines, railway companies, broadcasting companies, telephone and telecommunications companies, pipeline companies, etc. are also listed. Although it is not Environment Canada's mandate to collect data on non-federal PCB waste, the National PCB inventory includes some information on provincial and private PCB waste and storage sites. Some addresses provided may be Head Office addresses and are not necessarily the location of where the waste is being used or stored.

Government Publication Date: 1988-2008***National Pollutant Release Inventory:**

Federal

NPRI

Environment Canada has defined the National Pollutant Release Inventory ("NPRI") as a federal government initiative designed to collect comprehensive national data regarding releases to air, water, or land, and waste transfers for recycling for more than 300 listed substances.

Government Publication Date: 1993-May 2017**Oil and Gas Wells:**

Private

OGW

The Nickle's Energy Group (publisher of the Daily Oil Bulletin) collects information on drilling activity including operator and well statistics. The well information database includes name, location, class, status and depth. The main Nickle's database is updated on a daily basis, however, this database is updated on a monthly basis. More information is available at www.nickles.com.

Government Publication Date: 1988-April 30, 2018**Ontario Oil and Gas Wells:**

Provincial

OOGW

In 1998, the MNR handed over to the Ontario Oil, Gas and Salt Resources Corporation, the responsibility of maintaining a database of oil and gas wells drilled in Ontario. The 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 provided for each well record.

Government Publication Date: 1800-May 2018

Inventory of PCB Storage Sites:

Provincial

OPCB

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of PCB storage sites within the province. Ontario Regulation 11/82 (Waste Management - PCB) and Regulation 347 (Generator Waste Management) under the Ontario EPA requires the registration of inactive PCB storage equipment and/or disposal sites of PCB waste with the Ontario Ministry of Environment. This database contains information on: 1) waste quantities; 2) major and minor sites storing liquid or solid waste; and 3) a waste storage inventory.

Government Publication Date: 1987-Oct 2004; 2012-Dec 2013

Orders:

Provincial

ORD

This is a subset taken from Ontario's Environmental Registry (EBR) database. It will include all Orders on the registry such as (EPA s. 17) - Order for remedial work, (EPA s. 18) - Order for preventative measures, (EPA s. 43) - Order for removal of waste and restoration of site, (EPA s. 44) - Order for conformity with Act for waste disposal sites, (EPA s. 136) - Order for performance of environmental measures.

Government Publication Date: 1994-Jul 31, 2018

Canadian Pulp and Paper:

Private

PAP

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

Government Publication Date: 1999, 2002, 2004, 2005, 2009-2014

Parks Canada Fuel Storage Tanks:

Federal

PCFT

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

Government Publication Date: 1920-Jan 2005*

Pesticide Register:

Provincial

PES

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

Government Publication Date: 1988-Mar 2018

TSSA Pipeline Incidents:

Provincial

PINC

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

Government Publication Date: Feb 28, 2017

Private and Retail Fuel Storage Tanks:

Provincial

PRT

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

Government Publication Date: 1989-1996*

Permit to Take Water:

Provincial

PTTW

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

Government Publication Date: 1994-Jul 31, 2018

Ontario Regulation 347 Waste Receivers Summary:

Provincial

REC

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

Government Publication Date: 1986-2016

Record of Site Condition:

Provincial RSC

The Record of Site Condition (RSC) is part of the Ministry of the Environment's Brownfields Environmental Site Registry. Protection from environmental cleanup orders for property owners is contingent upon documentation known as a record of site condition (RSC) being filed in the Environmental Site Registry. In order to file an RSC, the property must have been properly assessed and shown to meet the soil, sediment and groundwater standards appropriate for the use (such as residential) proposed to take place on the property. The Record of Site Condition Regulation (O. Reg. 153/04) details requirements related to site assessment and clean up.

RSCs filed after July 1, 2011 will also be included as part of the new (O.Reg. 511/09).

Government Publication Date: 1997-Sept 2001, Oct 2004-Apr 2018

Retail Fuel Storage Tanks:

Private RST

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

Government Publication Date: 1999-Jan 31, 2018

Scott's Manufacturing Directory:

Private SCT

Scott's Directories is a data bank containing information on over 200,000 manufacturers across Canada. Even though Scott's listings are voluntary, it is the most comprehensive database of Canadian manufacturers available. Information concerning a company's address, plant size, and main products are included in this database.

Government Publication Date: 1992-Mar 2011*

Ontario Spills:

Provincial SPL

This database identifies information such as location (approximate), type and quantity of contaminant, date of spill, environmental impact, cause, nature of impact, etc. Information from 1988-2002 was part of the ORIS (Occurrence Reporting Information System). The SAC (Spills Action Centre) handles all spills reported in Ontario. Regulations for spills in Ontario are part of the MOE's Environmental Protection Act, Part X.

Government Publication Date: 1988-May 2018

Wastewater Discharger Registration Database:

Provincial SRDS

Information under this heading is combination of the following 2 programs. The Municipal/Industrial Strategy for Abatement (MISA) division of the Ontario Ministry of Environment maintained a database of all direct dischargers of toxic pollutants within nine sectors including: Electric Power Generation; Mining; Petroleum Refining; Organic Chemicals; Inorganic Chemicals; Pulp & Paper; Metal Casting; Iron & Steel; and Quarries. All sampling information is now collected and stored within the Sample Result Data Store (SRDS).

Government Publication Date: 1990-Dec 31, 2016

Anderson's Storage Tanks:

Private TANK

The information provided in this database was collected by examining various historical documents, which identified the location of former storage tanks, containing substances such as fuel, water, gas, oil, and other various types of miscellaneous products. Information is available in regard to business operating at tank site, tank location, permit year, permit & installation type, no. of tanks installed & configuration and tank capacity. Data contained within this database pertains only to the city of Toronto and is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

Government Publication Date: 1915-1953*

Transport Canada Fuel Storage Tanks:

Federal TCFT

List of fuel storage tanks currently or previously owned or operated by Transport Canada. This inventory also includes tanks on The Pickering Lands, which refers to 7,530 hectares (18,600 acres) of land in Pickering, Markham, and Uxbridge owned by the Government of Canada since 1972; properties on this land has been leased by the government since 1975, and falls under the Site Management Policy of Transport Canada, but is administered by Public Works and Government Services Canada. This inventory provides information on the site name, location, tank age, capacity and fuel type.

Government Publication Date: 1970-Aug 2017

TSSA Variances for Abandonment of Underground Storage Tanks:

Provincial VAR

List of variances granted for abandoned tanks. Under the Technical Standards and Safety Authority (TSSA) Liquid Fuels Handling Code and Fuel Oil Code, all underground storage tanks must be removed within two years of disuse. If removal of a tank is not feasible, an application may be sought for a variance from this code requirement.

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

Government Publication Date: Feb 28, 2017

Waste Disposal Sites - MOE CA Inventory:

Provincial

WDS

The Ontario Ministry of Environment, Waste Management Branch, maintains an inventory of known open (active or inactive) and closed disposal sites in the Province of Ontario. Active sites maintain a Certificate of Approval, are approved to receive and are receiving waste. Inactive sites maintain Certificate(s) of Approval but are not receiving waste. Closed sites are not receiving waste. The data contained within this database was compiled from the MOE's Certificate of Approval database. Locations of these sites may be cross-referenced to the Anderson database described under ERIS's Private Source Database section, by the CA number. All new Environmental Compliance Approvals handed out after Oct 31, 2011 for Waste Disposal Sites will still be found in this database.

Government Publication Date: Oct 2011-Jul 31, 2018

Waste Disposal Sites - MOE 1991 Historical Approval Inventory:

Provincial

WDSH

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

*Government Publication Date: Up to Oct 1990**

Water Well Information System:

Provincial

WWIS

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

Government Publication Date: Dec 31, 2017

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

**CONTAMINATION OVERVIEW STUDY, HIGHWAY 401 NAGLE ROAD INTERCHANGE STUDY
(GWP 4059-17-00)**

Appendix E Qualifications of COS Project Team
February 12, 2019

Appendix E QUALIFICATIONS OF COS PROJECT TEAM



Grace is a senior hydrogeologist in Stantec's Environmental Services group with more than 20 years' experience in contaminated site management. She offers clients the benefit of her technical knowledge and experience in solving a variety of environmental challenges. She has managed environmental site assessment, monitoring, and remediation projects for a wide cross-section of service sectors, including road and rail transportation, commercial real estate, the petroleum industry, insurance, land development, the Canadian Forces, industry, and waste management. This wide range of experience provides her the vision to see complex projects through from planning to closure.

Grace is a licensed Professional Engineer in the Province of Ontario and is registered with the Ontario Ministry of the Environment and Climate Change as a Qualified Person for Environmental Site Assessment under Ontario Regulation 153/04.

EDUCATION

M.Sc., University of Waterloo / Hydrogeology, Waterloo, Ontario, 2001

B.A.Sc., University of Waterloo / Geological Engineering, Waterloo, Ontario, 1993

REGISTRATIONS

Professional Engineer #90427949, Professional Engineers Ontario Feb 9/96

PROJECT EXPERIENCE

Environmental Site Assessments Phase I, II, III
Contamination Overview Studies and Phase II Environmental Site Assessment, Peel Watermain Projects, Mississauga, Ontario (Environmental Specialist), 2013-2017

Completion of contamination overview studies and environmental sampling to assess the potential for generation of contaminated soil during watermain replacement work along three existing and future roadways in Mississauga. Provided fill management options for consideration in construction tendering.

Environmental Site Assessment and RSC Filing, Cambridge, Ontario (Reviewer, ESA), 2017
Grace was a quality reviewer and QPESA for assessment of several adjacent properties to be redeveloped into a residential complex. She completed Phase One, Two and limited remediation and filed an RSC in accordance with O.Reg. 153/04 for one property that had experienced commercial use.

Phase I ESAs, Commercial and Industrial Properties, Kitchener, Ontario (Project Manager), 2017

Senior technical support and review for assessments at 10 properties for due diligence purposes.

Contamination Assessments of Road Transportation Systems, Ontario (Environmental Project Lead), 2002-present
Completed contamination overview studies, preliminary site screenings, or excess materials management plans at approximately 25 existing and proposed Ontario Ministry of Transportation roadways and interchanges to support preliminary and detailed design transportation projects.

Grace P. Ferguson M.Sc., P.Eng.

Senior Hydrogeologist

Phase I ESAs Commercial Portfolio, Southern Ontario (Project Manager and Senior Reviewer), 2013

Oversight of 10 Phase I ESAs as part of a Canada-Wide due diligence portfolio for a large commercial client. Also provided senior review of Phase I ESA reports for several of the portfolio sites.

Phase I and II Environmental Site Assessment, Commercial/Industrial facility, Mississauga, Ontario (Project Manager), 2016

Project management and senior technical support for a comprehensive Phase I and II ESA at a former petrochemical research and development facility in an urbanized area. Developed a conceptual site model of subsurface conditions and facilitated an understanding of potential environmental liabilities associated with the property.

Phase I ESA, Wind Farm Development, Grand Valley, Ontario (Senior technical reviewer), 2015-2016

Provided senior review support to a Phase I ESA of a large network of proposed wind turbines, distribution lines, transformer station, and storage areas forming part of a wind farm that was under development. Identified potential environmental concerns and provided guidance to the client to manage them.

Phase One and Two Environmental Site Assessments, Commercial Property, Kitchener, Ontario (Project Manager), 2012-2013

Managed and reviewed ESAs of a used car lot and former industrial site for due diligence in advance of potential purchase and redevelopment of the Kitchener downtown core.

Environmental Investigation, Petrochemical Terminal Facility, Oakville, Ontario (Senior Technical Reviewer), 2016-present

Senior hydrogeological technical support to an ongoing groundwater investigation at a large petrochemical terminal site. Work was done to fulfill ECA obligations associated with a phytoremediation program, and to better understand environmental conditions across the property.

Contamination Overview Study and Construction Support, King and Fountain Street Improvements, Cambridge, Ontario (Environmental Specialist), 2011-2017

Managed and reviewed a contamination overview study of several roadways in advance of reconstruction. Also provided ongoing environmental and waste management support for excess materials management during construction, including storage tank removals.

Phase I and II Environmental Site Assessments, Commercial Properties, Kitchener, Ontario (Project Manager), 2012-2013

Managed and reviewed ESAs of commercial properties for financing due diligence.

Contamination Overview Study and Environmental Sampling, Windsor-Detroit Tunnel Plaza, Windsor, Ontario (Environmental Project Lead), 2011-2012

Managed the completion of an assessment of potential environmental concerns that could affect redevelopment of a border crossing facility.

* denotes projects completed with other firms

Grace P. Ferguson M.Sc., P.Eng.

Senior Hydrogeologist

Environmental Investigation, Industrial Facility, Walkerton, Ontario (Project Manager), 2002-ongoing

Project manager for the assessment, monitoring and development of remedial options for VOC impacts to groundwater at an active industrial facility.

Contamination Overview Study and Phase I ESAs, Franklin Boulevard, Cambridge, Ontario (Project Manager), 2011

Project manager and senior reviewer for an assessment of potential sources of contamination along an 8 km roadway and completion of 30 Phase I ESAs adjacent to the roadway, as part of detailed design for road improvements.

Environmental Site Assessments, Parkway West Compressor Station, Milton, Ontario (Environmental Specialist), 2012-2013

Grace managed Phase One and Phase Two Environmental Site Assessments of four parcels of land being acquired to develop a natural gas compressor station. In addition, she also managed a soil excavation program to remediate surficial impacted soil at one parcel prior to site development, and supported the client in determining off-site fill management options during development.

Environmental Site Assessment, Rail Yard, Woodstock, Ontario (Project Manager), 2000-01, 2014

Completion of a hydrogeological assessment of a rail yard facility, including test pit excavation, borehole drilling, monitoring well and drive point piezometer installation, soil and groundwater sampling, and hydraulic conductivity testing. Provided senior technical review of on-going groundwater monitoring activities.

Environmental Review, Proposed Development Site, Kitchener, Ontario (Senior Reviewer), 2013

Completed a review of historical environmental work done at a property and assessed the level of effort and cost to complete the necessary work to support the filing of a Record of Site Condition with the Ontario Ministry of the Environment. This was done to determine the feasibility of site re-use options.

Environmental Retainer, Various Sites, Greater Toronto Area, Ontario (Project Manager), 2014-2016

Managed numerous environmental site assessments and monitoring projects at client-owned properties in advance of site redevelopment for transportation systems as part of a two-year retainer assignment. Managed Phase II ESAs, co-ordinated designated substance surveys and geophysical surveys, and recommended and implemented remedial excavation programs. Also managed on-going monitoring program at a client-owned landfill site.

Environmental Investigation, Rail Yards, Northern Ontario (Project Manager), 2014-ongoing

Senior technical reviewer for quarterly and annual groundwater monitoring at a railyard with petroleum impacts to soil and groundwater. Previously project manager for hydrogeological investigations at the yard from 2000 to 2005. Completed a remedial options/feasibility study and developed a remedial action plan to address both on-site and off-site impacts. Co-ordinated drilling and initial sampling of private domestic wells at several off-site and on-site locations.

* denotes projects completed with other firms

Grace P. Ferguson M.Sc., P.Eng.

Senior Hydrogeologist

Phase One Environmental Site Assessment, Former Golf Course, Southern Ontario, Southern Ontario (Senior Reviewer), 2010

Senior reviewer of a Phase One ESA completed for due diligence in advance of a potential sale of the property. The Phase One ESA was completed to the regulation standards prescribed by O.Reg. 153/04, as amended.

Phase One and Two ESAs, Risk Assessment and Record of Site Condition, Northern Ontario (Senior Reviewer), 2010-2012

As a QPESA Grace provided senior level review for assessments of two former gasoline service stations. Phase One and Two ESAs were completed to the revised regulatory standards prescribed by O. Reg. 153/04 to support a Risk Assessment (RA) and Record of Site Condition (RSC). She developed a risk management plan for the RA at one site and filed a RSC.

Phase One and Two Environmental Site Assessment, Scrap Metal Facility, Kitchener, Ontario (Project Manager), 2010-2011

Project Manager and Senior Reviewer for Phase One and Two ESAs of a brownfield site to support potential sale and / or redevelopment. ESAs were completed to the regulatory standards prescribed by O.Reg. 153/04, as amended.

Phase I and II Environmental Site Assessments, 104 Retail Service Stations, Southern Ontario (Project Manager), 2009

Key Project Manager for 25 of 104 retail gasoline service station sites assessed during a 60 day due diligence period. Responsible for project management and senior review of Phase I and Phase II ESAs.

Contamination Overview Study, Phase I/II

Environmental Site Assessment, and Construction Support, Weber Street Redevelopment, Kitchener, Ontario (Environmental Specialist), 2009-2015

Managed and reviewed a contamination overview study and Phase II Environmental Site Assessment to identify and assess potential environmental concerns along a 1.2 km section of Weber Street in Kitchener, as part of preliminary and detailed design for road reconstruction. Also provided ongoing environmental and waste management support for excess materials management during construction, including storage tank removals.

Environmental Investigations, Redevelopment Site, Vaughan, Ontario (Project Manager), 2001-2005

Project manager for several environmental investigations relating to the redevelopment of Secondary Buffer lands surrounding a recently closed landfill site. These included Phase 1 and Phase 2 environmental site assessments, development of a groundwater monitoring program for a new golf course, and remediation of environmental impacts along a future road realignment. The project involved extensive consultation with MOE and municipal and private stakeholders.

Phase I ESA, Various Properties, Ontario (Project Manager), 2001-present

Historical reviews, site reconnaissance, reporting and senior review of commercial, institutional and vacant properties for financial institutions and land developers.

* denotes projects completed with other firms

Grace P. Ferguson M.Sc., P.Eng.

Senior Hydrogeologist

Environmental Assessments, Redevelopment Site, Kitchener, Ontario (Project Manager), 2007-2009

Phase I Environmental Site Assessment of a construction maintenance yard and surrounding undeveloped land. Development of recommendations for assessment work to support redevelopment approvals. Completion of environmental monitoring following limited removal of impacted soil, and environmental observation and verification sampling during removal of fuel storage facilities.

Phase I and II Environmental Site Assessment and CA Support, Detroit-Windsor Truck Ferry, Windsor, Ontario (Project Manager), 2007-2010

Completion of Phase I and II ESA and development of waste management options at a truck ferry terminal, in preparation for infrastructure improvements. Provided ongoing support to Contract Administrator with respect to waste management and environmental issues.

Phase I ESA, Industrial Facilities, Ontario (Project Manager), 2004-2007

Environmental site assessments, including historical review and site reconnaissance, of an industrial plastics manufacturer and a food packaging plant.

Environmental Site Assessment of Fisherman's Pier Lands, Hamilton and Burlington, Ontario (Project Hydrogeologist), 2002

Completed an Environmental Site Assessment (ESA) as part of a planning study to examine potential redevelopment options for lands known as Fisherman's Pier. Identified current and historical land uses of potential environmental concern.

Environmental Assessment, Redevelopment Site, Milton, Ontario (Project Manager), 2005

Completed a Phase I/II ESA at a vacant site and filed a Record of Site Condition to support redevelopment as a commercial facility.

Phase I and II ESAs, Highway Maintenance Patrol Yards*, Lambton and Simcoe Counties, Ontario (Project Manager), 1995, 1997

Project manager and primary field personnel for soil and groundwater investigations at 11 maintenance patrol yards, using borehole drilling, well sampling and geophysical methods.

Environmental Evaluations, Federally Owned Properties*, Pickering, Ontario (Project Manager), 1996

Completion of environmental evaluations of more than 70 rural residential, commercial, vacant and agricultural properties within the proposed Pickering Airport lands, Pickering, Ontario. Evaluations included a site reconnaissance, testing of building materials for suspected designated substances, and potable water sampling.

Phase I ESAs, Various Properties*, Ontario and Manitoba (Project Hydrogeologist), 1993-1997

Environmental assessments, including historical review and site reconnaissance of more than 80 residential, institutional, commercial, industrial and vacant properties in Ontario and Manitoba for various financial institutions, developers, individuals and government agencies. Institutional properties included approximately 20 nursing homes and retirement facilities.

* denotes projects completed with other firms

Grace P. Ferguson M.Sc., P.Eng.

Senior Hydrogeologist

Environmental and Historical Review, Mixed Land Use Area, Hamilton, Ontario (Project Hydrogeologist), 2002

Environmental review of several industrial, commercial and vacant properties in the Hamilton West Harbour area as part of redevelopment planning.

Phase I and II ESAs, Various Facilities*, Toronto and Owen Sound, Ontario (Project Hydrogeologist), 1994-1996

Assessment of environmental conditions, including potential soil and groundwater impacts, at a former auto repair facility, a commercial property, an inactive industrial site and a former landfill site.

Phase I and II Environmental Site Assessment (ESA), Former Industrial Facility, London, Ontario (Project Manager), 2002

Project manager for a Phase I/II ESA to assess soil and groundwater conditions prior to purchase of a portion of vacant land formerly used as an industrial facility.

Environmental Risk Assessments

Risk Management Plans for Risk Assessment, Toronto, Ontario (Senior Reviewer), 2011-present

Developed and reviewed risk management plans (RMPs) as part of Risk Assessments for the management of remaining soil and groundwater impacts at three former industrial sites in Toronto, in support of RSCs and to facilitate future developments.

Risk Management Plans for Redevelopment, Southern Ontario (Senior Reviewer), 2010-present

Developed and reviewed RMPs as part of Risk Assessments for the management of remaining soil and groundwater impacts at former petroleum sites in Elora, Barrie, Cookstown and Cambridge, Ontario.

Risk Management Plan and RSC Support, Burlington, Ontario (Qualified Person for ESA), 2015-present

Provided support and input to environmental investigations for the filing of an RSC at a retirement home impacted by petroleum from an adjacent property. Developed a risk management plan for a risk assessment and reviewed updated reporting to support the RSC.

* denotes projects completed with other firms

Janice is a Master's of Science graduate interested in the management and remediation of contaminated sites. The topic of her Master's thesis was the investigation of thermally-activated persulfate as a potential in situ remediation technique for per- and polyfluoroalkyl substances, specifically PFOA and PFOS. Prior to her graduate studies, Janice was a co-op student in Environmental Engineering, and spent a year working with Stantec in the Urban Design and Environmental Services teams. She has experience in the field working on activities relating to Phase I, II, and III Environmental Site Assessments (ESAs), soil and groundwater remediation, bird and bat mortality studies, and environmental site monitoring. From a reporting perspective, Janice developed strong research and technical writing skills through her Master's program.

EDUCATION

Master's of Science, University of Waterloo/
Master's of Science (Water), Waterloo, Ontario,
2018

Bachelor's of Applied Science, University of Waterloo/ Environmental Engineering Co-Op Program, Waterloo, Ontario, 2015

CERTIFICATIONS & TRAINING

Standard First Aid with CPR B & AED, Rescue 7 First Aid, Markham, Ontario, 2017

Enbridge 2018 Contractor Safety & Environmental Orientation, Waterloo, Ontario, 2018

Shell Retail Contractor Orientation, Waterloo, Ontario, 2018

Husky Energy Corporate Safety Orientation - Field, Waterloo, Ontario, 2018

TNPI Health & Safety for Contractors & Field Staff, Waterloo, Ontario, 2018

Petroleum Oriented Safety Training, Waterloo, Ontario, 2018

Suncor Energy Health & Safety Rules, Waterloo, Ontario, 2018

198950, Canadian National Contractor Safety Program, Waterloo, Ontario, 2018

REGISTRATIONS

Engineer-In-Training #100225036, Professional Engineers Ontario

PROJECT EXPERIENCE

Environmental Site Assessments Phase I, II, III
Environmental Phase II Groundwater Monitoring, Kapuskasing, Ontario (Field Technician)
Janice assisted with groundwater monitoring activities at two gas station locations in Kapuskasing, ON in support of a Phase II Environmental Site Assessment.

South Kitchener District Park, Kitchener, Ontario (Field Technician)

Janice supervised the removal of a UST and the associated excavation activities, supervised supplemental drilling and conducted well development around the site of the UST excavation, and completed stockpile sampling for movement of on-site materials.

Site Investigation Services and MNA, CFB Trenton, Trenton, Ontario (Field Technician, Laboratory Technician)

Janice assisted with the laboratory component of the monitored natural attenuation (MNA) program at the Trenton Air Force Base, as well as the groundwater sampling program component of a Phase II Environmental Assessment.

Janice M. Cooper M.Sc., EIT

Environmental Scientist

1599 Carling Avenue Phase II ESA, Ottawa, Ontario (Field Technician)

Janice assisted with the groundwater monitoring program in support of the Phase II Environmental Site Assessment for 1599 Carling Avenue.

Kingsville Phase I ESA, Kingsville, Ontario (Environmental Scientist)

Janice assisted with the Phase I reporting for a Phase I conducted along a hydro easement with multiple site parcels, as well as ordering additional background files for use in the report.

Environmental Site Management

Chicopee Fill Management, Kitchener, Ontario (Environmental Scientist)

Janice assisted with the revision of the soil management plan for Chicopee Ski Hill according to the requirements of O. Reg. 153.

Groundwater Treatment

Longlac Treatment System Design, Longlac, Ontario (Engineering Intern)

Janice assisted with the design of a pump-and-treat system for the remediation of PHC-contaminated groundwater under the supervision of a P.Eng.

Groundwater Monitoring and Reporting

Woodstock Home Hardware Groundwater Program, Woodstock, Ontario (Environmental Scientist)

Janice conducted the field coordination for the 2018 groundwater monitoring season, and communicated with the client and project manager for this Site. She also assisted with the groundwater monitoring and sampling events, in addition to surveying monitoring wells at the Site.

Husky Oil Operations Limited | Downstream Portfolio Management 2018, Multiple Sites, Alberta and Ontario (Environmental Scientist)

Janice assisted with both the groundwater monitoring and sampling activities, as well as reporting tasks for the 2018 Husky monitoring season. UST nest inspections were a component of the on-site work, in addition to well development and low-flow sampling.

Environmental Site Remediation

Bronte Creek Environmental Remediation, Oakville, Ontario (Environmental Scientist)

Janice used GWSdat to prepare time series and contour plots in support of the evaluation of the effectiveness of monitored natural attenuation and employment of oxygen releasing compounds at this Site. These activities were conducted in support of the Remedial Action Plan to address a historical release of petroleum hydrocarbons into the ecologically sensitive Site. Janice also assisted with various reporting deliverables and attended a stakeholder meeting with the involved parties.

Stormwater Sampling

Residential Stormwater Pond Sampling, Waterloo, Ontario (Environmental Scientist)

Janice assisted with the field coordination to conduct stormwater pond sediment sampling in support of a Community Development project. She was also onsite to help collect Ponar samples off of a boat, based on the stormwater pond depth.

Janice M. Cooper M.Sc., EIT

Environmental Scientist

Emergency Response

Pipeline Release Emergency Response, Ontario (Environmental Scientist)

Janice assisted with soil and air quality sampling in support of emergency response to a small pipeline release that crossed into an agricultural property.

Wind Power

South Branch Wind Farm 30 MW, Morrisburg and Brinston, Ontario (Field Technologist)

An Environmental Effects Monitoring Plan was developed and a three-year post-construction monitoring program of a 30 MW wind power facility was required. Janice helped conduct bird and bat mortality monitoring, searcher efficiency, and scavenger trials throughout the field season.

PUBLICATIONS

Cooper, Janice M.. Investigation of the Efficacy of in situ Degradation Methods for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonic Acid (PFOS) in Groundwater, Master's Thesis, University of Waterloo, 2018.

* denotes projects completed with other firms