SCOPED SUBSURFACE INVESTIGATION

MTO ROW NORTHEAST OF THE INTERSECTION OF HIGHWAY 3 AND COCKSHUTT ROAD/NORFOLK COUNTY ROAD 5, RENTON, ONTARIO, MTO ASSIGNMENT NO. 3015-E-0015 (#18)

ONTARIO MINISTRY OF TRANSPORTATION WEST REGION

PROJECT NO.: 181-11117-00
DATE: NOVEMBER 13, 2018

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WSP Canada Inc.

November 13, 2018

ONTARIO MINISTRY OF TRANSPORTATION WEST REGION
659 Exeter Road
London, ON
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Attention: Mr. Chris Evans – Environmental Planner

Dear Sir,

Subject: Scoped Subsurface Investigation
MTO ROW Northeast of the Intersection of Highway 3 and Cockshutt Road/Norfolk County Road 5, Renton, ON
MTO Assignment No. 3015-E-0015 (#18)

WSP Canada Inc. (WSP) is pleased to provide the Ministry of Transportation (MTO) with our Scoped Subsurface Investigation report for the above-noted property.

This Scoped Subsurface Investigation was completed in general accordance with selected elements of the Canadian Standards Association (CSA) Phase II Environmental Site Assessment document, Z769-00, and aspects of Ontario Regulation 153/04, as amended. As such, this report may not be used to support a Record of Site Condition (RSC) application for the property. The report describes the interpreted environmental conditions at the property and provides conclusions and recommendations for your consideration.

We trust that this information is sufficient for your current needs. If you have any questions or require further information, please contact us.

Yours truly,

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Manager, Environment

RT/jpc

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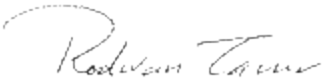
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TABLE OF CONTENTS

1 INTRODUCTION 1

1.1 Background and Site Description 1

1.2 Objectives and Scope of Work 1

2 BACKGROUND ASSESSMENT 3

2.1 Topography, Hydrology, Geology 3

2.2 Records REview 3

3 SCOPED SUBSURFACE INVESTIGATION 5

3.1 Applicable Standards 5

3.2 Geophysical Survey and Locates 5

3.3 Investigation Method 6

3.3.1 General 6

3.3.2 Borehole and Temporary Monitoring well Installation 6

3.3.3 Soil Sampling 6

3.3.4 Field Screening Measurements 6

3.3.5 Groundwater Field Measurement 6

3.3.6 Groundwater Sampling 7

3.3.7 Analytical Testing 7

3.3.8 Quality Assurance and Quality Control Measures 7

3.4 Findings 8

3.4.1 Geophysical Survey 8

3.4.2 Soil Results 8

3.4.3 Groundwater Results 10

3.4.4 Quality Assurance and Quality Control Results 11

3.5 Residue Management 11

4 CONCLUSIONS AND RECOMMENDATIONS 12

4.1 Conclusions 12

4.2 Recommendations 13

5 QUALIFIER AND LIMITATIONS.....14

6 REFERENCES.....16

TABLES (WITHIN THE REPORT)

TABLE 3.1 SUMMARY OF QA/QC SAMPLES 7
TABLE 3.2 SUMMARY OF PAHS EXCEEDANCES IN SOIL 9
TABLE 3.3 SUMMARY OF PHCS EXCEEDANCES IN SOIL 9
TABLE 3.4 SUMMARY OF GROUNDWATER LEVELS 10
TABLE 3.5 SUMMARY OF METALS EXCEEDANCES IN GROUNDWATER.....10
TABLE 3.6 SUMMARY OF PAHS EXCEEDANCES IN GROUNDWATER 11

TABLES (APPENDED TO REPORT)

TABLE I SOIL CHEMISTRY - METALS
TABLE II SOIL CHEMISTRY - PAHs
TABLE III SOIL CHEMISTRY – VOCs & PHCs
TABLE IV GROUNDWATER CHEMISTRY – METALS
TABLE V GROUNDWATER CHEMISTRY – PAHs
TABLE VI GROUNDWATER CHEMISTRY – VOCs & PHCs

FIGURES

FIGURE 1 SITE LOCATION PLAN
FIGURE 2 SITE PLAN
FIGURE 3 SOIL EXCEEDANCES
FIGURE 4 GROUNDWATER EXCEEDANCES

APPENDICES

A ECOLOG ERIS REPORT

B REGULATORY CORRESPONDENCE

C FRONTIER REPORT

D BOREHOLE LOGS

E LABORATORY CERTIFICATES OF ANALYSIS

1 INTRODUCTION

WSP Canada Inc. (WSP) was retained by the Ontario Ministry of Transportation West Region (MTO) to conduct a Scoped Subsurface Investigation of the MTO right-of-way (ROW) northeast of the intersection of Highway 3 and Cockshutt Road/Norfolk County Road 5, in Renton, Ontario (the "Site").

The Scoped Investigation was completed using aspects of Canadian Standards Association (CSA) Standard Z769-00 Phase II Environmental Site Assessment and the Ministry of Environment, Conservation and Parks (MECP) Ontario Regulation (O.Reg.)153/04.

The program was performed in general accordance with our work plan presented in our proposal (No. P18-11042-94) dated July 25, 2018 and as approved by MTO on August 1, 2018. It is WSP's understanding that a Record of Site Condition (RSC) as prescribed in O.Reg.153/04 is not required for the Site at this time. The scope of work does not satisfy the requirements for an RSC.

1.1 BACKGROUND AND SITE DESCRIPTION

The Site is located at the northeast corner of the intersection of Highway 3 and Cockshutt Road, in Renton, Ontario. The Site consists of an irregular shaped piece of land that is partially owned by a the MTO and partially part of the north adjacent vacant lot with the address 4733 Highway 3. A Site Location Map is provided as Figure 1 and a Site Plan has been included as Figure 2. Contact information for the Site is provided as follows:

NAME	ADDRESS	CONTACT INFORMATION
MTO, West Region	659 Exeter Road London, ON N6E 1L3	Mr. Chris Evans 519-873-4601 chris.evans@ontario.ca

It is our understanding that as part of a major MTO capital construction project, the Site is required to be excavated to remove the existing concrete island, part of the adjacent asphalt parking lot, and the buried sewer line, and reinstated with an open ditch drainage system. The MTO indicated that the property adjacent to the Site may have been a former gas station (4733 Highway 3) and sampling for petroleum hydrocarbon contamination and locates for possible fuel tanks was required at the Site.

1.2 OBJECTIVES AND SCOPE OF WORK

1.2.1 BACKGROUND ASSESSMENT

A limited environmental background review of the Site was conducted to obtain available records of past and current environmental conditions, specifically for the property adjacent to the Site, which was reportedly a former gasoline station. The information was used to evaluate the potential for issues of environmental concern associated with historical and current land uses. Based on available historical information and supplemental information provided by third party agencies/consultants, an initial Site inspection was conducted to assess the presence of

potential environmental concerns at the Site and adjacent properties from publicly accessible areas. The limited scope of the assessment included the following:

- Review available Site documents, if available and as provided by the MTO. Perform pre-field coordination activities and prepare a site-specific health and safety plan for the proposed activities for WSP's field staff.
- Order and review a custom Ecolog Environmental Risk Information Service (ERIS) report, recent Technical Standards and Safety Authority (TSSA) inspection documents, and municipal plans/documents as available for the Site. This is to assess the historical and recent land use and available site information related to issues of potential environmental concern, including potential former underground fuel storage tanks (USTs), if present.
- Review available historical maps available for the Site and surrounding lands to assess historical land uses.

1.2.2 SCOPED SUBSURFACE INVESTIGATION

The scope of work for the Scoped Subsurface Investigation was prepared by MTO, and consisted of the following:

- Prior to initiating Site work, WSP coordinated public and private underground utility service clearances.
- A contractor was retained by WSP to complete a geophysical survey using an electromagnetic (EM) metal detector contractor to attempt to locate potential former USTs or other associated subsurface equipment associated with the historical gas station formerly located on the adjacent property.
- Fourteen (14) boreholes were advanced on the Site to an approximate depth of 5 metres (m) below existing grade. The boreholes were limited to the area of assessment, as defined in the Site Plan provided by MTO.
- Two (2) soil samples were collected from each borehole and were analyzed for petroleum hydrocarbons F1 to F4 (PHC F1-F4), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and metals.
- Four (4) of the boreholes were installed with temporary groundwater monitoring wells. One (1) groundwater sample was collected from each temporary well for a total of four (4) groundwater samples and were submitted for the same laboratory analysis as described above. The temporary monitoring wells were decommissioned following groundwater sampling.
- Three (3) quality control (QC) soil samples and one (1) groundwater QC sample were collected and submitted for the same laboratory analysis.
- Two (2) soil samples were submitted for grain size analysis to determine the grain size of the fill and native materials at the Site.
- One (1) composite soil sample was collected from the soil cuttings materials and submitted for Toxicity Characteristic Leaching Procedure (TCLP) analysis scan to assist with disposal coordination of impacted materials if encountered during this investigation.
- Soil cuttings are temporarily stored at the site in labeled drums. The drums will be removed for off-site disposal as non-hazardous waste in approximately November 2018.
- The boreholes were backfilled with bentonite to a depth of one metre below existing grade then with asphalt and/or concrete mix to existing grade surface. Grass seeding and restoration is not included in the scope of work.
- One report was prepared to present the findings of this Scope ESA, including any relevant documentation, limitations and recommendations (this report).

2 BACKGROUND ASSESSMENT

2.1 TOPOGRAPHY, HYDROLOGY, GEOLOGY

The following outlines the results of the records review conducted to identify topographic, geologic, and hydrogeological conditions at the Site. Additional Site-specific information, as observed during the Site visit, is presented in the following sections.

Based on the Site visit and a review of available topographical mapping, the topography of the Site is relatively flat. The regional topography appears to be sloping slightly downwards to the south, towards Lake Erie, located approximately 8.5 km south of the Site. The surface elevation of the Site is approximately 230.0 m above sea level (based on Toporama online map). Based on this, the inferred groundwater flow is likely towards the south. The ground surface was observed to be grass covered with asphalt.

According to the Ontario Geological Survey (OGS) Earth mapping software, surficial soils in the vicinity of the Site are comprised of glaciolacustrine deposits consisting of silt and clay, minor sand, basin and quiet water deposits.

According to the OGS Earth mapping software, bedrock geology in the vicinity of the Site is comprised of limestone, dolostone and shale of the Dundee formation.

2.2 RECORDS REVIEW

2.2.1 ECOLOG ERIS REPORT

WSP obtained an Ecolog ERIS Standard Report for the Site. The ERIS report tabulates the results of a search of provincial, federal, and private source databases which are considered relevant in the identification of potential environmental risks associated with the Site.

A copy of the ERIS report is included in Appendix A and the records area summarized below.

DATABASE	RECORDS REVIEW RESULT
List of TSSA Expired Facilities	No records were identified for the Site. The property at 4717 HWY 3, LOT 1, RR4, situated approximately 15 m west of the Site, at the northwest corner of the intersection of Cockshutt Road and Highway 3, was listed in the database as an expired self serve gasoline station. The address was registered with the company names “M&R Fuels” and “Bradshaw Group”.
Fuel Storage Tank	According to the ERIS report, no records were identified for the Site. Multiple records of tanks were listed for the property at 4717 HWY 3, LOT 1, RR4, situated approximately 15 m west of the Site, at the northwest corner of the intersection of Cockshutt Road and Highway 3.
Ontario Spills	No spills were reported for the Site. In 1988, a spill was reported at the intersection of Highway 3 and Regional Road 5 (southwest adjacent to the Site). The spill consisted of 6,000 L of urea to the ground and ditch.

DATABASE	RECORDS REVIEW RESULT
Water Well Information System	One (1) observation well was registered at the Site (well ID 7107698). According to the well record, the subsurface soils consisted of brown clay and silt followed by grey clay and silt. Multiple wells were identified within 250 m of the Site, which were installed for observation and domestic supply purposes.

2.2.2 AERIAL AND STREET VIEW PHOTOGRAPHS

Aerial photographs of the Site dated 1964, 2003 and 2015 were reviewed online on the Norfolk County website and Google Earth. Details are provided below.

AERIAL YEAR	OBSERVATION
1964	The property north adjacent to the Site, at 4733 Highway 3, appears to be occupied by a residential building. The Site appears to either be covered with gravel or asphalt; due to the poor quality of the aerial photograph, details are difficult to discern.
2003	The property north adjacent to the Site, at 4733 Highway 3, appears to be occupied by a larger building than that observed in 1964. There appears to be a concrete island located south adjacent to the building, possibly associated a fueling station. The Site appears to be covered with asphalt and/or concrete.
2015	No permanent structures can be seen on the property at 4733 Highway 3. Observations on the Site are similar to those made during the field activities. The Site is covered with asphalt.

Based on Google street view photographs, dated 2007 and 2009, the property at 4733 Highway 3 was occupied by a commercial building labeled with "18 Wheeler Truck Shop". A concrete island can be seen in front of the building; however, the island was holding planters. Two concrete pads can be seen on either side of the island, similar to a fueling station.

2.2.3 REGULATORY AGENCIES

TECHNICAL STANDARDS AND SAFETY AUTHORITY (TSSA)

The TSSA was contacted by email on October 3, 2018 for any information pertaining to underground and aboveground fuel storage for the property at 4733 Highway 3. On the same day, the TSSA responded with an email indicating that there were no records of any fuel storage tanks at the property. A copy of the request sent to the TSSA and the response from the TSSA is provided in Appendix B.

NORFOLK COUNTY FREEDOM OF INFORMATION REQUEST

A letter was sent to the Norfolk County Freedom of information office on August 23, 2018, requesting information regarding inspections, permits, violations and/or fires at the property. A letter response was received on August 28, 2018, indicated that no records were identified for 4733 Highway 3. The Norfolk County indicated in their letter that should environmental assessment be required, that the potable water standards identified in Ontario Regulation 153/04, as amended, be utilized in performing the environmental assessment. The request and response are provided in Appendix B.

3 SCOPED SUBSURFACE INVESTIGATION

3.1 APPLICABLE STANDARDS

Soil and groundwater analytical results were compared to the Ministry of Environment, Conservation and Parks (MECP) Table 2: Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for Industrial/Commercial/Community (ICC) Property Use, fine textured soil, (referred to as Table 2 SCS) set out in the MECP publication *Soil, Groundwater and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act* (April 15, 2011). This evaluation standard was selected for comparison purposes based on the following rationale:

- A thorough review of areas of natural significance (ANS), as defined by O.Reg.153/04, was not completed as part of this undertaking; however, based on a cursory review of the Ministry of Natural Resources Natural Heritage Areas online mapping, ANSs do not appear to be present on the Site or within 30 m of the Site boundaries.
- The Site is not located within 30 m of a permanent water body.
- Based on available geology information for the Site (presented in Section 2.1) as well as information gathered as part of this assignment, the depth to bedrock is greater than 2.0 m below ground surface (bgs). Therefore, the Site is not considered to be a shallow soil property, as defined by O.Reg.153/04.
- Potable water wells were identified in the vicinity of the Site, according to the ERIS report. In addition, the Norfolk County Geophysical Survey indicated in their FOI response that should environmental assessment be required, that the potable water standards identified in Ontario Regulation 153/04, as amended, be utilized in performing the environmental assessment.
- Grain size testing was conducted as part of this investigation which indicated that the soil type at the Site is fine grained.

3.2 GEOPHYSICAL SURVEY AND LOCATES

WSP retained a private contractor, Frontier Utility Locating Services Inc. (Frontier), to complete a geophysical survey and private locates at the Site on September 18, 2018. The Site was investigated and surveyed for potential underground anomalies suggesting existing or former underground storage tanks (USTs) or metal objects, using an EM61 MK-2 time-domain metal detector. In addition, other underground services such as water, storm hydro, gas, bell were also scanned and mapped out by Frontier. A copy of the report provided by Frontier is provided in Appendix C.

3.3 INVESTIGATION METHOD

3.3.1 GENERAL

The field investigation was completed on September 19 and 20, 2018 by WSP staff. The soil and groundwater sampling locations are shown on Figure 2. The stratigraphy of the shallow soil encountered during the scoped investigation is shown in the borehole logs presented in Appendix C.

3.3.2 BOREHOLE AND TEMPORARY MONITORING WELL INSTALLATION

Boreholes were drilled on-Site using a track-mounted Geoprobe 7822DT drill rig provided by a licenced contractor, Direct Environmental Drilling Inc. The boreholes were advanced to a maximum depth of 4.6 metres below ground surface (mbgs). Soil samples were collected using a 32-mm diameter, 1.52-m long stainless steel continuous sampler equipped with disposable PVC liners.

Upon completion of soil sampling activities, four (4) of the boreholes (BH/MW18-4, BH/MW18-8, BH/MW18-9 and BH/MW18-12) were completed with a temporary monitoring well to collect grab groundwater samples. The temporary wells were constructed using 51-millimeter (mm) Schedule 40 PVC riser and included a 1.5-m well screen (slot 10).

The remaining boreholes were backfilled with bentonite holeplug upon completion of drilling and soil sampling activities. Once the groundwater samples were collected from the temporary wells, the PVC pipes were removed and the boreholes were also backfilled with bentonite holeplug.

3.3.3 SOIL SAMPLING

Samples were generally collected from each borehole at approximately 0.3 to 0.6 m intervals. The samples were visually classified, collected in laboratory prepared bottles, preserved with laboratory grade methanol (for PHC F1 and VOCs), and stored on ice at approximately 4 °C prior to submission for laboratory analyses. A portion of each soil sample was placed in a disposable plastic bag and screened in the field.

3.3.4 FIELD SCREENING MEASUREMENTS

Soil samples collected from the boreholes were field screened for total organic vapours (TOV) and total combustible vapour (TCV) using an RKI Eagle 2 instrument. In addition to visual and olfactory observations, the results of field screening were used to determine worst-case samples to select those samples to submit to the laboratory for analysis of BTEX and PHC parameters.

3.3.5 GROUNDWATER FIELD MEASUREMENT

Each temporary monitoring well was equipped with dedicated ½-inch LDPE Waterra tubing and an inertial pump (footvalve) to facilitate groundwater sampling. The temporary wells were purged by removing three well volumes

or by purging the well dry three times. The monitoring wells were also monitored for the presence of petroleum-based free product accumulation using a Solinst Model 122 Interface Probe, prior to purging and sampling.

3.3.6 GROUNDWATER SAMPLING

On September 19 and 20, 2018, following the well installations and purging of the wells, a groundwater sample was collected from four (4) temporary monitoring wells (BH/MW18-4, BH/MW18-8, BH/MW18-9 and BH/MW18-12).

The samples were collected in laboratory prepared bottles, containing preservative where required, and stored on ice at approximately 4 °C prior to submission for laboratory analyses. The groundwater samples were submitted under standard chain of custody procedures to the laboratory for analysis of metals, PAHs, PHCs and VOCs. Vials used for VOCs and PHC F1 analysis were filled to achieve zero headspace. It is noted that the samples collected for metals analysis were field filtered using a disposable inline 0.45 micron filter prior to being placed in the preserved bottles.

3.3.7 ANALYTICAL TESTING

The collected samples were submitted to AGAT Laboratories in Mississauga, Ontario, for chemical analysis for the above listed parameters. AGAT Laboratories is certified by CALA.

3.3.8 QUALITY ASSURANCE AND QUALITY CONTROL MEASURES

Proper field protocols for sample collection and handling were implemented by WSP field personnel following WSP standard operating procedures. Sample containers were labelled with unique sample identification, the project number, and the sampling date. The samples were collected directly into laboratory prepared containers, preserved as required, and stored and shipped in ice-filled coolers (at approximately 4 °C). A laboratory supplied chain of custody was completed for each laboratory submission, one copy was retained for the project file, while the remaining copy accompanied the samples to the laboratory.

Nitrile gloves, used during the sample handling, were replaced after each sample was collected to reduce the potential for cross-contamination of the samples. Field equipment was decontaminated with Alconox detergent and rinsed with distilled water between samples. Field screening equipment was calibrated prior to use at the Site.

As part of the QA/QC program for the project, blind field duplicate samples were collected from groundwater and analyzed for the parameters listed in the following table.

Table 3.1 Summary of QA/QC Samples

DATE	MEDIA	SAMPLE ID	FIELD DUPLICATE ID	PARAMETERS ANALYZED
September 19, 2018	Soil	BH18-1 S1	S100	Metals, PAHs, PHCs and VOCs
September 19, 2018	Soil	BH18-1 S4	S200	Metals, PAHs, PHCs and VOCs
September 19, 2018	Soil	BH18-7 S3	S300	Metals and PAHs
September 20, 2018	Soil	BH18-10 S2	S400	PHCs and VOCs
September 19, 2018	Groundwater	MW18-9	MW100	Metals, PHCs, PAHs and VOCs

A calculation of the relative percent difference (RPD) between the samples and their duplicates was performed and compared to the acceptance limits outlined in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, April 2011. The RPD calculation is only applicable when both the sample and the field duplicate concentrations are greater than five times the RDL.

Acceptable RPD limits are as follows:

- Metals - 20% water; 30-40% soil
- PAHs – 30% water; 40% soil
- VOCs – 30% water; 50% soil
- PHCs – 30% water; 30% soil

AGAT Laboratories also performed QA/QC procedures as outlined in their CALA procedures. These procedures included analysis of lab duplicates and blanks as well as analysis of surrogate recovery as outlined in the Certificates of Analysis provided in Appendix E.

3.4 FINDINGS

Field screening measurements (TOV and TCV readings) are presented on the borehole logs provided in Appendix D. The analytical results are summarized in Tables I to III for soil and Tables IV to VI for groundwater. The laboratory Certificates of Analysis are provided in Appendix E. The results of the laboratory analysis are discussed in the following sub-sections.

3.4.1 GEOPHYSICAL SURVEY

According to Frontier, there were no EM responses detected that would clearly indicate the likely presence of a possible UST. Frontier indicated that there were several inaccessible areas at the Site during the survey which could have resulted in an escape detection of a UST. At the time of the investigation, the Site was being used to store storage sheds, which covered the majority of the Site.

3.4.2 SOIL RESULTS

FIELD SCREENING

Each soil sample was screened for TCV/TOV; the results were between 0 and 180 parts per million (ppm).

METALS

Thirty-one (31) soil samples, including three (3) for QA/QC purposes, were submitted for analysis of metals. The laboratory analyses indicated that the soil samples contained metals concentrations that did not exceed the applicable Table 2 SCS. Results for metals in soil are summarized in Table I.

POLYCYCLIC AROMATIC HYDROCARBONS

Thirty-one (31) soil samples, including three (3) for QA/QC purposes, were submitted for analysis of PAHs. The laboratory analyses indicated that the samples contained PAHs concentrations that exceed the applicable Table 2 SCS, as indicated below:

Table 3.2 Summary of PAHs Exceedances in Soil

SAMPLE ID	PARAMETER	UNITS	DEPTH (MBGS)	TABLE 2 SCS	ANALYTICAL RESULT
BH18-12 S1	Acenaphthylene	µg/L	0.9-1.2	0.17	0.4
BH18-12 S1	Benz[a]anthracene	µg/L	0.9-1.2	0.96	1.2
BH18-12 S1	Benzo[a]pyrene	µg/L	0.9-1.2	0.3	1.5
BH18-12 S1	Benzo[b]fluoranthene	µg/L	0.9-1.2	0.96	2.5
BH18-12 S1	Dibenz[a h]anthracene	µg/L	0.9-1.2	0.1	0.18
BH18-13 S1	Acenaphthylene	µg/L	0.3-0.8	0.17	0.2
BH18-13 S1	Benzo[a]pyrene	µg/L	0.3-0.8	0.3	0.9
BH18-13 S1	Benzo[b]fluoranthene	µg/L	0.3-0.8	0.96	1.6
S100 (Duplicate of BH18-1 S1)	Benzo[a]pyrene	µg/L	0.3-0.8	0.3	0.84
S100 (Duplicate of BH18-1 S1)	Benzo[b]fluoranthene	µg/L	0.3-0.8	0.96	1.3

Results for PAHs in soil are also summarized in Table II.

PETROLEUM HYDROCARBONS

Thirty-one (31) soil samples, including three (3) for QA/QC purposes, were submitted for analysis of PHCs. The laboratory analyses indicated that the samples contained PHCs concentrations that exceed the applicable Table 2 SCS, as indicated below:

Table 3.3 Summary of PHCs Exceedances in Soil

SAMPLE ID	PARAMETER	UNITS	DEPTH (MBGS)	TABLE 2 SCS	ANALYTICAL RESULT
BH18-8 S2	F1	µg/L	0.8-1.5	65	360
BH18-8 S2	F2	µg/L	0.8-1.5	250	310

Results for PHCs in soil are also summarized in Table III.

VOLATILE ORGANIC COMPOUNDS

Thirty-one (31) soil samples, including three (3) for QA/QC purposes, were submitted for analysis of VOCs. The laboratory analyses indicated that the samples contained VOC concentrations that did not exceed the applicable Table 2 SCS. Results for VOCs in soil are summarized in Table III.

TOXICITY CHARACTERISTIC LEACHATE PROCEDURE

One composite soil sample was submitted for analysis for TCLP for waste profiling purposes. The laboratory analyses indicated that the samples contained concentrations that did not exceed the O.Reg 558 for TCLP parameters. The TCLP results are provided in the laboratory certificates of analysis in Appendix E.

3.4.3 GROUNDWATER RESULTS

GROUNDWATER LEVELS

The groundwater levels measured in the temporary monitoring wells are summarized in the table below:

Table 3.4 Summary of Groundwater Levels

MONITORING WELL ID	DEPTH TO WATER (MBGS)	DATE MEASURED
MW18-4	2.7	Sept 19, 2018
MW18-8	3.4	Sept 20, 2018
MW18-9	2.0	Sept 20, 2018
MW18-13	2.5	Sept 20, 2018

Petroleum-based free product accumulation was not detected in these four temporary wells. Based on these levels alone, a groundwater flow contour could not be prepared. Considering that the groundwater sampling was completed directly after the drilling, these water levels measured were likely not true conditions of static water levels at the Site. Based on local topography and hydrology and geology information reported in Section 2.1, groundwater flow may be inferred towards the south.

METALS

Five (5) groundwater samples, including a field duplicate for QA/QC purposes, were submitted for analysis of metals. The laboratory analytical results showed the following applicable Table 2 SCS slight exceedances for metals in the groundwater on-Site:

Table 3.5 Summary of Metals Exceedances in Groundwater

SAMPLE ID	PARAMETER	UNITS	TABLE 2 SCS	ANALYTICAL RESULT
MW100 (Duplicate of MW18-9)	Cobalt	µg/L	3.8	4.1

Results for metals in groundwater are also summarized in Table IV.

POLYCYCLIC AROMATIC HYDROCARBONS

Five (5) groundwater samples, including a field duplicate for QA/QC purposes, were submitted for analysis of PAHs. The laboratory analytical results showed the following applicable Table 2 SCS exceedances for PAHs in the groundwater on-Site:

Table 3.6 Summary of PAHs Exceedances in Groundwater

SAMPLE ID	PARAMETER	UNITS	TABLE 2 SCS	ANALYTICAL RESULT
MW18-9	Benzo[a]pyrene	µg/L	0.01	0.09
MW18-9	Benzo[b]fluoranthene	µg/L	0.1	0.20

PETROLEUM HYDROCARBONS

Five (5) groundwater samples, including a field duplicate for QA/QC purposes, were submitted for analysis of PHCs. The laboratory analyses indicated that the samples submitted contained PHCs concentrations that did not exceed the applicable Table 2 SCS.

VOLATILE ORGANIC COMPOUNDS

Five (5) groundwater samples, including a field duplicate for QA/QC purposes, were submitted for analysis of VOCs. The laboratory analyses indicated that the samples submitted contained VOCs concentrations that did not exceed the applicable Table 2 SCS.

3.4.4 QUALITY ASSURANCE AND QUALITY CONTROL RESULTS

The calculated RPDs were assessed against the recommended performance criteria outlined in the 2011 Protocol. Various parameters in soil and groundwater were measured to be outside of the performance criteria. This can be attributed to the heterogeneity of the soil and groundwater. It should be noted that only temporary wells were installed to collected groundwater results which may have affected the homogeneity of the water, resulting in RPD results outside the performance criteria.

AGAT carried out internal QA/QC measures including process recoveries, blanks, and replicate samples. The laboratory QA/QC results are provided on the Certificates of Analysis in Appendix E. The results were acceptable and therefore suitable for interpretation.

3.5 RESIDUE MANAGEMENT

The TCLP results indicate that the soil cuttings are non-hazardous. Soil cuttings are temporarily stored at the site in labeled drums. The drums will be removed from the site for off-site disposal as non-hazardous waste in approximately November 2018.

4 CONCLUSIONS AND RECOMMENDATIONS

4.1 CONCLUSIONS

Based on the findings of the Scoped Subsurface Investigation, the following conclusions and interpretations are presented:

SOIL QUALITY

Based on the analytical results for soil, the following exceedances of the applicable MECP Table 2 SCS occurred:

- Various PAHs in borehole BH18-1 in shallow soil (0.3-0.8 mbgs). These exceedances may be attributed to the former use of the fueling station at 4733 Highway 3 or may be attributed to poor quality fill material that was placed on this property during development. It should be noted that the deeper sample collected from the same borehole at 2.3-31 mbgs was non-detect for all PAHs parameters.
- Various PAHs in borehole BH18-12 in shallow soil (0.9-1.2 mbgs). These exceedances may be attributed to the former use of the fueling station at 4733 Highway 3 or may be attributed to poor quality fill material that was placed on this property during development. It should be noted that the deeper sample collected from the same borehole at 2.3-31 mbgs was non-detect for all PAHs parameters.
- Various PAHs in borehole BH18-13 in shallow soil (0.3-0.8 mbgs). These exceedances may be attributed to the former use of the fueling station at 4733 Highway 3 or may be attributed to poor quality fill material that was placed on this property during development. It should be noted that the deeper sample collected from the same borehole at 3.1-3.8 mbgs was non-detect for all PAHs parameters.
- PHC F1 and PHC F2 in borehole BH18-8 in shallow soil (0.8-1.5 mbgs). This borehole was advanced directly adjacent to the former fuel pump island. Considering that exceedances were not detected in deeper soil from this location (3.8-4.6 mbgs), this exceedance is likely localized to a shallow depth and may have been caused by historical surface spills.

GROUNDWATER QUALITY

Based on the analytical results for groundwater, the following exceedances of the applicable MECP Table 2 SCS occurred:

- Cobalt in groundwater sample MW100, collected as a duplicate sample of MW18-9. The source of elevated cobalt in the groundwater is not known; it may be naturally occurring or it may be from an anthropogenic source. Other groundwater samples reported similar results between 1.0 and 3.4 ug/L.
- Benzo[a]pyrene and benzo[b]fluoranthene (PAH parameters) in sample MW18-9. The source of elevated PAHs in the groundwater is not known. No impacts were detected in the soil samples collected from this borehole. Such exceedances of PAHs in groundwater may be attributed to sediment in the water sample or an isolated historical impact.

4.2 RECOMMENDATIONS

Based on the available Site information and findings of this Scoped Subsurface Delineation Investigation, the following environmental management alternatives are recommended for the Site at this time:

SOIL QUALITY

Considering that the Site will be excavated and re-configured as a ditch, excess soil management will need to be implemented during the anticipated site development work. Based on the results of the scoped investigation, soil exceedances of metals, PAHs and PHCs were identified; however, the exceedances appear to be localized in the upper fill layer < 2.0 mbgs. The TCLP results indicate that the soil at the Site is non-hazardous. As such, it is recommended that MTO staff and/or sub-contractors properly characterize and handle the materials in accordance with applicable standards and regulations using available results. The upper layer of impacted soil may be excavated and transported to a licensed landfill facility.

The remaining soil at the Site (i.e. between 2.0 and 4.6 mbgs) that did not show visible evidence of petroleum impacts may be excavated and transported to another property that falls within Table 2 or Table 3 SCS as non-impacted materials or re-used as backfill materials at the Site, if suitable.

GROUNDWATER QUALITY

Cobalt in groundwater at the Site is likely naturally occurring and likely not attributed to anthropogenic sources. In addition, the exceedances of PAHs in groundwater are likely attributed to sediment in the groundwater sample. As such, it is not anticipated that remedial actions would be required for the isolated exceedances identified in groundwater. Upon completion of the excavation activities, groundwater samples may be collected to confirm previous results reported. This recommendation may need to be revised based on the actual subsurface soil and groundwater conditions encountered during the excavation and construction activities.

In addition, the following recommendations are provided for your consideration:

- The preparation of a site-specific health and safety plan is recommended for MTO staff and sub-consultants who may be required to be in contact with contaminated materials during future subsurface excavation work.

5 QUALIFIER AND LIMITATIONS

Limited use: This Report was prepared for the Ministry of Transportation, solely for their exclusive use to provide an assessment of current environmental conditions in association with the MTO ROW located northeast of the Intersection of Highway 3 and Cockshutt Road/Norfolk County Road 5, Renton, ON. WSP will not be responsible for any use of this report by any other party, for any decisions to be made based on it, or for the consequences thereof, unless written reliance is granted by WSP. Unless otherwise agreed in writing by WSP, it shall not be used to express or imply warranty as to the suitability of the property for a particular purpose. WSP disclaims responsibility of consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

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Info by others: In evaluating the Site, WSP has relied in good faith on information provided by others, as noted in the Report. WSP has assumed that the information provided is correct and WSP assumes no responsibility for the accuracy, completeness or workmanship of any such information.

Standard of care: This Scope ESA has been carried out using investigation techniques and engineering analysis methods consistent with those ordinarily exercised by WSP and other engineering/scientific practitioners, working under similar conditions and subject to the time, financial and physical constraints applicable to this project. The conclusions presented in this Report are based on Work undertaken by trained professional and technical staff and the reasonable and professional interpretation using accepted engineering and scientific practices current at the time the work was performed. Conclusions presented in this report should not be construed as legal advice. WSP makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in the Report, including, but not limited to, ownership of any property, or the application of any law to the findings of the Assessment.

Limited scope: The Report summarizes WSP's review of available data in accordance with the principal components of the stated regulations, standards and guidelines and the scope, terms and conditions of the contract or proposal to which the Assignment was conducted. No other warranties are either expressed or implied with respect to the professional services provided under the terms of the contract or proposal and represented in this Report. Conditions may exist which were not detected given the nature of the inquiry WSP was retained to undertake with respect to the Site. Additional environmental studies and actions may be recommended. It is understood that filing for a Record of Site Condition in accordance with Ontario Regulation 153/04, as amended, is not required for the Site.

Changes over time: The Report is based on data and information collected at the time of this Assessment, as stated in the Report. Site use or conditions change and the information and conclusions in the Report may no longer apply following the date of this Report. If any conditions become apparent that differ significantly from that presented in this Report, we request that we be notified to reassess the conclusions and recommendations provided herein. WSP disclaims any obligation to update this Report for conditions that may be identified after the date of this Report; however, WSP reserves the right to amend or supplement this report based on additional information, documentation or evidence.

Variability between test locations: Conclusions are based on the Site conditions observed by WSP at the time the work was performed and may include information obtained at specific testing and/or sampling locations. It is

recognized that overall conditions can only be extrapolated to an undefined limited area around these testing and sampling locations. The conditions that WSP interprets to exist between testing and sampling points may differ from those that actually exist. The accuracy of any extrapolation and interpretation beyond the sampling locations will depend on natural conditions, the history of Site development and changes through construction and other activities. I n addition, analysis has been carried out for the identified chemical and physical parameters only, and it should not be inferred that other chemical species or physical conditions are not present. WSP cannot warrant against undiscovered environmental liabilities or adverse impacts off-Site.

6 REFERENCES

- Canadian Standards Association (CSA). July 2002 (reaffirmed 2008). Phase II Environmental Site Assessment Standard Z769-00.
- Ontario Ministry of Environment, Conservation and Parks (MECP). 1994. Provincial Water Quality Objectives, July 1994 and updates.
- Ontario Ministry of Environment, Conservation and Parks (MECP). 2011a. Ontario Regulation 153/04, as amended – Records of Site Condition, made under the Environmental Protection Act. July 1, 2011.
- Ontario Ministry of Environment, Conservation and Parks (MECP). 2011b. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. April 15, 2011.
- Ontario Ministry of Environment, Conservation and Parks (MECP). 2011c. Protocol for Analytical Methods Used in the Assessment of Properties under Past XV.1 of the Environmental Protection Act. July 1, 2011.

TABLES

Table I Soil - Metals

Parameter	Sample ID	BH18-6 S1	BH18-6 S5	BH18-7 S3	BH18-7 S4	BH18-8 S2	BH18-8 S6	BH18-9 S3	BH18-9 S4	BH18-10 S3	BH18-10 S5
	Sample Date	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/20/2018	09/20/2018	09/20/2018	09/20/2018
Sample Depth (mBGS)		0.3-0.8	3.1-3.8	1.5-2.3	2.3-3.1	0.8-1.5	3.8-4.6	1.5-2.3	2.3-3.1	1.5-2.3	3.1-3.8
	Table 2 SCS (ICC, FT)										
Antimony	50	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	18	2.0	4.0	4.0	5.0	4.0	4.0	3.0	4.0	2.0	3.0
Barium	670	26.0	101.0	135.0	128.0	147.0	102.0	119.0	117.0	88.0	125.0
Beryllium	10	<0.5	0.6	0.7	0.8	1.0	0.7	0.6	0.7	0.6	0.6
Boron total)	120	<5	14.0	8.0	14.0	10.0	14.0	8.0	14.0	8.0	10.0
Cadmium	1.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium Total	160	7.0	24.0	23.0	28.0	30.0	26.0	21.0	28.0	20.0	24.0
Cobalt	100	2.1	11.0	10.9	13.4	12.2	11.1	11.6	11.4	9.6	13.4
Copper	300	3.0	19.0	21.0	20.0	16.0	19.0	19.0	19.0	18.0	22.0
Lead	120	4.0	9.0	9.0	10.0	17.0	9.0	9.0	10.0	8.0	10.0
Molybdenum	40	<0.5	0.7	0.6	0.7	<0.5	0.6	<0.5	<0.5	<0.5	<0.5
Nickel	340	4.0	21.0	23.0	24.0	23.0	22.0	21.0	22.0	19.0	25.0
Selenium	5.5	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Silver	50	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	3.3	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Uranium	33	<0.5	0.6	0.9	0.8	0.8	0.6	0.6	0.6	<0.5	0.7
Vanadium	86	17.0	36.0	39.0	41.0	47.0	36.0	31.0	40.0	29.0	32.0
Zinc	340	17.0	55.0	51.0	58.0	63.0	56.0	52.0	58.0	47.0	60.0

Table I Soil - Metals

Parameter	Sample ID	BH18-11 S1	BH18-11 S4	BH18-12 S1	BH18-12 S4	BH18-13 S1	BH18-13 S5	BH18-14 S1	BH18-14 S4	S100 (Duplicate of BH18-1 S1)
	Sample Date	09/20/2018	09/20/2018	09/20/2018	09/20/2018	09/20/2018	09/20/2018	09/20/2018	09/20/2018	09/19/2018
Sample Depth (mBGS)		0.9-1.2	2.3-3.1	0.9-1.2	2.3-3.1	0.3-0.8	3.1-3.8	0.3-0.8	3.1-3.8	0.3-0.8
	Table 2 SCS (ICC, FT)									
Antimony	50	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	18	<1	3.0	2.0	3.0	2.0	3.0	2.0	4.0	2.0
Barium	670	25.0	117.0	56.0	133.0	78.0	102.0	108.0	101.0	69.0
Beryllium	10	<0.5	0.6	<0.5	0.7	0.6	0.6	0.6	0.7	<0.5
Boron total)	120	<5	9.0	<5	11.0	<5	10.0	<5	13.0	<5
Cadmium	1.9	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium Total	160	5.0	24.0	10.0	24.0	16.0	21.0	21.0	24.0	14.0
Cobalt	100	2.0	12.3	4.6	12.3	5.7	11.3	9.1	11.3	6.0
Copper	300	4.0	20.0	10.0	22.0	12.0	20.0	12.0	19.0	9.0
Lead	120	6.0	9.0	24.0	10.0	10.0	9.0	10.0	9.0	14.0
Molybdenum	40	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Nickel	340	4.0	22.0	8.0	25.0	11.0	21.0	17.0	23.0	9.0
Selenium	5.5	<0.4	<0.4	0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Silver	50	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	3.3	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Uranium	33	<0.5	0.5	0.7	0.6	0.6	0.7	0.6	0.6	<0.5
Vanadium	86	9.0	33.0	21.0	35.0	28.0	30.0	32.0	33.0	23.0
Zinc	340	28.0	53.0	50.0	57.0	41.0	49.0	54.0	53.0	44.0

Table I Soil - Metals

Parameter	Sample ID	S200 (Duplicate of BH18-1 S4)	S300 (Duplicate of BH18-7 S3)
	Sample Date	09/19/2018	09/19/2018
Sample Depth (mBGS)		2.3-3.1	1.5-2.3
	Table 2 SCS (ICC, FT)		
Antimony	50	<0.8	<0.8
Arsenic	18	3.0	4.0
Barium	670	94.0	134.0
Beryllium	10	0.5	0.7
Boron total)	120	8.0	9.0
Cadmium	1.9	<0.5	<0.5
Chromium Total	160	18.0	24.0
Cobalt	100	10.0	10.4
Copper	300	19.0	20.0
Lead	120	9.0	10.0
Molybdenum	40	<0.5	<0.5
Nickel	340	19.0	22.0
Selenium	5.5	<0.4	<0.4
Silver	50	<0.2	<0.2
Thallium	3.3	<0.4	<0.4
Uranium	33	0.6	0.9
Vanadium	86	27.0	37.0
Zinc	340	48.0	52.0

Table II Soil - PAHs

Parameter	Sample ID	BH18-1 S1	BH18-1 S4	BH18-2 S2	BH18-2 S4	BH18-3 S1	BH18-3 S3	BH18-4 S2	BH18-4 S4	BH18-5 S1
	Sample Date	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018
Sample Depth (mBGS)		0.3-0.8	2.3-3.1	1.5-2.3	3.1-3.8	0.3-0.8	2.3-3.1	0.8-1.5	2.3-3.1	0.3-0.8
	Table 2 SCS (ICC, FT)									
Acenaphthene	29	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	0.17	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	0.74	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz[a]anthracene	0.96	<0.05	<0.05	<0.05	<0.05	0.1	<0.05	<0.05	<0.05	<0.05
Benzo[a]pyrene	0.3	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05
Benzo[b]fluoranthene	0.96	0.05	<0.05	<0.05	<0.05	0.16	<0.05	<0.05	<0.05	<0.05
Benzo[ghi]perylene	9.6	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05
Benzo[k]fluoranthene	0.96	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	9.6	<0.05	<0.05	<0.05	<0.05	0.12	<0.05	<0.05	<0.05	<0.05
Dibenz[a h]anthracene	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	9.6	0.08	<0.05	<0.05	<0.05	0.23	<0.05	<0.05	<0.05	<0.05
Fluorene	69	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno[1 2 3-cd]pyrene	0.95	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methlynaphthalene, 2-(1-)	42	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Naphthalene	28	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	16	<0.05	<0.05	<0.05	<0.05	0.11	<0.05	<0.05	<0.05	<0.05
Pyrene	96	0.07	<0.05	<0.05	<0.05	0.21	<0.05	<0.05	<0.05	<0.05

Table II Soil - PAHs

Parameter	Sample ID	BH18-5 S6	BH18-6 S1	BH18-6 S5	BH18-7 S3	BH18-7 S4	BH18-8 S2	BH18-8 S6	BH18-9 S3	BH18-9 S4
	Sample Date	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/20/2018	09/20/2018
Sample Depth (mBGS)		3.8-4.6	0.3-0.8	3.1-3.8	1.5-2.3	2.3-3.1	0.8-1.5	3.8-4.6	1.5-2.3	2.3-3.1
	Table 2 SCS (ICC, FT)									
Acenaphthene	29	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	0.17	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	0.74	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz[a]anthracene	0.96	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[a]pyrene	0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[b]fluoranthene	0.96	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[ghi]perylene	9.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo[k]fluoranthene	0.96	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	9.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz[a h]anthracene	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	9.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.11	<0.05
Fluorene	69	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno[1 2 3-cd]pyrene	0.95	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methlynaphthalene, 2-(1-)	42	<0.05	<0.05	<0.05	<0.05	<0.05	0.7	<0.05	<0.05	<0.05
Naphthalene	28	<0.05	<0.05	<0.05	<0.05	<0.05	0.81	<0.05	<0.05	<0.05
Phenanthrene	16	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.13	<0.05
Pyrene	96	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05

Table II Soil - PAHs

Parameter	Sample ID	BH18-10 S3	BH18-10 S5	BH18-11 S1	BH18-11 S4	BH18-12 S1	BH18-12 S4	BH18-13 S1	BH18-13 S5	BH18-14 S1
	Sample Date	09/20/2018	09/20/2018	09/20/2018	09/20/2018	09/20/2018	09/20/2018	09/20/2018	09/20/2018	09/20/2018
Sample Depth (mBGS)		1.5-2.3	3.1-3.8	0.9-1.2	2.3-3.1	0.9-1.2	2.3-3.1	0.3-0.8	3.1-3.8	0.3-0.8
	Table 2 SCS (ICC, FT)									
Acenaphthene	29	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	0.17	<0.05	<0.05	<0.05	<0.05	**0.4**	<0.05	**0.2**	<0.05	<0.05
Anthracene	0.74	<0.05	<0.05	<0.05	<0.05	0.24	<0.05	0.14	<0.05	<0.05
Benz[a]anthracene	0.96	<0.05	<0.05	<0.05	<0.05	**1.2**	<0.05	0.88	<0.05	<0.05
Benzo[a]pyrene	0.3	<0.05	<0.05	<0.05	<0.05	**1.5**	<0.05	**0.9**	<0.05	<0.05
Benzo[b]fluoranthene	0.96	<0.05	<0.05	0.09	<0.05	**2.5**	<0.05	**1.6**	<0.05	<0.05
Benzo[ghi]perylene	9.6	<0.05	<0.05	<0.05	<0.05	1	<0.05	0.49	<0.05	<0.05
Benzo[k]fluoranthene	0.96	<0.05	<0.05	<0.05	<0.05	0.76	<0.05	0.54	<0.05	<0.05
Chrysene	9.6	<0.05	<0.05	<0.05	<0.05	1.6	<0.05	0.98	<0.05	<0.05
Dibenz[a h]anthracene	0.1	<0.05	<0.05	<0.05	<0.05	**0.18**	<0.05	0.1	<0.05	<0.05
Fluoranthene	9.6	<0.05	<0.05	0.05	<0.05	2.5	<0.05	1.8	<0.05	<0.05
Fluorene	69	<0.05	<0.05	<0.05	<0.05	0.13	<0.05	0.08	<0.05	<0.05
Indeno[1 2 3-cd]pyrene	0.95	<0.05	<0.05	<0.05	<0.05	0.92	<0.05	0.48	<0.05	<0.05
Methlynaphthalene, 2-(1-)	42	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Naphthalene	28	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	16	<0.05	<0.05	<0.05	<0.05	0.9	<0.05	0.66	<0.05	<0.05
Pyrene	96	<0.05	<0.05	0.05	<0.05	2.3	<0.05	1.5	<0.05	<0.05

Table II Soil - PAHs

Parameter	Sample ID	BH18-14 S4	S100 (Duplicate of BH18-1 S1)	S200 (Duplicate of BH18-1 S4)	S300 (Duplicate of BH18-7 S3)
	Sample Date	09/20/2018	09/19/2018	09/19/2018	09/19/2018
Sample Depth (mBGS)		3.1-3.8	0.3-0.8	2.3-3.1	1.5-2.3
	Table 2 SCS (ICC, FT)				
Acenaphthene	29	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	0.17	<0.05	0.16	<0.05	<0.05
Anthracene	0.74	<0.05	0.1	<0.05	<0.05
Benz[a]anthracene	0.96	<0.05	0.77	<0.05	<0.05
Benzo[a]pyrene	0.3	<0.05	**0.84**	<0.05	<0.05
Benzo[b]fluoranthene	0.96	<0.05	**1.3**	<0.05	<0.05
Benzo[ghi]perylene	9.6	<0.05	0.49	<0.05	<0.05
Benzo[k]fluoranthene	0.96	<0.05	0.44	<0.05	<0.05
Chrysene	9.6	<0.05	0.77	<0.05	<0.05
Dibenz[a h]anthracene	0.1	<0.05	0.1	<0.05	<0.05
Fluoranthene	9.6	<0.05	1.7	<0.05	<0.05
Fluorene	69	<0.05	0.06	<0.05	<0.05
Indeno[1 2 3-cd]pyrene	0.95	<0.05	0.38	<0.05	<0.05
Methlynaphthalene, 2-(1-)	42	<0.05	<0.05	<0.05	<0.05
Naphthalene	28	<0.05	<0.05	<0.05	<0.05
Phenanthrene	16	<0.05	0.55	<0.05	<0.05
Pyrene	96	<0.05	1.4	<0.05	<0.05

Table III Soil - VOCs & PHCs

Parameter	Sample ID	BH18-1 S1	BH18-1 S4	BH18-2 S2	BH18-2 S4	BH18-3 S1	BH18-3 S3
	Sample Date	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018
Sample Depth (mBGS)		0.3-0.8	2.3-3.1	1.5-2.3	3.1-3.8	0.3-0.8	2.3-3.1
	Table 2 SCS (ICC, FT)						
PETROLEUM HYDROCARBONS (PHCs) (ug/g)							
Petroleum Hydrocarbons F1	65	<5	<5	<5	<5	<5	<5
Petroleum Hydrocarbons F2	250	<10	<10	<10	<10	<10	<10
Petroleum Hydrocarbons F3	2500	<50	<50	<50	<50	<50	<50
Petroleum Hydrocarbons F4	6600	<50	<50	<50	<50	<50	<50
VOLATILE ORGANIC COMPOUNDS (VOCs) (ug/g)							
Acetone	28	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	0.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromodichloromethane	1.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	1.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromomethane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	0.71	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	2.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chloroform	0.18	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Dibromochloromethane	2.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,2-	1.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,3-	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,4-	0.57	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorodifluoromethane	25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethane, 1,1-	0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dichloroethane, 1,2-	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Dichloroethylene, 1,1-	0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethylene, 1,2-cis-	2.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dichloroethylene, 1,2-trans-	2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloropropane, 1,2-	0.68	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Dichloropropene,1,3-	0.081	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Ethylbenzene	1.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene dibromide	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Hexane (n)	88	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Ethyl Ketone	88	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	210	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl tert-Butyl Ether (MTBE)	2.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	43	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,1,2-	0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethane, 1,1,2,2-	0.094	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethylene	2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Toluene	9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethane, 1,1,1-	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethane, 1,1,2-	0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Trichloroethylene	0.61	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichlorofluoromethane	5.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	0.25	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Xylene Mixture	30	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Table III Soil - VOCs & PHCs

Parameter	Sample ID	BH18-4 S2	BH18-4 S4	BH18-5 S1	BH18-5 S6	BH18-6 S1	BH18-6 S5
	Sample Date	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018
Sample Depth (mBGS)		0.8-1.5	2.3-3.1	0.3-0.8	3.8-4.6	0.3-0.8	3.1-3.8
	Table 2 SCS (ICC, FT)						
PETROLEUM HYDROCARBONS (PHCs) (ug/g)							
Petroleum Hydrocarbons F1	65	<5	<5	<5	<5	<5	<5
Petroleum Hydrocarbons F2	250	<10	<10	<10	<10	<10	<10
Petroleum Hydrocarbons F3	2500	<50	<50	<50	<50	<50	<50
Petroleum Hydrocarbons F4	6600	<50	<50	<50	<50	<50	<50
VOLATILE ORGANIC COMPOUNDS (VOCs) (ug							
Acetone	28	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	0.4	<0.02	<0.02	<0.02	<0.02	0.04	<0.02
Bromodichloromethane	1.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	1.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromomethane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	0.71	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	2.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chloroform	0.18	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Dibromochloromethane	2.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,2-	1.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,3-	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,4-	0.57	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorodifluoromethane	25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethane, 1,1-	0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dichloroethane, 1,2-	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Dichloroethylene, 1,1-	0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethylene, 1,2-cis-	2.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dichloroethylene, 1,2-trans-	2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloropropane, 1,2-	0.68	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Dichloropropene,1,3-	0.081	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Ethylbenzene	1.6	<0.05	<0.05	<0.05	<0.05	0.06	<0.05
Ethylene dibromide	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Hexane (n)	88	<0.05	<0.05	<0.05	<0.05	0.20	<0.05
Methyl Ethyl Ketone	88	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	210	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl tert-Butyl Ether (MTBE)	2.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	43	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,1,2-	0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethane, 1,1,2,2-	0.094	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethylene	2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Toluene	9	<0.05	<0.05	<0.05	<0.05	0.29	<0.05
Trichloroethane, 1,1,1-	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethane, 1,1,2-	0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Trichloroethylene	0.61	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichlorofluoromethane	5.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	0.25	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Xylene Mixture	30	<0.05	<0.05	<0.05	<0.05	0.36	<0.05

Table III Soil - VOCs & PHCs

Parameter	Sample ID	BH18-7 S2	BH18-7 S4	BH18-8 S2	BH18-8 S6	BH18-9 S2	BH18-9 S4
	Sample Date	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/20/2018	09/20/2018
Sample Depth (mBGS)		1.5-2.3	2.3-3.1	0.8-1.5	3.8-4.6	0.8-1.5	2.3-3.1
	Table 2 SCS (ICC, FT)						
PETROLEUM HYDROCARBONS (PHCs) (ug/g)							
Petroleum Hydrocarbons F1	65	<5	<5	**360**	<5	<5	<5
Petroleum Hydrocarbons F2	250	<10	<10	**310**	<10	<10	<10
Petroleum Hydrocarbons F3	2500	<50	<50	<50	<50	<50	<50
Petroleum Hydrocarbons F4	6600	<50	<50	<50	<50	<50	<50
VOLATILE ORGANIC COMPOUNDS (VOCs) (ug							
Acetone	28	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	0.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromodichloromethane	1.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	1.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromomethane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	0.71	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	2.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chloroform	0.18	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Dibromochloromethane	2.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,2-	1.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,3-	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,4-	0.57	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorodifluoromethane	25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethane, 1,1-	0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dichloroethane, 1,2-	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Dichloroethylene, 1,1-	0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethylene, 1,2-cis-	2.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dichloroethylene, 1,2-trans-	2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloropropane, 1,2-	0.68	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Dichloropropene,1,3-	0.081	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Ethylbenzene	1.6	<0.05	<0.05	0.93	<0.05	<0.05	<0.05
Ethylene dibromide	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Hexane (n)	88	<0.05	<0.05	3.5	<0.05	<0.05	<0.05
Methyl Ethyl Ketone	88	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	210	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl tert-Butyl Ether (MTBE)	2.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	43	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,1,2-	0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethane, 1,1,2,2-	0.094	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethylene	2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Toluene	9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethane, 1,1,1-	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethane, 1,1,2-	0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Trichloroethylene	0.61	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichlorofluoromethane	5.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	0.25	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Xylene Mixture	30	<0.05	<0.05	15.00	<0.05	<0.05	<0.05

Table III Soil - VOCs & PHCs

Parameter	Sample ID	BH18-10 S3	BH18-10 S5	BH18-11 S1	BH18-11 S4	BH18-12 S1	BH18-12 S4
	Sample Date	09/20/2018	09/20/2018	09/20/2018	09/20/2018	09/20/2018	09/20/2018
Sample Depth (mBGS)		1.5-2.3	3.1-3.8	0.9-1.2	2.3-3.1	0.9-1.2	2.3-3.1
	Table 2 SCS (ICC, FT)						
PETROLEUM HYDROCARBONS (PHCs) (ug/g)							
Petroleum Hydrocarbons F1	65	<5	<5	<5	<5	<5	<5
Petroleum Hydrocarbons F2	250	<10	<10	<10	<10	<10	<10
Petroleum Hydrocarbons F3	2500	<50	<50	<50	<50	1200	<50
Petroleum Hydrocarbons F4	6600	<50	<50	<50	<50	350	<50
VOLATILE ORGANIC COMPOUNDS (VOCs) (ug							
Acetone	28	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	0.4	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromodichloromethane	1.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	1.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromomethane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	0.71	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	2.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chloroform	0.18	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Dibromochloromethane	2.9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,2-	1.7	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,3-	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,4-	0.57	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorodifluoromethane	25	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethane, 1,1-	0.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dichloroethane, 1,2-	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Dichloroethylene, 1,1-	0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethylene, 1,2-cis-	2.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dichloroethylene, 1,2-trans-	2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloropropane, 1,2-	0.68	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Dichloropropene,1,3-	0.081	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Ethylbenzene	1.6	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene dibromide	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Hexane (n)	88	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Ethyl Ketone	88	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	210	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl tert-Butyl Ether (MTBE)	2.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	43	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,1,2-	0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethane, 1,1,2,2-	0.094	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethylene	2.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Toluene	9	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethane, 1,1,1-	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethane, 1,1,2-	0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Trichloroethylene	0.61	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichlorofluoromethane	5.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	0.25	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Xylene Mixture	30	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Table III Soil - VOCs & PHCs

Parameter	Sample ID	BH18-13 S1	BH18-13 S5	BH18-14 S1	BH18-14 S4	S100 (Duplicate of BH18-1 S1)
	Sample Date	09/20/2018	09/20/2018	09/20/2018	09/20/2018	09/19/2018
Sample Depth (mBGS)		0.3-0.8	3.1-3.8	0.3-0.8	3.1-3.8	0.3-0.8
	Table 2 SCS (ICC, FT)					
PETROLEUM HYDROCARBONS (PHCs) (ug/g)						
Petroleum Hydrocarbons F1	65	<5	<5	<5	<5	<5
Petroleum Hydrocarbons F2	250	<10	<10	<10	<10	<10
Petroleum Hydrocarbons F3	2500	<50	<50	<50	<50	<50
Petroleum Hydrocarbons F4	6600	<50	<50	<50	<50	<50
VOLATILE ORGANIC COMPOUNDS (VOCs) (ug						
Acetone	28	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	0.4	<0.02	<0.02	<0.02	<0.02	<0.02
Bromodichloromethane	1.9	<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	1.7	<0.05	<0.05	<0.05	<0.05	<0.05
Bromomethane	0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	0.71	<0.05	<0.05	<0.05	<0.05	<0.05
Chlorobenzene	2.7	<0.05	<0.05	<0.05	<0.05	<0.05
Chloroform	0.18	<0.04	<0.04	<0.04	<0.04	<0.04
Dibromochloromethane	2.9	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,2-	1.7	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,3-	12	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,4-	0.57	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorodifluoromethane	25	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethane, 1,1-	0.6	<0.02	<0.02	<0.02	<0.02	<0.02
Dichloroethane, 1,2-	0.05	<0.03	<0.03	<0.03	<0.03	<0.03
Dichloroethylene, 1,1-	0.48	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethylene, 1,2-cis-	2.5	<0.02	<0.02	<0.02	<0.02	<0.02
Dichloroethylene, 1,2-trans-	2.5	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloropropane, 1,2-	0.68	<0.03	<0.03	<0.03	<0.03	<0.03
Dichloropropene,1,3-	0.081	<0.04	<0.04	<0.04	<0.04	<0.04
Ethylbenzene	1.6	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene dibromide	0.05	<0.04	<0.04	<0.04	<0.04	<0.04
Hexane (n)	88	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Ethyl Ketone	88	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	210	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl tert-Butyl Ether (MTBE)	2.3	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	2	<0.05	<0.05	<0.05	<0.05	<0.05
Styrene	43	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,1,2-	0.11	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethane, 1,1,2,2-	0.094	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethylene	2.5	<0.05	<0.05	<0.05	<0.05	<0.05
Toluene	9	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethane, 1,1,1-	12	<0.05	<0.05	<0.05	<0.05	<0.05
Trichloroethane, 1,1,2-	0.11	<0.04	<0.04	<0.04	<0.04	<0.04
Trichloroethylene	0.61	<0.03	<0.03	<0.03	<0.03	<0.03
Trichlorofluoromethane	5.8	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	0.25	<0.02	<0.02	<0.02	<0.02	<0.02
Xylene Mixture	30	<0.05	<0.05	<0.05	<0.05	<0.05

Table III Soil - VOCs & PHCs

Parameter	Sample ID	S200 (Duplicate of BH18-1 S4)	S400 (Duplicate of BH18-10 S3)
	Sample Date	09/19/2018	09/20/2018
Sample Depth (mBGS)		2.3-3.1	1.5-2.3
	Table 2 SCS (ICC, FT)		
PETROLEUM HYDROCARBONS (PHCs) (ug/g)			
Petroleum Hydrocarbons F1	65	<5	<5
Petroleum Hydrocarbons F2	250	<10	<10
Petroleum Hydrocarbons F3	2500	<50	<50
Petroleum Hydrocarbons F4	6600	<50	<50
VOLATILE ORGANIC COMPOUNDS (VOCs) (ug			
Acetone	28	<0.50	<0.50
Benzene	0.4	<0.02	<0.02
Bromodichloromethane	1.9	<0.05	<0.05
Bromoform	1.7	<0.05	<0.05
Bromomethane	0.05	<0.05	<0.05
Carbon Tetrachloride	0.71	<0.05	<0.05
Chlorobenzene	2.7	<0.05	<0.05
Chloroform	0.18	<0.04	<0.04
Dibromochloromethane	2.9	<0.05	<0.05
Dichlorobenzene, 1,2-	1.7	<0.05	<0.05
Dichlorobenzene, 1,3-	12	<0.05	<0.05
Dichlorobenzene, 1,4-	0.57	<0.05	<0.05
Dichlorodifluoromethane	25	<0.05	<0.05
Dichloroethane, 1,1-	0.6	<0.02	<0.02
Dichloroethane, 1,2-	0.05	<0.03	<0.03
Dichloroethylene, 1,1-	0.48	<0.05	<0.05
Dichloroethylene, 1,2-cis-	2.5	<0.02	<0.02
Dichloroethylene, 1,2-trans-	2.5	<0.05	<0.05
Dichloropropane, 1,2-	0.68	<0.03	<0.03
Dichloropropene,1,3-	0.081	<0.04	<0.04
Ethylbenzene	1.6	<0.05	<0.05
Ethylene dibromide	0.05	<0.04	<0.04
Hexane (n)	88	<0.05	<0.05
Methyl Ethyl Ketone	88	<0.50	<0.50
Methyl Isobutyl Ketone	210	<0.50	<0.50
Methyl tert-Butyl Ether (MTBE)	2.3	<0.05	<0.05
Methylene Chloride	2	<0.05	<0.05
Styrene	43	<0.05	<0.05
Tetrachloroethane, 1,1,1,2-	0.11	<0.04	<0.04
Tetrachloroethane, 1,1,2,2-	0.094	<0.05	<0.05
Tetrachloroethylene	2.5	<0.05	<0.05
Toluene	9	<0.05	<0.05
Trichloroethane, 1,1,1-	12	<0.05	<0.05
Trichloroethane, 1,1,2-	0.11	<0.04	<0.04
Trichloroethylene	0.61	<0.03	<0.03
Trichlorofluoromethane	5.8	<0.05	<0.05
Vinyl Chloride	0.25	<0.02	<0.02
Xylene Mixture	30	<0.05	<0.05

Table IV GW - Metals

Parameter	Sample ID	MW18-4	MW18-8	MW18-9	MW18-13	MW100 (Duplicate of MW18-9)
	Sample Date	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018
	Table 2 SCS (All, FT)					
Antimony	6	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic	25	2.7	<1.0	<1.0	1.7	1.3
Barium	1000	153.0	326.0	600.0	404.0	589.0
Beryllium	4	<0.5	<0.5	<0.5	<0.5	<0.5
Boron total)	5000	179.0	98.8	45.1	68.0	47.3
Cadmium	2.7	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium Total	50	<2.0	<2.0	<2.0	<2.0	3.0
Cobalt	3.8	1.0	0.9	3.4	1.3	**4.1**
Copper	87	1.2	<1.0	1.6	<1.0	3.1
Lead	10	<0.5	<0.5	<0.5	<0.5	2.2
Molybdenum	70	5.3	7.8	9.1	3.9	5.4
Nickel	100	<1.0	2.3	3.7	2.9	6.5
Selenium	10	1.8	1.3	2.3	1.6	1.6
Silver	1.5	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	2	<0.3	<0.3	<0.3	<0.3	<0.3
Uranium	20	5.8	2.8	3.5	1.8	3.2
Vanadium	6.2	1.9	0.4	0.4	1.3	3.4
Zinc	1100	<5.0	<5.0	<5.0	<5.0	7.6

Table V GW - PAHs

Parameter	Sample ID	MW18-4	MW18-8	MW18-9	MW18-13	MW100 (Duplicate of MW18-9)
	Sample Date	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018
	Table 2 SCS (All, FT)					
Acenaphthene	4.1	<0.20	<0.20	<0.20	<0.20	<0.20
Acenaphthylene	1	<0.20	<0.20	<0.20	<0.20	<0.20
Anthracene	2.4	<0.10	<0.10	<0.10	<0.10	<0.10
Benz[a]anthracene	1	<0.20	<0.20	<0.20	<0.20	<0.20
Benzo[a]pyrene	0.01	<0.01	<0.01	**0.09**	<0.01	0.06
Benzo[b]fluoranthene	0.1	<0.10	<0.10	**0.20**	<0.10	0.13
Benzo[ghi]perylene	0.2	<0.20	<0.20	<0.20	<0.20	<0.20
Benzo[k]fluoranthene	0.1	<0.10	<0.10	<0.10	<0.10	<0.10
Chrysene	0.1	<0.10	<0.10	<0.10	<0.10	<0.10
Dibenz[a h]anthracene	0.2	<0.20	<0.20	<0.20	<0.20	<0.20
Fluoranthene	0.41	<0.20	<0.20	0.20	<0.20	<0.20
Fluorene	120	<0.20	<0.20	<0.20	<0.20	<0.20
Indeno[1 2 3-cd]pyrene	0.2	<0.20	<0.20	<0.20	<0.20	<0.20
Methlynaphthalene, 2-(1-)	3.2	<0.20	<0.20	<0.20	<0.20	<0.20
Naphthalene	11	<0.20	0.46	<0.20	<0.20	<0.20
Phenanthrene	1	<0.10	<0.10	<0.10	<0.10	<0.10
Pyrene	4.1	<0.20	<0.20	<0.20	<0.20	<0.20

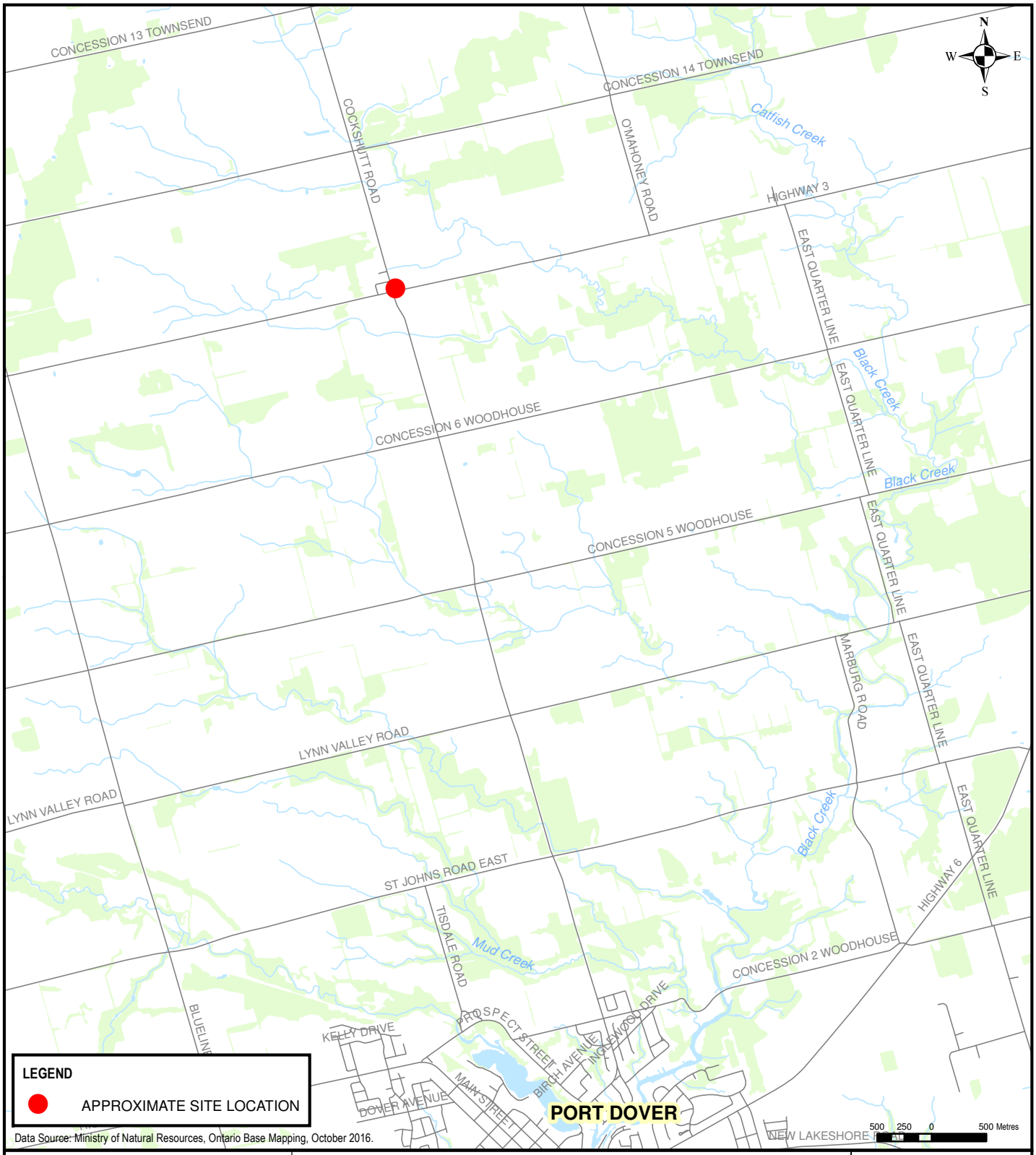
Table VI GW - PHCs & VOCs

Parameter	Sample ID	MW18-4	MW18-8	MW18-9	MW18-13	MW100 (Duplicate of MW18-9)
	Sample Date	09/19/2018	09/19/2018	09/19/2018	09/19/2018	09/19/2018
	Table 2 SCS (All, FT)					
PETROLEUM HYDROCARBONS (PHCs) (ug/g)						
Petroleum Hydrocarbons F1	750	<25	<25	<25	<25	<25
Petroleum Hydrocarbons F2	150	<100	<100	<100	<100	<100
Petroleum Hydrocarbons F3	500	<100	<100	<100	<100	<100
Petroleum Hydrocarbons F4	500	<100	<100	<100	<100	<100
VOLATILE ORGANIC COMPOUNDS (VOCs) (ug/g)						
Acetone	2700	<1.0	<1.0	<1.0	<1.0	<1.0
Benzene	5	<0.20	1.3	<0.20	<0.20	<0.20
Bromodichloromethane	16	<0.20	<0.20	<0.20	<0.20	<0.20
Bromoform	25	<0.10	<0.10	<0.10	<0.10	<0.10
Bromomethane	0.89	<0.20	<0.20	<0.20	<0.20	<0.20
Carbon Tetrachloride	5	<0.20	<0.20	<0.20	<0.20	<0.20
Chlorobenzene	30	<0.10	<0.10	<0.10	<0.10	<0.10
Chloroform	22	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	25	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorobenzene, 1,2-	3	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorobenzene, 1,3-	59	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorobenzene, 1,4-	1	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorodifluoromethane	590	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloroethane, 1,1-	5	<0.30	<0.30	<0.30	<0.30	<0.30
Dichloroethane, 1,2-	5	<0.20	1.7	<0.20	<0.20	<0.20
Dichloroethylene, 1,1-	14	<0.30	<0.30	<0.30	<0.30	<0.30
Dichloroethylene, 1,2-cis-	17	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloroethylene, 1,2-trans-	17	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloropropane, 1,2-	5	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloropropene,1,3-	0.5	<0.30	<0.30	<0.30	<0.30	<0.30
Ethylbenzene	2.4	<0.10	1.4	<0.10	0.11	<0.10
Ethylene dibromide	0.2	<0.10	<0.10	<0.10	<0.10	<0.10
Hexane (n)	520	0.71	2.5	<0.20	1.7	<0.20
Methyl Ethyl Ketone	1800	<1.0	5.2	<1.0	<1.0	<1.0
Methyl Isobutyl Ketone	640	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-Butyl Ether (MTBE)	15	<0.20	<0.20	<0.20	<0.20	<0.20
Methylene Chloride	50	<0.30	<0.30	<0.30	<0.30	<0.30
Styrene	5.4	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethane, 1,1,1,2-	1.1	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethane, 1,1,2,2-	1	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	17	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	24	<0.20	0.43	<0.20	0.43	<0.20
Trichloroethane, 1,1,1-	200	<0.30	<0.30	<0.30	<0.30	<0.30
Trichloroethane, 1,1,2-	5	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	5	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	150	<0.40	<0.40	<0.40	<0.40	<0.40
Vinyl Chloride	1.7	<0.17	<0.17	<0.17	<0.17	<0.17
Xylene Mixture	300	<0.20	11.00	<0.20	0.29	<0.20

Notes for Summary Tables

1. mBGS = metres below ground surface
2. Table 2 SCS (ICC, FT)
3. FT = Fine textured soil
4. ICC = industrial/commercial/community property use
5. Bold and yellow highlighting indicates the concentration exceeds the applicable guideline/standard

FIGURES



Data Source: Ministry of Natural Resources, Ontario Base Mapping, October 2016.

4 HUGHSON STREET SOUTH STREET, SUITE 300
HAMILTON, ONTARIO CANADA L8N 3Z1
TEL.: 905-529-4414 | FAX: 905-521-2699 | WWW.WSP.COM

PROJECT: SUBSURFACE INVESTIGATION HIGHWAY 3 & COCKSHUTT ROAD PORT DOVER, ONTARIO	SCALE: 1:50,000
	DRAWN BY: TP / CHECKED BY: -
TITLE: SITE LOCATION MAP	PROJECT NO: 181-11117-00
	DATE: OCTOBER 2018
CLIENT: MINISTRY OF TRANSPORTATION	FIGURE NO: 1

Document Path: T:\181-11117-00\MXD\181-11117-00 Figure 1 Location Map.mxd



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HAMILTON, ONTARIO CANADA L8N 3Z1
TEL.: 905-529-4414 | FAX: 905-521-2699 | WWW.WSP.COM

LEGEND

AREA OF ASSESSMENT

APPROXIMATE BOREHOLE LCOATION

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10 5 0 10 Metres

Data Source: Ministry of Natural Resources, Ontario Base Mapping, October 2016.

CLIENT:

MINISTRY OF TRANSPORTATION

PROJECT:

SUBSURFACE INVESTIGATION
HIGHWAY 3 & COCKSHUTT ROAD
PORT DOVER, ONTARIO

PROJECT NO:	DATE:
181-11117-00	OCTOBER 2018

DESIGNED BY: -

DRAWN BY: T.P.

CHECKED BY: -

FIGURE NO:	SCALE:
2	1:500

TITLE:

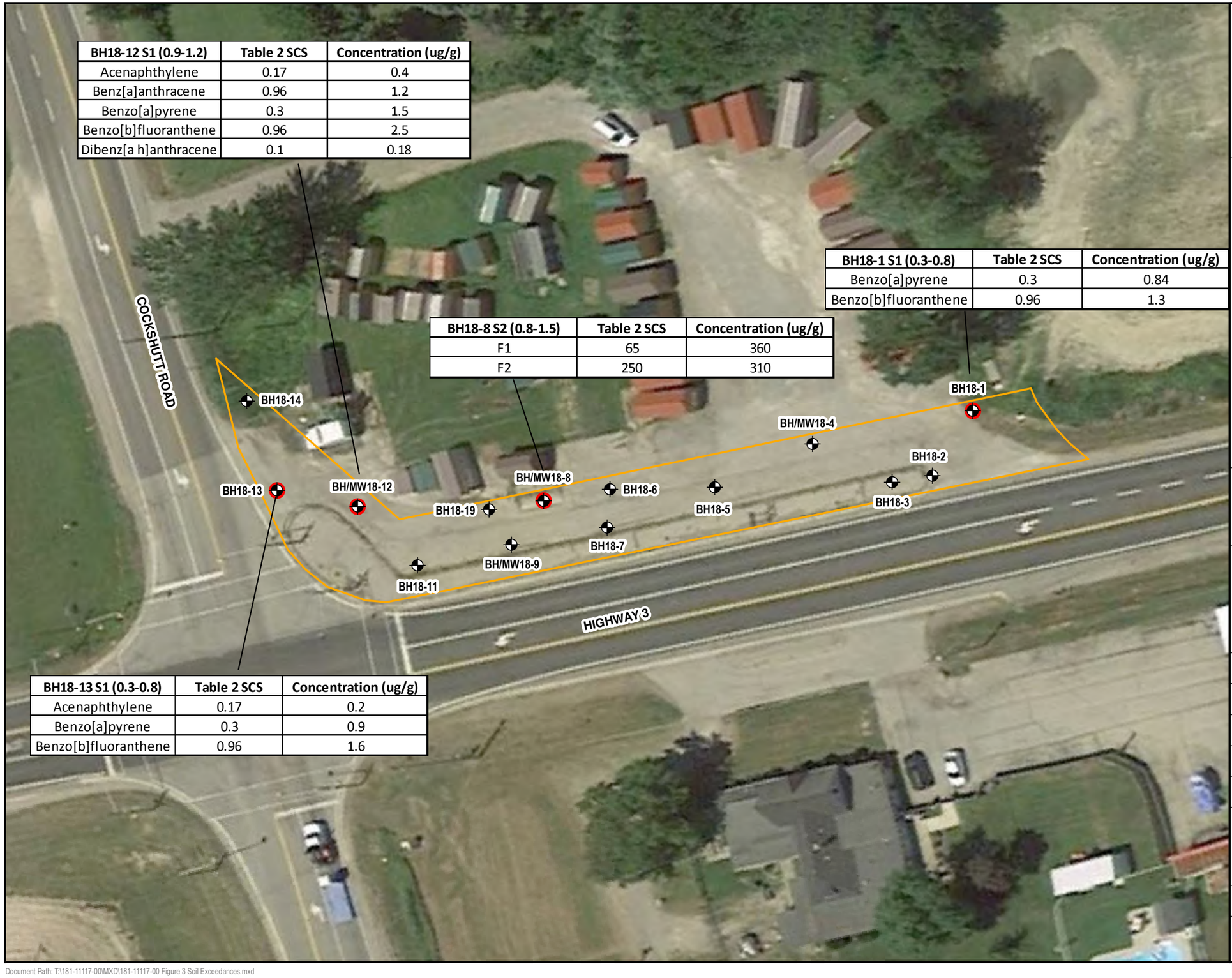
SITE PLAN

DISCIPLINE:

ENVIRONMENT

ISSUE:	REV.:
-	-

Document Path: T:\181-11117-00\MXD\181-11117-00 Figure 2 Site Plan.mxd



BH18-12 S1 (0.9-1.2)	Table 2 SCS	Concentration (ug/g)
Acenaphthylene	0.17	0.4
Benz[a]anthracene	0.96	1.2
Benzo[a]pyrene	0.3	1.5
Benzo[b]fluoranthene	0.96	2.5
Dibenz[a h]anthracene	0.1	0.18

BH18-1 S1 (0.3-0.8)	Table 2 SCS	Concentration (ug/g)
Benzo[a]pyrene	0.3	0.84
Benzo[b]fluoranthene	0.96	1.3

BH18-8 S2 (0.8-1.5)	Table 2 SCS	Concentration (ug/g)
F1	65	360
F2	250	310

BH18-13 S1 (0.3-0.8)	Table 2 SCS	Concentration (ug/g)
Acenaphthylene	0.17	0.2
Benzo[a]pyrene	0.3	0.9
Benzo[b]fluoranthene	0.96	1.6

4 HUGHSON STREET SOUTH STREET, SUITE 300
HAMILTON, ONTARIO CANADA L8N 3Z1
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LEGEND

- AREA OF ASSESSMENT
- APPROXIMATE BOREHOLE LCOATION
- SCS EXCEEDANCE

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10 5 0 10 Metres

Data Source: Ministry of Natural Resources, Ontario Base Mapping, October 2016.

CLIENT:

MINISTRY OF TRANSPORTATION

PROJECT:

SUBSURFACE INVESTIGATION
HIGHWAY 3 & COCKSHUTT ROAD
PORT DOVER, ONTARIO

PROJECT NO:	DATE:
181-11117-00	OCTOBER 2018

DESIGNED BY: -

DRAWN BY: T.P.

CHECKED BY: -

FIGURE NO:	SCALE:
3	1:500

TITLE:

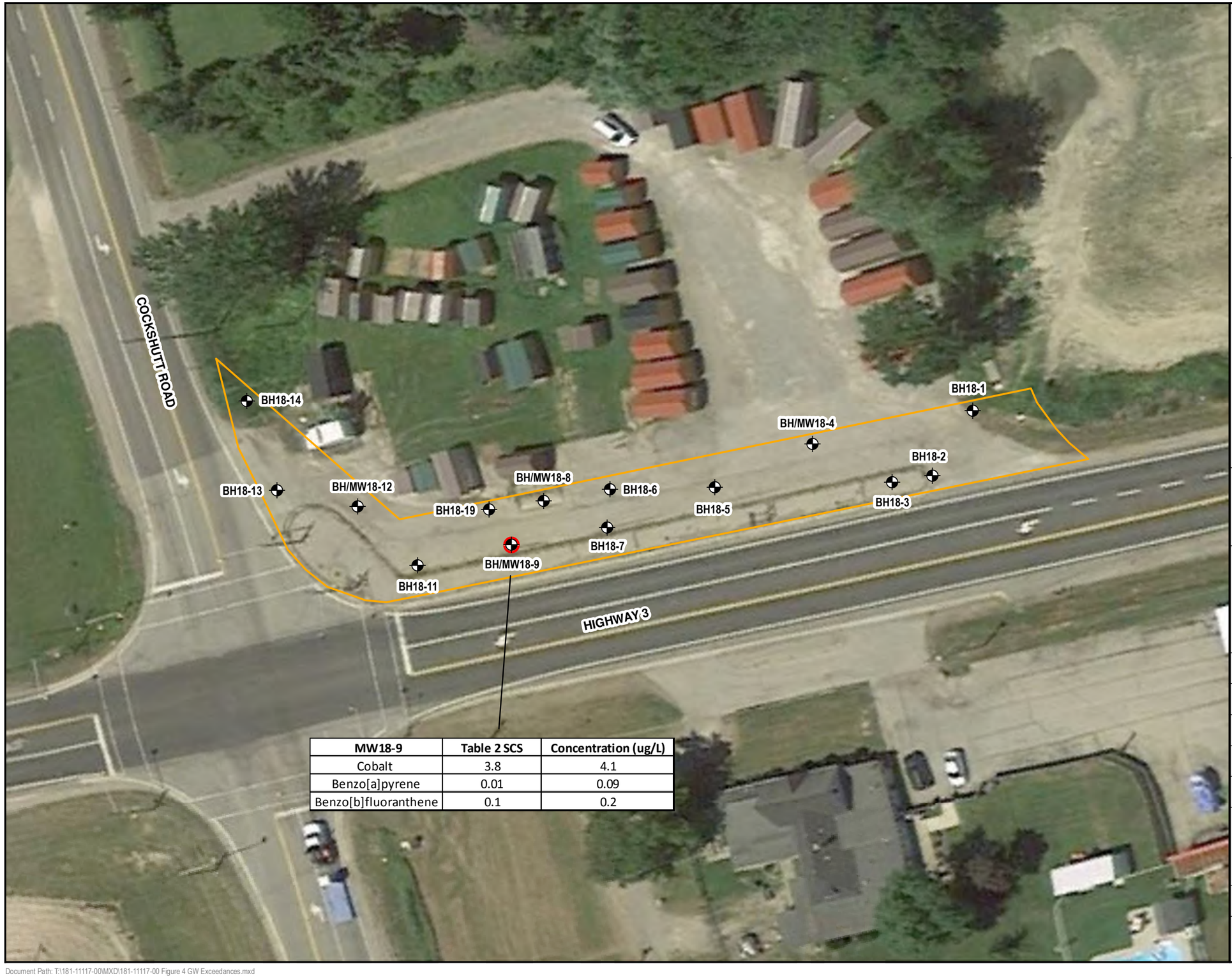
SOIL EXCEEDANCES

DISCIPLINE:

ENVIRONMENT

ISSUE:	REV.:
-	-

Document Path: T:\181-11117-00\MXD\181-11117-00 Figure 3 Soil Exceedances.mxd



MW18-9	Table 2 SCS	Concentration (ug/L)
Cobalt	3.8	4.1
Benzo[a]pyrene	0.01	0.09
Benzo[b]fluoranthene	0.1	0.2

wsp

4 HUGHSON STREET SOUTH STREET, SUITE 300
HAMILTON, ONTARIO CANADA L8N 3Z1
TEL.: 905-529-4414 | FAX: 905-521-2699 | WWW.WSP.COM

LEGEND

- AREA OF ASSESSMENT
- APPROXIMATE BOREHOLE LCOATION
- SCS EXCEEDANCE

N
W E
S

10 5 0 10 Metres

Data Source: Ministry of Natural Resources, Ontario Base Mapping, October 2016.

CLIENT:

MINISTRY OF TRANSPORTATION

PROJECT:

SUBSURFACE INVESTIGATION
HIGHWAY 3 & COCKSHUTT ROAD
PORT DOVER, ONTARIO

PROJECT NO:	DATE:
181-11117-00	OCTOBER 2018

DESIGNED BY: -

DRAWN BY: T.P.

CHECKED BY: -

FIGURE NO:	SCALE:
4	1:500

TITLE:

GROUNDWATER EXCEEDANCES

DISCIPLINE:

ENVIRONMENT

ISSUE:	REV.:
-	-

Document Path: T:\181-11117-00\MXD\181-11117-00 Figure 4 GW Exceedances.mxd

APPENDIX

A ECOLOG ERIS REPORT

ENVIRONMENTAL RISK INFORMATION SERVICES

DATABASE REPORT

Project Property:	*MTO Assign 18 Renton* *Renton MTO Assign 18* *Simcoe ON*
Project No:	*181-11117-00*
Report Type:	*Quote - Custom-Build Your Own Report*
Order No:	*20180815115*
Requested by:	*WSP Canada Inc.*
Date Completed:	*August 20, 2018*

Environmental Risk Information Services
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www.erisinfo.com

Table of Contents

Table of Contents.....2
Executive Summary.....3
Executive Summary: Report Summary.....4
Executive Summary: Site Report Summary - Project Property.....6
Executive Summary: Site Report Summary - Surrounding Properties.....7
Executive Summary: Summary By Data Source.....10
Map.....14
Aerial.....15
Topographic Map.....16
Detail Report.....17
Unplottable Summary.....55
Unplottable Report.....57
Appendix: Database Descriptions.....84
Definitions.....93

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Executive Summary

Property Information:

Project Property:	*MTO Assign 18 Renton* *Renton MTO Assign 18 Simcoe ON*
Project No:	*181-11117-00*

Order Information:

Order No:	*20180815115*
Date Requested:	*August 15, 2018*
Requested by:	*WSP Canada Inc.*
Report Type:	*Quote - Custom-Build Your Own Report*

Historical/Products:

Executive Summary: Report Summary

Database	Name	Searched	Project Property	Boundary to 0.25km	Total
AAGR	Abandoned Aggregate Inventory	Y	0	0	0
AGR	Aggregate Inventory	Y	0	0	0
AMIS	Abandoned Mine Information System	Y	0	0	0
ANDR	Anderson's Waste Disposal Sites	Y	0	0	0
AUWR	Automobile Wrecking & Supplies	Y	0	0	0
BORE	Borehole	Y	0	0	0
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	16	16
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	5	5
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 0.25km	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	0	1	1
SRDS	Wastewater Discharger Registration Database	Y	0	0	0
TANK	Anderson's Storage Tanks	Y	0	0	0
TCFT	Transport Canada Fuel Storage Tanks	Y	0	0	0
VAR	TSSA Variances for Abandonment of Underground Storage Tanks	Y	0	0	0
WDS	Waste Disposal Sites - MOE CA Inventory	Y	0	0	0
WDSH	Waste Disposal Sites - MOE 1991 Historical Approval Inventory	Y	0	0	0
WWIS	Water Well Information System	Y	1	12	13
	Total:		1	34	35

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev diff (m)	Page Number
1	WWIS		RENTON ON **Well ID:** 7107698	-/0.0	0.00	17

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
2	SPL	HALDIMAND/NORFOLK CO-OP	RENTON, HWY #3 AND REGIONAL #5 NANTICOKE CITY ON	SW/13.6	0.00	19
3	WWIS		ON ***Well ID:*** 7238347	W/42.1	0.00	20
4	WWIS		ON ***Well ID:*** 7205392	W/46.0	-0.46	21
5	EXP	M & R FUELS	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	21
5	EXP	M & R FUELS	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	21
5	EXP	M & R FUELS	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	22
5	EXP	M & R FUELS	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	22
5	EXP	M & R FUELS	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	22
5	EXP	M & R FUELS	4717 HWY 3 LOT 1; RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	22
5	EXP	M & R FUELS	4717 HWY 3 LOT 1; RR 4 SIMCOE ON	W/59.5	-0.64	23
5	EXP	BRADSHAW GROUP	4717 HWY 3 LOT 1; RR 4 SIMCOE ON	W/59.5	-0.64	23
5	EXP	M & R FUELS	4717 HWY 3 LOT 1; RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	23

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
5	EXP	M & R FUELS	4717 HWY 3 LOT 1; RR 4 SIMCOE ON	W/59.5	-0.64	23
5	EXP	BRADSHAW BROS PETROLEUM LTD	4717 HWY 3 LOT 1; RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	24
5	EXP	M & R FUELS	4717 HWY 3 LOT 1; RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	24
5	EXP	BRADSHAW BROS PETROLEUM LTD	4717 HWY 3 LOT 1; RR 4 SIMCOE ON	W/59.5	-0.64	24
5	EXP	M & R FUELS	4717 HWY 3 LOT 1; RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	24
5	EXP	M & R FUELS	4717 HWY 3 LOT 1; RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	25
5	EXP	M & R FUELS	4717 HWY 3 LOT 1; RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	25
5	FST	BRADSHAW BROS PETROLEUM LTD	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	25
5	FST	BRADSHAW BROS PETROLEUM LTD	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	25
5	FST	BRADSHAW BROS PETROLEUM LTD	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	26
5	FST	BRADSHAW BROS PETROLEUM LTD	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	26
5	FST	BRADSHAW BROS PETROLEUM LTD	4717 HWY 3 LOT 1, RR 4 SIMCOE ON N3Y 4K4	W/59.5	-0.64	26
6	WWIS		lot 13 con 6 ON	SSE/84.6	0.00	27

Map Key	DB	Company/Site Name	Address	Dir/Dist (m)	Elev Diff (m)	Page Number
			Well ID: 4408325			
7	WWIS		lot 12 con 14 ON ***Well ID:*** 4401630	W/98.4	-1.00	32
8	WWIS		lot 13 con 14 ON ***Well ID:*** 4404386	NNW/105.6	-1.00	34
9	WWIS		lot 12 con 14 ON ***Well ID:*** 4403084	WSW/117.4	-1.00	36
10	WWIS		lot 12 con 14 ON ***Well ID:*** 4403839	W/136.8	-1.00	39
11	WWIS		lot 12 con 6 ON ***Well ID:*** 4402770	WSW/153.5	-1.00	42
12	WWIS		lot 13 con 6 ON ***Well ID:*** 4402070	S/156.3	0.00	45
13	WWIS		lot 12 con 14 ON ***Well ID:*** 4402938	WSW/223.6	0.00	47
14	WWIS		lot 12 con 14 ON ***Well ID:*** 4404565	NW/231.6	-1.00	49
15	WWIS		lot 12 con 14 ON ***Well ID:*** 4401588	W/241.1	0.00	53

Executive Summary: Summary By Data Source

EXP - List of TSSA Expired Facilities

A search of the EXP database, dated Feb 28, 2017 has found that there are 16 EXP site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
M & R FUELS	4717 HWY 3 LOT 1; RR 4 SIMCOE ON	59.5	5
M & R FUELS	4717 HWY 3 LOT 1; RR 4 SIMCOE ON N3Y 4K4	59.5	5
M & R FUELS	4717 HWY 3 LOT 1; RR 4 SIMCOE ON N3Y 4K4	59.5	5
M & R FUELS	4717 HWY 3 LOT 1; RR 4 SIMCOE ON N3Y 4K4	59.5	5
BRADSHAW BROS PETROLEUM LTD	4717 HWY 3 LOT 1; RR 4 SIMCOE ON	59.5	5
M & R FUELS	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	59.5	5
M & R FUELS	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	59.5	5
M & R FUELS	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	59.5	5
M & R FUELS	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	59.5	5

Site	Address	Distance (m)	Map Key
M & R FUELS	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	59.5	5
M & R FUELS	4717 HWY 3 LOT 1; RR 4 SIMCOE ON N3Y 4K4	59.5	5
BRADSHAW GROUP	4717 HWY 3 LOT 1; RR 4 SIMCOE ON	59.5	5
M & R FUELS	4717 HWY 3 LOT 1; RR 4 SIMCOE ON N3Y 4K4	59.5	5
M & R FUELS	4717 HWY 3 LOT 1; RR 4 SIMCOE ON	59.5	5
BRADSHAW BROS PETROLEUM LTD	4717 HWY 3 LOT 1; RR 4 SIMCOE ON N3Y 4K4	59.5	5
M & R FUELS	4717 HWY 3 LOT 1; RR 4 SIMCOE ON N3Y 4K4	59.5	5

FST - Fuel Storage Tank

A search of the FST database, dated Feb 28, 2017 has found that there are 5 FST site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
BRADSHAW BROS PETROLEUM LTD	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	59.5	5
BRADSHAW BROS PETROLEUM LTD	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	59.5	5
BRADSHAW BROS PETROLEUM LTD	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	59.5	5

Site	Address	Distance (m)	Map Key
BRADSHAW BROS PETROLEUM LTD	4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	59.5	5
BRADSHAW BROS PETROLEUM LTD	4717 HWY 3 LOT 1, RR 4 SIMCOE ON N3Y 4K4	59.5	5

SPL - Ontario Spills

A search of the SPL database, dated 1988-May 2018 has found that there are 1 SPL site(s) within approximately 0.25 kilometers of the project property.

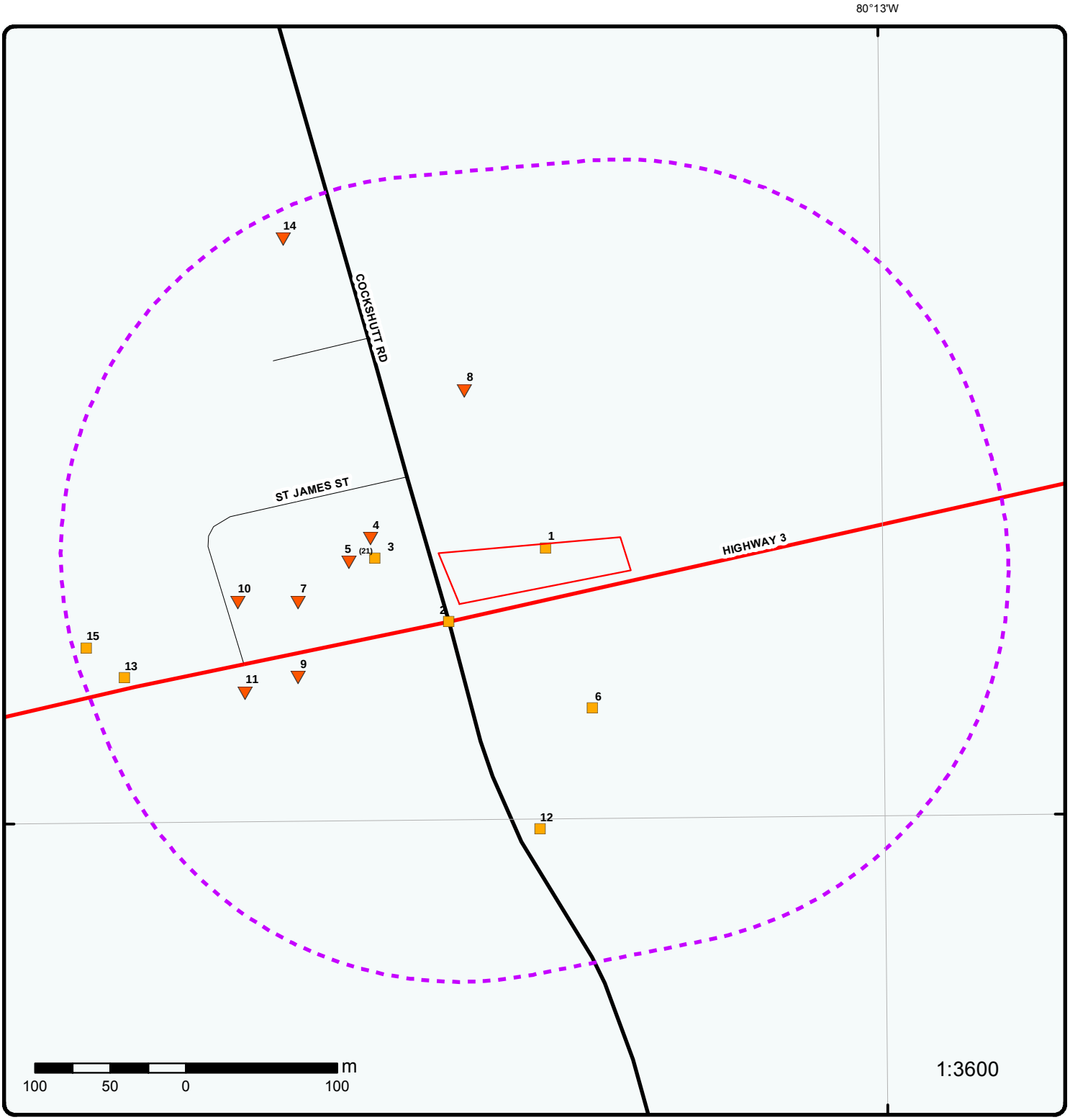
Site	Address	Distance (m)	Map Key
HALDIMAND/NORFOLK CO-OP	RENTON, HWY #3 AND REGIONAL #5 NANTICOKE CITY ON	13.6	2

WWIS - Water Well Information System

A search of the WWIS database, dated Dec 31, 2017 has found that there are 13 WWIS site(s) within approximately 0.25 kilometers of the project property.

Site	Address	Distance (m)	Map Key
	RENTON ON ***Well ID:*** 7107698	0.0	1
	ON ***Well ID:*** 7238347	42.1	3
	ON ***Well ID:*** 7205392	46.0	4
	lot 13 con 6 ON ***Well ID:*** 4408325	84.6	6
	lot 12 con 14 ON	98.4	7

Site	Address	Distance (m)	Map Key
	Well ID: 4401630		
	lot 13 con 14 ON	105.6	8
	Well ID: 4404386		
	lot 12 con 14 ON	117.4	9
	Well ID: 4403084		
	lot 12 con 14 ON	136.8	10
	Well ID: 4403839		
	lot 12 con 6 ON	153.5	11
	Well ID: 4402770		
	lot 13 con 6 ON	156.3	12
	Well ID: 4402070		
	lot 12 con 14 ON	223.6	13
	Well ID: 4402938		
	lot 12 con 14 ON	231.6	14
	Well ID: 4404565		
	lot 12 con 14 ON	241.1	15
	Well ID: 4401588		



Map : 0.25 Kilometer Radius

Order No: 20180815115

Address: Renton MTO Assign 18, Simcoe, ON

ERIS

Project Property
Buffer Outline
Eris Sites with Higher Elevation
Eris Sites with Same Elevation
Eris Sites with Lower Elevation
Eris Sites with Unknown Elevation

Expressway
Principal Highway
Secondary Highway
Major Road
Local road
Trail
Proposed Road
Ferry Route/Ice Road

Industrial and Resource - Regions
Main Line
Sidetrack
Transit Line
Abandoned Line

National Park
Provincial or Territorial Park
Other Park
Golf Course or Driving Range
Park or Sports Field
Other Recreation Area

Source: © 2015 DMTI Spatial Inc.

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80°13'30"W



42°51'N

42°51'N

Aerial (2012)

Address: Renton MTO Assign 18, Simcoe, ON

Source: ESRI World Imagery

Order No: 20180815115

© ERIS Information Limited Partnership



Topographic Map

Address: Renton MTO Assign 18, Simcoe, ON

Source: ESRI World Topographic Map

Order No: 20180815115

© ERIS Information Limited Partnership

Detail Report

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
1	1 of 1	-/0.0	215.8 / 0.00	RENTON ON	WWIS

Well ID:	7107698	**Data Entry Status:**	
Construction Date:		**Data Src:**	
Primary Water Use:	Other	**Date Received:**	3/29/2007
Sec. Water Use:		**Selected Flag:**	Yes
Final Well Status:	Observation Wells	**Abandonment Rec:**	
Water Type:		**Contractor:**	7320
Casing Material:		**Form Version:**	3
Audit No:	Z70703	**Owner:**	
Tag:	A055293	**Street Name:**	4733 HIGHWAY # 3
Construction Method:		**County:**	NORFOLK
Elevation (m):		**Municipality:**	WOODHOUSE TOWNSHIP
Elevation Reliability:		**Site Info:**	
Depth to Bedrock:		**Lot:**	
Well Depth:		**Concession:**	
Overburden/Bedrock:		**Concession Name:**	
Pump Rate:		**Easting NAD83:**	
Static Water Level:		**Northing NAD83:**	
Flowing (Y/N):		**Zone:**	
Flow Rate:		**UTM Reliability:**	
Clear/Cloudy:			

Bore Hole Information

Bore Hole ID:	1001647080	**Elevation:**	216.35
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	563768
Code OB Desc:		**Org CS:**	UTM83
Open Hole:		**North83:**	4745558
Cluster Kind:		**UTMRC:**	3
Date Completed:	21-MAR-07	**UTMRC Desc:**	margin of error : 10 - 30 m
Remarks:		**Location Method:**	wwr
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	1001662723
Layer:	2
Color:	6
General Color:	BROWN
Mat1:	05
Most Common Material:	CLAY
Mat2:	06
Other Materials:	SILT

Mat3:
Other Materials:
Formation Top Depth: 1.2
Formation End Depth: 4.3
Formation End Depth UOM: m

Formation ID: 1001662724
Layer: 3
Color: 2
General Color: GREY
Mat1: 05
Most Common Material: CLAY
Mat2: 06
Other Materials: SILT
Mat3: 85
Other Materials: SOFT
Formation Top Depth: 4.3
Formation End Depth: 5.6
Formation End Depth UOM: m

Formation ID: 1001662722
Layer: 1
Color: 8
General Color: BLACK
Mat1: 28
Most Common Material: SAND
Mat2: 11
Other Materials: GRAVEL
Mat3:
Other Materials:
Formation Top Depth: 0
Formation End Depth: 1.2
Formation End Depth UOM: m

Formation ID: 1001662725
Layer: 4
Color: 2
General Color: GREY
Mat1: 06
Most Common Material: SILT
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 5.6
Formation End Depth: 6.2
Formation End Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 1001662727
Layer: 1
Plug From: 0
Plug To: .3
Plug Depth UOM: m

Plug ID: 1001662728
Layer: 2
Plug From: .3
Plug To: 2.8
Plug Depth UOM: m

Method of Construction & Well

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

Use

Method Construction ID: 1001662733
Method Construction Code: 6
Method Construction: Boring
Other Method Construction:

Pipe Information

Pipe ID: 1001662721
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1001662730
Layer: 1
Material: 5
Open Hole or Material: PLASTIC
Depth From: 0
Depth To: 3.1
Casing Diameter: 5.1
Casing Diameter UOM: cm
Casing Depth UOM: m

Construction Record - Screen

Screen ID: 1001662731
Layer:
Slot:
Screen Top Depth:
Screen End Depth:
Screen Material:
Screen Depth UOM: m
Screen Diameter UOM: cm
Screen Diameter:

Water Details

Water ID: 1001662729
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 46
Water Found Depth UOM: m

Hole Diameter

Hole ID: 1001662726
Diameter: 21
Depth From: 0
Depth To: 6.2
Hole Depth UOM: m
Hole Diameter UOM: cm

2	***1 of 1***	***SW/13.6***	***215.8 / 0.00***	***HALDIMAND/NORFOLK CO-OP RENTON, HWY #3 AND REGIONAL #5 NANTICOKE CITY ON***	***SPL***

Ref No: 6658 ***Discharger Report:***

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

Site No:		**Material Group:**	
Incident Dt:	7/15/1988	**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:**	12101
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:	7/15/1988	**Site Map Datum:**	
Dt Document Closed:			
SAC Action Class:			
Incident Reason:	OTHER		
Incident Summary:	HALDIMAND/NORFOLK CO-OP- 6000 LITRES OF UREA TO GROUND & DITCH.		

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3 | ***1 of 1*** | ***W/42.1*** | ***215.8 / 0.00*** | ***ON*** | ***WWIS***

Well ID:	7238347	**Data Entry Status:**	Yes
Construction Date:		**Data Src:**	
Primary Water Use:		**Date Received:**	3/16/2015
Sec. Water Use:		**Selected Flag:**	Yes
Final Well Status:		**Abandonment Rec:**	
Water Type:		**Contractor:**	7215
Casing Material:		**Form Version:**	8
Audit No:	C26732	**Owner:**	
Tag:	A178757	**Street Name:**	
Construction Method:		**County:**	NORFOLK
Elevation (m):		**Municipality:**	TOWNSEND TOWNSHIP
Elevation Reliability:		**Site Info:**	
Depth to Bedrock:		**Lot:**	
Well Depth:		**Concession:**	
Overburden/Bedrock:		**Concession Name:**	
Pump Rate:		**Easting NAD83:**	
Static Water Level:		**Northing NAD83:**	
Flowing (Y/N):		**Zone:**	
Flow Rate:		**UTM Reliability:**	
Clear/Cloudy:			

Bore Hole Information

Bore Hole ID:	1005312911	**Elevation:**	216.96
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	563655
Code OB Desc:		**Org CS:**	UTM83
Open Hole:		**North83:**	4745551
Cluster Kind:		**UTMRC:**	4
Date Completed:	28-JAN-15	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	wwr
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			

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

Source Revision Comment:
Supplier Comment:

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4 | **1 of 1** | **W/46.0** | **215.4 / -0.46** | **ON** | **WWIS**

Well ID:	7205392	**Data Entry Status:**	Yes
Construction Date:		**Data Src:**	
Primary Water Use:		**Date Received:**	7/25/2013
Sec. Water Use:		**Selected Flag:**	Yes
Final Well Status:		**Abandonment Rec:**	
Water Type:		**Contractor:**	7215
Casing Material:		**Form Version:**	8
Audit No:	C22826	**Owner:**	
Tag:	A148912	**Street Name:**	
Construction Method:		**County:**	NORFOLK
Elevation (m):		**Municipality:**	TOWNSEND TOWNSHIP
Elevation Reliability:		**Site Info:**	
Depth to Bedrock:		**Lot:**	
Well Depth:		**Concession:**	
Overburden/Bedrock:		**Concession Name:**	
Pump Rate:		**Easting NAD83:**	
Static Water Level:		**Northing NAD83:**	
Flowing (Y/N):		**Zone:**	
Flow Rate:		**UTM Reliability:**	
Clear/Cloudy:			

Bore Hole Information

Bore Hole ID:	1004456664	**Elevation:**	217
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:		**East83:**	563652
Code OB Desc:		**Org CS:**	UTM83
Open Hole:		**North83:**	4745564
Cluster Kind:		**UTMRC:**	4
Date Completed:	19-JUN-13	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	wwr
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

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5 | **1 of 21** | **W/59.5** | **215.2 / -0.64** | **M & R FUELS**
4717 HWY 3LOT 1, RR 4
SIMCOE ON N3Y 4K4 | **EXP**

Instance No:	64464796
Instance ID:	
Instance Type:	FS Liquid Fuel Tank
Description:	FS Gasoline Station - Split Serve
Status:	EXPIRED
TSSA Program Area:	
Maximum Hazard Rank:	
Facility Type:	FS Liquid Fuel Tank
Expired Date:	9/4/2012 11:17:07 AM

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5 | **2 of 21** | **W/59.5** | **215.2 / -0.64** | **M & R FUELS**
4717 HWY 3LOT 1, RR 4 | **EXP**

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
				SIMCOE ON N3Y 4K4	

Instance No: 64464798
Instance ID:
Instance Type: FS Liquid Fuel Tank
Description: FS Gasoline Station - Split Serve
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type: FS Liquid Fuel Tank
Expired Date: 9/4/2012 11:17:07 AM

5	3 of 21	W/59.5	215.2 / -0.64	M & R FUELS 4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	EXP

Instance No: 64464795
Instance ID:
Instance Type: FS Liquid Fuel Tank
Description: FS Gasoline Station - Split Serve
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type: FS Liquid Fuel Tank
Expired Date: 9/4/2012 11:17:07 AM

5	4 of 21	W/59.5	215.2 / -0.64	M & R FUELS 4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	EXP

Instance No: 64464797
Instance ID:
Instance Type: FS Liquid Fuel Tank
Description: FS Gasoline Station - Split Serve
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type: FS Liquid Fuel Tank
Expired Date: 9/4/2012 11:17:07 AM

5	5 of 21	W/59.5	215.2 / -0.64	M & R FUELS 4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	EXP

Instance No: 11379197
Instance ID:
Instance Type: FS Liquid Fuel Tank
Description: FS Gasoline Station - Split Serve
Status: EXPIRED
TSSA Program Area:
Maximum Hazard Rank:
Facility Type: FS Liquid Fuel Tank
Expired Date: 6/30/2009

5	6 of 21	W/59.5	215.2 / -0.64	M & R FUELS 4717 HWY 3 LOT 1; RR 4 SIMCOE ON N3Y 4K4	EXP

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Instance No:		64464796			
Instance ID:					
Instance Type:		FS Liquid Fuel Tank			
Description:					
Status:		EXPIRED			
TSSA Program Area:					
Maximum Hazard Rank:					
Facility Type:					
Expired Date:		9/4/2012 11:17			

5	7 of 21	W/59.5	215.2 / -0.64	M & R FUELS 4717 HWY 3 LOT 1; RR 4 SIMCOE ON	EXP

Instance No:	10935912
Instance ID:	54472
Instance Type:	FS Propane Tank
Description:	FS Propane Tank
Status:	EXPIRED
TSSA Program Area:	
Maximum Hazard Rank:	
Facility Type:	
Expired Date:	

5	8 of 21	W/59.5	215.2 / -0.64	BRADSHAW GROUP 4717 HWY 3 LOT 1; RR 4 SIMCOE ON	EXP

Instance No:	11672073
Instance ID:	97034
Instance Type:	FS Propane Tank
Description:	FS Propane Tank
Status:	EXPIRED
TSSA Program Area:	
Maximum Hazard Rank:	
Facility Type:	
Expired Date:	

5	9 of 21	W/59.5	215.2 / -0.64	M & R FUELS 4717 HWY 3 LOT 1; RR 4 SIMCOE ON N3Y 4K4	EXP

Instance No:	64464798
Instance ID:	
Instance Type:	FS Liquid Fuel Tank
Description:	
Status:	EXPIRED
TSSA Program Area:	
Maximum Hazard Rank:	
Facility Type:	
Expired Date:	9/4/2012 11:17

5	10 of 21	W/59.5	215.2 / -0.64	M & R FUELS 4717 HWY 3 LOT 1; RR 4 SIMCOE ON	EXP

Instance No:	11379217
Instance ID:	81380
Instance Type:	FS Piping

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Description:		FS Piping			
Status:		EXPIRED			
TSSA Program Area:					
Maximum Hazard Rank:					
Facility Type:					
Expired Date:					

5	11 of 21	W/59.5	215.2 / -0.64	**BRADSHAW BROS PETROLEUM LTD** **4717 HWY 3 LOT 1; RR 4** **SIMCOE ON N3Y 4K4**	EXP

Instance No:	64535881
Instance ID:	
Instance Type:	FS Facility
Description:	
Status:	EXPIRED
TSSA Program Area:	
Maximum Hazard Rank:	
Facility Type:	
Expired Date:	10/12/2012 9:58

5	12 of 21	W/59.5	215.2 / -0.64	**M & R FUELS** **4717 HWY 3 LOT 1; RR 4** **SIMCOE ON N3Y 4K4**	EXP

Instance No:	9958148
Instance ID:	
Instance Type:	FS Facility
Description:	
Status:	EXPIRED
TSSA Program Area:	
Maximum Hazard Rank:	
Facility Type:	
Expired Date:	9/4/2012 11:17

5	13 of 21	W/59.5	215.2 / -0.64	**BRADSHAW BROS PETROLEUM LTD** **4717 HWY 3 LOT 1; RR 4** **SIMCOE ON**	EXP

Instance No:	10211691
Instance ID:	13887
Instance Type:	FS Facility
Description:	FS Gasoline Station - Full Serve
Status:	EXPIRED
TSSA Program Area:	
Maximum Hazard Rank:	
Facility Type:	
Expired Date:	

5	14 of 21	W/59.5	215.2 / -0.64	**M & R FUELS** **4717 HWY 3 LOT 1; RR 4** **SIMCOE ON N3Y 4K4**	EXP

Instance No:	11379197
Instance ID:	
Instance Type:	FS Liquid Fuel Tank
Description:	
Status:	EXPIRED
TSSA Program Area:	

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
Maximum Hazard Rank:					
Facility Type:					
Expired Date:		6/30/2009			

5	15 of 21	W/59.5	215.2 / -0.64	**M & R FUELS** **4717 HWY 3 LOT 1; RR 4** **SIMCOE ON N3Y 4K4**	EXP

Instance No:	64464795
Instance ID:	
Instance Type:	FS Liquid Fuel Tank
Description:	
Status:	EXPIRED
TSSA Program Area:	
Maximum Hazard Rank:	
Facility Type:	
Expired Date:	9/4/2012 11:17

5	16 of 21	W/59.5	215.2 / -0.64	**M & R FUELS** **4717 HWY 3 LOT 1; RR 4** **SIMCOE ON N3Y 4K4**	EXP

Instance No:	64464797
Instance ID:	
Instance Type:	FS Liquid Fuel Tank
Description:	
Status:	EXPIRED
TSSA Program Area:	
Maximum Hazard Rank:	
Facility Type:	
Expired Date:	9/4/2012 11:17

5	17 of 21	W/59.5	215.2 / -0.64	**BRADSHAW BROS PETROLEUM LTD** **4717 HWY 3LOT 1, RR 4** **SIMCOE ON N3Y 4K4**	FST

Instance No:	11527791
Cont Name:	
Instance Type:	FS Liquid Fuel Tank
Fuel Type:	Gasoline
Status:	Active
Capacity:	22730
Tank Material:	Fiberglass (FRP)
Corrosion Protection:	Fiberglass
Tank Type:	Single Wall UST
Install Year:	1990
Parent Facility Type:	FS Gasoline Station - Self Serve
Facility Type:	FS Liquid Fuel Tank

5	18 of 21	W/59.5	215.2 / -0.64	**BRADSHAW BROS PETROLEUM LTD** **4717 HWY 3LOT 1, RR 4** **SIMCOE ON N3Y 4K4**	FST

Instance No:	11527686
Cont Name:	
Instance Type:	FS Liquid Fuel Tank
Fuel Type:	Gasoline
Status:	Active
Capacity:	36368

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

Tank Material:	Fiberglass (FRP)
Corrosion Protection:	Fiberglass
Tank Type:	Single Wall UST
Install Year:	1990
Parent Facility Type:	FS Gasoline Station - Self Serve
Facility Type:	FS Liquid Fuel Tank

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
5	19 of 21	W/59.5	215.2 / -0.64	BRADSHAW BROS PETROLEUM LTD 4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	FST

Instance No:	11527722
Cont Name:	
Instance Type:	FS Liquid Fuel Tank
Fuel Type:	Gasoline
Status:	Active
Capacity:	36368
Tank Material:	Fiberglass (FRP)
Corrosion Protection:	Fiberglass
Tank Type:	Single Wall UST
Install Year:	1991
Parent Facility Type:	FS Gasoline Station - Self Serve
Facility Type:	FS Liquid Fuel Tank

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
5	20 of 21	W/59.5	215.2 / -0.64	BRADSHAW BROS PETROLEUM LTD 4717 HWY 3LOT 1, RR 4 SIMCOE ON N3Y 4K4	FST

Instance No:	11527760
Cont Name:	
Instance Type:	FS Liquid Fuel Tank
Fuel Type:	Diesel
Status:	Active
Capacity:	22730
Tank Material:	Fiberglass (FRP)
Corrosion Protection:	Fiberglass
Tank Type:	Single Wall UST
Install Year:	1990
Parent Facility Type:	FS Gasoline Station - Self Serve
Facility Type:	FS Liquid Fuel Tank

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
5	21 of 21	W/59.5	215.2 / -0.64	BRADSHAW BROS PETROLEUM LTD 4717 HWY 3 LOT 1, RR 4 SIMCOE ON N3Y 4K4	FST

Instance No:	64535882
Cont Name:	
Instance Type:	FS Liquid Fuel Tank
Fuel Type:	Diesel
Status:	Active
Capacity:	25000
Tank Material:	Steel
Corrosion Protection:	Sacrificial anode
Tank Type:	Double Wall UST
Install Year:	1989
Parent Facility Type:	FS GASOLINE STATION - CARD/KEYLOCK
Facility Type:	FS Liquid Fuel Tank

Map Key	Number of Records	Direction/ Distance (m)	Elev/Diff (m)	Site	DB
6	1 of 1	SSE/84.6	215.8 / 0.00	lot 13 con 6 ON	WWIS

Well ID: 4408325
Construction Date:
Primary Water Use: Domestic
Sec. Water Use:
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No: Z26234
Tag: A025699
Construction Method:
Elevation (m):
Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Data Entry Status:
Data Src:
Date Received: 7/28/2005
Selected Flag: Yes
Abandonment Rec:
Contractor: 7193
Form Version: 3
Owner:
Street Name: RR#5
County: NORFOLK
Municipality: WOODHOUSE TOWNSHIP
Site Info:
Lot: 013
Concession: 06
Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

Bore Hole Information

Bore Hole ID: 11322459
DP2BR: 65
Spatial Status:
Code OB: r
Code OB Desc: Bedrock
Open Hole:
Cluster Kind:
Date Completed: 08-JUL-05
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation: 216.03
Elevrc:
Zone: 17
East83: 563799
Org CS: UTM83
North83: 4745452
UTMRC: 4
UTMRC Desc: margin of error : 30 m - 100 m
Location Method: wwr

Overburden and Bedrock Materials Interval

Formation ID: 933017794
Layer: 1
Color: 8
General Color: BLACK
Mat1: 02
Most Common Material: TOPSOIL
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 0
Formation End Depth: .62
Formation End Depth UOM: m

Formation ID: 933017796
Layer: 3
Color: 3
General Color: BLUE
Mat1: 05

Most Common Material: CLAY
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 4.92
Formation End Depth: 19.69
Formation End Depth UOM: m

Formation ID: 933017795
Layer: 2
Color: 6
General Color: BROWN
Mat1: 05
Most Common Material: CLAY
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: .62
Formation End Depth: 4.92
Formation End Depth UOM: m

Formation ID: 933017797
Layer: 4
Color: 2
General Color: GREY
Mat1: 15
Most Common Material: LIMESTONE
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 19.69
Formation End Depth: 29.85
Formation End Depth UOM: m

Annular Space/Abandonment Sealing Record

Plug ID: 933273514
Layer: 1
Plug From: 0
Plug To: 6.15
Plug Depth UOM: m

Method of Construction & Well Use

Method Construction ID: 964408325
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 11337314
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930865118
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From: 0
Depth To: 19.69
Casing Diameter: 12.7
Casing Diameter UOM: cm
Casing Depth UOM: m

Results of Well Yield Testing

Pump Test ID: 11349867
Pump Set At: 29.23
Static Level: 18.15
Final Level After Pumping: 27.08
Recommended Pump Depth: 29.23
Pumping Rate: 45
Flowing Rate:
Recommended Pump Rate: 45
Levels UOM: m
Rate UOM: LPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 1
Pumping Duration HR: 3
Pumping Duration MIN:
Flowing:

Draw Down & Recovery

Pump Test Detail ID: 11422349
Test Type: Draw Down
Test Duration: 60
Test Level: 27.08
Test Level UOM: m

Pump Test Detail ID: 11422348
Test Type: Recovery
Test Duration: 60
Test Level: 18.15
Test Level UOM: m

Pump Test Detail ID: 11422338
Test Type: Recovery
Test Duration: 20
Test Level: 18.15
Test Level UOM: m

Pump Test Detail ID: 11422339
Test Type: Recovery
Test Duration: 50
Test Level: 18.15
Test Level UOM: m

Pump Test Detail ID: 11422340
Test Type: Recovery
Test Duration: 4
Test Level: 20
Test Level UOM: m

Pump Test Detail ID: 11422343
Test Type: Recovery

Test Duration: 3
Test Level: 20.92
Test Level UOM: m

Pump Test Detail ID: 11422353
Test Type: Draw Down
Test Duration: 3
Test Level: 25.23
Test Level UOM: m

Pump Test Detail ID: 11422354
Test Type: Recovery
Test Duration: 5
Test Level: 19.08
Test Level UOM: m

Pump Test Detail ID: 11422363
Test Type: Recovery
Test Duration: 40
Test Level: 18.15
Test Level UOM: m

Pump Test Detail ID: 11422341
Test Type: Draw Down
Test Duration: 4
Test Level: 26.77
Test Level UOM: m

Pump Test Detail ID: 11422347
Test Type: Recovery
Test Duration: 2
Test Level: 22.77
Test Level UOM: m

Pump Test Detail ID: 11422352
Test Type: Draw Down
Test Duration: 10
Test Level: 27.08
Test Level UOM: m

Pump Test Detail ID: 11422345
Test Type: Recovery
Test Duration: 1
Test Level: 24.62
Test Level UOM: m

Pump Test Detail ID: 11422346
Test Type: Draw Down
Test Duration: 2
Test Level: 23.69
Test Level UOM: m

Pump Test Detail ID: 11422355
Test Type: Recovery
Test Duration: 25
Test Level: 18.15
Test Level UOM: m

Pump Test Detail ID: 11422357
Test Type: Draw Down
Test Duration: 50
Test Level: 27.08
Test Level UOM: m

Pump Test Detail ID: 11422361
Test Type: Recovery

Test Duration: 30
Test Level: 18.15
Test Level UOM: m

Pump Test Detail ID: 11422344
Test Type: Draw Down
Test Duration: 1
Test Level: 21.54
Test Level UOM: m

Pump Test Detail ID: 11422358
Test Type: Draw Down
Test Duration: 15
Test Level: 27.08
Test Level UOM: m

Pump Test Detail ID: 11422342
Test Type: Draw Down
Test Duration: 5
Test Level: 27.08
Test Level UOM: m

Pump Test Detail ID: 11422350
Test Type: Draw Down
Test Duration: 20
Test Level: 27.08
Test Level UOM: m

Pump Test Detail ID: 11422351
Test Type: Recovery
Test Duration: 10
Test Level: 18.46
Test Level UOM: m

Pump Test Detail ID: 11422356
Test Type: Recovery
Test Duration: 15
Test Level: 18.15
Test Level UOM: m

Pump Test Detail ID: 11422359
Test Type: Draw Down
Test Duration: 25
Test Level: 27.08
Test Level UOM: m

Pump Test Detail ID: 11422362
Test Type: Draw Down
Test Duration: 40
Test Level: 27.08
Test Level UOM: m

Pump Test Detail ID: 11422360
Test Type: Draw Down
Test Duration: 30
Test Level: 27.08
Test Level UOM: m

Water Details

Water ID: 934062680
Layer: 1
Kind Code: 3
Kind: SULPHUR
Water Found Depth: 29.85

Water Found Depth UOM: m

Hole Diameter

Hole ID: 11541910
Diameter: 24.13
Depth From: 0
Depth To: 6.15
Hole Depth UOM: m
Hole Diameter UOM: cm

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7 | **1 of 1** | **W/98.4** | **214.8 / -1.00** | **lot 12 con 14 ON** | **WWIS**

Well ID: 4401630
Construction Date:
Primary Water Use: Domestic
Sec. Water Use: 0
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No:
Tag:
Construction Method:
Elevation (m):
Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Data Entry Status:
Data Src: 1
Date Received: 11/3/1953
Selected Flag: Yes
Abandonment Rec:
Contractor: 4810
Form Version: 1
Owner:
Street Name:
County: NORFOLK
Municipality: TOWNSEND TOWNSHIP
Site Info:
Lot: 012
Concession: 14
Concession Name: CON
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

Bore Hole Information

Bore Hole ID: 10273636
DP2BR: 75
Spatial Status:
Code OB: r
Code OB Desc: Bedrock
Open Hole:
Cluster Kind:
Date Completed: 29-SEP-53
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation: 217.03
Elevrc:
Zone: 17
East83: 563604.1
Org CS:
North83: 4745522
UTMRC: 5
UTMRC Desc: margin of error : 100 m - 300 m
Location Method: p5

Overburden and Bedrock Materials Interval

Formation ID: 931871233
Layer: 1
Color:
General Color:
Mat1: 09
Most Common Material: MEDIUM SAND

Mat2:	
Other Materials:	
Mat3:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	12
Formation End Depth UOM:	ft
Formation ID:	931871234
Layer:	2
Color:	
General Color:	
Mat1:	05
Most Common Material:	CLAY
Mat2:	09
Other Materials:	MEDIUM SAND
Mat3:	
Other Materials:	
Formation Top Depth:	12
Formation End Depth:	75
Formation End Depth UOM:	ft
Formation ID:	931871235
Layer:	3
Color:	
General Color:	
Mat1:	15
Most Common Material:	LIMESTONE
Mat2:	
Other Materials:	
Mat3:	
Other Materials:	
Formation Top Depth:	75
Formation End Depth:	90
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964401630
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	

Pipe Information

Pipe ID:	10822206
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930459894
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	75
Casing Diameter:	6
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Casing ID:	930459895
Layer:	2
Material:	4
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	90
Casing Diameter:	6
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pump Test ID:	994401630
Pump Set At:	
Static Level:	28
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	2
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	1
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	N

Water Details

Water ID:	933743324
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	90
Water Found Depth UOM:	ft

8	1 of 1	NNW/105.6	214.8 / -1.00	lot 13 con 14 ON	WWIS

Well ID:	4404386	**Data Entry Status:**	
Construction Date:		**Data Src:**	1
Primary Water Use:	Domestic	**Date Received:**	1/5/1981
Sec. Water Use:	0	**Selected Flag:**	Yes
Final Well Status:	Water Supply	**Abandonment Rec:**	
Water Type:		**Contractor:**	4804
Casing Material:		**Form Version:**	1
Audit No:		**Owner:**	
Tag:		**Street Name:**	
Construction Method:		**County:**	NORFOLK
Elevation (m):		**Municipality:**	TOWNSEND TOWNSHIP
Elevation Reliability:		**Site Info:**	
Depth to Bedrock:		**Lot:**	013
Well Depth:		**Concession:**	14
Overburden/Bedrock:		**Concession Name:**	CON
Pump Rate:		**Easting NAD83:**	
Static Water Level:		**Northing NAD83:**	
Flowing (Y/N):		**Zone:**	
Flow Rate:		**UTM Reliability:**	
Clear/Cloudy:			

Bore Hole Information

Bore Hole ID:	10276335	***Elevation:***	216.25
DP2BR:	80	***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:	r	***East83:***	563714.1
Code OB Desc:	Bedrock	***Org CS:***	
Open Hole:		***North83:***	4745662
Cluster Kind:		***UTMRC:***	4
Date Completed:	10-NOV-80	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	p4
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	931881250
Layer:	2
Color:	2
General Color:	GREY
Mat1:	15
Most Common Material:	LIMESTONE
Mat2:	
Other Materials:	
Mat3:	
Other Materials:	
Formation Top Depth:	80
Formation End Depth:	112
Formation End Depth UOM:	ft

Formation ID:	931881249
Layer:	1
Color:	2
General Color:	GREY
Mat1:	05
Most Common Material:	CLAY
Mat2:	
Other Materials:	
Mat3:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	80
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964404386
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	

Pipe Information

Pipe ID:	10824905
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930463118
Layer:	1
Material:	1
Open Hole or Material:	STEEL
Depth From:	
Depth To:	80
Casing Diameter:	6
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pump Test ID:	994404386
Pump Set At:	
Static Level:	62
Final Level After Pumping:	62
Recommended Pump Depth:	80
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	8
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	2
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	N

Draw Down & Recovery

Pump Test Detail ID:	935033426
Test Type:	Recovery
Test Duration:	60
Test Level:	52
Test Level UOM:	ft

Water Details

Water ID:	933746351
Layer:	2
Kind Code:	1
Kind:	FRESH
Water Found Depth:	112
Water Found Depth UOM:	ft

Water ID:	933746350
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	87
Water Found Depth UOM:	ft

9	***1 of 1***	***WSW/117.4***	***214.8 / -1.00***	***lot 12 con 14 ON***	***WWIS***

Well ID:	4403084	***Data Entry Status:***	
Construction Date:		***Data Src:***	1
Primary Water Use:	Industrial	***Date Received:***	6/8/1973

Sec. Water Use:	0	***Selected Flag:***	Yes
Final Well Status:	Water Supply	***Abandonment Rec:***	
Water Type:		***Contractor:***	5413
Casing Material:		***Form Version:***	1
Audit No:		***Owner:***	
Tag:		***Street Name:***	
Construction Method:		***County:***	NORFOLK
Elevation (m):		***Municipality:***	TOWNSEND TOWNSHIP
Elevation Reliability:		***Site Info:***	
Depth to Bedrock:		***Lot:***	012
Well Depth:		***Concession:***	14
Overburden/Bedrock:		***Concession Name:***	CON
Pump Rate:		***Easting NAD83:***	
Static Water Level:		***Northing NAD83:***	
Flowing (Y/N):		***Zone:***	
Flow Rate:		***UTM Reliability:***	
Clear/Cloudy:			

Bore Hole Information

Bore Hole ID:	10275053	***Elevation:***	216.94
DP2BR:	51	***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:	r	***East83:***	563604.1
Code OB Desc:	Bedrock	***Org CS:***	
Open Hole:		***North83:***	4745472
Cluster Kind:		***UTMRC:***	4
Date Completed:	26-MAR-73	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	p4
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	931876398
Layer:	4
Color:	2
General Color:	GREY
Mat1:	15
Most Common Material:	LIMESTONE
Mat2:	17
Other Materials:	SHALE
Mat3:	
Other Materials:	
Formation Top Depth:	62
Formation End Depth:	91
Formation End Depth UOM:	ft

Formation ID:	931876396
Layer:	2
Color:	2
General Color:	GREY
Mat1:	05
Most Common Material:	CLAY
Mat2:	
Other Materials:	
Mat3:	
Other Materials:	
Formation Top Depth:	2

Formation End Depth: 51
Formation End Depth UOM: ft

Formation ID: 931876395
Layer: 1
Color: 8
General Color: BLACK
Mat1: 01
Most Common Material: FILL
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 0
Formation End Depth: 2
Formation End Depth UOM: ft

Formation ID: 931876397
Layer: 3
Color: 2
General Color: GREY
Mat1: 15
Most Common Material: LIMESTONE
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 51
Formation End Depth: 62
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964403084
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 10823623
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930461658
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 51
Casing Diameter: 5
Casing Diameter UOM: inch
Casing Depth UOM: ft

Casing ID: 930461659
Layer: 2
Material: 4
Open Hole or Material: OPEN HOLE
Depth From:

Depth To:	91
Casing Diameter:	
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pump Test ID:	994403084
Pump Set At:	
Static Level:	60
Final Level After Pumping:	81
Recommended Pump Depth:	85
Pumping Rate:	5
Flowing Rate:	
Recommended Pump Rate:	5
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	2
Pumping Duration HR:	2
Pumping Duration MIN:	0
Flowing:	N

Draw Down & Recovery

Pump Test Detail ID:	934234055
Test Type:	Draw Down
Test Duration:	15
Test Level:	81
Test Level UOM:	ft

Water Details

Water ID:	933744851
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	90
Water Found Depth UOM:	ft

10 | ***1 of 1*** | ***W/136.8*** | ***214.8 / -1.00*** | ***lot 12 con 14 ON*** | ***WWIS***

Well ID:	4403839	**Data Entry Status:**	
Construction Date:		**Data Src:**	1
Primary Water Use:	Domestic	**Date Received:**	8/8/1977
Sec. Water Use:	0	**Selected Flag:**	Yes
Final Well Status:	Water Supply	**Abandonment Rec:**	
Water Type:		**Contractor:**	3604
Casing Material:		**Form Version:**	1
Audit No:		**Owner:**	
Tag:		**Street Name:**	
Construction Method:		**County:**	NORFOLK
Elevation (m):		**Municipality:**	TOWNSEND TOWNSHIP
Elevation Reliability:		**Site Info:**	
Depth to Bedrock:		**Lot:**	012
Well Depth:		**Concession:**	14
Overburden/Bedrock:		**Concession Name:**	CON
Pump Rate:		**Easting NAD83:**	
Static Water Level:		**Northing NAD83:**	
Flowing (Y/N):		**Zone:**	

Flow Rate: ***UTM Reliability:***
Clear/Cloudy:

Bore Hole Information

Bore Hole ID:	10275793	***Elevation:***	217.25
DP2BR:	72	***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:	r	***East83:***	563564.1
Code OB Desc:	Bedrock	***Org CS:***	
Open Hole:		***North83:***	4745522
Cluster Kind:		***UTMRC:***	5
Date Completed:	11-JUL-77	***UTMRC Desc:***	margin of error : 100 m - 300 m
Remarks:		***Location Method:***	p5
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	931879187
Layer:	1
Color:	6
General Color:	BROWN
Mat1:	05
Most Common Material:	CLAY
Mat2:	
Other Materials:	
Mat3:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	72
Formation End Depth UOM:	ft

Formation ID:	931879188
Layer:	2
Color:	6
General Color:	BROWN
Mat1:	15
Most Common Material:	LIMESTONE
Mat2:	
Other Materials:	
Mat3:	
Other Materials:	
Formation Top Depth:	72
Formation End Depth:	85
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964403839
Method Construction Code:	1
Method Construction:	Cable Tool
Other Method Construction:	

Pipe Information

Pipe ID: 10824363
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930462501
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 72
Casing Diameter: 6
Casing Diameter UOM: inch
Casing Depth UOM: ft

Casing ID: 930462502
Layer: 2
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 85
Casing Diameter: 6
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pump Test ID: 994403839
Pump Set At:
Static Level: 35
Final Level After Pumping: 84
Recommended Pump Depth: 84
Pumping Rate: 2
Flowing Rate:
Recommended Pump Rate: 2
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 2
Pumping Duration HR: 2
Pumping Duration MIN: 30
Flowing: N

Draw Down & Recovery

Pump Test Detail ID: 934509502
Test Type: Draw Down
Test Duration: 30
Test Level: 84
Test Level UOM: ft

Pump Test Detail ID: 935032863
Test Type: Draw Down
Test Duration: 60
Test Level: 84
Test Level UOM: ft

Pump Test Detail ID: 934765296
Test Type: Draw Down
Test Duration: 45

Test Level:	84
Test Level UOM:	ft
Pump Test Detail ID:	934234656
Test Type:	Draw Down
Test Duration:	15
Test Level:	84
Test Level UOM:	ft

Water Details

Water ID:	933745677
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	80
Water Found Depth UOM:	ft

11 | ***1 of 1*** | ***WSW/153.5*** | ***214.8 / -1.00*** | ***lot 12 con 6 ON*** | ***WWIS***

Well ID:	4402770	**Data Entry Status:**	
Construction Date:		**Data Src:**	1
Primary Water Use:	Livestock	**Date Received:**	10/19/1971
Sec. Water Use:	Domestic	**Selected Flag:**	Yes
Final Well Status:	Water Supply	**Abandonment Rec:**	
Water Type:		**Contractor:**	3604
Casing Material:		**Form Version:**	1
Audit No:		**Owner:**	
Tag:		**Street Name:**	
Construction Method:		**County:**	NORFOLK
Elevation (m):		**Municipality:**	WOODHOUSE TOWNSHIP
Elevation Reliability:		**Site Info:**	
Depth to Bedrock:		**Lot:**	012
Well Depth:		**Concession:**	06
Overburden/Bedrock:		**Concession Name:**	CON
Pump Rate:		**Easting NAD83:**	
Static Water Level:		**Northing NAD83:**	
Flowing (Y/N):		**Zone:**	
Flow Rate:		**UTM Reliability:**	
Clear/Cloudy:			

Bore Hole Information

Bore Hole ID:	10274742	**Elevation:**	217.06
DP2BR:	72	**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:	r	**East83:**	563569.1
Code OB Desc:	Bedrock	**Org CS:**	
Open Hole:		**North83:**	4745462
Cluster Kind:		**UTMRC:**	4
Date Completed:	10-SEP-71	**UTMRC Desc:**	margin of error : 30 m - 100 m
Remarks:		**Location Method:**	p4
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID: 931875300
Layer: 1
Color: 6
General Color: BROWN
Mat1: 09
Most Common Material: MEDIUM SAND
Mat2: 05
Other Materials: CLAY
Mat3:
Other Materials:
Formation Top Depth: 0
Formation End Depth: 25
Formation End Depth UOM: ft

Formation ID: 931875302
Layer: 3
Color: 6
General Color: BROWN
Mat1: 15
Most Common Material: LIMESTONE
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 72
Formation End Depth: 90
Formation End Depth UOM: ft

Formation ID: 931875301
Layer: 2
Color: 2
General Color: GREY
Mat1: 05
Most Common Material: CLAY
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 25
Formation End Depth: 72
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964402770
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 10823312
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930461290
Layer: 1
Material: 1

Open Hole or Material:	STEEL
Depth From:	
Depth To:	72
Casing Diameter:	5
Casing Diameter UOM:	inch
Casing Depth UOM:	ft
Casing ID:	930461291
Layer:	2
Material:	4
Open Hole or Material:	OPEN HOLE
Depth From:	
Depth To:	90
Casing Diameter:	
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pump Test ID:	994402770
Pump Set At:	
Static Level:	
Final Level After Pumping:	88
Recommended Pump Depth:	89
Pumping Rate:	2
Flowing Rate:	
Recommended Pump Rate:	2
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	2
Pumping Duration HR:	2
Pumping Duration MIN:	10
Flowing:	N

Draw Down & Recovery

Pump Test Detail ID:	935032263
Test Type:	Draw Down
Test Duration:	60
Test Level:	88
Test Level UOM:	ft
Pump Test Detail ID:	934508373
Test Type:	Draw Down
Test Duration:	30
Test Level:	88
Test Level UOM:	ft
Pump Test Detail ID:	934233527
Test Type:	Draw Down
Test Duration:	15
Test Level:	88
Test Level UOM:	ft
Pump Test Detail ID:	934764198
Test Type:	Draw Down
Test Duration:	45
Test Level:	88
Test Level UOM:	ft

Water Details

Water ID: 933744468
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 88
Water Found Depth UOM: ft

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12 | **1 of 1** | **S/156.3** | **215.8 / 0.00** | **lot 13 con 6 ON** | **WWIS**

Well ID: 4402070
Construction Date:
Primary Water Use: Commerical
Sec. Water Use: 0
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No:
Tag:
Construction Method:
Elevation (m):
Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Data Entry Status:
Data Src: 1
Date Received: 1/12/1950
Selected Flag: Yes
Abandonment Rec:
Contractor: 4723
Form Version: 1
Owner:
Street Name:
County: NORFOLK
Municipality: WOODHOUSE TOWNSHIP
Site Info:
Lot: 013
Concession: 06
Concession Name: CON
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

Bore Hole Information

Bore Hole ID: 10274075
DP2BR: 58
Spatial Status:
Code OB: r
Code OB Desc: Bedrock
Open Hole:
Cluster Kind:
Date Completed: 24-MAY-49
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation: 215.51
Elevrc:
Zone: 17
East83: 563764.1
Org CS:
North83: 4745372
UTMRC: 9
UTMRC Desc: unknown UTM
Location Method: p9

Overburden and Bedrock Materials Interval

Formation ID: 931872949
Layer: 2
Color:
General Color:
Mat1: 09
Most Common Material: MEDIUM SAND
Mat2:
Other Materials:
Mat3:
Other Materials:

Formation Top Depth: 24
Formation End Depth: 58
Formation End Depth UOM: ft

Formation ID: 931872950
Layer: 3
Color:
General Color:
Mat1: 15
Most Common Material: LIMESTONE
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 58
Formation End Depth: 92
Formation End Depth UOM: ft

Formation ID: 931872948
Layer: 1
Color:
General Color:
Mat1: 05
Most Common Material: CLAY
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 0
Formation End Depth: 24
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964402070
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 10822645
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930460482
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 58
Casing Diameter: 6
Casing Diameter UOM: inch
Casing Depth UOM: ft

Casing ID: 930460483
Layer: 2
Material: 4
Open Hole or Material: OPEN HOLE

Depth From:	
Depth To:	92
Casing Diameter:	6
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pump Test ID:	994402070
Pump Set At:	
Static Level:	
Final Level After Pumping:	
Recommended Pump Depth:	
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	1
Water State After Test:	CLEAR
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	N

Water Details

Water ID:	933743769
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	90
Water Found Depth UOM:	ft

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13 | ***1 of 1*** | ***WSW/223.6*** | ***215.8 / 0.00*** | ***lot 12 con 14 ON*** | ***WWIS***

Well ID:	4402938	**Data Entry Status:**	
Construction Date:		**Data Src:**	1
Primary Water Use:	Domestic	**Date Received:**	7/26/1972
Sec. Water Use:	0	**Selected Flag:**	Yes
Final Well Status:	Water Supply	**Abandonment Rec:**	
Water Type:		**Contractor:**	3030
Casing Material:		**Form Version:**	1
Audit No:		**Owner:**	
Tag:		**Street Name:**	
Construction Method:		**County:**	NORFOLK
Elevation (m):		**Municipality:**	TOWNSEND TOWNSHIP
Elevation Reliability:		**Site Info:**	
Depth to Bedrock:		**Lot:**	012
Well Depth:		**Concession:**	14
Overburden/Bedrock:		**Concession Name:**	CON
Pump Rate:		**Easting NAD83:**	
Static Water Level:		**Northing NAD83:**	
Flowing (Y/N):		**Zone:**	
Flow Rate:		**UTM Reliability:**	
Clear/Cloudy:			

Bore Hole Information

Bore Hole ID:	10274908	**Elevation:**	217.8
DP2BR:		**Elevrc:**	

Spatial Status:		***Zone:***	17
Code OB:	o	***East83:***	563489.1
Code OB Desc:	Overburden	***Org CS:***	
Open Hole:		***North83:***	4745472
Cluster Kind:		***UTMRC:***	4
Date Completed:	07-JUL-72	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	p4
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	931875875
Layer:	1
Color:	6
General Color:	BROWN
Mat1:	02
Most Common Material:	TOPSOIL
Mat2:	
Other Materials:	
Mat3:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	4
Formation End Depth UOM:	ft

Formation ID:	931875876
Layer:	2
Color:	6
General Color:	BROWN
Mat1:	05
Most Common Material:	CLAY
Mat2:	
Other Materials:	
Mat3:	
Other Materials:	
Formation Top Depth:	4
Formation End Depth:	12
Formation End Depth UOM:	ft

Formation ID:	931875877
Layer:	3
Color:	2
General Color:	GREY
Mat1:	05
Most Common Material:	CLAY
Mat2:	06
Other Materials:	SILT
Mat3:	28
Other Materials:	SAND
Formation Top Depth:	12
Formation End Depth:	52
Formation End Depth UOM:	ft

Method of Construction & Well Use

Method Construction ID:	964402938
Method Construction Code:	6

Method Construction: Boring
Other Method Construction:

Pipe Information

Pipe ID: 10823478
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930461483
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From:
Depth To: 52
Casing Diameter: 36
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pump Test ID: 994402938
Pump Set At:
Static Level: 20
Final Level After Pumping:
Recommended Pump Depth: 47
Pumping Rate:
Flowing Rate:
Recommended Pump Rate: 5
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method:
Pumping Duration HR:
Pumping Duration MIN:
Flowing: N

Water Details

Water ID: 933744662
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 20
Water Found Depth UOM: ft

Water ID: 933744663
Layer: 2
Kind Code: 1
Kind: FRESH
Water Found Depth: 50
Water Found Depth UOM: ft

14	1 of 1	NW/231.6	214.8 / -1.00	lot 12 con 14 ON	WWIS

Well ID: 4404565
Construction Date:
Data Entry Status:
Data Src: 1

Primary Water Use:	Domestic	***Date Received:***	6/11/1982
Sec. Water Use:	0	***Selected Flag:***	Yes
Final Well Status:	Water Supply	***Abandonment Rec:***	
Water Type:		***Contractor:***	3030
Casing Material:		***Form Version:***	1
Audit No:		***Owner:***	
Tag:		***Street Name:***	
Construction Method:		***County:***	NORFOLK
Elevation (m):		***Municipality:***	TOWNSEND TOWNSHIP
Elevation Reliability:		***Site Info:***	
Depth to Bedrock:		***Lot:***	012
Well Depth:		***Concession:***	14
Overburden/Bedrock:		***Concession Name:***	CON
Pump Rate:		***Easting NAD83:***	
Static Water Level:		***Northing NAD83:***	
Flowing (Y/N):		***Zone:***	
Flow Rate:		***UTM Reliability:***	
Clear/Cloudy:			

Bore Hole Information

Bore Hole ID:	10276512	***Elevation:***	217.15
DP2BR:		***Elevrc:***	
Spatial Status:		***Zone:***	17
Code OB:	o	***East83:***	563594.1
Code OB Desc:	Overburden	***Org CS:***	
Open Hole:		***North83:***	4745762
Cluster Kind:		***UTMRC:***	4
Date Completed:	18-MAY-82	***UTMRC Desc:***	margin of error : 30 m - 100 m
Remarks:		***Location Method:***	p4
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	931881928
Layer:	1
Color:	6
General Color:	BROWN
Mat1:	01
Most Common Material:	FILL
Mat2:	
Other Materials:	
Mat3:	
Other Materials:	
Formation Top Depth:	0
Formation End Depth:	1
Formation End Depth UOM:	ft

Formation ID:	931881930
Layer:	3
Color:	6
General Color:	BROWN
Mat1:	05
Most Common Material:	CLAY
Mat2:	
Other Materials:	
Mat3:	
Other Materials:	

Formation Top Depth: 3
Formation End Depth: 12
Formation End Depth UOM: ft

Formation ID: 931881929
Layer: 2
Color: 6
General Color: BROWN
Mat1: 28
Most Common Material: SAND
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 1
Formation End Depth: 3
Formation End Depth UOM: ft

Formation ID: 931881932
Layer: 5
Color: 2
General Color: GREY
Mat1: 06
Most Common Material: SILT
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 15
Formation End Depth: 43
Formation End Depth UOM: ft

Formation ID: 931881931
Layer: 4
Color: 3
General Color: BLUE
Mat1: 05
Most Common Material: CLAY
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 12
Formation End Depth: 15
Formation End Depth UOM: ft

Formation ID: 931881933
Layer: 6
Color: 3
General Color: BLUE
Mat1: 05
Most Common Material: CLAY
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 43
Formation End Depth: 43
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964404565
Method Construction Code: 6

Method Construction: Boring
Other Method Construction:

Pipe Information

Pipe ID: 10825082
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930463316
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From:
Depth To: 43
Casing Diameter: 36
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pump Test ID: 994404565
Pump Set At:
Static Level: 12
Final Level After Pumping:
Recommended Pump Depth: 38
Pumping Rate:
Flowing Rate:
Recommended Pump Rate: 2
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code:
Water State After Test:
Pumping Test Method: 2
Pumping Duration HR:
Pumping Duration MIN:
Flowing: N

Water Details

Water ID: 933746589
Layer: 3
Kind Code: 1
Kind: FRESH
Water Found Depth: 25
Water Found Depth UOM: ft

Water ID: 933746588
Layer: 2
Kind Code: 1
Kind: FRESH
Water Found Depth: 15
Water Found Depth UOM: ft

Water ID: 933746590
Layer: 4
Kind Code: 1
Kind: FRESH
Water Found Depth: 35

Water Found Depth UOM:	ft
Water ID:	933746587
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	3
Water Found Depth UOM:	ft

15 | **1 of 1** | **W/241.1** | **215.8 / 0.00** | **lot 12 con 14 ON** | **WWIS**

Well ID:	4401588	**Data Entry Status:**	
Construction Date:		**Data Src:**	1
Primary Water Use:	Domestic	**Date Received:**	10/26/1967
Sec. Water Use:	0	**Selected Flag:**	Yes
Final Well Status:	Water Supply	**Abandonment Rec:**	
Water Type:		**Contractor:**	1304
Casing Material:		**Form Version:**	1
Audit No:		**Owner:**	
Tag:		**Street Name:**	
Construction Method:		**County:**	NORFOLK
Elevation (m):		**Municipality:**	TOWNSEND TOWNSHIP
Elevation Reliability:		**Site Info:**	
Depth to Bedrock:		**Lot:**	012
Well Depth:		**Concession:**	14
Overburden/Bedrock:		**Concession Name:**	CON
Pump Rate:		**Easting NAD83:**	
Static Water Level:		**Northing NAD83:**	
Flowing (Y/N):		**Zone:**	
Flow Rate:		**UTM Reliability:**	
Clear/Cloudy:			

Bore Hole Information

Bore Hole ID:	10273594	**Elevation:**	217.82
DP2BR:		**Elevrc:**	
Spatial Status:		**Zone:**	17
Code OB:	o	**East83:**	563464.1
Code OB Desc:	Overburden	**Org CS:**	
Open Hole:		**North83:**	4745492
Cluster Kind:		**UTMRC:**	5
Date Completed:	24-OCT-67	**UTMRC Desc:**	margin of error : 100 m - 300 m
Remarks:		**Location Method:**	p5
Elevrc Desc:			
Location Source Date:			
Improvement Location Source:			
Improvement Location Method:			
Source Revision Comment:			
Supplier Comment:			

Overburden and Bedrock Materials Interval

Formation ID:	931871058
Layer:	1
Color:	2
General Color:	GREY
Mat1:	05
Most Common Material:	CLAY
Mat2:	
Other Materials:	
Mat3:	

Other Materials:
Formation Top Depth: 0
Formation End Depth: 45
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964401588
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 10822164
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930459815
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From:
Depth To: 45
Casing Diameter: 36
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pump Test ID: 994401588
Pump Set At:
Static Level: 15
Final Level After Pumping:
Recommended Pump Depth:
Pumping Rate:
Flowing Rate:
Recommended Pump Rate: 1
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code:
Water State After Test:
Pumping Test Method:
Pumping Duration HR:
Pumping Duration MIN:
Flowing: N

Water Details

Water ID: 933743276
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 35
Water Found Depth UOM: ft

Unplottable Summary

Total: 24 Unplottable sites

DB	Company Name/Site Name	Address	City	Postal
CA	648892 ONTARIO INC. MILL POND ESTATES	PRIVATE PROP. ELIZABETH ST.	SIMCOE TOWN ON	N3Y 4K4
CA		WDH Plan 289, Concession 6, Concession 14	Nanticoke ON	
EXP	18 WHEELER TRUCK STOP	LOT 13 CON 14	NANTICOKE ON	L2V 1Z3
GEN	HALDIMAND-NORFOLK, REGIONAL MUNIC. OF	HIGHWAY #3 WEST	SIMCOE ON	N3Y 4M1
GEN	NORFOLK (SEE & USE ON0324601)	HIGHWAY #3 WEST REGIONAL GARAGE	SIMCOE ON	N3Y 4M1
GEN	HALDIMAND-NORFOLK, REGIONAL MUNIC. OF	HIGHWAY #3 WEST REGIONAL GARAGE	SIMCOE ON	N3Y 4M1
GEN	HALDIMAND-NORFOLK REGION 19-043	HIGHWAY #3 WEST SIMCOE C/O 70 TOWN CENTRE DRIVE	TOWNSEND ON	N0A 1S0
GEN	NORFOLK COUNTY	HIGHWAY #3 WEST REGIONAL GARAGE	SIMCOE ON	N3Y 4M1
PRT	BRADSHAW BROS PETROLEUM	HWY 3 & REG 5 E PT LOT 1 PLAN 39B	RENTON ON	
PRT	BRADSHAW BROS PETROLEUM	LOT 1 PL 39B	SIMCOE ON	
PRT	BRADSHAW BROS PETROLEUM	HWY 3 & REG 5 E PT LOT 1 PLAN 39B	RENTON ON	
PRT	18 WHEELER TRUCK STOP	LOT 13 CON 14	NANTICOKE ON	
SPL	PRIVATELY OWNED	LOT 12,CONC 6,TOWNSEND TWP. MOTOR VEHICLE (OPERATING FLUID)	NANTICOKE CITY ON	
SPL	BRADSHAW OIL CORPORATION	UNKNOWN LOCATION TANK TRUCK (CARGO)	NORFOLK ON	
SPL		Cockshutt Road	Norfolk ON	
SPL		Highway, 3	Norfolk ON	
SPL	Terratec Environmental Ltd.	Highway #3 CULBOLL FARM #9	Norfolk ON	

WWIS	lot 12 con 14	ON
WWIS	lot 12 con 14	ON
WWIS	lot 13	ON
WWIS	lot 12 con 14	ON
WWIS	con 6	ON
WWIS	lot 12	ON
WWIS	con 14	Simcoe ON

Unplottable Report

Site: ***648892 ONTARIO INC. MILL POND ESTATES***
PRIVATE PROP. ELIZABETH ST. SIMCOE TOWN ON N3Y 4K4

Database: ***CA***

Certificate #:	7-0082-87-
Application Year:	87
Issue Date:	2/25/1987
Approval Type:	Municipal water
Status:	Approved
Application Type:	
Client Name::	
Client Address::	
Client City::	
Client Postal Code::	
Project Description::	
Contaminants::	
Emission Control::	

Site:
WDH Plan 289, Concession 6, Concession 14 Nanticoke ON

Database: ***CA***

Certificate #:	2081-4GQPA8
Application Year:	00
Issue Date:	2/25/00
Approval Type:	Municipal & Private water
Status:	Approved
Application Type:	New Certificate of Approval
Client Name::	Ontario Realty Corporation
Client Address::	1 Stone Road, 1st Floor
Client City::	Toronto
Client Postal Code::	
Project Description::	Installation of watermains and appurtenances.
Contaminants::	
Emission Control::	

Site: ***18 WHEELER TRUCK STOP***
LOT 13 CON 14 NANTICOKE ON L2V 1Z3

Database: ***EXP***

Instance No:	9717560
Instance ID:	
Instance Type:	FS Facility
Description:	
Status:	EXPIRED
TSSA Program Area:	
Maximum Hazard Rank:	
Facility Type:	
Expired Date:	10/23/2009 11:36

Site: ***HALDIMAND-NORFOLK, REGIONAL MUNIC. OF***
HIGHWAY #3 WEST SIMCOE ON N3Y 4M1

Database: ***GEN***

Generator No.:	ON0354800	***PO Box No.:***	
Status:		***Country:***	
Approval Years:	92,93,97	***Choice of Contact:***	
Contam. Facility:		***Co Admin:***	
MHSW Facility:		***Phone No. Admin:***	

SIC Code: 6351
SIC Description: GARAGES(GEN. REPAIR)

--Details--
Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Site: ***NORFOLK (SEE & USE ON0324601)***
HIGHWAY #3 WEST REGIONAL GARAGE SIMCOE ON N3Y 4M1

Database: ***GEN***

Generator No.: ON0354800
Status:
Approval Years: 01
Contam. Facility:
MHSW Facility:
SIC Code: 8371
SIC Description: TRANSPORTATION ADMIN.

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

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

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Site: ***HALDIMAND-NORFOLK, REGIONAL MUNIC. OF***
HIGHWAY #3 WEST REGIONAL GARAGE SIMCOE ON N3Y 4M1

Database: ***GEN***

Generator No.: ON0354800
Status:
Approval Years: 98,99
Contam. Facility:
MHSW Facility:
SIC Code: 6351
SIC Description: GARAGES(GEN. REPAIR)

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

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

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Site: ***HALDIMAND-NORFOLK REGION 19-043***
HIGHWAY #3 WEST SIMCOE C/O 70 TOWN CENTRE DRIVE TOWNSEND ON N0A 1S0

Database: ***GEN***

Generator No.:	ON0354800	***PO Box No.:***	
Status:		***Country:***	
Approval Years:	94,95,96	***Choice of Contact:***	
Contam. Facility:		***Co Admin:***	
MHSW Facility:		***Phone No. Admin:***	
SIC Code:	6351		
SIC Description:	GARAGES(GEN. REPAIR)		

--Details--

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Site: ***NORFOLK COUNTY***
HIGHWAY #3 WEST REGIONAL GARAGE SIMCOE ON N3Y 4M1

Database: ***GEN***

Generator No.:	ON0354800	***PO Box No.:***	
Status:		***Country:***	
Approval Years:	00	***Choice of Contact:***	
Contam. Facility:		***Co Admin:***	
MHSW Facility:		***Phone No. Admin:***	
SIC Code:	8371		
SIC Description:	TRANSPORTATION ADMIN.		

--Details--

Waste Code: 212
Waste Description: ALIPHATIC SOLVENTS

Waste Code: 213
Waste Description: PETROLEUM DISTILLATES

Waste Code: 241
Waste Description: HALOGENATED SOLVENTS

Waste Code: 251
Waste Description: OIL SKIMMINGS & SLUDGES

Waste Code: 252
Waste Description: WASTE OILS & LUBRICANTS

Site: ***BRADSHAW BROS PETROLEUM***
HWY 3 & REG 5 E PT LOT 1 PLAN 39B RENTON ON

Database: ***PRT***

Location ID:	12304
Type:	retail
Expiry Date:	1994-09-30
Capacity (L):	1000
Licence #:	0032308002

Site: ***BRADSHAW BROS PETROLEUM***
LOT 1 PL 39B SIMCOE ON

Database: ***PRT***

Location ID: 13394
Type: retail
Expiry Date: 1995-09-30
Capacity (L): 0
Licence #: 0051297001

Site: ***BRADSHAW BROS PETROLEUM***
HWY 3 & REG 5 E PT LOT 1 PLAN 39B RENTON ON

Database: ***PRT***

Location ID: 12304
Type: retail
Expiry Date: 1995-09-30
Capacity (L): 118196
Licence #: 0076363092

Site: ***18 WHEELER TRUCK STOP***
LOT 13 CON 14 NANTICOKE ON

Database: ***PRT***

Location ID: 9527
Type: retail
Expiry Date: 1991-01-31
Capacity (L): 0
Licence #: 0051557001

Site: ***PRIVATELY OWNED***
LOT 12,CONC 6,TOWNSEND TWP. MOTOR VEHICLE (OPERATING FLUID) NANTICOKE CITY ON

Database: ***SPL***

Ref No:	100904	***Discharger Report:***	
Site No:		***Material Group:***	
Incident Dt:	6/5/1994	***Client Type:***	
Year:		***Sector Type:***	
Incident Cause:	OTHER CAUSE (N.O.S.)	***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:	CONFIRMED	***Site Municipality:***	12101
Nature of Impact:	Fish kill	***Site Lot:***	
Receiving Medium:	LAND / WATER	***Site Conc:***	
Receiving Env:		***Northing:***	
Health/Env Conseq:		***Easting:***	MNR,MOEE.
MOE Response:		***Site Geo Ref Accu:***	
Dt MOE Arvl on Scn:		***Site Geo Ref Meth:***	
MOE Reported Dt:	6/7/1994	***Site Map Datum:***	
Dt Document Closed:			
SAC Action Class:			

Incident Reason: CARELESS APPLICATION
Incident Summary: PRIVATE OWNER-PESTICIDE RUNOFF TO POND,FISH KILL,MNR ATTENDED,SAMPLED.

Site: ***BRADSHAW OIL CORPORATION***
UNKNOWN LOCATION TANK TRUCK (CARGO) NORFOLK ON

Database: ***SPL***

Ref No:	192585	***Discharger Report:***	
Site No:		***Material Group:***	
Incident Dt:	12/15/2000	***Client Type:***	
Year:		***Sector Type:***	
Incident Cause:	UNKNOWN	***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:***	12404
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:	12/27/2000	***Site Map Datum:***	
Dt Document Closed:			
SAC Action Class:			
Incident Reason:	UNKNOWN		
Incident Summary:	BRADSHAW: SPILL OF 15-20 L OF FURNACE OIL TO GND, CLEANED-WILL SEND REPORT.		

Site: ***Database:*** ***SPL***

Cockshutt Road Norfolk ON

Ref No:	5035-AEGJUZ	***Discharger Report:***	
Site No:	NA	***Material Group:***	
Incident Dt:	10/6/2016	***Client Type:***	
Year:		***Sector Type:***	Miscellaneous Industrial
Incident Cause:		***Source Type:***	
Incident Event:	Leak/Break	***Nearest Watercourse:***	
Contaminant Code:	13	***Site Name:***	Cockshutt Road and Jenkins Road<UNOFFICIAL>
Contaminant Name:	DIESEL FUEL	***Site Address:***	Cockshutt Road
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:		***Site Municipality:***	Norfolk
Nature of Impact:		***Site Lot:***	
Receiving Medium:		***Site Conc:***	
Receiving Env:	Land	***Northing:***	
Health/Env Conseq:		***Easting:***	
MOE Response:		***Site Geo Ref Accu:***	
Dt MOE Arvl on Scn:	10/6/2016	***Site Geo Ref Meth:***	
MOE Reported Dt:	10/6/2016	***Site Map Datum:***	
Dt Document Closed:	10/12/2016		
SAC Action Class:	Land Spills		
Incident Reason:	Road Conditions		
Incident Summary:	Max Underhill 100L of diesel from tractor to dry ditch - Norfolk County		

Site: ***Database:*** ***SPL***

Highway, 3 Norfolk ON

Ref No:	0053-6BDMBE	***Discharger Report:***	0
Site No:		***Material Group:***	Miscellaneous
Incident Dt:	4/12/2005	***Client Type:***	
Year:		***Sector Type:***	Unknown
Incident Cause:		***Source Type:***	
Incident Event:		***Nearest Watercourse:***	
Contaminant Code:		***Site Name:***	Dingle Creek, Town of Simcoe<UNOFFICIAL>
Contaminant Name:		***Site Address:***	
Contaminant Limit 1:		***Site District Office:***	Hamilton
Contam Limit Freq 1:		***Site County/District:***	
Contaminant UN No 1:		***Site Postal Code:***	
Contaminant Qty:		***Site Region:***	
Environment Impact:	Possible	***Site Municipality:***	Norfolk
Nature of Impact:		***Site Lot:***	
Receiving Medium:	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:	4/12/2005	***Site Map Datum:***	
Dt Document Closed:			
SAC Action Class:			
Incident Reason:	Spill		
Incident Summary:	Possible spill to creek!		

Site: ***Terratec Environmental Ltd.***
Highway #3 CULBOLL FARM #9 Norfolk ON

Database: ***SPL***

Ref No:	3508-6T8PBE	***Discharger Report:***	
Site No:		***Material Group:***	Wastes
Incident Dt:	9/1/2006	***Client Type:***	
Year:		***Sector Type:***	Other Motor Vehicle
Incident Cause:	Other Transport Accident	***Source Type:***	
Incident Event:		***Nearest Watercourse:***	
Contaminant Code:	44	***Site Name:***	HIGHWAY #3
Contaminant Name:	SEWAGE SLUDGE	***Site Address:***	HIGHWAY #3
Contaminant Limit 1:		***Site District Office:***	Hamilton - District
Contam Limit Freq 1:		***Site County/District:***	
Contaminant UN No 1:		***Site Postal Code:***	
Contaminant Qty:	35 tonne	***Site Region:***	
Environment Impact:	Possible	***Site Municipality:***	Norfolk
Nature of Impact:	Surface Water Pollution	***Site Lot:***	
Receiving Medium:	Water	***Site Conc:***	
Receiving Env:		***Northing:***	NA
Health/Env Conseq:		***Easting:***	NA
MOE Response:		***Site Geo Ref Accu:***	
Dt MOE Arvl on Scn:		***Site Geo Ref Meth:***	
MOE Reported Dt:	9/1/2006	***Site Map Datum:***	
Dt Document Closed:			
SAC Action Class:			
Incident Reason:	Spill		
Incident Summary:	Terratec - 35 tonnes sewage to ditch and corn field		

Site:
lot 12 con 14 ON

Database: ***WWIS***

Well ID:	4405045	***Data Entry Status:***	
Construction Date:		***Data Src:***	1
Primary Water Use:	Domestic	***Date Received:***	3/31/1987
Sec. Water Use:		***Selected Flag:***	Yes
Final Well Status:	Water Supply	***Abandonment Rec:***	
Water Type:		***Contractor:***	3030
Casing Material:		***Form Version:***	1
Audit No:	06259	***Owner:***	
Tag:		***Street Name:***	
Construction Method:		***County:***	NORFOLK
Elevation (m):		***Municipality:***	TOWNSEND TOWNSHIP
Elevation Reliability:		***Site Info:***	
Depth to Bedrock:		***Lot:***	012
Well Depth:		***Concession:***	14
Overburden/Bedrock:		***Concession Name:***	CON
Pump Rate:		***Easting NAD83:***	
Static Water Level:		***Northing NAD83:***	
Flowing (Y/N):		***Zone:***	
Flow Rate:		***UTM Reliability:***	
Clear/Cloudy:			

Bore Hole Information

Bore Hole ID:	10276947	***Elevation:***	
DP2BR:		***Elevrc:***	

Spatial Status:
Code OB: o
Code OB Desc: Overburden
Open Hole:
Cluster Kind:
Date Completed: 13-MAR-87
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Zone: 17
East83:
Org CS:
North83:
UTMRC: 9
UTMRC Desc: unknown UTM
Location Method: na

Overburden and Bedrock Materials Interval

Formation ID: 931883638
Layer: 1
Color: 6
General Color: BROWN
Mat1: 02
Most Common Material: TOPSOIL
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 0
Formation End Depth: 1
Formation End Depth UOM: ft

Formation ID: 931883639
Layer: 2
Color: 6
General Color: BROWN
Mat1: 05
Most Common Material: CLAY
Mat2: 81
Other Materials: SANDY
Mat3:
Other Materials:
Formation Top Depth: 1
Formation End Depth: 6
Formation End Depth UOM: ft

Formation ID: 931883640
Layer: 3
Color: 2
General Color: GREY
Mat1: 06
Most Common Material: SILT
Mat2: 05
Other Materials: CLAY
Mat3: 74
Other Materials: LAYERED
Formation Top Depth: 6
Formation End Depth: 45
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964405045
Method Construction Code: 6
Method Construction: Boring
Other Method Construction:

Pipe Information

Pipe ID:	10825517
Casing No:	1
Comment:	
Alt Name:	

Construction Record - Casing

Casing ID:	930463778
Layer:	1
Material:	3
Open Hole or Material:	CONCRETE
Depth From:	
Depth To:	45
Casing Diameter:	36
Casing Diameter UOM:	inch
Casing Depth UOM:	ft

Results of Well Yield Testing

Pump Test ID:	994405045
Pump Set At:	
Static Level:	6
Final Level After Pumping:	
Recommended Pump Depth:	40
Pumping Rate:	
Flowing Rate:	
Recommended Pump Rate:	1
Levels UOM:	ft
Rate UOM:	GPM
Water State After Test Code:	
Water State After Test:	
Pumping Test Method:	
Pumping Duration HR:	
Pumping Duration MIN:	
Flowing:	N

Water Details

Water ID:	933747108
Layer:	1
Kind Code:	1
Kind:	FRESH
Water Found Depth:	6
Water Found Depth UOM:	ft

Site:
lot 12 con 14 ON

Database:
WWIS

Well ID:	4404888	***Data Entry Status:***	
Construction Date:		***Data Src:***	1
Primary Water Use:	Domestic	***Date Received:***	9/19/1985
Sec. Water Use:		***Selected Flag:***	Yes
Final Well Status:	Water Supply	***Abandonment Rec:***	
Water Type:		***Contractor:***	3030
Casing Material:		***Form Version:***	1
Audit No:		***Owner:***	
Tag:		***Street Name:***	
Construction Method:		***County:***	NORFOLK
Elevation (m):		***Municipality:***	TOWNSEND TOWNSHIP
Elevation Reliability:		***Site Info:***	
Depth to Bedrock:		***Lot:***	012
Well Depth:		***Concession:***	14
Overburden/Bedrock:		***Concession Name:***	CON

Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

Bore Hole Information

Bore Hole ID: 10276819
DP2BR:
Spatial Status:
Code OB: o
Code OB Desc: Overburden
Open Hole:
Cluster Kind:
Date Completed: 22-JUL-85
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83:
Org CS:
North83:
UTMRC: 9
UTMRC Desc: unknown UTM
Location Method: na

Overburden and Bedrock Materials Interval

Formation ID: 931883100
Layer: 1
Color: 6
General Color: BROWN
Mat1: 02
Most Common Material: TOPSOIL
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 0
Formation End Depth: 1
Formation End Depth UOM: ft

Formation ID: 931883101
Layer: 2
Color: 6
General Color: BROWN
Mat1: 28
Most Common Material: SAND
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 1
Formation End Depth: 10
Formation End Depth UOM: ft

Formation ID: 931883102
Layer: 3
Color: 2
General Color: GREY
Mat1: 06
Most Common Material: SILT
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 10
Formation End Depth: 25

Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964404888
Method Construction Code: 6
Method Construction: Boring
Other Method Construction:

Pipe Information

Pipe ID: 10825389
Casing No: 1
Comment:
Alt Name:

Results of Well Yield Testing

Pump Test ID: 994404888
Pump Set At:
Static Level: 4
Final Level After Pumping:
Recommended Pump Depth: 23
Pumping Rate:
Flowing Rate:
Recommended Pump Rate: 1
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code:
Water State After Test:
Pumping Test Method:
Pumping Duration HR:
Pumping Duration MIN:
Flowing: N

Water Details

Water ID: 933746965
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 4
Water Found Depth UOM: ft

Site:
lot 13 ON

Database: ***WWIS***

Well ID: 4407291
Construction Date:
Primary Water Use: Domestic
Sec. Water Use:
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No: 211867
Tag:
Construction Method:
Elevation (m):
Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:

Data Entry Status:
Data Src: 1
Date Received: 11/23/1999
Selected Flag: Yes
Abandonment Rec:
Contractor: 5201
Form Version: 1
Owner:
Street Name:
County: NORFOLK
Municipality: TOWNSEND TOWNSHIP
Site Info:
Lot: 013
Concession:
Concession Name: CON
Easting NAD83:
Northing NAD83:

Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Zone:
UTM Reliability:

Bore Hole Information

Bore Hole ID: 10278773
DP2BR: 50
Spatial Status:
Code OB: r
Code OB Desc: Bedrock
Open Hole:
Cluster Kind:
Date Completed: 01-NOV-99
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83:
Org CS:
North83:
UTMRC: 9
UTMRC Desc: unknown UTM
Location Method: na

Overburden and Bedrock Materials Interval

Formation ID: 931891235
Layer: 1
Color: 6
General Color: BROWN
Mat1: 05
Most Common Material: CLAY
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 0
Formation End Depth: 25
Formation End Depth UOM: ft

Formation ID: 931891237
Layer: 3
Color: 3
General Color: BLUE
Mat1: 05
Most Common Material: CLAY
Mat2: 11
Other Materials: GRAVEL
Mat3:
Other Materials:
Formation Top Depth: 40
Formation End Depth: 50
Formation End Depth UOM: ft

Formation ID: 931891236
Layer: 2
Color: 3
General Color: BLUE
Mat1: 05
Most Common Material: CLAY
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 25
Formation End Depth: 40
Formation End Depth UOM: ft

Formation ID: 931891239
Layer: 5
Color: 2
General Color: GREY
Mat1: 15
Most Common Material: LIMESTONE
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 65
Formation End Depth: 70
Formation End Depth UOM: ft

Formation ID: 931891238
Layer: 4
Color: 2
General Color: GREY
Mat1: 15
Most Common Material: LIMESTONE
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 50
Formation End Depth: 65
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 933163749
Layer: 1
Plug From: 0
Plug To: 15
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964407291
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 10827343
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930465814
Layer: 2
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 70
Casing Diameter: 5
Casing Diameter UOM: inch
Casing Depth UOM: ft

Casing ID: 930465813

Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 50
Casing Diameter: 5
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pump Test ID: 994407291
Pump Set At:
Static Level: 5
Final Level After Pumping: 30
Recommended Pump Depth: 65
Pumping Rate: 6
Flowing Rate:
Recommended Pump Rate: 6
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 1
Pumping Duration HR: 48
Pumping Duration MIN:
Flowing: N

Draw Down & Recovery

Pump Test Detail ID: 934240583
Test Type: Draw Down
Test Duration: 15
Test Level: 30
Test Level UOM: ft

Pump Test Detail ID: 935029574
Test Type: Draw Down
Test Duration: 60
Test Level: 30
Test Level UOM: ft

Pump Test Detail ID: 934768547
Test Type: Draw Down
Test Duration: 45
Test Level: 30
Test Level UOM: ft

Pump Test Detail ID: 934512812
Test Type: Draw Down
Test Duration: 30
Test Level: 30
Test Level UOM: ft

Water Details

Water ID: 933749079
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 69
Water Found Depth UOM: ft

Site:
lot 12 con 14 ON

Database:
WWIS

Well ID: 4404993
Construction Date:
Primary Water Use: Domestic
Sec. Water Use:
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No: NA
Tag:
Construction Method:
Elevation (m):
Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Data Entry Status:
Data Src: 1
Date Received: 9/25/1986
Selected Flag: Yes
Abandonment Rec:
Contractor: 3030
Form Version: 1
Owner:
Street Name:
County: NORFOLK
Municipality: TOWNSEND TOWNSHIP
Site Info:
Lot: 012
Concession: 14
Concession Name: CON
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

Bore Hole Information

Bore Hole ID: 10276904
DP2BR:
Spatial Status:
Code OB: o
Code OB Desc: Overburden
Open Hole:
Cluster Kind:
Date Completed: 09-JUL-86
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83:
Org CS:
North83:
UTMRC: 9
UTMRC Desc: unknown UTM
Location Method: na

Overburden and Bedrock Materials Interval

Formation ID: 931883440
Layer: 2
Color: 6
General Color: BROWN
Mat1: 28
Most Common Material: SAND
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 5
Formation End Depth: 6
Formation End Depth UOM: ft

Formation ID: 931883441
Layer: 3
Color: 2
General Color: GREY
Mat1: 06
Most Common Material: SILT
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 6

Formation End Depth: 45
Formation End Depth UOM: ft

Formation ID: 931883439
Layer: 1
Color: 6
General Color: BROWN
Mat1: 28
Most Common Material: SAND
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 0
Formation End Depth: 5
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964404993
Method Construction Code: 6
Method Construction: Boring
Other Method Construction:

Pipe Information

Pipe ID: 10825474
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930463728
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From:
Depth To: 45
Casing Diameter: 36
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pump Test ID: 994404993
Pump Set At:
Static Level: 6
Final Level After Pumping:
Recommended Pump Depth: 40
Pumping Rate:
Flowing Rate:
Recommended Pump Rate: 3
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code:
Water State After Test:
Pumping Test Method:
Pumping Duration HR:
Pumping Duration MIN:
Flowing: N

Water Details

Water ID: 933747061
Layer: 2
Kind Code: 1
Kind: FRESH
Water Found Depth: 20
Water Found Depth UOM: ft

Water ID: 933747062
Layer: 3
Kind Code: 1
Kind: FRESH
Water Found Depth: 30
Water Found Depth UOM: ft

Water ID: 933747060
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 6
Water Found Depth UOM: ft

Water ID: 933747063
Layer: 4
Kind Code: 1
Kind: FRESH
Water Found Depth: 40
Water Found Depth UOM: ft

Site:
con 6 ON

Database:
WWIS

Well ID: 4407087
Construction Date:
Primary Water Use: Domestic
Sec. Water Use:
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No: 193792
Tag:
Construction Method:
Elevation (m):
Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Data Entry Status:
Data Src: 1
Date Received: 11/16/1998
Selected Flag: Yes
Abandonment Rec:
Contractor: 5201
Form Version: 1
Owner:
Street Name:
County: NORFOLK
Municipality: WOODHOUSE TOWNSHIP
Site Info:
Lot:
Concession: 06
Concession Name: CON
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

Bore Hole Information

Bore Hole ID: 10278569
DP2BR: 115
Spatial Status:
Code OB: r
Code OB Desc: Bedrock
Open Hole:
Cluster Kind:
Date Completed: 22-OCT-98
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:

Elevation:
Elevrc:
Zone: 17
East83:
Org CS:
North83:
UTMRC: 9
UTMRC Desc: unknown UTM
Location Method: na

Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 931890325
Layer: 3
Color: 3
General Color: BLUE
Mat1: 05
Most Common Material: CLAY
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 15
Formation End Depth: 115
Formation End Depth UOM: ft

Formation ID: 931890323
Layer: 1
Color: 8
General Color: BLACK
Mat1: 02
Most Common Material: TOPSOIL
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 0
Formation End Depth: 2
Formation End Depth UOM: ft

Formation ID: 931890326
Layer: 4
Color: 6
General Color: BROWN
Mat1: 15
Most Common Material: LIMESTONE
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 115
Formation End Depth: 137
Formation End Depth UOM: ft

Formation ID: 931890324
Layer: 2
Color: 6
General Color: BROWN
Mat1: 05
Most Common Material: CLAY
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 2
Formation End Depth: 15
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 933163614
Layer: 1

Plug From: 0
Plug To: 10
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964407087
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 10827139
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930465575
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From:
Depth To: 115
Casing Diameter: 5
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pump Test ID: 994407087
Pump Set At:
Static Level: 33
Final Level After Pumping: 47
Recommended Pump Depth: 120
Pumping Rate: 12
Flowing Rate:
Recommended Pump Rate: 12
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 1
Pumping Duration HR: 5
Pumping Duration MIN: 0
Flowing: N

Draw Down & Recovery

Pump Test Detail ID: 934512259
Test Type: Draw Down
Test Duration: 30
Test Level: 47
Test Level UOM: ft

Pump Test Detail ID: 934239452
Test Type: Draw Down
Test Duration: 15
Test Level: 47
Test Level UOM: ft

Pump Test Detail ID: 934767997

Test Type: Draw Down
Test Duration: 45
Test Level: 47
Test Level UOM: ft

Pump Test Detail ID: 935029005
Test Type: Draw Down
Test Duration: 60
Test Level: 47
Test Level UOM: ft

Water Details

Water ID: 933748860
Layer: 1
Kind Code: 3
Kind: SULPHUR
Water Found Depth: 136
Water Found Depth UOM: ft

Water ID: 933748861
Layer: 2
Kind Code: 6
Kind: GAS
Water Found Depth:
Water Found Depth UOM: ft

Site:
lot 12 ON

Database: ***WWIS***

Well ID: 4404889
Construction Date:
Primary Water Use: Domestic
Sec. Water Use:
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No:
Tag:
Construction Method:
Elevation (m):
Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Data Entry Status:
Data Src: 1
Date Received: 9/19/1985
Selected Flag: Yes
Abandonment Rec:
Contractor: 3030
Form Version: 1
Owner:
Street Name:
County: NORFOLK
Municipality: TOWNSEND TOWNSHIP
Site Info:
Lot: 012
Concession:
Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

Bore Hole Information

Bore Hole ID: 10276820
DP2BR:
Spatial Status:
Code OB: o
Code OB Desc: Overburden
Open Hole:
Cluster Kind:
Date Completed: 22-JUL-85
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:

Elevation:
Elevrc:
Zone: 17
East83:
Org CS:
North83:
UTMRC: 9
UTMRC Desc: unknown UTM
Location Method: na

Source Revision Comment:
Supplier Comment:

Overburden and Bedrock Materials Interval

Formation ID: 931883105
Layer: 3
Color: 2
General Color: GREY
Mat1: 06
Most Common Material: SILT
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 8
Formation End Depth: 40
Formation End Depth UOM: ft

Formation ID: 931883104
Layer: 2
Color: 6
General Color: BROWN
Mat1: 28
Most Common Material: SAND
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 1
Formation End Depth: 8
Formation End Depth UOM: ft

Formation ID: 931883103
Layer: 1
Color: 6
General Color: BROWN
Mat1: 02
Most Common Material: TOPSOIL
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 0
Formation End Depth: 1
Formation End Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 964404889
Method Construction Code: 6
Method Construction: Boring
Other Method Construction:

Pipe Information

Pipe ID: 10825390
Casing No: 1
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 930463644
Layer: 1
Material: 3
Open Hole or Material: CONCRETE
Depth From:
Depth To: 40
Casing Diameter: 36
Casing Diameter UOM: inch
Casing Depth UOM: ft

Results of Well Yield Testing

Pump Test ID: 994404889
Pump Set At:
Static Level: 8
Final Level After Pumping:
Recommended Pump Depth: 35
Pumping Rate:
Flowing Rate:
Recommended Pump Rate: 1
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code:
Water State After Test:
Pumping Test Method:
Pumping Duration HR:
Pumping Duration MIN:
Flowing: N

Water Details

Water ID: 933746968
Layer: 3
Kind Code: 1
Kind: FRESH
Water Found Depth: 30
Water Found Depth UOM: ft

Water ID: 933746967
Layer: 2
Kind Code: 1
Kind: FRESH
Water Found Depth: 20
Water Found Depth UOM: ft

Water ID: 933746966
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 8
Water Found Depth UOM: ft

Site:
con 14 Simcoe ON

Database: ***WWIS***

Well ID: 7142729
Construction Date:
Primary Water Use: Livestock
Sec. Water Use:
Final Well Status: Water Supply
Water Type:
Casing Material:
Audit No: Z105179
Tag: A091344
Construction Method:
Elevation (m):

Data Entry Status:
Data Src:
Date Received: 3/29/2010
Selected Flag: Yes
Abandonment Rec:
Contractor: 7356
Form Version: 7
Owner:
Street Name: HWY 3
County: NORFOLK
Municipality: CHARLOTTEVILLE TOWNSHIP

Elevation Reliability:
Depth to Bedrock:
Well Depth:
Overburden/Bedrock:
Pump Rate:
Static Water Level:
Flowing (Y/N):
Flow Rate:
Clear/Cloudy:

Site Info:
Lot:
Concession: 14
Concession Name:
Easting NAD83:
Northing NAD83:
Zone:
UTM Reliability:

Bore Hole Information

Bore Hole ID: 1002955586
DP2BR:
Spatial Status:
Code OB:
Code OB Desc:
Open Hole:
Cluster Kind:
Date Completed: 06-DEC-09
Remarks:
Elevrc Desc:
Location Source Date:
Improvement Location Source:
Improvement Location Method:
Source Revision Comment:
Supplier Comment:

Elevation:
Elevrc:
Zone: 17
East83: 999999
Org CS: UTM83
North83: 9999999
UTMRC: 9
UTMRC Desc: unknown UTM
Location Method: wwr

Overburden and Bedrock Materials Interval

Formation ID: 1003071524
Layer: 5
Color: 6
General Color: BROWN
Mat1: 28
Most Common Material: SAND
Mat2:
Other Materials:
Mat3: 78
Other Materials: MEDIUM-GRAINED
Formation Top Depth: 30
Formation End Depth: 35
Formation End Depth UOM: ft

Formation ID: 1003071521
Layer: 2
Color: 6
General Color: BROWN
Mat1: 05
Most Common Material: CLAY
Mat2: 11
Other Materials: GRAVEL
Mat3:
Other Materials:
Formation Top Depth: 14
Formation End Depth: 23
Formation End Depth UOM: ft

Formation ID: 1003071520
Layer: 1
Color: 6
General Color: BROWN
Mat1: 05
Most Common Material: CLAY
Mat2: 06
Other Materials: SILT

Mat3:
Other Materials:
Formation Top Depth: 0
Formation End Depth: 14
Formation End Depth UOM: ft

Formation ID: 1003071522
Layer: 3
Color: 6
General Color: BROWN
Mat1: 28
Most Common Material: SAND
Mat2: 06
Other Materials: SILT
Mat3:
Other Materials:
Formation Top Depth: 23
Formation End Depth: 25
Formation End Depth UOM: ft

Formation ID: 1003071525
Layer: 6
Color: 6
General Color: BROWN
Mat1: 28
Most Common Material: SAND
Mat2:
Other Materials:
Mat3: 78
Other Materials: MEDIUM-GRAINED
Formation Top Depth: 35
Formation End Depth: 50
Formation End Depth UOM: ft

Formation ID: 1003071523
Layer: 4
Color: 6
General Color: BROWN
Mat1: 28
Most Common Material: SAND
Mat2:
Other Materials:
Mat3:
Other Materials:
Formation Top Depth: 25
Formation End Depth: 30
Formation End Depth UOM: ft

Annular Space/Abandonment Sealing Record

Plug ID: 1003071528
Layer: 1
Plug From: 0
Plug To: 20
Plug Depth UOM: ft

Method of Construction & Well Use

Method Construction ID: 1003071559
Method Construction Code: 1
Method Construction: Cable Tool
Other Method Construction:

Pipe Information

Pipe ID: 1003071518
Casing No: 0
Comment:
Alt Name:

Construction Record - Casing

Casing ID: 1003071530
Layer: 1
Material: 1
Open Hole or Material: STEEL
Depth From: 0
Depth To: 39
Casing Diameter: 6
Casing Diameter UOM: inch
Casing Depth UOM: ft

Construction Record - Screen

Screen ID: 1003071531
Layer: 1
Slot: 12
Screen Top Depth: 39
Screen End Depth: 49
Screen Material: 1
Screen Depth UOM: ft
Screen Diameter UOM: inch
Screen Diameter: 6

Results of Well Yield Testing

Pump Test ID: 1003071519
Pump Set At: 30
Static Level: 23
Final Level After Pumping: 24
Recommended Pump Depth: 30
Pumping Rate: 15
Flowing Rate:
Recommended Pump Rate: 15
Levels UOM: ft
Rate UOM: GPM
Water State After Test Code: 1
Water State After Test: CLEAR
Pumping Test Method: 0
Pumping Duration HR: 3
Pumping Duration MIN:
Flowing:

Draw Down & Recovery

Pump Test Detail ID: 1003071539
Test Type: Recovery
Test Duration: 4
Test Level: 23
Test Level UOM: ft

Pump Test Detail ID: 1003071545
Test Type: Recovery
Test Duration: 15
Test Level: 23
Test Level UOM: ft

Pump Test Detail ID: 1003071549
Test Type: Recovery

Test Duration: 25
Test Level: 23
Test Level UOM: ft

Pump Test Detail ID: 1003071540
Test Type: Draw Down
Test Duration: 5
Test Level: 24
Test Level UOM: ft

Pump Test Detail ID: 1003071548
Test Type: Draw Down
Test Duration: 25
Test Level: 24
Test Level UOM: ft

Pump Test Detail ID: 1003071552
Test Type: Draw Down
Test Duration: 40
Test Level: 24
Test Level UOM: ft

Pump Test Detail ID: 1003071554
Test Type: Draw Down
Test Duration: 50
Test Level: 24
Test Level UOM: ft

Pump Test Detail ID: 1003071535
Test Type: Recovery
Test Duration: 2
Test Level: 23
Test Level UOM: ft

Pump Test Detail ID: 1003071538
Test Type: Draw Down
Test Duration: 4
Test Level: 24
Test Level UOM: ft

Pump Test Detail ID: 1003071555
Test Type: Recovery
Test Duration: 50
Test Level: 23
Test Level UOM: ft

Pump Test Detail ID: 1003071546
Test Type: Draw Down
Test Duration: 20
Test Level: 24
Test Level UOM: ft

Pump Test Detail ID: 1003071547
Test Type: Recovery
Test Duration: 20
Test Level: 23
Test Level UOM: ft

Pump Test Detail ID: 1003071550
Test Type: Draw Down
Test Duration: 30
Test Level: 24
Test Level UOM: ft

Pump Test Detail ID: 1003071537
Test Type: Recovery
Test Duration: 3
Test Level: 23
Test Level UOM: ft

Pump Test Detail ID: 1003071542
Test Type: Draw Down
Test Duration: 10
Test Level: 24
Test Level UOM: ft

Pump Test Detail ID: 1003071533
Test Type: Recovery
Test Duration: 1
Test Level: 23
Test Level UOM: ft

Pump Test Detail ID: 1003071536
Test Type: Draw Down
Test Duration: 3
Test Level: 24
Test Level UOM: ft

Pump Test Detail ID: 1003071543
Test Type: Recovery
Test Duration: 10
Test Level: 23
Test Level UOM: ft

Pump Test Detail ID: 1003071544
Test Type: Draw Down
Test Duration: 15
Test Level: 24
Test Level UOM: ft

Pump Test Detail ID: 1003071551
Test Type: Recovery
Test Duration: 30
Test Level: 23
Test Level UOM: ft

Pump Test Detail ID: 1003071556
Test Type: Draw Down
Test Duration: 60
Test Level: 24
Test Level UOM: ft

Pump Test Detail ID: 1003071557
Test Type: Recovery
Test Duration: 60
Test Level: 23
Test Level UOM: ft

Pump Test Detail ID: 1003071532
Test Type: Draw Down
Test Duration: 1
Test Level: 23.4
Test Level UOM: ft

Pump Test Detail ID: 1003071534
Test Type: Draw Down
Test Duration: 2
Test Level: 23.8
Test Level UOM: ft

Pump Test Detail ID: 1003071541
Test Type: Recovery
Test Duration: 5
Test Level: 23
Test Level UOM: ft

Pump Test Detail ID: 1003071553
Test Type: Recovery

Test Duration: 40
Test Level: 23
Test Level UOM: ft

Water Details

Water ID: 1003071529
Layer: 1
Kind Code: 1
Kind: FRESH
Water Found Depth: 23
Water Found Depth UOM: ft

Hole Diameter

Hole ID: 1003071526
Diameter: 10
Depth From: 0
Depth To: 20
Hole Depth UOM: ft
Hole Diameter UOM: inch

Hole ID: 1003071527
Diameter: 6.625
Depth From: 20
Depth To: 50
Hole Depth UOM: ft
Hole Diameter UOM: inch

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ***Note:*** *Databases denoted with " * " indicates that the database will no longer be updated. See the individual database description for more information.*

Abandoned Aggregate Inventory: Provincial AAGR

The MAAP Program maintains a database of abandoned pits and quarries. Please note that the database is only referenced by lot and concession and city/town location. The database provides information regarding the location, type, size, land use, status and general comments.*

Government Publication Date: Sept 2002*

Aggregate Inventory: Provincial AGR

The Ontario Ministry of Natural Resources maintains a database of all active pits and quarries. The database provides information regarding the registered owner/operator, location name, operation type, approval type, and maximum annual tonnage.

Government Publication Date: Up to Sep 2017

Abandoned Mine Information System: Provincial AMIS

The Abandoned Mines Information System contains data on known abandoned and inactive mines located on both Crown and privately held lands. The information was provided by the Ministry of Northern Development and Mines (MNDM), with the following disclaimer: "the database provided has been compiled from various sources, and the Ministry of Northern Development and Mines makes no representation and takes no responsibility that such information is accurate, current or complete". Reported information includes official mine name, status, background information, mine start/end date, primary commodity, mine features, hazards and remediation.

Government Publication Date: 1800-Nov 2016

Anderson's Waste Disposal Sites: Private ANDR

The information provided in this database was collected by examining various historical documents which aimed to characterize the likely position of former waste disposal sites from 1860 to present. The research initiative behind the creation of this database was to identify those sites that are missing from the Ontario MOE Waste Disposal Site Inventory, as well as to provide revisions and corrections to the positions and descriptions of sites currently listed in the MOE inventory. In addition to historic waste disposal facilities, the database also identifies certain auto wreckers and scrap yards that have been extrapolated from documentary sources. Please note that the data is not warranted to be complete, exhaustive or authoritative. The information was collected for research purposes only.

Government Publication Date: 1860s-Present

Automobile Wrecking & Supplies: Private AUWR

This database provides an inventory of known locations that are involved in the scrap metal, automobile wrecking/recycling, and automobile parts & supplies industry. Information is provided on the company name, location and business type.

Government Publication Date: 1999-Jan 31, 2018

Borehole: Provincial BORE

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

Government Publication Date: 1875-Jul 2014

Certificates of Approval: Provincial CA

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

Government Publication Date: 1985-Oct 30, 2011*

Commercial Fuel Oil Tanks: Provincial CFOT

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

Government Publication Date: Feb 28, 2017

Chemical Register: Private CHEM

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

Government Publication Date: 1999-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-Apr 30, 2018

Drill Hole Database: Provincial DRL

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

Government Publication Date: 1886-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-Jun 30, 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-Apr 30, 2018

Environmental Compliance Approval: Provincial ECA

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

Government Publication Date: Oct 2011-Jun 30, 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

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

Government Publication Date: 2006-June 2009*

Indian & Northern Affairs Fuel Tanks: Federal IAFT

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

Government Publication Date: 1950-Aug 2003*

TSSA Incidents: Provincial INC

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 provide for each well record.

Government Publication Date: 1800-May 2018

Inventory of PCB Storage Sites: Provincial OPCB

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

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

Orders: Provincial ORD

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

Government Publication Date: 1994-Apr 30, 2018

Canadian Pulp and Paper: Private PAP

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

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

Parks Canada Fuel Storage Tanks: Federal PCFT

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

Government Publication Date: 1920-Jan 2005*

Pesticide Register: Provincial PES

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

Government Publication Date: 1988-Mar 2018

TSSA Pipeline Incidents: Provincial PINC

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

Government Publication Date: Feb 28, 2017

Private and Retail Fuel Storage Tanks: Provincial PRT

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

Government Publication Date: 1989-1996*

Permit to Take Water: Provincial PTTW

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

Government Publication Date: 1994-Apr 30, 2018

Ontario Regulation 347 Waste Receivers Summary: Provincial REC

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

Government Publication Date: 1986-2016

Record of Site Condition: Provincial RSC

The Record of Site Condition (RSC) is part of the Ministry of the Environment's Brownfields Environmental Site Registry. Protection from environmental cleanup orders for property owners is contingent upon documentation known as a record of site condition (RSC) being filed in the Environmental Site Registry. In order to file an RSC, the property must have been properly assessed and shown to meet the soil, sediment and groundwater standards appropriate for the use (such as residential) proposed to take place on the property. The Record of Site Condition Regulation (O. Reg. 153/04) details requirements related to site assessment and clean up.
RSCs filed after July 1, 2011 will also be included as part of the new (O.Reg. 511/09).

Government Publication Date: 1997-Sept 2001, Oct 2004-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-Jun 30, 2018

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

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

Government Publication Date: Up to Oct 1990*

Water Well Information System: Provincial WWIS

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

Government Publication Date: Dec 31, 2017

Definitions

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

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

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

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

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

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

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

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

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

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

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

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

APPENDIX

B REGULATORY CORRESPONDENCE

Levesque, Lindsy

From: Public Information Services <publicinformationservices@tssa.org>
Sent: October-03-18 10:54 AM
To: Levesque, Lindsy
Subject: RE: Tank Search - 4733 Highway 3, Renton (Norfolk County), ON

Good morning Lindsy,

Thank you for your request for confirmation of public information.

We confirm that there are no records in our database of any fuel storage tanks at the subject addresses.

For a further search in our archives please complete our release of public information form found at https://www.tssa.org/en/about-tssa/release-of-public-information.aspx?_mid_=392 and email the completed form to publicinformationservices@tssa.org or through mail along with a fee of $56.50 (including HST) per location. The fee is payable with credit card (Visa or MasterCard) or with a Cheque made payable to TSSA.

Although TSSA believes the information provided pursuant to your request is accurate, please note that TSSA does not warrant this information in any way whatsoever.

Kind regards,

Sarah Quibell | Public Information Agent
Facilities
345 Carlingview Drive
Toronto, Ontario M9W 6N9
Tel: +1-877-682-8772 | Fax: +1-416-231-6183 | E-Mail: squibell@tssa.org
www.tssa.org

From: Levesque, Lindsy <Lindsy.Levesque@wsp.com>
Sent: October 3, 2018 10:25 AM
To: Public Information Services <publicinformationservices@tssa.org>
Subject: Tank Search - 4733 Highway 3, Renton (Norfolk County), ON

Hello,

Could you please search your records for the above noted address in Renton, ON?

Thank you,

Lindsy Levesque, B.Sc., EP
Project Manager
Environment

Direct: +1 289-678-0345

Mobile: +1 289-237-9698

300-4 Hughson Street South
Hamilton, ON
L8N 3Z1 Canada

wsp.com

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-LAEmHhHzdJzBITWfa4Hgs7pbKI

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Office of the Chief Adminstrative Officer
Council Services
50 Colborne Street, S., Simcoe Ontario N3Y 4H3
519-426-5870
Fax: 519-426-8573
norfolkcounty.ca

August 23, 2018

WSP Canada Inc.
1821 Provincial Rd.
Suite 100
Windsor ON N8W 5V7

Attention: Matt Mailloux

Re: Freedom of Information Request #18-49

Our office received your request for access to the following records. We will respond to your request according to the provisions of the Municipal Freedom of Information and Protection of Privacy Act.

Your request was for access to the following records for:

1. WSP Canada INC. is completing a Phase I Environmental Site Assessment for the property located at 4733 Highway 3, at the northeast corner of the intersection of Highway 3 and Cockshutt Road/Norfolk County Road 5, in Renton, ON. Please see attached site location map. As part of the investigation, we are requesting any information regarding inspection, permits, violations, and/or fires at property.

If you have, any questions please feel free to contact me. Please quote your request number 18-49 in any verbal or written correspondence.

We will contact you after we have reviewed your request.

Thank you.

Katherine Bristol
Supervisor,
Information and Privacy
519-426-5870 x1261
katherine.bristol@norfolkcounty.ca

Office of the Chief Administrative Officer
Council Services
50 Colborne Street, S., Simcoe Ontario N3Y 4H3
519-426-5870
Fax: 519-426-8573
norfolkcounty.ca

August 28, 2018

WSP Canada Inc.
1821 Provincial Rd.
Suite 100
Windsor ON N8W 5V7

Attention: Matt Mailloux

Re: Freedom of Information Request #18-49

In response to your request under the Municipal Freedom of Information and Protection of Privacy Act for access to the following records:

1. WSP Canada INC. is completing a Phase I Environmental Site Assessment for the property located at 4733 Highway 3, at the northeast corner of the intersection of Highway 3 and Cockshutt Road/Norfolk County Road 5, in Renton, ON. Please see attached site location map. As part of the investigation, we are requesting any information regarding inspection, permits, violations, and/or fires at property.

Your request for information was addressed by the Norfolk County Environmental Services Department and attached is their response. The search was undertaken by Terrence H. Hall, Environmental Services Technologist.

The document is being released in whole with no redactions under MFIPPA.

Also enclosed is the receipt for your $5.00 Freedom of Information Request fee.

You may ask for a review of this decision within 30 days of receiving this letter by writing to: Registrar, Information and Privacy Commissioner/Ontario, 2 Bloor Street East, Suite 1400, Toronto, Ontario, M4W 1A8, Telephone: (416) 326-3333 or toll free 1-800-387-0073.

If you decide to request a review of this decision, please provide the Commissioner's office with the following:

- The file number listed at the beginning of the letter.
- A copy of this decision letter.
- A copy of the original request for information you sent to our institution.
- The reasons why you believe the records exist (if the decision was that no records exist).

If you have any questions please feel free to contact me. Please quote your request number 18-49 in any verbal or written correspondence.

Thank you for your patience.

Yours truly

Katherine Bristol
Supervisor
Information and Privacy
519-426-5870 x1261
katherine.bristol@norfolkcounty.ca

Encl.

August 28, 2018

Freedom of Information Request #18-49

WSP Canada INC.

RE: WSP Canada INC. is completing a Phase I Environmental Site Assessment for the property located at 4733 Highway 3, at the northeast corner of the intersection of Highway 3 and Cockshutt Road/Norfolk County Road 5, in Renton, ON. Please see attached site location map. As part of the investigation, we are requesting any information regarding inspection, permits, violations, and/or fires at property. Property Identified as Roll No. 331033608064100000 Owned by Robert Kowtaluk, Herbert Chiu and Arvane Farms Ltd.

In regards to the Freedom of Information Request #18-49 Norfolk County Environmental Services Department has reviewed the property referenced in the title of this letter and offers the following comments:

- To the best of our knowledge, the Environmental Services Division has not owned, operated or maintained a public waste disposal on the above-mentioned property, since January 1, 2001 when Norfolk County was formed until the present date
- Norfolk County does own a Sewage lagoon site within 1 km of the above mentioned property
- To the best of our knowledge, Norfolk County is not presently monitoring or has not monitored 4733 Highway 3, since January 1, 2001, when Norfolk County was formed until the present date.
- To the best of our knowledge, Norfolk County, since January 1, 2001 has never sampled the effluent from the above-mentioned address
- You may want to check with TSSA at onetime this was a restaurant and truck stop refueling station
- It may be advisable to contact the MOECP West Central Branch in Hamilton; it may have some spill records or reports on file or documentation regarding these properties

Public Works & Environmental Services
183 Main Street, Delhi, Ontario N4B 2W9
519-582-2100 Fax: 519-582-4571

Ministry of the Environment's Permit to Take Water The database does not identify all the private well sources in the Province of Ontario. There is a potential that private residences and businesses in the vicinity of the site rely on the surrounding groundwater for human consumption. Please check Ontario Water Well Data on the Internet for registered wells in the vicinity.

It is Norfolk County's recommendation that should an environmental assessment is required, that the potable water standards identified in Ontario Regulation 153/04, as amended, be utilized in performing the Environmental Assessment for the property identified as Roll No., 331033608064100000, 4733 Highway 3, Part Lot 13, Concession 14, Townsend, Ref. Plan 37R163, Part 1

If there are any questions or concerns please contact the undersigned. If no response is received by September 28, 2018, Norfolk County will assume that WSP Canada INC. is in agreement with our position.

Sincerely,

Terrence H. Hall.
Environmental Services Technologist
Environmental Services Department
Norfolk County
(519) 582-2100 ext 1504 terrence.hall@norfolkcounty.ca

Public Works & Environmental Services
183 Main Street, Delhi, Ontario N4B 2W9
519-582-2100 Fax: 519-582-4571

Norfolk County
50 Colborne Street, South
Simcoe ON N3Y 4H3

RECEIPT OF PAYMENT

MCVITTY JENNIFER & SHANE
997 WINDEMERE ROAD
WINDSOR, ON N8Y 3E5
CANADA

Receipt Number: 125854
Tax Number:
Date: August 23, 2018
Initials: LP

Type	Account / Ref. #	Description	Quantity	Amount Paid
General	EFOI	Clrks MFIPPA Info Request Fee	N/A	$5.00

Cheque Number: 664

Subtotal:	$5.00
Taxes:	$0.00
Total Receipt:	$5.00
Cheque:	$5.00

Total Amount Received:	$5.00
Rounding:	$0.00
Amount Returned:	$0.00

APPENDIX

C FRONTIER REPORT

Results

As seen in Figure 1, halos of elevated EM61 readings are evident along the sides of the vehicle (cube van) and across metallic surface features such as traffic light poles, catch basins, and manholes. As shown in Figure 2, multiple small anomalies were detected within the survey area. These should not be considered possible targets for a UST or similar feature. The linear anomaly trending east-west along line 3.4N is a response from the buried sewer pipe at that location. The elevated responses located near grid position (10 to 20N, -12E) are due to the presence of a buried steel culvert pipe (storm sewer pipe running north, from the manhole to the ditch), a traffic light pole, and a manhole cover. The elevated EM61 responses detected around two of the wood sheds located near grid position (17N, 45E) should not be considered anomalous as they are direct responses from the metal windows on the shed walls. The elevated EM61 responses detected near grid position (2N, 85E) cannot be clearly explained, but are likely associated with the sewer pipe (culvert) and other utility features/structures that may be present in that area. The anomaly located at grid position (9N, 53E) should be considered a priority target for follow-up intrusive testing. This anomaly is associated with a visible square-shaped "heave" in the asphalt surface (possible lid or cover; possible indication of a chamber or structure below).

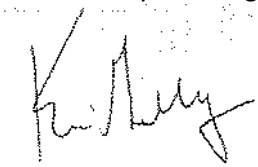
Conclusion

There were no EM61 responses detected that would clearly indicate the likely presence of a possible UST. Further intrusive testing should be performed to determine the true nature of the anomaly located at grid position (9N, 53E), and the elevated responses located near grid position (2N, 85E). It is possible that a UST could escape detection on this site, as there were multiple large movable sheds (inaccessible areas) present within the survey area at the time of the survey.

If you require further information, or points requiring clarification, please contact the undersigned at your convenience.

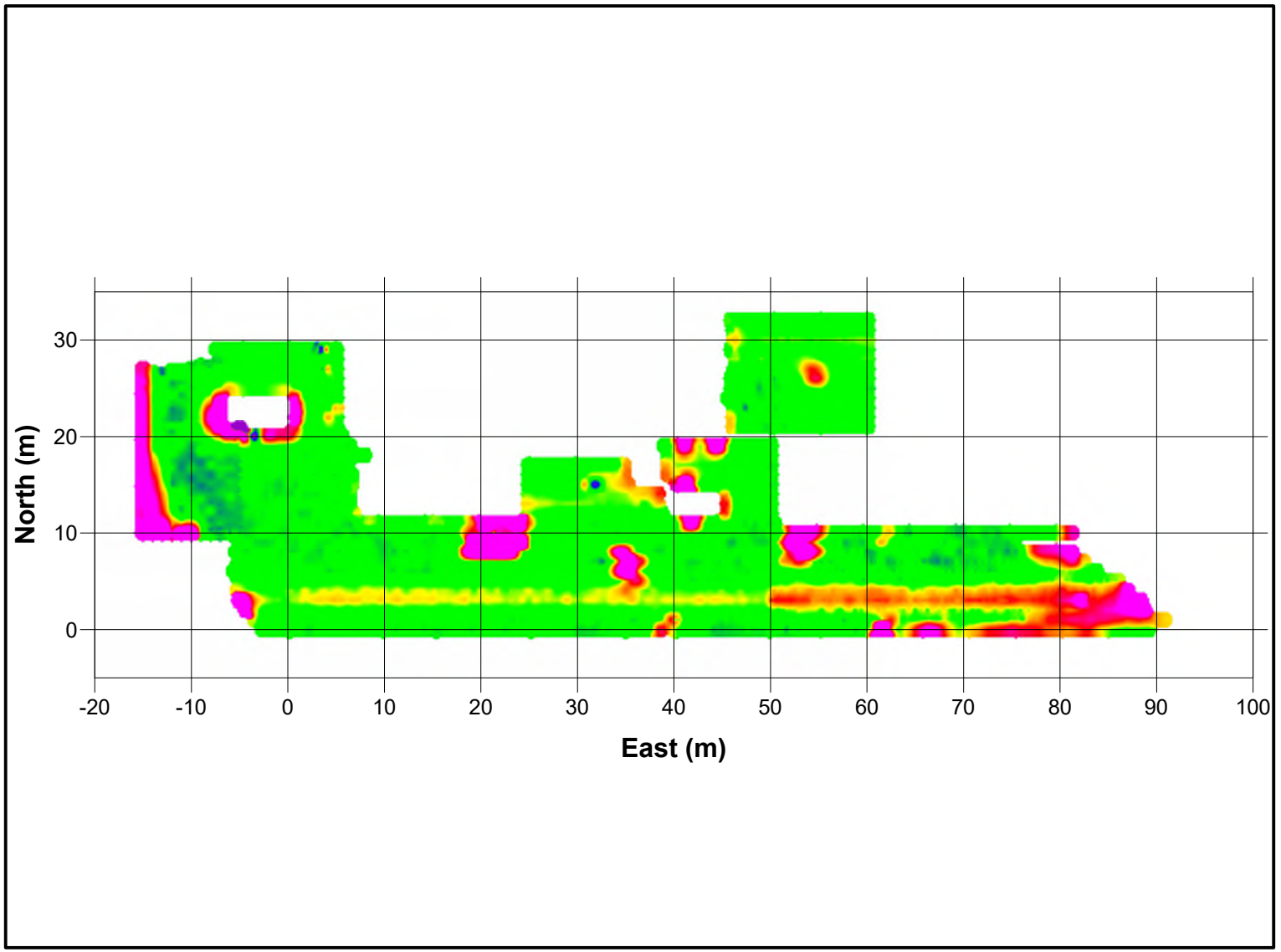
Sincerely,

Frontier Utility Locating Services Inc.

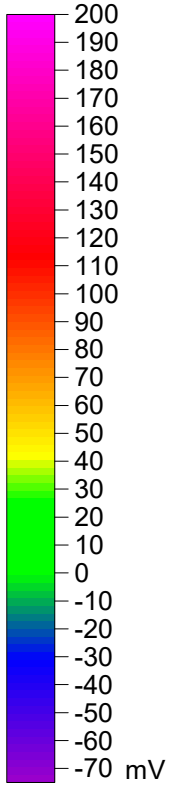


Kevin Galley
Sr. Damage Prevention Technician

Figure: 1

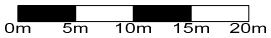


Legend



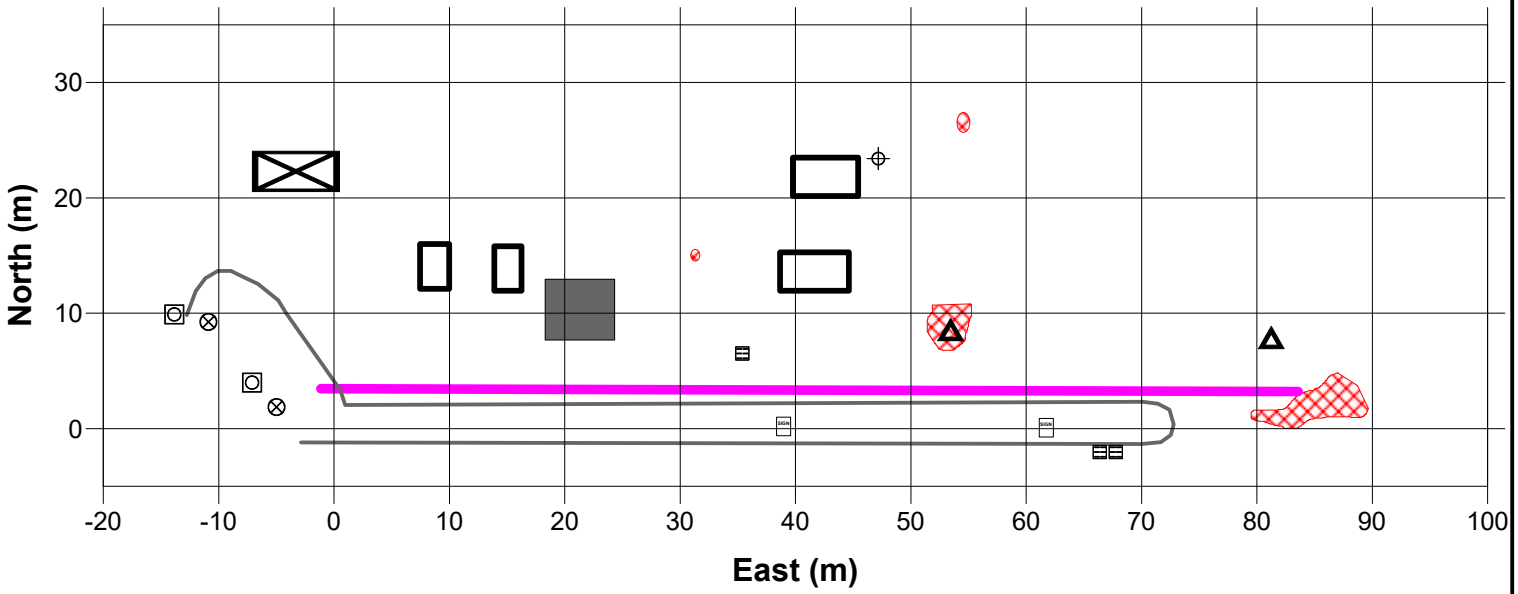


Map Scale *(metres)*



Customer: **WSP** *55 King Street, Suite 600,* *St. Catharines, ON, L2R 3H5*	**Work Order:** FWO-554287 UST Investigation	EM61 Channel D **Site Address:** 962 Cockshutt Road, Norfolk, ON, Canada	**Survey Date:** September 18, 2018 *Drawn By: Kevin Galley* *Date: September 24, 2018*	**Frontier Utility Locating Services Inc.** **701 Trinity Road, Unit 6** **Jerseyville, ON, L9G 3L1** FRONTIER UTILITY LOCATING SERVICES INC.

Figure: 2



Legend

- Inferred Buried Metal Object
- Linear Anomaly
- Building Line
- Curb Line
- Concrete Pad
- Vehicle
- Traffic Light Pole
- Manhole
- Catch Basin
- Metal Object
- Monitoring Well
- Steel Sign



Map Scale *(metres)*

0m 5m 10m 15m 20m

Customer: **WSP** *55 King Street, Suite 600, St. Catharines, ON, L2R 3H5*	**Work Order:** FWO-554287	Interpretation	**Survey Date:** September 18, 2018	**Frontier Utility Locating Services Inc.** **701 Trinity Road, Unit 6** **Jerseyville, ON, L9G 3L1**
	UST Investigation	**Site Address:** 962 Cockshutt Road, Norfolk, ON, Canada	*Drawn By: Kevin Galley* *Date: September 24, 2018*	FRONTIER UTILITY LOCATING SERVICES INC.

APPENDIX

D BOREHOLE LOGS

LOG OF BOREHOLE BH18-1

project |	MTO Assignment 17, Renton Scoped ESA			**project no. |**	181-11117-00
client |	MTO	**rig type |**	GEOPROBE	**date started |**	2018/09/19
location |	Renton, Ontario	**method |**	Direct push, 50 mm dia.	**supervisor |**	SM
position |	E: 563796 N: 4745546 (17T, Geodetic)	**coring |**	*n/a*	**reviewer |**	KF

Depth Scale (m)	Elev / Depth (m)	STRATIGRAPHY	Graphic Plot	Sample Number	Sample Type	SPT N-Value / Core Recovery	Elevation Scale (mASL)	Penetration Test Values (Blows / 0.3m) / Undrained Shear Strength (kPa)	Water Content (%) & Plasticity	PID Readings	Well Details	Lab Data and Comments
0	215.5	**GROUND SURFACE**					215			0 ppm 0% LEL		
	215.2	**ASPHALT:** 100mm										
	0.3	**FILL:** sand and gravel, brown, compact, damp		1	DP							*DP1 chemistry: Metals, PAHs, VOCs, PHCs, DUP*
1		**CLAYEY SILT:** dark brown to grey, firm to stiff, DTPL ...at 0.5 m, organics		2	DP		214			0 ppm 0% LEL		
		...at 1.5 m, grey mottling		3	DP					0 ppm 0% LEL		
2	213.2						213					
	2.3	**SILT:** trace clay, brown, firm, APL		4	DP					0 ppm 0% LEL		*DP4 chemistry: Metals, PAHs, VOCs, PHCs, DUP*
3				5	DP		212			0 ppm 0% LEL		
4		...at 4.0 m, grey		6	DP							
	210.9						211			0 ppm 0% LEL		
	4.6	**END OF BOREHOLE**										

Penetration Test Values (Blows / 0.3m): Dynamic Cone 10 20 30 40

Undrained Shear Strength (kPa): ○ Unconfined ● Pocket Penetrometer + Field Vane ■ Lab Vane 40 80 120 160

Water Content (%) & Plasticity: PL MC LL 10 20 30

Lab Data and Comments: GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL

Borehole was dry and open upon completion.

LOG OF BOREHOLE BH18-2

WSP

project |	MTO Assignment 17, Renton Scoped ESA			**project no. |**	181-11117-00
client |	MTO	**rig type |**	GEOPROBE	**date started |**	2018/09/19
location |	Renton, Ontario	**method |**	Direct push, 50 mm dia.	**supervisor |**	SM
position |	E: 563794 N: 4745539 (17T, Geodetic)	**coring |**	*n/a*	**reviewer |**	KF

Depth Scale (m)	Elev / Depth (m)	STRATIGRAPHY	Graphic Plot	Sample Number	Sample Type	SPT N-Value / Core Recovery	Elevation Scale (mASL)	Penetration Test Values (Blows / 0.3m) / Undrained Shear Strength (kPa)	Water Content (%) & Plasticity	PID Readings	Well Details	Lab Data and Comments
0	215.8	**GROUND SURFACE**										
		ASPHALT: 100mm										
		FILL: sand and gravel, brown, compact, damp										
	215.0											
	0.8	**CLAYEY SILT:** some sand, brown to grey, some mottling, firm to stiff, DTPL		1	DP		215			0 ppm 0% LEL		
1				2	DP		214			0 ppm 0% LEL		*DP2 chemistry: Metals, PAHs, VOCs, PHCs*
2				3	DP		213			0 ppm 0% LEL		
3	212.8											
	3.1	**SILT:** trace clay, brown, firm, DTPL		4	DP		212			0 ppm 0% LEL		*DP4 chemistry: Metals, PAHs, VOCs, PHCs*
4				5	DP					0 ppm 0% LEL		
	211.2											
	4.6	**END OF BOREHOLE**										

Penetration Test Values (Blows / 0.3m): Dynamic Cone — 10 20 30 40

Undrained Shear Strength (kPa): ○ Unconfined ● Pocket Penetrometer + Field Vane ■ Lab Vane — 40 80 120 160

Water Content (%) & Plasticity: PL MC LL — 10 20 30; Water level on completion

Sample Number: 1 2 3 4 5

GRAIN SIZE DISTRIBUTION (%) (MIT): GR SA SI CL

Unstabilized water level at 1.0 m below ground surface; borehole was open upon completion.

LOG OF BOREHOLE BH18-3

project |	MTO Assignment 17, Renton Scoped ESA			**project no. |**	181-11117-00
client |	MTO	**rig type |**	GEOPROBE	**date started |**	2018/09/19
location |	Renton, Ontario	**method |**	Direct push, 50 mm dia.	**supervisor |**	SM
position |	E: 563790 N: 4745538 (17T, Geodetic)	**coring |**	*n/a*	**reviewer |**	KF

Depth Scale (m)	Elev / Depth (m)	STRATIGRAPHY	Graphic Plot	Sample Number	Sample Type	SPT N-Value / Core Recovery	Elevation Scale (mASL)	Penetration Test Values (Blows / 0.3m) / Undrained Shear Strength (kPa)	Water Content (%) & Plasticity	PID Readings	Well Details	Lab Data and Comments
0	215.9	**GROUND SURFACE**					215	Dynamic Cone: 10 20 30 40 Unconfined / Pocket Penetrometer / Field Vane / Lab Vane: 40 80 120 160	PL MC LL: 10 20 30 Water level on completion			GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL
		ASPHALT: 100mm										
		FILL: sand and gravel, brown, compact, damp										
	215.1 / 0.8	**CLAYEY SILT:** some sand, grey, stiff, DTPL		1	DP					0 ppm 0% LEL		*DP1 chemistry: Metals, PAHs, VOCs, PHCs*
1	214.5 / 1.4	**SAND:** black, loose, damp					214			0 ppm 0% LEL		
	214.4 / 1.5	**CLAYEY SILT:** brown, grey mottling, stiff, DTPL		2	DP							
2				3	DP					0 ppm 0% LEL		*DP3 chemistry: Metals, PAHs, VOCs, PHCs*
	212.9 / 3.1	**SILT:** trace clay, brown, firm, DTPL to APL		4	DP		213			0 ppm 0% LEL		
3												
				5	DP		212			0 ppm 0% LEL		
4	211.3 / 4.6	**END OF BOREHOLE**										

Unstabilized water level at 1.2 m below ground surface; borehole was open upon completion.

LOG OF BOREHOLE BH18-4

project |	MTO Assignment 17, Renton Scoped ESA			**project no. |**	181-11117-00
client |	MTO	**rig type |**	GEOPROBE	**date started |**	2018/09/19
location |	Renton, Ontario	**method |**	Direct push, 50 mm dia.	**supervisor |**	SM
position |	E: 563777 N: 4745542 (17T, Geodetic)	**coring |**	*n/a*	**reviewer |**	KF

Depth Scale (m)	Elev / Depth (m)	STRATIGRAPHY	Graphic Plot	Sample Number	Sample Type	SPT N-Value / Core Recovery
0	215.6	**GROUND SURFACE**				
		ASPHALT: 100mm				
	215.2	**FILL:** sand and gravel, brown, compact, damp				
	0.4	...at 0.3 m, sand, brown, loose, damp		1	DP	
1		**SANDY SILT:** some clay, soft to stiff, grey, APL to DTPL				
		...at 0.5 m, PHC odour		2	DP	
	214.1					
	1.5	**CLAYEY SILT:** brown, grey mottling, stiff, DTPL		3	DP	
2						
				4	DP	
3	212.6					
	3.1	**SILT:** trace clay, brown, firm, DTPL		5	DP	
4				6	DP	
	211.3					
	4.3	**CLAYEY SILT:** grey, soft, APL				
	211.0					
	4.6					

END OF BOREHOLE

Temporary well installed in open borehole.

Borehole was dry and caved to 4.0 m below ground surface upon completion.

Elevation Scale (mASL): 215, 214, 213, 212

Penetration Test Values (Blows / 0.3m) — Dynamic Cone: 10, 20, 30, 40

Undrained Shear Strength (kPa) — Unconfined, Pocket Penetrometer, Field Vane, Lab Vane: 40, 80, 120, 160

Water Content (%) & Plasticity — PL, MC, LL: 10, 20, 30

PID Readings: 2 ppm 0% LEL; 2 ppm 0% LEL; 1 ppm 0% LEL; 0 ppm 0% LEL; 0 ppm 0% LEL; 0 ppm 0% LEL

Well Details

Lab Data and Comments — GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL

DP2 chemistry: Metals, PAHs, VOCs, PHCs

DP4 chemistry: Metals, PAHs, VOCs, PHCs

WATER LEVEL MONITORING

Date	Depth (m)	Elevation (m)
Sep 19, 2018	3.7	211.9

LOG OF BOREHOLE BH18-5

WSP

project |	MTO Assignment 17, Renton Scoped ESA			**project no. |**	181-11117-00
client |	MTO	**rig type |**	GEOPROBE	**date started |**	2018/09/19
location |	Renton, Ontario	**method |**	Direct push, 50 mm dia.	**supervisor |**	SM
position |	E: 563766 N: 4745533 (17T, Geodetic)	**coring |**	*n/a*	**reviewer |**	KF

Depth Scale (m)	Elev / Depth (m)	STRATIGRAPHY	Graphic Plot	SAMPLE Number	SAMPLE Type	SPT N-Value / Core Recovery
0	216.1	**GROUND SURFACE**				
		ASPHALT: 100mm				
		FILL: sand and gravel, brown, compact, damp ...at 0.3 m, sand, brown, black staining, loose, moist		1	DP	
1	215.3 0.8	**SANDY SILT:** some clay, soft, grey, APL to DTPL		2	DP	
	214.6 1.5	**CLAYEY SILT:** brown, grey mottling, firm, DTPL		3	DP	
2	213.8 2.3	**SILT:** trace clay, brown, grey silt seams, firm, DTPL		4	DP	
3				5	DP	
4				6	DP	
	211.5 4.6	**END OF BOREHOLE**				

Borehole was dry and open upon completion.

Elevation Scale (mASL): 216, 215, 214, 213, 212

Penetration Test Values (Blows / 0.3m) — Dynamic Cone: 10, 20, 30, 40

Undrained Shear Strength (kPa) — ○ Unconfined, ● Pocket Penetrometer, + Field Vane, ■ Lab Vane: 40, 80, 120, 160

Water Content (%) & Plasticity — PL, MC, LL: 10, 20, 30

PID Readings: 0 ppm 0% LEL

Well Details

Lab Data and Comments — GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL

DP1 chemistry: Metals, PAHs, VOCs, PHCs

DP6 chemistry: Metals, PAHs, VOCs, PHCs

LOG OF BOREHOLE BH18-6

WSP

project |	MTO Assignment 17, Renton Scoped ESA			**project no. |**	181-11117-00
client |	MTO	**rig type |**	GEOPROBE	**date started |**	2018/09/19
location |	Renton, Ontario	**method |**	Direct push, 50 mm dia.	**supervisor |**	SM
position |	E: 563750 N: 4745536 (17T, Geodetic)	**coring |**	*n/a*	**reviewer |**	KF

Depth Scale (m)	Elev / Depth (m)	STRATIGRAPHY	Graphic Plot	Sample Number	Sample Type	SPT N-Value / Core Recovery	Elevation Scale (mASL)	Penetration Test Values (Blows / 0.3m) / Undrained Shear Strength (kPa)	Water Content (%) & Plasticity	PID Readings	Well Details	Lab Data and Comments
0	215.8	**GROUND SURFACE**						Dynamic Cone 10 20 30 40; Unconfined / Pocket Penetrometer / Field Vane / Lab Vane 40 80 120 160	PL MC LL 10 20 30; Water level on completion			GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL
	215.4	**ASPHALT:** 100mm										
	0.4	**FILL:** sand and gravel, brown, compact, damp ...at 0.3 m, sand, brown, black staining, faint phc odour, loose, damp		1	DP					0 ppm 0% LEL		*DP1 chemistry: Metals, PAHs, VOCs, PHCs*
1		**SILTY CLAY:** faint PHC odour, soft, grey, APL		2	DP		215			0 ppm 0% LEL		
	214.3											
	1.5	**CLAYEY SILT:** brown, grey mottling, stiff, DTPL		3	DP		214			0 ppm 0% LEL		*DP3 chemistry:* Grain Size
2				4	DP							
	212.8						213			0 ppm 0% LEL		
3	3.1	**SILT:** trace clay, brown, firm, DTPL		5	DP					0 ppm 0% LEL		*DP5 chemistry: Metals, PAHs, VOCs, PHCs*
							212					
4	211.5			6	DP					0 ppm 0% LEL		
	4.3 211.2	**CLAYEY SILT:** grey, soft, APL										
	4.6	**END OF BOREHOLE**										

Unstabilized water level at 4.2 m below ground surface; borehole was open upon completion.

LOG OF BOREHOLE BH18-7

WSP

project |	MTO Assignment 17, Renton Scoped ESA			**project no. |**	181-11117-00
client |	MTO	**rig type |**	GEOPROBE	**date started |**	2018/09/19
location |	Renton, Ontario	**method |**	Direct push, 50 mm dia.	**supervisor |**	SM
position |	E: 563748 N: 4745529 (17T, Geodetic)	**coring |**	*n/a*	**reviewer |**	KF

Depth Scale (m)	Elev / Depth (m)	STRATIGRAPHY	Graphic Plot	Sample Number	Sample Type	SPT N-Value / Core Recovery
0	216.2	**GROUND SURFACE**				
		ASPHALT: 100mm				
		FILL: sand and gravel, brown, compact, damp ...at 0.5 m, sand, brown, black staining, loose, moist		1	DP	
1				2	DP	
	214.7					
	1.5	**CLAYEY SILT:** brown, grey mottling, firm, DTPL		3	DP	
2	213.9					
	2.3	**SILT:** trace clay, brown, firm, DTPL		4	DP	
3				5	DP	
4				6	DP	
	211.6					
	4.6	**END OF BOREHOLE**				

Elevation Scale (mASL): 216, 215, 214, 213, 212

Penetration Test Values (Blows / 0.3m) — Dynamic Cone: 10, 20, 30, 40

Undrained Shear Strength (kPa) — ○ Unconfined, ● Pocket Penetrometer, + Field Vane, ■ Lab Vane: 40, 80, 120, 160

Water Content (%) & Plasticity — PL, MC, LL: 10, 20, 30; Water level on completion

PID Readings: 0 ppm 0% LEL

Well Details

Lab Data and Comments — GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL

DP2 chemistry: VOCs, PHCs

DP3 chemistry: Metals, PAHs, DUP

DP4 chemistry: Metals, PAHs, VOCs, PHCs

Unstabilized water level at 1.4 m below ground surface; borehole was open upon completion.

library: genivar - library.glb **report:** gen log v1 **file:** 181-11117-00v2.gpj

LOG OF BOREHOLE BH18-8

project |	MTO Assignment 17, Renton Scoped ESA			**project no. |**	181-11117-00
client |	MTO	**rig type |**	GEOPROBE	**date started |**	2018/09/19
location |	Renton, Ontario	**method |**	Direct push, 50 mm dia.	**supervisor |**	SM
position |	E: 563741 N: 4745533 (17T, Geodetic)	**coring |**	*n/a*	**reviewer |**	KF

Depth Scale (m)	Elev / Depth (m)	STRATIGRAPHY	Graphic Plot	SAMPLE Number	SAMPLE Type	SPT N-Value / Core Recovery
0	215.8	**GROUND SURFACE**				
		ASPHALT: 100mm				
		FILL: sand and gravel, brown, compact, damp ...at 0.3 m, sand, brown, black staining, strong phc odour, loose, moist		1	DP	
1	215.0 0.8	**SILTY CLAY:** greyish brown, faint PHC odour, grey mottling, firm, DTPL		2	DP	
2	214.3 1.5	**SILT:** trace clay, brown, firm, DTPL to APL		3	DP	
				4	DP	
3				5	DP	
4				6	DP	
	211.2 4.6	**END OF BOREHOLE**				

Elevation Scale (mASL): 215, 214, 213, 212

Penetration Test Values (Blows / 0.3m)
× Dynamic Cone: 10 20 30 40

Undrained Shear Strength (kPa)
○ Unconfined ● Pocket Penetrometer + Field Vane ■ Lab Vane
40 80 120 160

Water Content (%) & Plasticity
PL MC LL
10 20 30

PID Readings: 8 ppm 0% LEL; 47 ppm 0% LEL; 7 ppm 0% LEL; 3 ppm 0% LEL; 2 ppm 0% LEL; 2 ppm 0% LEL

Well Details

Lab Data and Comments
GRAIN SIZE DISTRIBUTION (%) (MIT)
GR SA SI CL

DP2 chemistry: Metals, PAHs, VOCs, PHCs

DP6 chemistry: Metals, PAHs, VOCs, PHCs

Temporary well installed in open borehole.

Borehole was dry and caved to 3.9 m below ground surface upon completion.

WATER LEVEL MONITORING

Date	Depth (m)	Elevation (m)
Sep 20, 2018	3.4	212.4

library: genivar - library.glb **report:** gen log v1 **file:** 181-11117-00v2.gpj

LOG OF BOREHOLE BH18-9

WSP

project |	MTO Assignment 17, Renton Scoped ESA			**project no. |**	181-11117-00
client |	MTO	**rig type |**	GEOPROBE	**date started |**	2018/09/20
location |	Renton, Ontario	**method |**	Direct push, 50 mm dia.	**supervisor |**	SM
position |	E: 563738 N: 4745527 (17T, Geodetic)	**coring |**	*n/a*	**reviewer |**	KF

Depth Scale (m)	Elev / Depth (m)	STRATIGRAPHY	Graphic Plot	SAMPLE Number	SAMPLE Type	SPT N-Value / Core Recovery
0	216.2	**GROUND SURFACE**				
		ASPHALT: 100mm				
		FILL: topsoil, dark brown, sandy silt, soft, APL ...at 0.1 m, silty clay, brownish grey, soft, APL		1	DP	
	215.4 / 0.8	...at 0.3 m, sand and gravel, compact, damp				
1		**SAND:** some silt, brown, black staining, compact, moist		2	DP	
	214.7 / 1.5	**SILT:** trace clay, brown, grey mottling, firm, DTPL to APL		3	DP	
2				4	DP	
3				5	DP	
4				6	DP	
	211.6 / 4.6	**END OF BOREHOLE**				

Elevation Scale (mASL): 216, 215, 214, 213, 212

Penetration Test Values (Blows / 0.3m) — Dynamic Cone: 10 20 30 40

Undrained Shear Strength (kPa) — ○ Unconfined ● Pocket Penetrometer + Field Vane ■ Lab Vane: 40 80 120 160

Water Content (%) & Plasticity — PL MC LL: 10 20 30

PID Readings: 0 ppm 0% LEL

Well Details

Lab Data and Comments — GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL

DP2 chemistry: VOCs, PHCs

DP3 chemistry: Metals, PAHs

DP4 chemistry: Metals, PAHs, VOCs, PHCs

Borehole was dry and caed to 1.5m below ground surface upon completion.

After borehole cave, borehole re-drilled and a temporary well was installed.

WATER LEVEL MONITORING

Date	Depth (m)	Elevation (m)
Sep 20, 2018	2.0	214.3

LOG OF BOREHOLE BH18-10

WSP

project |	MTO Assignment 17, Renton Scoped ESA			**project no. |**	181-11117-00
client |	MTO	**rig type |**	GEOPROBE	**date started |**	2018/09/20
location |	Renton, Ontario	**method |**	Direct push, 50 mm dia.	**supervisor |**	SM
position |	E: 563733 N: 4745533 (17T, Geodetic)	**coring |**	*n/a*	**reviewer |**	KF

Depth Scale (m)	Elev / Depth (m)	STRATIGRAPHY	Graphic Plot	Sample Number	Sample Type	SPT N-Value / Core Recovery	Elevation Scale (mASL)	Penetration Test Values (Blows / 0.3m) / Undrained Shear Strength (kPa)	Water Content (%) & Plasticity	PID Readings	Well Details	Lab Data and Comments
0	215.9	**GROUND SURFACE**					215	Dynamic Cone: 10 20 30 40; Unconfined / Pocket Penetrometer / Field Vane / Lab Vane: 40 80 120 160	PL MC LL: 10 20 30; Water level on completion			GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL
	215.8	**ASPHALT:** 200mm										
	0.1	**FILL:** sand and gravel, brown, compact, damp										
1	214.8	...at 0.8 m, sand, brown, black staining, compact, moist		1	DP		214			0 ppm 0% LEL		
	1.1	**SANDY SILT:** greyish brown, soft, APL		2	DP					1 ppm 0% LEL		
	214.4											
	1.5	**SILT:** trace clay, brown, grey mottling, firm, DTPL to APL		3	DP					1 ppm 0% LEL		*DP3 chemistry: Metals, PAHs, VOCs, PHCs, DUP*
2				4	DP		213			0 ppm 0% LEL		
3				5	DP					0 ppm 0% LEL		*DP5 chemistry: Metals, PAHs, VOCs, PHCs*
4				6	DP		212					
	211.3	...at 4.3 m, grey										
	4.6	**END OF BOREHOLE**										

Unstabilized water level at 0.7 m below ground surface; borehole was open upon completion.

LOG OF BOREHOLE BH18-11

project |	MTO Assignment 17, Renton Scoped ESA			**project no. |**	181-11117-00
client |	MTO	**rig type |**	GEOPROBE	**date started |**	2018/09/20
location |	Renton, Ontario	**method |**	Direct push, 50 mm dia.	**supervisor |**	SM
position |	E: 563724 N: 4745523 (17T, Geodetic)	**coring |**	*n/a*	**reviewer |**	KF

Depth Scale (m)	Elev / Depth (m)	STRATIGRAPHY	Graphic Plot	Sample Number	Sample Type	SPT N-Value / Core Recovery
0	216.4	**GROUND SURFACE**				
		ASPHALT: 100mm				
		FILL: sand and gravel, brown, compact, damp				
1		...at 0.9 m, sand, brown, compact, moist		1	DP	
	215.2 / 1.2	**SILTY CLAY:** grey, soft, APL		2	DP	
	214.9 / 1.5	**SILT:** trace clay, brown, grey mottling, firm, APL		3	DP	
2				4	DP	
3				5	DP	
		...at 3.8 m, grey		6	DP	
4	211.8 / 4.6	**END OF BOREHOLE**				

Elevation Scale (mASL): 216, 215, 214, 213, 212

Penetration Test Values (Blows / 0.3m) — Dynamic Cone: 10, 20, 30, 40

Undrained Shear Strength (kPa) — ○ Unconfined, ● Pocket Penetrometer, + Field Vane, ■ Lab Vane: 40, 80, 120, 160

Water Content (%) & Plasticity — PL, MC, LL: 10, 20, 30

PID Readings: 0 ppm 0% LEL; 0 ppm 0% LEL; 0 ppm 0% LEL; 0 ppm 0% LEL; 0 ppm 0% LEL; 0 ppm 0% LEL

Well Details

Lab Data and Comments — GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL

DP1 chemistry: Metals, PAHs, VOCs, PHCs

DP4 chemistry: Metals, PAHs, VOCs, PHCs

Borehole was dry and open upon completion.

LOG OF BOREHOLE BH18-12

project |	MTO Assignment 17, Renton Scoped ESA			**project no. |**	181-11117-00
client |	MTO	**rig type |**	GEOPROBE	**date started |**	2018/09/20
location |	Renton, Ontario	**method |**	Direct push, 50 mm dia.	**supervisor |**	SM
position |	E: 563711 N: 4745536 (17T, Geodetic)	**coring |**	*n/a*	**reviewer |**	KF

Depth Scale (m)	Elev / Depth (m)	STRATIGRAPHY	Graphic Plot	Sample Number	Sample Type	SPT N-Value / Core Recovery
0	215.9	**GROUND SURFACE**				
		FILL: sand and gravel, brown, compact, damp				
		...at 0.6 m, sand, brown, black staining, loose, moist		1	DP	
1	215.0 / 0.9	**SILTY CLAY:** greyish green, with organics, soft to firm, PHC odour, APL		2	DP	
	214.4 / 1.5	**CLAYEY SILT:** brown, grey mottling, firm, APL		3	DP	
2				4	DP	
3	212.9 / 3.1	**SILT:** trace clay, brown, firm, APL		5	DP	
		...at 3.8 m, grey		6	DP	
4	211.3 / 4.6	**END OF BOREHOLE**				

Borehole was dry and open upon completion.

Elevation Scale (mASL): 215, 214, 213, 212

Penetration Test Values (Blows / 0.3m) — Dynamic Cone: 10, 20, 30, 40

Undrained Shear Strength (kPa) — ○ Unconfined, ● Pocket Penetrometer, + Field Vane, ■ Lab Vane: 40, 80, 120, 160

Water Content (%) & Plasticity — PL, MC, LL: 10, 20, 30

PID Readings: 1 ppm 0% LEL; 0 ppm 0% LEL; 0 ppm 0% LEL; 0 ppm 0% LEL; 0 ppm 0% LEL; 0 ppm 0% LEL

Well Details

Lab Data and Comments — GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL

DP1 chemistry: Metals, PAHs, VOCs, PHCs

DP4 chemistry: Metals, PAHs, VOCs, PHCs

LOG OF BOREHOLE BH18-13

project |	MTO Assignment 17, Renton Scoped ESA			**project no. |**	181-11117-00
client |	MTO	**rig type |**	GEOPROBE	**date started |**	2018/09/20
location |	Renton, Ontario	**method |**	Direct push, 50 mm dia.	**supervisor |**	SM
position |	E: 563707 N: 4745537 (17T, Geodetic)	**coring |**	*n/a*	**reviewer |**	KF

Depth Scale (m)	Elev / Depth (m)	STRATIGRAPHY	Graphic Plot	Sample Number	Sample Type	SPT N-Value / Core Recovery	Elevation Scale (mASL)
0	216.0	**GROUND SURFACE**					
		ASPHALT: 100mm					
		FILL: sand and gravel, brown, compact, damp					
		...at 0.6 m, sandy silt, greenish grey, black staining, with organics, soft, APL		1	DP		
1				2	DP		215
	214.5						
	1.5	**SILT AND CLAY:** brown, grey mottling, firm, APL		3	DP		
2							214
				4	DP		
	213.0						
3	3.1	**SILT:** trace clay, brown, firm, APL		5	DP		213
		...at 3.8 m, grey					
4				6	DP		212
	211.4						
	4.6	**END OF BOREHOLE**					

Penetration Test Values (Blows / 0.3m): Dynamic Cone — 10, 20, 30, 40

Undrained Shear Strength (kPa): ○ Unconfined, ● Pocket Penetrometer, + Field Vane, ■ Lab Vane — 40, 80, 120, 160

Water Content (%) & Plasticity: PL, MC, LL — 10, 20, 30; Water level on completion

PID Readings: 0 ppm 0% LEL

Well Details

Lab Data and Comments

GRAIN SIZE DISTRIBUTION (%) (MIT): GR SA SI CL

DP1 chemistry: Metals, PAHs, VOCs, PHCs

DP5 chemistry: Metals, PAHs, VOCs, PHCs

DP6 chemistry: Grain Size

Temporary well installed in open borehole.

Unstabilized water level at 2.5 m below ground surface; borehole caved to 4.4 m below ground surface upon completion.

WATER LEVEL MONITORING

Date	Depth (m)	Elevation (m)
Sep 20, 2018	2.5	213.4

LOG OF BOREHOLE BH18-14

WSP

project |	MTO Assignment 17, Renton Scoped ESA			**project no. |**	181-11117-00
client |	MTO	**rig type |**	GEOPROBE	**date started |**	2018/09/20
location |	Renton, Ontario	**method |**	Direct push, 50 mm dia.	**supervisor |**	SM
position |	E: 563705 N: 4745543 (17T, Geodetic)	**coring |**	*n/a*	**reviewer |**	KF

Depth Scale (m)	Elev / Depth (m)	STRATIGRAPHY	Graphic Plot	Sample Number	Sample Type	SPT N-Value / Core Recovery	Elevation Scale (mASL)	Penetration Test Values (Blows / 0.3m) / Undrained Shear Strength (kPa)	Water Content (%) & Plasticity	PID Readings	Well Details	Lab Data and Comments
	215.9	**GROUND SURFACE**						Dynamic Cone: 10 20 30 40				GRAIN SIZE DISTRIBUTION (%) (MIT) GR SA SI CL
0		**FILL:** sand and gravel, brown, compact, damp						Unconfined / Pocket Penetrometer / Field Vane / Lab Vane: 40 80 120 160	PL MC LL: 10 20 30			
	215.0	...at 0.8 m, sand, brown, black staining, loose, moist										
1	0.9	**CLAYEY SILT:** brownish grey, with grey mottling, soft, APL		1	DP		215			0 ppm 0% LEL		*DP1 chemistry: Metals, PAHs, VOCs, PHCs*
	214.4											
2	1.5	**SILT AND CLAY:** brown, grey mottling, firm, APL		2	DP		214			0 ppm 0% LEL		
				3	DP					0 ppm 0% LEL		
3	212.9						213					
	3.1	**SILT:** trace clay, brown, firm, APL		4	DP					0 ppm 0% LEL		*DP4 chemistry: Metals, PAHs, VOCs, PHCs*
		...at 3.8 m, grey										
4				5	DP		212			0 ppm 0% LEL		
	211.3											
	4.6	**END OF BOREHOLE**										

Borehole was dry and open upon completion.

APPENDIX

E LABORATORY CERTIFICATES OF ANALYSIS

AGAT Laboratories

5835 COOPERS AVENUE
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Certificate of Analysis

AGAT WORK ORDER: 18T388956

PROJECT: MTO Assignment #18

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM.

O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Water)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		MW18-4	MW18-8	MW18-9	MW18-13	MW100
		SAMPLE TYPE:		Water	Water	Water	Water	Water
		DATE SAMPLED:		2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19
Parameter	**Unit**	**G / S**	**RDL**	**9573789**	**9573790**	**9573791**	**9573792**	**9573793**
F1 (C6 - C10)	µg/L		25	<25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L		25	<25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L		100	<100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L		100	<100	<100	<100	<100	<100
F4 (C34 to C50)	µg/L		100	<100	<100	<100	<100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA	NA	NA	NA	NA
Surrogate	**Unit**	**Acceptable Limits**						
Terphenyl	%	60-140		96	74	84	79	73

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

9573789-9573793 The C6-C10 fraction is calculated using Toluene response factor.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and nC34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16 - C50 and are only determined if the chromatogram of the C34 - C50 Hydrocarbons indicated that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6-C50 results are corrected for BTEX contributions.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified with the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

Results relate only to the items tested and to all the items tested

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AGAT WORK ORDER: 18T388956

PROJECT: MTO Assignment #18

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM.

O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		MW18-4	MW18-8	MW18-9	MW18-13	MW100
		SAMPLE TYPE:		Water	Water	Water	Water	Water
		DATE SAMPLED:		2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19
Parameter	Unit	G / S	RDL	9573789	9573790	9573791	9573792	9573793
Dichlorodifluoromethane	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Vinyl Chloride	µg/L		0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromomethane	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichlorofluoromethane	µg/L		0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Acetone	µg/L		1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dichloroethylene, 1,1-	µg/L		0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methylene Chloride	µg/L		0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Dichloroethylene, Trans- 1,2-	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl tert-butyl ether	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloroethane, 1,1-	µg/L		0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	µg/L		1.0	<1.0	5.2	<1.0	<1.0	<1.0
Dichloroethylene, Cis- 1,2-	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dichloroethane, 1,2-	µg/L		0.20	<0.20	1.7	<0.20	<0.20	<0.20
Trichloroethane, 1,1,1-	µg/L		0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Carbon Tetrachloride	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Benzene	µg/L		0.20	<0.20	1.3	<0.20	<0.20	<0.20
Dichloropropane, 1,2-	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Trichloroethylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Methyl Isobutyl Ketone	µg/L		1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethane, 1,1,2-	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L		0.20	<0.20	0.43	<0.20	0.43	<0.20
Dibromochloromethane	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylene Dibromide	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethylene	µg/L		0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Tetrachloroethane, 1,1,1,2-	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Chlorobenzene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ethylbenzene	µg/L		0.10	<0.10	1.4	<0.10	0.11	<0.10
Bromoform	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Certified By:

Results relate only to the items tested and to all the items tested

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Certificate of Analysis

AGAT WORK ORDER: 18T388956

PROJECT: MTO Assignment #18

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM.

O. Reg. 153(511) - VOCs (Water)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		MW18-4	MW18-8	MW18-9	MW18-13	MW100
		SAMPLE TYPE:		Water	Water	Water	Water	Water
		DATE SAMPLED:		2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19
Parameter	**Unit**	**G / S**	**RDL**	**9573789**	**9573790**	**9573791**	**9573792**	**9573793**
Styrene	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Tetrachloroethane, 1,1,2,2-	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorobenzene, 1,3-	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorobenzene, 1,4-	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichlorobenzene, 1,2-	µg/L		0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dichloropropene, 1,3-	µg/L		0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Xylene Mixture	µg/L		0.20	<0.20	11	<0.20	0.29	<0.20
Hexane, n-	µg/L		0.20	0.71	2.5	<0.20	1.7	<0.20
Surrogate	**Unit**	**Acceptable Limits**						
Toluene-d8	% Recovery	50-140		93	102	93	93	93
4-Bromofluorobenzene	% Recovery	50-140		115	107	112	82	74

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

Results relate only to the items tested and to all the items tested

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 18T388956

PROJECT: MTO Assignment #18

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM.

O. Reg. 153(511) - Metals (Including Hydrides) (Water)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		MW18-4	MW18-8	MW18-9	MW18-13	MW100
		SAMPLE TYPE:		Water	Water	Water	Water	Water
		DATE SAMPLED:		2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19
Parameter	Unit	G / S	RDL	9573789	9573790	9573791	9573792	9573793
Antimony	µg/L		1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic	µg/L		1.0	2.7	<1.0	<1.0	1.7	1.3
Barium	µg/L		2.0	153	326	600	404	589
Beryllium	µg/L		0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron	µg/L		10.0	179	98.8	45.1	68.0	47.3
Cadmium	µg/L		0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium	µg/L		2.0	<2.0	<2.0	<2.0	<2.0	3.0
Cobalt	µg/L		0.5	1.0	0.9	3.4	1.3	4.1
Copper	µg/L		1.0	1.2	<1.0	1.6	<1.0	3.1
Lead	µg/L		0.5	<0.5	<0.5	<0.5	<0.5	2.2
Molybdenum	µg/L		0.5	5.3	7.8	9.1	3.9	5.4
Nickel	µg/L		1.0	<1.0	2.3	3.7	2.9	6.5
Selenium	µg/L		1.0	1.8	1.3	2.3	1.6	1.6
Silver	µg/L		0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/L		0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Uranium	µg/L		0.5	5.8	2.8	3.5	1.8	3.2
Vanadium	µg/L		0.4	1.9	0.43	0.42	1.3	3.4
Zinc	µg/L		5.0	<5.0	<5.0	<5.0	<5.0	7.6

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Nivine Basily

Results relate only to the items tested and to all the items tested

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 18T388956
PROJECT: MTO Assignment #18
ATTENTION TO: Radwan Tamr
SAMPLING SITE:Renton
SAMPLED BY:SM.

Trace Organics Analysis

RPT Date: Oct 02, 2018			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - VOCs (Water)															
Dichlorodifluoromethane	9579311		< 0.20	< 0.20	NA	< 0.20	74%	50%	140%	87%	50%	140%	111%	50%	140%
Vinyl Chloride	9579311		< 0.17	< 0.17	NA	< 0.17	79%	50%	140%	76%	50%	140%	118%	50%	140%
Bromomethane	9579311		< 0.20	< 0.20	NA	< 0.20	79%	50%	140%	75%	50%	140%	98%	50%	140%
Trichlorofluoromethane	9579311		< 0.40	< 0.40	NA	< 0.40	71%	50%	140%	91%	50%	140%	115%	50%	140%
Acetone	9579311		< 1.0	< 1.0	NA	< 1.0	106%	50%	140%	109%	50%	140%	114%	50%	140%
Dichloroethylene, 1,1-	9579311		< 0.30	< 0.30	NA	< 0.30	112%	50%	140%	113%	60%	130%	116%	50%	140%
Methylene Chloride	9579311		< 0.30	< 0.30	NA	< 0.30	76%	50%	140%	101%	60%	130%	106%	50%	140%
Dichloroethylene, Trans- 1,2-	9579311		< 0.20	< 0.20	NA	< 0.20	86%	50%	140%	101%	60%	130%	118%	50%	140%
Methyl tert-butyl ether	9579311		< 0.20	< 0.20	NA	< 0.20	99%	50%	140%	72%	60%	130%	71%	50%	140%
Dichloroethane, 1,1-	9579311		< 0.30	< 0.30	NA	< 0.30	75%	50%	140%	102%	60%	130%	116%	50%	140%
Methyl Ethyl Ketone	9579311		< 1.0	< 1.0	NA	< 1.0	113%	50%	140%	106%	50%	140%	117%	50%	140%
Dichloroethylene, Cis- 1,2-	9579311		< 0.20	< 0.20	NA	< 0.20	72%	50%	140%	99%	60%	130%	112%	50%	140%
Chloroform	9579311		< 0.20	< 0.20	NA	< 0.20	75%	50%	140%	101%	60%	130%	116%	50%	140%
Dichloroethane, 1,2-	9579311		< 0.20	< 0.20	NA	< 0.20	90%	50%	140%	105%	60%	130%	115%	50%	140%
Trichloroethane, 1,1,1-	9579311		< 0.30	< 0.30	NA	< 0.30	89%	50%	140%	105%	60%	130%	117%	50%	140%
Carbon Tetrachloride	9579311		< 0.20	< 0.20	NA	< 0.20	82%	50%	140%	95%	60%	130%	112%	50%	140%
Benzene	9579311		< 0.20	< 0.20	NA	< 0.20	88%	50%	140%	97%	60%	130%	110%	50%	140%
Dichloropropane, 1,2-	9579311		< 0.20	< 0.20	NA	< 0.20	74%	50%	140%	97%	60%	130%	106%	50%	140%
Trichloroethylene	9579311		< 0.20	< 0.20	NA	< 0.20	84%	50%	140%	96%	60%	130%	114%	50%	140%
Bromodichloromethane	9579311		< 0.20	< 0.20	NA	< 0.20	81%	50%	140%	105%	60%	130%	116%	50%	140%
Methyl Isobutyl Ketone	9579311		< 1.0	< 1.0	NA	< 1.0	102%	50%	140%	110%	50%	140%	113%	50%	140%
Trichloroethane, 1,1,2-	9579311		< 0.20	< 0.20	NA	< 0.20	106%	50%	140%	117%	60%	130%	115%	50%	140%
Toluene	9579311		< 0.20	< 0.20	NA	< 0.20	85%	50%	140%	119%	60%	130%	113%	50%	140%
Dibromochloromethane	9579311		< 0.10	< 0.10	NA	< 0.10	94%	50%	140%	114%	60%	130%	115%	50%	140%
Ethylene Dibromide	9579311		< 0.10	< 0.10	NA	< 0.10	99%	50%	140%	115%	60%	130%	119%	50%	140%
Tetrachloroethylene	9579311		< 0.20	< 0.20	NA	< 0.20	81%	50%	140%	115%	60%	130%	110%	50%	140%
Tetrachloroethane, 1,1,1,2-	9579311		< 0.10	< 0.10	NA	< 0.10	103%	50%	140%	117%	60%	130%	105%	50%	140%
Chlorobenzene	9579311		< 0.10	< 0.10	NA	< 0.10	88%	50%	140%	117%	60%	130%	109%	50%	140%
Ethylbenzene	9579311		< 0.10	< 0.10	NA	< 0.10	79%	50%	140%	109%	60%	130%	107%	50%	140%
Bromoform	9579311		< 0.10	< 0.10	NA	< 0.10	112%	50%	140%	113%	60%	130%	117%	50%	140%
Styrene	9579311		< 0.10	< 0.10	NA	< 0.10	89%	50%	140%	94%	60%	130%	110%	50%	140%
Tetrachloroethane, 1,1,2,2-	9579311		< 0.10	< 0.10	NA	< 0.10	88%	50%	140%	110%	60%	130%	114%	50%	140%
Dichlorobenzene, 1,3-	9579311		< 0.10	< 0.10	NA	< 0.10	92%	50%	140%	107%	60%	130%	119%	50%	140%
Dichlorobenzene, 1,4-	9579311		< 0.10	< 0.10	NA	< 0.10	103%	50%	140%	110%	60%	130%	109%	50%	140%
Dichlorobenzene, 1,2-	9579311		< 0.10	< 0.10	NA	< 0.10	99%	50%	140%	110%	60%	130%	119%	50%	140%
Dichloropropene, 1,3-	9579311		< 0.30	< 0.30	NA	< 0.30	77%	50%	140%	91%	60%	130%	108%	50%	140%
Hexane, n-	9579311		< 0.20	< 0.20	NA	< 0.20	110%	50%	140%	108%	60%	130%	118%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Water)															

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation.

Results relate only to the items tested and to all the items tested

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Quality Assurance

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 18T388956

PROJECT: MTO Assignment #18

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM.

Trace Organics Analysis (Continued)

RPT Date: Oct 02, 2018			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
F1 (C6 - C10)	9566620		< 25	< 25	NA	< 25	84%	60%	140%	88%	60%	140%	85%	60%	140%
F2 (C10 to C16)		TW	< 100	< 100	NA	< 100	103%	60%	140%	77%	60%	140%	72%	60%	140%
F3 (C16 to C34)		TW	< 100	< 100	NA	< 100	106%	60%	140%	95%	60%	140%	108%	60%	140%
F4 (C34 to C50)		TW	< 100	< 100	NA	< 100	102%	60%	140%	90%	60%	140%	85%	60%	140%
O. Reg. 153(511) - PAHs (Water)															
Naphthalene		TW	< 0.20	< 0.20	NA	< 0.20	115%	50%	140%	99%	50%	140%	101%	50%	140%
Acenaphthylene		TW	< 0.20	< 0.20	NA	< 0.20	116%	50%	140%	103%	50%	140%	102%	50%	140%
Acenaphthene		TW	< 0.20	< 0.20	NA	< 0.20	116%	50%	140%	105%	50%	140%	101%	50%	140%
Fluorene		TW	< 0.20	< 0.20	NA	< 0.20	114%	50%	140%	96%	50%	140%	103%	50%	140%
Phenanthrene		TW	< 0.10	< 0.10	NA	< 0.10	85%	50%	140%	85%	50%	140%	80%	50%	140%
Anthracene		TW	< 0.10	< 0.10	NA	< 0.10	117%	50%	140%	97%	50%	140%	98%	50%	140%
Fluoranthene		TW	< 0.20	< 0.20	NA	< 0.20	101%	50%	140%	86%	50%	140%	96%	50%	140%
Pyrene		TW	< 0.20	< 0.20	NA	< 0.20	101%	50%	140%	88%	50%	140%	98%	50%	140%
Benz(a)anthracene		TW	< 0.20	< 0.20	NA	< 0.20	72%	50%	140%	96%	50%	140%	92%	50%	140%
Chrysene		TW	< 0.10	< 0.10	NA	< 0.10	103%	50%	140%	87%	50%	140%	95%	50%	140%
Benzo(b)fluoranthene		TW	< 0.10	< 0.10	NA	< 0.10	80%	50%	140%	80%	50%	140%	80%	50%	140%
Benzo(k)fluoranthene		TW	< 0.10	< 0.10	NA	< 0.10	98%	50%	140%	92%	50%	140%	95%	50%	140%
Benzo(a)pyrene		TW	< 0.01	< 0.01	NA	< 0.01	85%	50%	140%	87%	50%	140%	89%	50%	140%
Indeno(1,2,3-cd)pyrene		TW	< 0.20	< 0.20	NA	< 0.20	108%	50%	140%	92%	50%	140%	97%	50%	140%
Dibenz(a,h)anthracene		TW	< 0.20	< 0.20	NA	< 0.20	87%	50%	140%	80%	50%	140%	83%	50%	140%
Benzo(g,h,i)perylene		TW	< 0.20	< 0.20	NA	< 0.20	105%	50%	140%	90%	50%	140%	97%	50%	140%
Methyl Naphthalene, 2-and 1-		TW	< 0.20	< 0.20	NA	< 0.20	116%	50%	140%	96%	50%	140%	101%	50%	140%

Certified By:

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation.

Results relate only to the items tested and to all the items tested

AGAT Laboratories
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http://www.agatlabs.com

Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 18T388956
PROJECT: MTO Assignment #18
ATTENTION TO: Radwan Tamr
SAMPLING SITE:Renton
SAMPLED BY:SM.

Water Analysis

RPT Date: Oct 02, 2018			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals (Including Hydrides) (Water)															
Antimony	9576429		<1.0	<1.0	NA	< 1.0	99%	70%	130%	106%	80%	120%	110%	70%	130%
Arsenic	9576429		1.7	1.8	NA	< 1.0	95%	70%	130%	96%	80%	120%	107%	70%	130%
Barium	9576429		92.1	94.9	3.0%	< 2.0	100%	70%	130%	100%	80%	120%	98%	70%	130%
Beryllium	9576429		<0.5	<0.5	NA	< 0.5	104%	70%	130%	106%	80%	120%	119%	70%	130%
Boron	9576429		48.9	54.3	10.5%	< 10.0	97%	70%	130%	93%	80%	120%	103%	70%	130%
Cadmium	9576429		<0.2	<0.2	NA	< 0.2	99%	70%	130%	105%	80%	120%	105%	70%	130%
Chromium	9576429		<2.0	<2.0	NA	< 2.0	99%	70%	130%	101%	80%	120%	109%	70%	130%
Cobalt	9576429		0.8	0.8	NA	< 0.5	97%	70%	130%	95%	80%	120%	101%	70%	130%
Copper	9576429		<1.0	<1.0	NA	< 1.0	96%	70%	130%	96%	80%	120%	99%	70%	130%
Lead	9576429		<0.5	<0.5	NA	< 0.5	101%	70%	130%	107%	80%	120%	98%	70%	130%
Molybdenum	9576429		0.6	0.6	NA	< 0.5	93%	70%	130%	98%	80%	120%	106%	70%	130%
Nickel	9576429		<1.0	<1.0	NA	< 1.0	101%	70%	130%	99%	80%	120%	103%	70%	130%
Selenium	9576429		2.9	3.2	NA	< 1.0	93%	70%	130%	97%	80%	120%	107%	70%	130%
Silver	9576429		<0.2	<0.2	NA	< 0.2	97%	70%	130%	108%	80%	120%	103%	70%	130%
Thallium	9576429		<0.3	<0.3	NA	< 0.3	106%	70%	130%	108%	80%	120%	102%	70%	130%
Uranium	9576429		0.8	0.8	NA	< 0.5	99%	70%	130%	106%	80%	120%	98%	70%	130%
Vanadium	9576429		<0.4	<0.4	NA	< 0.4	91%	70%	130%	93%	80%	120%	104%	70%	130%
Zinc	9576429		<5.0	<5.0	NA	< 5.0	98%	70%	130%	98%	80%	120%	107%	70%	130%

Comments: NA signifies Not Applicable.
Duplicate Qualifier: As the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Certified By: Nivine Basily

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http://www.agatlabs.com

Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 18T388956

PROJECT: MTO Assignment #18

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM.

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Acenaphthylene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Acenaphthene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Fluorene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Phenanthrene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Anthracene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Fluoranthene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Pyrene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benz(a)anthracene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Chrysene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzo(b)fluoranthene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzo(k)fluoranthene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzo(a)pyrene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Dibenz(a,h)anthracene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Benzo(g,h,i)perylene	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Methyl Naphthalene, 2-and 1-	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
Chrysene-d12	ORG-91-5105	EPA SW-846 3510 & 8270	GC/MS
F1 (C6 - C10)	VOL-91- 5010	MOE PHC E3421	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	MOE PHC E3421	(P&T)GC/FID
F2 (C10 to C16)	VOL-91-5010	MOE PHC E3421	GC / FID
F3 (C16 to C34)	VOL-91-5010	MOE PHC E3421	GC / FID
F4 (C34 to C50)	VOL-91-5010	MOE PHC E3421	GC / FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	MOE PHC E3421	BALANCE
Terphenyl	VOL-91-5010		GC/FID
Dichlorodifluoromethane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Vinyl Chloride	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Bromomethane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Acetone	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Dichloroethylene, 1,1-	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Methylene Chloride	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Dichloroethylene, Trans- 1,2-	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Methyl tert-butyl ether	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Dichloroethane, 1,1-	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Dichloroethylene, Cis- 1,2-	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Chloroform	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Dichloroethane, 1,2-	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Trichloroethane, 1,1,1-	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Benzene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Dichloropropane, 1,2-	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Trichloroethylene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Bromodichloromethane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Trichloroethane, 1,1,2-	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Toluene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Dibromochloromethane	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS

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Method Summary

CLIENT NAME: WSP CANADA INC. **AGAT WORK ORDER: 18T388956**

PROJECT: MTO Assignment #18 **ATTENTION TO: Radwan Tamr**

SAMPLING SITE:Renton **SAMPLED BY:SM.**

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Ethylene Dibromide	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Tetrachloroethane, 1,1,1,2-	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Ethylbenzene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Bromoform	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Styrene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Tetrachloroethane, 1,1,2,2-	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Dichlorobenzene, 1,3-	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Dichlorobenzene, 1,4-	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Dichlorobenzene, 1,2-	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Dichloropropene, 1,3-	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Xylene Mixture	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Hexane, n-	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Toluene-d8	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5001	EPA SW-846 5030 & 8260	(P&T)GC/MS
Water Analysis			
Antimony	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Arsenic	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Barium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Beryllium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Boron	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Cadmium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Chromium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Cobalt	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Copper	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Lead	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Molybdenum	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Nickel	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Selenium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Silver	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Thallium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Uranium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Vanadium	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS
Zinc	MET-93-6103	EPA SW-846 6020A & 200.8	ICP-MS

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AGAT Laboratories

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Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water intended for human consumption)

Laboratory Use Only
Work Order #: 18T388956
Cooler Quantity:
Arrival Temperatures: 6.7 6.9 6.9 / 5.7 6.0 6.3
Custody Seal Intact: ☐Yes ☐No ☐N/A
Notes:

Report Information:
Company: WSP Canada Inc.
Contact: Radwan Tamr
Address: 1821 Provincial Road, Suite 100
Windsor, ON N8W 5V7
Phone: 226-826-0702 Fax: 519-974-5175
Reports to be sent to:
1. Email: Radwan.Tamr@wsp.com
2. Email: Jenna.McVitty@wsp.com

Regulatory Requirements: ☐ No Regulatory Requirement
(Please check all applicable boxes)

☑ Regulation 153/04
Table 1 (Indicate One)
☑ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture (Check One)
☑ Coarse
☐ Fine

☐ Sewer Use
☐ Sanitary
☐ Storm
Region ____ (Indicate One)

☐ Regulation 558
☐ CCME
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
(Indicate One)

Is this submission for a **Record of Site Condition?** ☐ Yes ☑ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☑ No

Turnaround Time (TAT) Required:
Regular TAT ☑ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply):

*TAT is exclusive of weekends and statutory holidays
For 'Same Day' analysis, please contact your AGAT CPM

Project Information:
Project: MTO Assign 16
Site Location: Renton
Sampled By: SM
AGAT Quote #: 133060 PO: 181-11117-00-100-1002
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:
Bill To Same: Yes ☑ No ☐
Company: EMAIL TO:
Contact: Payables.Ontario@wsp.com
Address: Radwan.Tamr@wsp.com
Email: Jenna.McVitty@wsp.com

Sample Matrix Legend
B Biota
GW Ground Water
O Oil
P Paint
S Soil
SD Sediment
SW Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI (Y/N)	O. Reg 153: Metals and Inorganics	All Metals ☐ 153 Metals (excl. Hydrides)	Hydride Metals	ORPs: ☐ B-HWS ☐ Cl ☐ CN	Cr6+ ☐ EC ☐ FOC ☐ Hg	pH ☐ SAR	Full Metals Scan	Regulation/Custom Metals	Nutrients: ☐ TP ☐ NH3 ☐ TKN	NO2 ☐ NO3 ☐ NO3+NO2	Volatiles: ☑ VOC ☑ BTEX ☐ THM	CCME Fractions 1 to 4	ABNs	PAHs	PCBs: ☐ Total ☐ Aroclors	Organochlorine Pesticides	TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	Sewer Use	Metals
MW18-4	Sept. 19/18	PM	9	GW		Y											☑	☑		☑					☑
MW18-8	Sept. 20/18	PM	9	GW		Y											☑	☑		☑					☑
MW18-9	Sept. 20/18	PM	9	GW		Y											☑	☑		☑					☑
MW18-13	Sept. 20/18	PM	9	GW		Y											☑	☑		☑					☑
MW100	Sept. 20/18	PM	9	GW		Y											☑	☑		☑					☑

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Rebecca Warrack	Sept 24/18	8:30am		2018/09/24	7:15
	2018/09/24	4:10			

Page 1 of 1
N°:

Document ID: DW-78-1911-013

Pink Copy - Client | Yellow Copy - AGAT | White Copy- AGAT Date Issued: September 26, 2016

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - Metals (Including Hydrides) (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

Parameter	Unit	G / S	RDL	SAMPLE DESCRIPTION: BH18-1 S1 SAMPLE TYPE: Soil DATE SAMPLED: 2018-09-19 9573871	BH18-1 S4 Soil 2018-09-19 9573872	BH18-2 S2 Soil 2018-09-19 9573873	BH18-2 S4 Soil 2018-09-19 9573874	BH18-3 S1 Soil 2018-09-19 9573875	BH18-3 S3 Soil 2018-09-19 9573876	BH18-4 S2 Soil 2018-09-19 9573877	BH18-4 S4 Soil 2018-09-19 9573878
Antimony	µg/g		0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g		1	3	4	4	4	3	4	4	3
Barium	µg/g		2	113	110	120	118	98	134	104	124
Beryllium	µg/g		0.5	0.9	0.6	0.8	0.7	0.7	0.8	0.8	0.8
Boron	µg/g		5	7	10	10	15	11	15	11	15
Cadmium	µg/g		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g		2	25	23	26	27	21	28	24	28
Cobalt	µg/g		0.5	11.4	11.1	12.3	12.5	8.4	13.9	9.1	12.1
Copper	µg/g		1	16	18	19	19	15	20	15	19
Lead	µg/g		1	12	9	9	10	23	11	12	9
Molybdenum	µg/g		0.5	<0.5	0.5	0.5	0.6	<0.5	0.5	<0.5	0.6
Nickel	µg/g		1	22	21	23	24	17	25	18	24
Selenium	µg/g		0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Silver	µg/g		0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/g		0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Uranium	µg/g		0.5	0.6	0.6	0.6	0.8	0.7	0.7	0.9	0.7
Vanadium	µg/g		1	39	33	39	39	33	40	36	40
Zinc	µg/g		5	57	54	53	56	58	62	51	59

Certified By: Militza O. Silva

Results relate only to the items tested and to all the items tested

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Certificate of Analysis

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - Metals (Including Hydrides) (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

Parameter	Unit	G / S	RDL	SAMPLE DESCRIPTION: BH18-5 S1 SAMPLE TYPE: Soil DATE SAMPLED: 2018-09-19 9573879	BH18-5 S6 Soil 2018-09-19 9573880	BH18-6 S1 Soil 2018-09-19 9573881	BH18-6 S5 Soil 2018-09-19 9573882	BH18-7 S4 Soil 2018-09-19 9573884	BH18-8 S2 Soil 2018-09-19 9573885	BH18-8 S6 Soil 2018-09-19 9573886	BH18-9 S4 Soil 2018-09-20 9573888
Antimony	µg/g		0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g		1	2	4	2	4	5	4	4	4
Barium	µg/g		2	26	118	26	101	128	147	102	117
Beryllium	µg/g		0.5	<0.5	0.8	<0.5	0.6	0.8	1.0	0.7	0.7
Boron	µg/g		5	<5	16	<5	14	14	10	14	14
Cadmium	µg/g		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g		2	7	28	7	24	28	30	26	28
Cobalt	µg/g		0.5	2.2	10.2	2.1	11.0	13.4	12.2	11.1	11.4
Copper	µg/g		1	4	19	3	19	20	16	19	19
Lead	µg/g		1	9	9	4	9	10	17	9	10
Molybdenum	µg/g		0.5	<0.5	0.6	<0.5	0.7	0.7	<0.5	0.6	<0.5
Nickel	µg/g		1	4	22	4	21	24	23	22	22
Selenium	µg/g		0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Silver	µg/g		0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/g		0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Uranium	µg/g		0.5	<0.5	0.6	<0.5	0.6	0.8	0.8	0.6	0.6
Vanadium	µg/g		1	17	39	17	36	41	47	36	40
Zinc	µg/g		5	20	59	17	55	58	63	56	58

Certified By: Militza O. Silva

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Certificate of Analysis

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - Metals (Including Hydrides) (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

Parameter	Unit	G / S	RDL	SAMPLE DESCRIPTION: BH18-10 S3	BH18-10 S5	BH18-11 S1	BH18-11 S4	BH18-12 S1	BH18-12 S4	BH18-13 S1	BH18-13 S5
				SAMPLE TYPE: Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
				DATE SAMPLED: 2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20
				9573889	9573890	9573891	9573892	9573893	9573894	9573895	9573896
Antimony	µg/g		0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g		1	2	3	<1	3	2	3	2	3
Barium	µg/g		2	88	125	25	117	56	133	78	102
Beryllium	µg/g		0.5	0.6	0.6	<0.5	0.6	<0.5	0.7	0.6	0.6
Boron	µg/g		5	8	10	<5	9	<5	11	<5	10
Cadmium	µg/g		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g		2	20	24	5	24	10	24	16	21
Cobalt	µg/g		0.5	9.6	13.4	2.0	12.3	4.6	12.3	5.7	11.3
Copper	µg/g		1	18	22	4	20	10	22	12	20
Lead	µg/g		1	8	10	6	9	24	10	10	9
Molybdenum	µg/g		0.5	<0.5	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5
Nickel	µg/g		1	19	25	4	22	8	25	11	21
Selenium	µg/g		0.4	<0.4	<0.4	<0.4	<0.4	0.4	<0.4	<0.4	<0.4
Silver	µg/g		0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/g		0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Uranium	µg/g		0.5	<0.5	0.7	<0.5	0.5	0.7	0.6	0.6	0.7
Vanadium	µg/g		1	29	32	9	33	21	35	28	30
Zinc	µg/g		5	47	60	28	53	50	57	41	49

Certified By: Militza O. Silva

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Certificate of Analysis

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - Metals (Including Hydrides) (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-14 S1	BH18-7 S3	BH18-9 S3	S100	S200	S300	BH18-14 S4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-20	2018-09-19	2018-09-20	2018-09-19	2018-09-19	2018-09-19	2018-09-20
Parameter	Unit	G / S	RDL	9573897	9573899	9573900	9574039	9574041	9574042	9574044
Antimony	µg/g		0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g		1	2	4	3	2	3	4	4
Barium	µg/g		2	108	135	119	69	94	134	101
Beryllium	µg/g		0.5	0.6	0.7	0.6	<0.5	0.5	0.7	0.7
Boron	µg/g		5	<5	8	8	<5	8	9	13
Cadmium	µg/g		0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g		2	21	23	21	14	18	24	24
Cobalt	µg/g		0.5	9.1	10.9	11.6	6.0	10.0	10.4	11.3
Copper	µg/g		1	12	21	19	9	19	20	19
Lead	µg/g		1	10	9	9	14	9	10	9
Molybdenum	µg/g		0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5
Nickel	µg/g		1	17	23	21	9	19	22	23
Selenium	µg/g		0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Silver	µg/g		0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/g		0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Uranium	µg/g		0.5	0.6	0.9	0.6	<0.5	0.6	0.9	0.6
Vanadium	µg/g		1	32	39	31	23	27	37	33
Zinc	µg/g		5	54	51	52	44	48	52	53

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Militiza O. Silva

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Certificate of Analysis

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 558 Metals and Inorganics

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		TCLP Renton
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2018-09-20
Parameter	Unit	G / S	RDL	9574038
Arsenic Leachate	mg/L		0.010	<0.010
Barium Leachate	mg/L		0.100	0.712
Boron Leachate	mg/L		0.050	<0.050
Cadmium Leachate	mg/L		0.010	<0.010
Chromium Leachate	mg/L		0.010	<0.010
Lead Leachate	mg/L		0.010	<0.010
Mercury Leachate	mg/L		0.01	<0.01
Selenium Leachate	mg/L		0.010	<0.010
Silver Leachate	mg/L		0.010	<0.010
Uranium Leachate	mg/L		0.050	<0.050
Fluoride Leachate	mg/L		0.05	0.20
Cyanide Leachate	mg/L		0.05	<0.05
(Nitrate + Nitrite) as N Leachate	mg/L		0.70	<0.70

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Militza O. Silva

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AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

Particle Size by Sieve (Wet)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-6 S3	BH18-13 S6
		SAMPLE TYPE:		Soil	Soil
		DATE SAMPLED:		2018-09-19	2018-09-20
Parameter	Unit	G / S	RDL	9573901	9573902
Sieve Analysis - 75 µm (retained)	%		NA	0.4	0.6
Sieve Analysis - 75 µm (passing)	%		NA	99.6	99.4
Soil Texture (Toronto)				Fine	Fine

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

9573901-9573902 Value reported is the amount of sample passing through or retained on sieve after wash with water and represents proportion by weight particles smaller or larger than indicated sieve size.
Analysis performed at AGAT Toronto (unless marked by *)

Certified By: Militza O. Silva

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AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-1 S1	BH18-1 S4	BH18-2 S2	BH18-2 S4	BH18-3 S1	BH18-3 S3	BH18-4 S2	BH18-4 S4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19
Parameter	**Unit**	**G / S**	**RDL**	**9573871**	**9573872**	**9573873**	**9573874**	**9573875**	**9573876**	**9573877**	**9573878**
Naphthalene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	0.11	<0.05	<0.05	<0.05
Anthracene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g		0.05	0.08	<0.05	<0.05	<0.05	0.23	<0.05	<0.05	<0.05
Pyrene	µg/g		0.05	0.07	<0.05	<0.05	<0.05	0.21	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	0.10	<0.05	<0.05	<0.05
Chrysene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	0.12	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g		0.05	0.05	<0.05	<0.05	<0.05	0.16	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05
Methyl Naphthalene, 2-and 1-	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Surrogate	**Unit**	**Acceptable Limits**									
.Chrysene-d12	%	50-140		105	113	116	112	116	103	112	97

Certified By: NPopnikolof

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Certificate of Analysis

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-5 S1	BH18-5 S6	BH18-6 S1	BH18-6 S5	BH18-7 S4	BH18-8 S2	BH18-8 S6	BH18-9 S4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-20
Parameter	**Unit**	**G / S**	**RDL**	**9573879**	**9573880**	**9573881**	**9573882**	**9573884**	**9573885**	**9573886**	**9573888**
Naphthalene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.81	<0.05	<0.05
Acenaphthylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Naphthalene, 2-and 1-	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.70	<0.05	<0.05
Surrogate	**Unit**	**Acceptable Limits**									
.Chrysene-d12	%	50-140		113	108	119	118	107	118	98	87

Certified By: NPopnikolof

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Certificate of Analysis

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-10 S3	BH18-10 S5	BH18-11 S1	BH18-11 S4	BH18-12 S1	BH18-12 S4	BH18-13 S1	BH18-13 S5
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20
Parameter	**Unit**	**G / S**	**RDL**	**9573889**	**9573890**	**9573891**	**9573892**	**9573893**	**9573894**	**9573895**	**9573896**
Naphthalene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	0.40	<0.05	0.20	<0.05
Acenaphthene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	0.13	<0.05	0.08	<0.05
Phenanthrene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	0.90	<0.05	0.66	<0.05
Anthracene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	0.24	<0.05	0.14	<0.05
Fluoranthene	µg/g		0.05	<0.05	<0.05	0.05	<0.05	2.5	<0.05	1.8	<0.05
Pyrene	µg/g		0.05	<0.05	<0.05	0.05	<0.05	2.3	<0.05	1.5	<0.05
Benz(a)anthracene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	1.2	<0.05	0.88	<0.05
Chrysene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	1.6	<0.05	0.98	<0.05
Benzo(b)fluoranthene	µg/g		0.05	<0.05	<0.05	0.09	<0.05	2.5	<0.05	1.6	<0.05
Benzo(k)fluoranthene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	0.76	<0.05	0.54	<0.05
Benzo(a)pyrene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	1.5	<0.05	0.90	<0.05
Indeno(1,2,3-cd)pyrene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	0.92	<0.05	0.48	<0.05
Dibenz(a,h)anthracene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	0.18	<0.05	0.10	<0.05
Benzo(g,h,i)perylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	1.0	<0.05	0.49	<0.05
Methyl Naphthalene, 2-and 1-	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Surrogate	**Unit**	**Acceptable Limits**									
.Chrysene-d12	%	50-140		117	109	114	112	76	102	80	111

Certified By:

Results relate only to the items tested and to all the items tested

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AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-14 S1	BH18-7 S3	BH18-9 S3	S100	S200	S300	BH18-14 S4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-20	2018-09-19	2018-09-20	2018-09-19	2018-09-19	2018-09-19	2018-09-20
Parameter	**Unit**	**G / S**	**RDL**	**9573897**	**9573899**	**9573900**	**9574039**	**9574041**	**9574042**	**9574044**
Naphthalene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g		0.05	<0.05	<0.05	<0.05	0.16	<0.05	<0.05	<0.05
Acenaphthene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g		0.05	<0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.05
Phenanthrene	µg/g		0.05	<0.05	<0.05	0.13	0.55	<0.05	<0.05	<0.05
Anthracene	µg/g		0.05	<0.05	<0.05	<0.05	0.10	<0.05	<0.05	<0.05
Fluoranthene	µg/g		0.05	<0.05	<0.05	0.11	1.7	<0.05	<0.05	<0.05
Pyrene	µg/g		0.05	<0.05	<0.05	0.08	1.4	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g		0.05	<0.05	<0.05	<0.05	0.77	<0.05	<0.05	<0.05
Chrysene	µg/g		0.05	<0.05	<0.05	<0.05	0.77	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g		0.05	<0.05	<0.05	<0.05	1.3	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g		0.05	<0.05	<0.05	<0.05	0.44	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g		0.05	<0.05	<0.05	<0.05	0.84	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g		0.05	<0.05	<0.05	<0.05	0.38	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g		0.05	<0.05	<0.05	<0.05	0.10	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g		0.05	<0.05	<0.05	<0.05	0.49	<0.05	<0.05	<0.05
Methyl Naphthalene, 2-and 1-	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Surrogate	**Unit**	**Acceptable Limits**								
.Chrysene-d12	%	50-140		95	111	93	94	99	107	109

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

9573871-9574044 Results are based on the dry weight of the soil.
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&(j)Fluoranthene isomers because the isomers co-elute on the GC column.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

Results relate only to the items tested and to all the items tested

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - PHCs F1 - F4 (-BTEX) (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-7 S2	BH18-9 S2	S400
		SAMPLE TYPE:		Soil	Soil	Soil
		DATE SAMPLED:		2018-09-19	2018-09-20	2018-09-20
Parameter	**Unit**	**G / S**	**RDL**	**9573883**	**9573887**	**9574043**
F1 (C6 to C10)	µg/g		5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g		5	<5	<5	<5
F2 (C10 to C16)	µg/g		10	<10	<10	<10
F3 (C16 to C34)	µg/g		50	<50	<50	<50
F4 (C34 to C50)	µg/g		50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA
Moisture Content	%		0.1	12.4	12.1	16.4
Surrogate	**Unit**	**Acceptable Limits**				
Terphenyl	%	60-140		130	135	101

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

9573883-9574043 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX contributions.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.
Fractions 1-4 are quantified without the contribution of PAHs. Under Ontario Regulation 153, results are considered valid without determining the PAH contribution if not requested by the client.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

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AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-1 S1	BH18-1 S4	BH18-2 S2	BH18-2 S4	BH18-3 S1	BH18-3 S3	BH18-4 S2	BH18-4 S4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19
Parameter	**Unit**	**G / S**	**RDL**	9573871	9573872	9573873	9573874	9573875	9573876	9573877	9573878
F1 (C6 to C10)	µg/g		5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g		5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g		10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g		50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g		50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	20.1	15.4	17.8	19.8	18.6	15.8	19.2	16.8
Surrogate	**Unit**	**Acceptable Limits**									
Terphenyl	%	60-140		95	120	110	120	110	130	108	125

		SAMPLE DESCRIPTION:		BH18-5 S1	BH18-5 S6	BH18-6 S1	BH18-6 S5	BH18-7 S4	BH18-8 S2	BH18-8 S6	BH18-9 S4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-20
Parameter	**Unit**	**G / S**	**RDL**	9573879	9573880	9573881	9573882	9573884	9573885	9573886	9573888
F1 (C6 to C10)	µg/g		5	<5	<5	<5	<5	<5	380	<5	<5
F1 (C6 to C10) minus BTEX	µg/g		5	<5	<5	<5	<5	<5	360	<5	<5
F2 (C10 to C16)	µg/g		10	<10	<10	<10	<10	<10	310	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10	<10	310	<10	<10
F3 (C16 to C34)	µg/g		50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g		50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	12.8	18.2	11.4	19.2	15.4	21.0	18.8	17.6
Surrogate	**Unit**	**Acceptable Limits**									
Terphenyl	%	60-140		114	100	89	135	130	110	102	102

Certified By:

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AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-10 S3	BH18-10 S5	BH18-11 S1	BH18-11 S4	BH18-12 S1	BH18-12 S4	BH18-13 S1	BH18-13 S5
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20
Parameter	**Unit**	**G / S**	**RDL**	9573889	9573890	9573891	9573892	9573893	9573894	9573895	9573896
F1 (C6 to C10)	µg/g		5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g		5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g		10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g		50	<50	<50	<50	<50	1200	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	<50	1200	<50	<50	<50
F4 (C34 to C50)	µg/g		50	<50	<50	<50	<50	350	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	14.9	17.0	14.2	16.5	17.0	18.6	21.4	18.5
Surrogate	**Unit**	**Acceptable Limits**									
Terphenyl	%	60-140		102	73	63	78	79	77	78	70

		SAMPLE DESCRIPTION:		BH18-14 S1	S100	S200	BH18-14 S4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-20	2018-09-19	2018-09-19	2018-09-20
Parameter	**Unit**	**G / S**	**RDL**	9573897	9574039	9574041	9574044
F1 (C6 to C10)	µg/g		5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g		5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g		10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g		50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g		50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g		50	NA	NA	NA	NA
Moisture Content	%		0.1	21.9	17.5	13.6	18.6
Surrogate	**Unit**	**Acceptable Limits**					
Terphenyl	%	60-140		75	76	82	76

Certified By: NPopnikolof

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AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

9573871-9574044 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC6 and nC10 response factors are within 30% of Toluene response factor.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

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AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - VOCs (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-1 S1	BH18-1 S4	BH18-2 S2	BH18-2 S4	BH18-3 S1	BH18-3 S3	BH18-4 S2	BH18-4 S4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19
Parameter	Unit	G / S	RDL	9573871	9573872	9573873	9573874	9573875	9573876	9573877	9573878
Dichlorodifluoromethane	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, 1,1-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethylene, Trans- 1,2-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethane, 1,1-	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, Cis- 1,2-	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Dichloroethane, 1,2-	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethane, 1,1,1-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dichloropropane, 1,2-	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethane, 1,1,2-	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,1,2-	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Certified By: N Popnikolof

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AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - VOCs (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-1 S1	BH18-1 S4	BH18-2 S2	BH18-2 S4	BH18-3 S1	BH18-3 S3	BH18-4 S2	BH18-4 S4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19
Parameter	**Unit**	**G / S**	**RDL**	**9573871**	**9573872**	**9573873**	**9573874**	**9573875**	**9573876**	**9573877**	**9573878**
Styrene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,2,2-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,3-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,4-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,2-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylene Mixture	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloropropene, 1,3-	µg/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Hexane, n-	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Surrogate	**Unit**	**Acceptable Limits**									
Toluene-d8	% Recovery	50-140		104	99	98	96	97	97	97	96
4-Bromofluorobenzene	% Recovery	50-140		90	93	91	91	90	88	88	93

Certified By: NPopnikolof

Results relate only to the items tested and to all the items tested

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - VOCs (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-5 S1	BH18-5 S6	BH18-6 S1	BH18-6 S5	BH18-7 S2	BH18-7 S4	BH18-8 S2	BH18-8 S6
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19
Parameter	Unit	G / S	RDL	9573879	9573880	9573881	9573882	9573883	9573884	9573885	9573886
Dichlorodifluoromethane	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, 1,1-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethylene, Trans- 1,2-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethane, 1,1-	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, Cis- 1,2-	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Dichloroethane, 1,2-	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethane, 1,1,1-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	ug/g		0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02
Dichloropropane, 1,2-	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethane, 1,1,2-	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	ug/g		0.05	<0.05	<0.05	0.29	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,1,2-	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g		0.05	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	0.93	<0.05
Bromoform	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Certified By: N Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - VOCs (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-5 S1	BH18-5 S6	BH18-6 S1	BH18-6 S5	BH18-7 S2	BH18-7 S4	BH18-8 S2	BH18-8 S6
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19	2018-09-19
Parameter	**Unit**	**G / S**	**RDL**	**9573879**	**9573880**	**9573881**	**9573882**	**9573883**	**9573884**	**9573885**	**9573886**
Styrene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,2,2-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,3-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,4-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,2-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylene Mixture	ug/g		0.05	<0.05	<0.05	0.36	<0.05	<0.05	<0.05	15	<0.05
Dichloropropene, 1,3-	µg/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Hexane, n-	µg/g		0.05	<0.05	<0.05	0.20	<0.05	<0.05	<0.05	3.5	<0.05
Surrogate	**Unit**	**Acceptable Limits**									
Toluene-d8	% Recovery	50-140		93	101	97	97	96	99	103	98
4-Bromofluorobenzene	% Recovery	50-140		92	91	109	90	91	90	121	100

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - VOCs (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-9 S2	BH18-9 S4	BH18-10 S3	BH18-10 S5	BH18-11 S1	BH18-11 S4	BH18-12 S1	BH18-12 S4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20
Parameter	Unit	G / S	RDL	9573887	9573888	9573889	9573890	9573891	9573892	9573893	9573894
Dichlorodifluoromethane	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, 1,1-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethylene, Trans- 1,2-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethane, 1,1-	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, Cis- 1,2-	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Dichloroethane, 1,2-	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethane, 1,1,1-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dichloropropane, 1,2-	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethane, 1,1,2-	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,1,2-	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Certified By: N Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - VOCs (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-9 S2	BH18-9 S4	BH18-10 S3	BH18-10 S5	BH18-11 S1	BH18-11 S4	BH18-12 S1	BH18-12 S4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20	2018-09-20
Parameter	**Unit**	**G / S**	**RDL**	**9573887**	**9573888**	**9573889**	**9573890**	**9573891**	**9573892**	**9573893**	**9573894**
Styrene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,2,2-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,3-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,4-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,2-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylene Mixture	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloropropene, 1,3-	µg/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Hexane, n-	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Surrogate	**Unit**	**Acceptable Limits**									
Toluene-d8	% Recovery	50-140		100	98	97	94	99	97	99	95
4-Bromofluorobenzene	% Recovery	50-140		96	91	89	90	90	85	91	90

Certified By: NPopnikolof

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Certificate of Analysis

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - VOCs (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-13 S1	BH18-13 S5	BH18-14 S1	S100	S200	S400	BH18-14 S4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-20	2018-09-20	2018-09-20	2018-09-19	2018-09-19	2018-09-20	2018-09-20
Parameter	Unit	G / S	RDL	9573895	9573896	9573897	9574039	9574041	9574043	9574044
Dichlorodifluoromethane	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Vinyl Chloride	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Bromomethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Trichlorofluoromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acetone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, 1,1-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methylene Chloride	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethylene, Trans- 1,2-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl tert-butyl Ether	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloroethane, 1,1-	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Methyl Ethyl Ketone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, Cis- 1,2-	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Chloroform	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Dichloroethane, 1,2-	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethane, 1,1,1-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Carbon Tetrachloride	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzene	ug/g		0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Dichloropropane, 1,2-	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Trichloroethylene	ug/g		0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Bromodichloromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Methyl Isobutyl Ketone	ug/g		0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethane, 1,1,2-	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Toluene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibromochloromethane	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylene Dibromide	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Tetrachloroethylene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,1,2-	ug/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Chlorobenzene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Bromoform	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Certified By: NPopnikolof

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AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 153(511) - VOCs (Soil)

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		BH18-13 S1	BH18-13 S5	BH18-14 S1	S100	S200	S400	BH18-14 S4
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2018-09-20	2018-09-20	2018-09-20	2018-09-19	2018-09-19	2018-09-20	2018-09-20
Parameter	**Unit**	**G / S**	**RDL**	**9573895**	**9573896**	**9573897**	**9574039**	**9574041**	**9574043**	**9574044**
Styrene	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Tetrachloroethane, 1,1,2,2-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,3-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,4-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichlorobenzene, 1,2-	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylene Mixture	ug/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dichloropropene, 1,3-	µg/g		0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Hexane, n-	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Surrogate	**Unit**	**Acceptable Limits**								
Toluene-d8	% Recovery	50-140		100	96	99	97	98	97	99
4-Bromofluorobenzene	% Recovery	50-140		90	84	85	94	89	88	93

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

9573871-9574044 The sample was analyzed using the high level technique. The sample was extracted using methanol, a small amount of the methanol extract was diluted in water and the purge & trap GC/MS analysis was performed. Results are based on the dry weight of the soil.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 558 - Benzo(a) pyrene

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		TCLP Renton
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2018-09-20
Parameter	**Unit**	**G / S**	**RDL**	**9574038**
Benzo(a)pyrene	mg/L		0.001	<0.001

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

9574038 The sample was leached according to Regulation 558 protocol. Analysis was performed on the leachate.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

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Certificate of Analysis

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 558 - OC Pesticides & PCBs

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		TCLP Renton
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2018-09-20
Parameter	**Unit**	**G / S**	**RDL**	**9574038**
Heptachlor + Heptachlor Epoxide	mg/L		0.0003	<0.0003
Aldrin + Dieldrin	mg/L		0.0007	<0.0007
DDT + Metabolites	mg/L		0.003	<0.003
Methoxychlor	mg/L		0.09	<0.09
Chlordane (Total)	mg/L		0.0007	<0.0007
Aldrin	mg/L		0.0002	<0.0002
alpha - chlordane	mg/L		0.0001	<0.0001
gamma-Chlordane	mg/L		0.0002	<0.0002
Oxychlordane	mg/L		0.0004	<0.0004
pp'-DDE	mg/L		0.0005	<0.0005
pp'-DDD	mg/L		0.0015	<0.0015
op'-DDT	mg/L		0.0015	<0.0015
pp'-DDT	mg/L		0.0005	<0.0005
Dieldrin	mg/L		0.0005	<0.0005
Heptachlor	mg/L		0.0001	<0.0001
Heptachlor Epoxide	mg/L		0.0002	<0.0002
Lindane	mg/L		0.0004	<0.0004
PCB's	mg/L		0.0002	<0.0002
Endrin	mg/L		0.0004	<0.0004
Toxaphene	mg/L		0.0005	<0.0005
Surrogate	**Unit**	**Acceptable Limits**		
Decachlorobiphenyl	%	60-130		90

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

9574038 The sample was leached according to Regulation 558 protocol. Analysis was performed after extraction of the leachate.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popnikolof

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AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

CLIENT NAME: WSP CANADA INC.

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

O. Reg. 558 - VOCs

DATE RECEIVED: 2018-09-24

DATE REPORTED: 2018-10-02

		SAMPLE DESCRIPTION:		TCLP Renton
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2018-09-20
Parameter	**Unit**	**G / S**	**RDL**	**9574038**
Vinyl Chloride	mg/L		0.030	<0.030
1,1 Dichloroethene	mg/L		0.020	<0.020
Dichloromethane	mg/L		0.030	<0.030
Methyl Ethyl Ketone	mg/L		0.090	<0.090
Chloroform	mg/L		0.020	<0.020
1,2-Dichloroethane	mg/L		0.020	<0.020
Carbon Tetrachloride	mg/L		0.020	<0.020
Benzene	mg/L		0.020	<0.020
Trichloroethene	mg/L		0.020	<0.020
Tetrachloroethene	mg/L		0.050	<0.050
Chlorobenzene	mg/L		0.010	<0.010
1,2-Dichlorobenzene	mg/L		0.010	<0.010
1,4-Dichlorobenzene	mg/L		0.010	<0.010
Surrogate	**Unit**	**Acceptable Limits**		
Toluene-d8	% Recovery	60-130		90

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

9574038 Sample was prepared using Regulation 558 protocol and a zero headspace extractor.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopnikolof

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 18T388954
PROJECT: MTO Assign 16
ATTENTION TO: Radwan Tamr
SAMPLING SITE:Renton
SAMPLED BY:SM

Soil Analysis

RPT Date: Oct 02, 2018			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals (Including Hydrides) (Soil)															
Antimony	9573871	9573871	<0.8	<0.8	NA	< 0.8	117%	70%	130%	108%	80%	120%	72%	70%	130%
Arsenic	9573871	9573871	3	3	NA	< 1	109%	70%	130%	109%	80%	120%	105%	70%	130%
Barium	9573871	9573871	113	113	0.1%	< 2	104%	70%	130%	100%	80%	120%	88%	70%	130%
Beryllium	9573871	9573871	0.9	0.9	NA	< 0.5	99%	70%	130%	113%	80%	120%	110%	70%	130%
Boron	9573871	9573871	7	6	NA	< 5	77%	70%	130%	112%	80%	120%	93%	70%	130%
Cadmium	9573871	9573871	<0.5	<0.5	NA	< 0.5	106%	70%	130%	100%	80%	120%	100%	70%	130%
Chromium	9573871	9573871	25	26	2.8%	< 2	93%	70%	130%	104%	80%	120%	107%	70%	130%
Cobalt	9573871	9573871	11.4	11.3	1.0%	< 0.5	102%	70%	130%	106%	80%	120%	100%	70%	130%
Copper	9573871	9573871	16	16	0.6%	< 1	87%	70%	130%	99%	80%	120%	90%	70%	130%
Lead	9573871	9573871	12	12	0.6%	< 1	103%	70%	130%	107%	80%	120%	99%	70%	130%
Molybdenum	9573871	9573871	<0.5	<0.5	NA	< 0.5	108%	70%	130%	112%	80%	120%	103%	70%	130%
Nickel	9573871	9573871	22	22	2.0%	< 1	96%	70%	130%	100%	80%	120%	94%	70%	130%
Selenium	9573871	9573871	<0.4	<0.4	NA	< 0.4	114%	70%	130%	104%	80%	120%	96%	70%	130%
Silver	9573871	9573871	<0.2	<0.2	NA	< 0.2	93%	70%	130%	97%	80%	120%	93%	70%	130%
Thallium	9573871	9573871	<0.4	<0.4	NA	< 0.4	104%	70%	130%	98%	80%	120%	93%	70%	130%
Uranium	9573871	9573871	0.6	0.6	NA	< 0.5	104%	70%	130%	106%	80%	120%	102%	70%	130%
Vanadium	9573871	9573871	39	40	2.3%	< 1	101%	70%	130%	104%	80%	120%	105%	70%	130%
Zinc	9573871	9573871	57	58	2.2%	< 5	104%	70%	130%	111%	80%	120%	105%	70%	130%
O. Reg. 153(511) - Metals (Including Hydrides) (Soil)															
Antimony	9573889	9573889	<0.8	<0.8	NA	< 0.8	101%	70%	130%	101%	80%	120%	82%	70%	130%
Arsenic	9573889	9573889	2	2	NA	< 1	102%	70%	130%	101%	80%	120%	100%	70%	130%
Barium	9573889	9573889	88	90	2.5%	< 2	100%	70%	130%	95%	80%	120%	92%	70%	130%
Beryllium	9573889	9573889	0.6	0.6	NA	< 0.5	95%	70%	130%	96%	80%	120%	93%	70%	130%
Boron	9573889	9573889	8	8	NA	< 5	93%	70%	130%	99%	80%	120%	90%	70%	130%
Cadmium	9573889	9573889	<0.5	<0.5	NA	< 0.5	110%	70%	130%	93%	80%	120%	97%	70%	130%
Chromium	9573889	9573889	20	20	0.3%	< 2	94%	70%	130%	98%	80%	120%	93%	70%	130%
Cobalt	9573889	9573889	9.6	9.6	0.2%	< 0.5	103%	70%	130%	103%	80%	120%	95%	70%	130%
Copper	9573889	9573889	18	18	0.8%	< 1	92%	70%	130%	105%	80%	120%	87%	70%	130%
Lead	9573889	9573889	8	9	1.7%	< 1	107%	70%	130%	103%	80%	120%	100%	70%	130%
Molybdenum	9573889	9573889	<0.5	<0.5	NA	< 0.5	108%	70%	130%	110%	80%	120%	95%	70%	130%
Nickel	9573889	9573889	19	19	0.5%	< 1	99%	70%	130%	95%	80%	120%	85%	70%	130%
Selenium	9573889	9573889	<0.4	<0.4	NA	< 0.4	103%	70%	130%	98%	80%	120%	94%	70%	130%
Silver	9573889	9573889	<0.2	<0.2	NA	< 0.2	105%	70%	130%	100%	80%	120%	93%	70%	130%
Thallium	9573889	9573889	<0.4	<0.4	NA	< 0.4	104%	70%	130%	93%	80%	120%	91%	70%	130%
Uranium	9573889	9573889	<0.5	<0.5	NA	< 0.5	106%	70%	130%	101%	80%	120%	100%	70%	130%
Vanadium	9573889	9573889	29	29	1.1%	< 1	100%	70%	130%	95%	80%	120%	95%	70%	130%
Zinc	9573889	9573889	47	46	1.3%	< 5	100%	70%	130%	104%	80%	120%	90%	70%	130%

Particle Size by Sieve (Wet)

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation.

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 18T388954
PROJECT: MTO Assign 16
ATTENTION TO: Radwan Tamr
SAMPLING SITE:Renton
SAMPLED BY:SM

Soil Analysis (Continued)

RPT Date: Oct 02, 2018			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Sieve Analysis - 75 µm (retained)	9575210		35.52	35.54	0.1%		97%	70%	130%						
Sieve Analysis - 75 µm (passing)	9575210		64.48	64.46	0.0%		NA	70%	130%						
O. Reg. 558 Metals and Inorganics															
Arsenic Leachate	9574038	9574038	<0.010	<0.010	NA	< 0.010	100%	90%	110%	110%	80%	120%	108%	70%	130%
Barium Leachate	9574038	9574038	0.712	0.739	3.8%	< 0.100	101%	90%	110%	99%	80%	120%	93%	70%	130%
Boron Leachate	9574038	9574038	<0.050	<0.050	NA	< 0.050	102%	90%	110%	101%	80%	120%	100%	70%	130%
Cadmium Leachate	9574038	9574038	<0.010	<0.010	NA	< 0.010	98%	90%	110%	98%	80%	120%	92%	70%	130%
Chromium Leachate	9574038	9574038	<0.010	<0.010	NA	< 0.010	104%	90%	110%	109%	80%	120%	103%	70%	130%
Lead Leachate	9574038	9574038	<0.010	<0.010	NA	< 0.010	101%	90%	110%	96%	80%	120%	93%	70%	130%
Mercury Leachate	9574038	9574038	<0.01	<0.01	NA	< 0.01	100%	90%	110%	96%	80%	120%	94%	70%	130%
Selenium Leachate	9574038	9574038	<0.010	<0.010	NA	< 0.010	92%	90%	110%	100%	80%	120%	99%	70%	130%
Silver Leachate	9574038	9574038	<0.010	<0.010	NA	< 0.010	96%	90%	110%	97%	80%	120%	87%	70%	130%
Uranium Leachate	9574038	9574038	<0.050	<0.050	NA	< 0.050	99%	90%	110%	98%	80%	120%	100%	70%	130%
Fluoride Leachate	9574038	9574038	0.20	0.20	NA	< 0.05	101%	90%	110%	104%	90%	110%	100%	70%	130%
Cyanide Leachate	9574038	9574038	<0.05	<0.05	NA	< 0.05	103%	90%	110%	98%	90%	110%	105%	70%	130%
(Nitrate + Nitrite) as N Leachate	9574038	9574038	<0.70	<0.70	NA	< 0.70	103%	80%	120%	98%	80%	120%	93%	70%	130%
O. Reg. 153(511) - Metals (Including Hydrides) (Soil)															
Antimony	9581242		<0.8	<0.8	NA	< 0.8	103%	70%	130%	103%	80%	120%	102%	70%	130%
Arsenic	9581242		2	2	NA	< 1	107%	70%	130%	107%	80%	120%	111%	70%	130%
Barium	9581242		24	23	4.0%	< 2	104%	70%	130%	99%	80%	120%	96%	70%	130%
Beryllium	9581242		<0.5	<0.5	NA	< 0.5	110%	70%	130%	102%	80%	120%	125%	70%	130%
Boron	9581242		<5	5	NA	< 5	82%	70%	130%	101%	80%	120%	117%	70%	130%
Cadmium	9581242		<0.5	<0.5	NA	< 0.5	109%	70%	130%	99%	80%	120%	100%	70%	130%
Chromium	9581242		7	7	NA	< 2	96%	70%	130%	103%	80%	120%	110%	70%	130%
Cobalt	9581242		2.4	2.3	NA	< 0.5	103%	70%	130%	103%	80%	120%	107%	70%	130%
Copper	9581242		4	4	NA	< 1	88%	70%	130%	99%	80%	120%	96%	70%	130%
Lead	9581242		9	9	1.8%	< 1	105%	70%	130%	103%	80%	120%	99%	70%	130%
Molybdenum	9581242		<0.5	<0.5	NA	< 0.5	102%	70%	130%	109%	80%	120%	112%	70%	130%
Nickel	9581242		5	5	NA	< 1	99%	70%	130%	100%	80%	120%	100%	70%	130%
Selenium	9581242		<0.4	<0.4	NA	< 0.4	114%	70%	130%	99%	80%	120%	102%	70%	130%
Silver	9581242		<0.2	<0.2	NA	< 0.2	110%	70%	130%	102%	80%	120%	99%	70%	130%
Thallium	9581242		<0.4	<0.4	NA	< 0.4	107%	70%	130%	94%	80%	120%	92%	70%	130%
Uranium	9581242		<0.5	<0.5	NA	< 0.5	103%	70%	130%	99%	80%	120%	101%	70%	130%
Vanadium	9581242		13	12	4.3%	< 1	100%	70%	130%	100%	80%	120%	109%	70%	130%
Zinc	9581242		37	36	3.5%	< 5	90%	70%	130%	100%	80%	120%	103%	70%	130%

Comments: NA signifies Not Applicable.
Duplicate Qualifier: As the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

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AGAT Laboratories

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TEL (905)712-5100
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http://www.agatlabs.com

Quality Assurance

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

Soil Analysis (Continued)

RPT Date: Oct 02, 2018			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

Certified By: Militiza O. Silva

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 18T388954
PROJECT: MTO Assign 16
ATTENTION TO: Radwan Tamr
SAMPLING SITE:Renton
SAMPLED BY:SM

Trace Organics Analysis

RPT Date: Oct 02, 2018			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - VOCs (Soil)															
Dichlorodifluoromethane	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	80%	50%	140%	85%	50%	140%	96%	50%	140%
Vinyl Chloride	9573883	9573883	< 0.02	< 0.02	NA	< 0.02	85%	50%	140%	108%	50%	140%	99%	50%	140%
Bromomethane	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	87%	50%	140%	80%	50%	140%	92%	50%	140%
Trichlorofluoromethane	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	101%	50%	140%	87%	50%	140%	113%	50%	140%
Acetone	9573883	9573883	< 0.50	< 0.50	NA	< 0.50	110%	50%	140%	90%	50%	140%	91%	50%	140%
Dichloroethylene, 1,1-	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	80%	50%	140%	83%	60%	130%	88%	50%	140%
Methylene Chloride	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	75%	50%	140%	78%	60%	130%	84%	50%	140%
Dichloroethylene, Trans- 1,2-	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	77%	50%	140%	96%	60%	130%	104%	50%	140%
Methyl tert-butyl Ether	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	99%	50%	140%	102%	60%	130%	111%	50%	140%
Dichloroethane, 1,1-	9573883	9573883	< 0.02	< 0.02	NA	< 0.02	98%	50%	140%	112%	60%	130%	113%	50%	140%
Methyl Ethyl Ketone	9573883	9573883	< 0.50	< 0.50	NA	< 0.50	106%	50%	140%	85%	50%	140%	86%	50%	140%
Dichloroethylene, Cis- 1,2-	9573883	9573883	< 0.02	< 0.02	NA	< 0.02	72%	50%	140%	90%	60%	130%	95%	50%	140%
Chloroform	9573883	9573883	< 0.04	< 0.04	NA	< 0.04	84%	50%	140%	86%	60%	130%	101%	50%	140%
Dichloroethane, 1,2-	9573883	9573883	< 0.03	< 0.03	NA	< 0.03	98%	50%	140%	94%	60%	130%	96%	50%	140%
Trichloroethane, 1,1,1-	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	77%	50%	140%	81%	60%	130%	80%	50%	140%
Carbon Tetrachloride	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	80%	50%	140%	86%	60%	130%	85%	50%	140%
Benzene	9573883	9573883	< 0.02	< 0.02	NA	< 0.02	74%	50%	140%	88%	60%	130%	96%	50%	140%
Dichloropropane, 1,2-	9573883	9573883	< 0.03	< 0.03	NA	< 0.03	74%	50%	140%	85%	60%	130%	87%	50%	140%
Trichloroethylene	9573883	9573883	< 0.03	< 0.03	NA	< 0.03	74%	50%	140%	84%	60%	130%	91%	50%	140%
Bromodichloromethane	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	80%	50%	140%	81%	60%	130%	87%	50%	140%
Methyl Isobutyl Ketone	9573883	9573883	< 0.50	< 0.50	NA	< 0.50	77%	50%	140%	88%	50%	140%	89%	50%	140%
Trichloroethane, 1,1,2-	9573883	9573883	< 0.04	< 0.04	NA	< 0.04	95%	50%	140%	105%	60%	130%	112%	50%	140%
Toluene	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	82%	50%	140%	105%	60%	130%	114%	50%	140%
Dibromochloromethane	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	82%	50%	140%	91%	60%	130%	95%	50%	140%
Ethylene Dibromide	9573883	9573883	< 0.04	< 0.04	NA	< 0.04	81%	50%	140%	95%	60%	130%	98%	50%	140%
Tetrachloroethylene	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	82%	50%	140%	108%	60%	130%	113%	50%	140%
Tetrachloroethane, 1,1,1,2-	9573883	9573883	< 0.04	< 0.04	NA	< 0.04	74%	50%	140%	95%	60%	130%	97%	50%	140%
Chlorobenzene	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	73%	50%	140%	108%	60%	130%	115%	50%	140%
Ethylbenzene	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	107%	50%	140%	104%	60%	130%	110%	50%	140%
Bromoform	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	87%	50%	140%	91%	60%	130%	90%	50%	140%
Styrene	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	76%	50%	140%	94%	60%	130%	97%	50%	140%
Tetrachloroethane, 1,1,2,2-	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	98%	50%	140%	118%	60%	130%	119%	50%	140%
Dichlorobenzene, 1,3-	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	75%	50%	140%	103%	60%	130%	101%	50%	140%
Dichlorobenzene, 1,4-	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	82%	50%	140%	109%	60%	130%	110%	50%	140%
Dichlorobenzene, 1,2-	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	84%	50%	140%	105%	60%	130%	103%	50%	140%
Dichloropropene, 1,3-	9573883	9573883	< 0.04	< 0.04	NA	< 0.04	84%	50%	140%	106%	60%	130%	97%	50%	140%
Hexane, n-	9573883	9573883	< 0.05	< 0.05	NA	< 0.05	85%	50%	140%	102%	60%	130%	96%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)															

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Quality Assurance

CLIENT NAME: WSP CANADA INC.
AGAT WORK ORDER: 18T388954
PROJECT: MTO Assign 16
ATTENTION TO: Radwan Tamr
SAMPLING SITE:Renton
SAMPLED BY:SM

Trace Organics Analysis (Continued)

RPT Date: Oct 02, 2018			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
F1 (C6 to C10)	9573883	9573883	< 5	< 5	NA	< 5	111%	60%	130%	107%	85%	115%	106%	70%	130%
F2 (C10 to C16)	9573890	9573890	< 10	< 10	NA	< 10	98%	60%	130%	89%	80%	120%	70%	70%	130%
F3 (C16 to C34)	9573890	9573890	< 50	< 50	NA	< 50	96%	60%	130%	105%	80%	120%	87%	70%	130%
F4 (C34 to C50)	9573890	9573890	< 50	< 50	NA	< 50	88%	60%	130%	96%	80%	120%	81%	70%	130%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	113%	50%	140%	97%	50%	140%	85%	50%	140%
Acenaphthylene	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	112%	50%	140%	99%	50%	140%	79%	50%	140%
Acenaphthene	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	116%	50%	140%	95%	50%	140%	81%	50%	140%
Fluorene	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	118%	50%	140%	98%	50%	140%	82%	50%	140%
Phenanthrene	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	116%	50%	140%	95%	50%	140%	80%	50%	140%
Anthracene	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	118%	50%	140%	100%	50%	140%	82%	50%	140%
Fluoranthene	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	119%	50%	140%	97%	50%	140%	81%	50%	140%
Pyrene	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	117%	50%	140%	97%	50%	140%	81%	50%	140%
Benz(a)anthracene	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	106%	50%	140%	95%	50%	140%	85%	50%	140%
Chrysene	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	112%	50%	140%	97%	50%	140%	86%	50%	140%
Benzo(b)fluoranthene	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	113%	50%	140%	102%	50%	140%	82%	50%	140%
Benzo(k)fluoranthene	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	116%	50%	140%	106%	50%	140%	84%	50%	140%
Benzo(a)pyrene	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	117%	50%	140%	107%	50%	140%	97%	50%	140%
Indeno(1,2,3-cd)pyrene	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	101%	50%	140%	97%	50%	140%	86%	50%	140%
Dibenz(a,h)anthracene	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	103%	50%	140%	97%	50%	140%	86%	50%	140%
Benzo(g,h,i)perylene	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	99%	50%	140%	96%	50%	140%	86%	50%	140%
Methyl Naphthalene, 2-and 1-	9573890	9573890	< 0.05	< 0.05	NA	< 0.05	115%	50%	140%	100%	50%	140%	84%	50%	140%
O. Reg. 558 - Benzo(a) pyrene															
Benzo(a)pyrene	9516190		< 0.001	< 0.001	NA	< 0.001	86%	70%	130%	102%	70%	130%	NA	70%	130%
O. Reg. 558 - VOCs															
Vinyl Chloride	9567656		< 0.030	< 0.030	NA	< 0.030	77%	60%	140%	100%	60%	140%	NA	60%	140%
1,1 Dichloroethene	9567656		< 0.020	< 0.020	NA	< 0.020	75%	70%	130%	114%	70%	130%	NA	60%	140%
Dichloromethane	9567656		< 0.030	< 0.030	NA	< 0.030	76%	70%	130%	101%	70%	130%	NA	60%	140%
Methyl Ethyl Ketone	9567656		< 0.090	< 0.090	NA	< 0.090	105%	70%	130%	95%	70%	130%	NA	60%	140%
Chloroform	9567656		< 0.020	< 0.020	NA	< 0.020	75%	70%	130%	101%	70%	130%	NA	60%	140%
1,2-Dichloroethane	9567656		< 0.020	< 0.020	NA	< 0.020	90%	70%	130%	105%	70%	130%	NA	60%	140%
Carbon Tetrachloride	9567656		< 0.020	< 0.020	NA	< 0.020	81%	70%	130%	95%	70%	130%	NA	60%	140%
Benzene	9567656		< 0.020	< 0.020	NA	< 0.020	76%	70%	130%	95%	70%	130%	NA	60%	140%
Trichloroethene	9567656		< 0.020	< 0.020	NA	< 0.020	81%	70%	130%	96%	70%	130%	NA	60%	140%
Tetrachloroethene	9567656		< 0.050	< 0.050	NA	< 0.050	91%	70%	130%	100%	70%	130%	NA	60%	140%
Chlorobenzene	9567656		< 0.010	< 0.010	NA	< 0.010	93%	70%	130%	106%	70%	130%	NA	60%	140%
1,2-Dichlorobenzene	9567656		< 0.010	< 0.010	NA	< 0.010	88%	70%	130%	95%	70%	130%	NA	60%	140%
1,4-Dichlorobenzene	9567656		< 0.010	< 0.010	NA	< 0.010	94%	70%	130%	102%	70%	130%	NA	60%	140%

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Quality Assurance

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SAMPLING SITE:Renton
SAMPLED BY:SM

Trace Organics Analysis (Continued)

RPT Date: Oct 02, 2018			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 558 - OC Pesticides & PCBs															
Heptachlor + Heptachlor Epoxide	9574058		< 0.0003	< 0.0003	NA	< 0.0003	108%	60%	140%	85%	60%	140%	NA	60%	140%
Aldrin + Dieldrin	9574058		< 0.0007	< 0.0007	NA	< 0.0007	109%	60%	140%	87%	60%	140%	NA	60%	140%
DDT + Metabolites	9574058		< 0.003	< 0.003	NA	< 0.003	115%	60%	140%	105%	60%	140%	NA	60%	140%
Methoxychlor	9574058		< 0.09	< 0.09	NA	< 0.09	117%	60%	140%	104%	60%	140%	NA	60%	140%
Chlordane (Total)	9574058		< 0.0007	< 0.0007	NA	< 0.0007	106%	60%	140%	88%	60%	140%	NA	60%	140%
Aldrin	9574058		< 0.0002	< 0.0002	NA	< 0.0002	106%	60%	140%	87%	60%	140%	NA	60%	140%
alpha - chlordane	9574058		< 0.0001	< 0.0001	NA	< 0.0001	107%	60%	140%	86%	60%	140%	NA	60%	140%
gamma-Chlordane	9574058		< 0.0002	< 0.0002	NA	< 0.0002	106%	60%	140%	89%	60%	140%	NA	60%	140%
Oxychlordane	9574058		< 0.0004	< 0.0004	NA	< 0.0004	117%	60%	140%	94%	60%	140%	NA	60%	140%
pp'-DDE	9574058		< 0.0005	< 0.0005	NA	< 0.0005	116%	60%	140%	105%	60%	140%	NA	60%	140%
pp'-DDD	9574058		< 0.0015	< 0.0015	NA	< 0.0015	111%	60%	140%	107%	60%	140%	NA	60%	140%
op'-DDT	9574058		< 0.0015	< 0.0015	NA	< 0.0015	119%	60%	140%	102%	60%	140%	NA	60%	140%
pp'-DDT	9574058		< 0.0005	< 0.0005	NA	< 0.0005	110%	60%	140%	98%	60%	140%	NA	60%	140%
Dieldrin	9574058		< 0.0005	< 0.0005	NA	< 0.0005	112%	60%	140%	86%	60%	140%	NA	60%	140%
Heptachlor	9574058		< 0.0001	< 0.0001	NA	< 0.0001	103%	60%	140%	89%	60%	140%	NA	60%	140%
Heptachlor Epoxide	9574058		< 0.0002	< 0.0002	NA	< 0.0002	112%	60%	140%	81%	60%	140%	NA	60%	140%
Lindane	9574058		< 0.0004	< 0.0004	NA	< 0.0004	119%	60%	140%	84%	60%	140%	NA	60%	140%
PCB's	9574058		< 0.0002	< 0.0002	NA	< 0.0002	105%	60%	140%	95%	60%	140%	NA	60%	140%
Endrin	9574058		< 0.0004	< 0.0004	NA	< 0.0004	117%	60%	140%	94%	60%	140%	NA	60%	140%
Toxaphene	9574058		< 0.0005	< 0.0005	NA	< 0.0005	NA	60%	140%	85%	60%	140%	NA	60%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By: N Popnikolof

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Method Summary

CLIENT NAME: WSP CANADA INC. **AGAT WORK ORDER: 18T388954**

PROJECT: MTO Assign 16 **ATTENTION TO: Radwan Tamr**

SAMPLING SITE:Renton **SAMPLED BY:SM**

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Ignitability		EPA SW-846 1030	BURN MOLD
Antimony	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Arsenic	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Barium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Beryllium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Boron	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Cadmium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Chromium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Cobalt	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Copper	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Lead	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Molybdenum	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Nickel	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Selenium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Silver	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Thallium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Uranium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Vanadium	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Zinc	MET-93-6103	EPA SW-846 3050B & 6020A	ICP-MS
Arsenic Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Barium Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Boron Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Cadmium Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Chromium Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Lead Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Mercury Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Selenium Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Silver Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Uranium Leachate	MET-93-6103	EPA SW-846 1311 & 3010A & 6020A	ICP-MS
Fluoride Leachate	INOR-93-6018	EPA SW-846-1311 & SM4500-F- C	ION SELECTIVE ELECTRODE
Cyanide Leachate	INOR-93-6052	EPA SW-846-1311 & MOE 3015 & SM 4500 CN- I	TECHNICON AUTO ANALYZER
(Nitrate + Nitrite) as N Leachate	INOR-93-6053	EPA SW 846-1311 & SM 4500 - NO3- I	LACHAT FIA
Sieve Analysis - 75 µm (retained)	INOR-93-6065	ASTM D1140	SIEVE
Sieve Analysis - 75 µm (passing)	INOR-93-6065	ASTM D1140	SIEVE

Results relate only to the items tested and to all the items tested

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Acenaphthylene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Acenaphthene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Fluorene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Phenanthrene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Anthracene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Fluoranthene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Pyrene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Benz(a)anthracene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Chrysene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Benzo(a)pyrene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
Methyl Naphthalene, 2-and 1-	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
.Chrysene-d12	ORG-91-5106	EPA SW846 3541 & 8270	GC/MS
F1 (C6 to C10)	VOL-91-5009	CCME Tier 1 Method, SW846 5035	P &T GC / FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	CCME Tier 1 Method, SW846 5035	P & T GC / FID
F2 (C10 to C16)	VOL-91-5009	CCME Tier 1 Method	GC / FID
F3 (C16 to C34)	VOL-91-5009	CCME Tier 1 Method	GC / FID
F4 (C34 to C50)	VOL-91-5009	CCME Tier 1 Method	GC / FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	CCME Tier 1 Method	Balance
Moisture Content	VOL-91-5009	CCME Tier 1 Method, SW846 5035,8015	BALANCE
Terphenyl	VOL-91-5009	CCME Tier 1 Method	GC/FID
F1 (C6 to C10)	VOL-91-5009	CCME Tier 1 Method	GC / FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	CCME Tier 1 Method	GC / FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	CCME Tier 1 Method	GC / FID
F3 (C16 to C34)	VOL-91-5009	CCME Tier 1 Method	GC / FID
F3 (C16 to C34) minus PAHs	VOL-91-5009	CCME Tier 1 Method	GC / FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	CCME Tier 1 Method	BALANCE
Moisture Content	VOL-91-5009	CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009		GC/FID
Dichlorodifluoromethane	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Vinyl Chloride	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Bromomethane	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Trichlorofluoromethane	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Acetone	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Dichloroethylene, 1,1-	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Methylene Chloride	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Dichloroethylene, Trans- 1,2-	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Methyl tert-butyl Ether	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Dichloroethane, 1,1-	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Dichloroethylene, Cis- 1,2-	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Chloroform	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Dichloroethane, 1,2-	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS

Results relate only to the items tested and to all the items tested

AGAT Laboratories

5835 COOPERS AVENUE
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Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trichloroethane, 1,1,1-	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Benzene	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Dichloropropane, 1,2-	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Trichloroethylene	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Bromodichloromethane	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Methyl Isobutyl Ketone	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Trichloroethane, 1,1,2-	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Toluene	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Dibromochloromethane	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Ethylene Dibromide	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Tetrachloroethylene	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Tetrachloroethane, 1,1,1,2-	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Chlorobenzene	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Ethylbenzene	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Bromoform	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Styrene	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Tetrachloroethane, 1,1,2,2-	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Dichlorobenzene, 1,3-	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Dichlorobenzene, 1,4-	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Dichlorobenzene, 1,2-	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Xylene Mixture	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Dichloropropene, 1,3-	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Hexane, n-	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Toluene-d8	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
4-Bromofluorobenzene	VOL-91-5002	EPA SW-846 5035 & 8260	(P&T)GC/MS
Benzo(a)pyrene	ORG-91-5114	EPA SW846 3540 & 8270	GC/MS
Heptachlor + Heptachlor Epoxide	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
Aldrin + Dieldrin	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
DDT + Metabolites	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
Methoxychlor	ORG-91-5112	EPA SW-846 8081A & 8082	GC/MS & GC/ECD
Chlordane (Total)	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
Aldrin	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
alpha - chlordane	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
gamma-Chlordane	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
Oxychlordane	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
pp'-DDE	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
pp'-DDD	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
op'-DDT	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
pp'-DDT	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
Dieldrin	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
Heptachlor	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
Heptachlor Epoxide	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
Lindane	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
PCB's	ORG-91-5112	EPA SW-846 3550 & 8082	GC/ECD
Endrin	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
Toxaphene	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
Decachlorobiphenyl	ORG-91-5112	EPA SW-846 3550 & 8081	GC/ECD
Vinyl Chloride	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
1,1 Dichloroethene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS

Results relate only to the items tested and to all the items tested

AGAT Laboratories

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MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
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FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: WSP CANADA INC.

AGAT WORK ORDER: 18T388954

PROJECT: MTO Assign 16

ATTENTION TO: Radwan Tamr

SAMPLING SITE:Renton

SAMPLED BY:SM

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Dichloromethane	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Methyl Ethyl Ketone	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Chloroform	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
1,2-Dichloroethane	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Carbon Tetrachloride	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Benzene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Trichloroethene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Tetrachloroethene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Chlorobenzene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
1,2-Dichlorobenzene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
1,4-Dichlorobenzene	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS
Toluene-d8	VOL-91-5001	EPA SW-846 5230B & 8260	(P&T)GC/MS

Results relate only to the items tested and to all the items tested

AGAT Laboratories

24

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water intended for human consumption)

Report Information:

Company: WSP Canada Inc.
Contact: Radwan Tamr
Address: 1821 Provincial Road, Suite 100
Windsor, ON N8W 5V7
Phone: 226-826-0702 Fax: 519-974-5175
Reports to be sent to:
1. Email: Radwan.Tamr@wsp.com
2. Email: Jenna.McVitty@wsp.com

Project Information:

Project: MTO Assign 16
Site Location: Renton
Sampled By: SM
AGAT Quote #: 133060 PO: 181-11117-00-100-1002
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐
Company: EMAIL TO:
Contact: Payables.Ontario@wsp.com
Address: Radwan.Tamr@wsp.com
Email: Jenna.McVitty@wsp.com

Regulatory Requirements:

☐ No Regulatory Requirement
(Please check all applicable boxes)

☑ Regulation 153/04
Table 1 *Indicate One*
☑ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☑ Coarse
☐ Fine

☐ Sewer Use
☐ Sanitary
☐ Storm
Region _____ *Indicate One*

☐ Regulation 558
☐ CCME
☐ Prov. Water Quality Objectives (PWQO)
☐ Other _____ *Indicate One*

Is this submission for a **Record of Site Condition?** ☐ Yes ☑ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☑ No

Sample Matrix Legend

B Biota
GW Ground Water
O Oil
P Paint
S Soil
SD Sediment
SW Surface Water

Laboratory Use Only

Work Order #: 18T388954
Cooler Quantity:
Arrival Temperatures: 7.9 8.0 8.1 / 8.1 8.2 8.2
Custody Seal Intact: ☐Yes ☐No ☐N/A
Notes:

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply):

**TAT is exclusive of weekends and statutory holidays*
For 'Same Day' analysis, please contact your AGAT CPM

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y / N	Field Filtered - Metals, Hg, CrVI	O. Reg 153: Metals and Inorganics	O. Reg 153: All Metals ☐ 153 Metals (excl. Hydrides)	O. Reg 153: Hydride Metals	O. Reg 153: ORPs: ☐ B-HWS ☐ Cr ☐ CN ☐ Cr* ☐ EC ☐ FOC ☐ Hg ☐ pH ☐ SAR	Full Metals Scan	Regulation/Custom Metals	Nutrients: ☐ TP ☐ NH_4 ☐ TKN ☐ NO_2 ☐ NO_3+NO_2	Volatiles: ☑ VOC ☐ BTEX ☐ THM	CCME Fractions 1 to 4	ABNs	PAHs	PCBs: ☐ Total ☐ Aroclors	Organochlorine Pesticides	TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	Sewer Use	Metals
BH18-1 S1	Sept. 19/18	AM	3	Soil		N									☑	☑		☑				☑
BH18-1 S4	Sept. 19/18	AM	3	Soil		N									☑	☑		☑				☑
BH18-2 S2	Sept. 19/18	AM	3	Soil		N									☑	☑		☑				☑
BH18-2 S4	Sept. 19/18	AM	3	Soil		N									☑	☑		☑				☑
BH18-3 S1	Sept. 19/18	AM	3	Soil		N									☑	☑		☑				☑
BH18-3 S3	Sept. 19/18	AM	3	Soil		N									☑	☑		☑				☑
BH18-4 S2	Sept. 19/18	AM	3	Soil		N									☑	☑		☑				☑
BH18-4 S4	Sept. 19/18	AM	3	Soil		N									☑	☑		☑				☑
BH18-5 S1	Sept. 19/18	AM	3	Soil		N									☑	☑		☑				☑
BH18-5 S6	Sept. 19/18	AM	3	Soil		N									☑	☑		☑				☑
BH18-6 S1	Sept. 19/18	AM	3	Soil		N									☑	☑		☑				☑

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Rebecca Wright	Sept 24/18	8:30am		2018/09/24	7:15
	2018/09/24	4:10			

Page 1 of 4

Document ID: DW-78-1511.013

Pink Copy - Client | Yellow Copy - AGAT | White Copy - AGAT Date Issued: September 20, 2016

AGAT Laboratories

2LS

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water intended for human consumption)

Report Information:

Company: WSP Canada Inc.
Contact: Radwan Tamr
Address: 1821 Provincial Road, Suite 100
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Reports to be sent to:
1. Email: Radwan.Tamr@wsp.com
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Project Information:

Project: MTO Assign 16
Site Location: Renton
Sampled By: SM
AGAT Quote #: 133060 PO: 181-11117-00-100-1002
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐
Company: EMAIL TO:
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Address: Radwan.Tamr@wsp.com
Email: Jenna.McVitty@wsp.com

Regulatory Requirements:

☐ No Regulatory Requirement
(Please check all applicable boxes)

☑ Regulation 153/04
Table 1 *Indicate One*
☑ Ind/Comm
☐ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☑ Coarse
☐ Fine

☐ Sewer Use
☐ Sanitary
☐ Storm
Region _____ *Indicate One*

☐ Regulation 558
☐ CCME
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
_____ *Indicate One*

Is this submission for a **Record of Site Condition?** ☐ Yes ☑ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☑ No

Sample Matrix Legend

B Biota
GW Ground Water
O Oil
P Paint
S Soil
SD Sediment
SW Surface Water

Laboratory Use Only

Work Order #: _____
Cooler Quantity: _____
Arrival Temperatures: 7.9 | 8.0 | 8.1 / 8.0 | 8.2 | 8.2
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: _____

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply):

**TAT is exclusive of weekends and statutory holidays*
For 'Same Day' analysis, please contact your AGAT CPM

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y / N	Field Filtered - Metals, Hg, CrVI	O. Reg 153: Metals and Inorganics	O. Reg 153: All Metals ☐ 153 Metals (excl. Hydrides)	O. Reg 153: Hydride Metals	O. Reg 153: ORPs: ☐ B-HWS ☐ Cl ☐ CN	O. Reg 153: ☐ Cr⁶⁺ ☐ EC ☐ FOC ☐ Hg	O. Reg 153: ☐ pH ☐ SAR	Full Metals Scan	Regulation/Custom Metals	Nutrients: ☐ TP ☐ NH_3 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_3+NO_2	Volatiles: ☑ VOC ☐ BTEX ☐ THM	CCME Fractions 1 to 4	ABNs	PAHs	PCBs: ☐ Total ☐ Aroclors	Organochlorine Pesticides	TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ CNs	Sewer Use	Metals
BH18-6 S5	Sept. 19/18	AM	3	Soil		N											☑	☑		☑					☑
BH18-7 S2	Sept. 19/18	AM	2	Soil		N											☑	☑							
BH18-7 S4	Sept. 19/18	AM	3	Soil		N											☑	☑		☑					☑
BH18-8 S2	Sept. 19/18	PM	3	Soil		N											☑	☑		☑					☑
BH18-8 S6	Sept. 19/18	PM	3	Soil		N											☑	☑		☑					☑
BH18-9 S2	Sept. 20/18	AM	2	Soil		N											☑	☑							
BH18-9 S4	Sept. 20/18	AM	3	Soil		N											☑	☑		☑					☑
BH18-10 S3	Sept. 20/18	AM	3	Soil		N											☑	☑		☑					☑
BH18-10 S5	Sept. 20/18	AM	3	Soil		N											☑	☑		☑					☑
BH18-11 S1	Sept. 20/18	AM	3	Soil		N											☑	☑		☑					☑
BH18-11 S4	Sept. 20/18	AM	3	Soil		N											☑	☑		☑					☑

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Rebecca Wrinack	Sept 24/18	8:30am			1:15
2018/09/24		4:10			

Page 2 of 4

AGAT Laboratories

2 of 3

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Project Information:

Project: MTO Assign 16
Site Location: Renton
Sampled By: SM
AGAT Quote #: 133060 PO: 181-11117-00-100-1002
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐

Company: EMAIL TO:
Contact: Payables.Ontario@wsp.com
Address: Radwan.Tamr@wsp.com
Email: Jenna.McVitty@wsp.com

Regulatory Requirements:

☐ No Regulatory Requirement
(Please check all applicable boxes)

☑ Regulation 153/04
Table 1 *Indicate One*
☑ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☑ Coarse
☐ Fine

☐ Sewer Use
☐ Sanitary
☐ Storm
Region _____ *Indicate One*

☐ Regulation 558
☐ CCME
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
_____ *Indicate One*

Is this submission for a **Record of Site Condition?** ☐ Yes ☑ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☑ No

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Laboratory Use Only

Work Order #: _____
Cooler Quantity: _____
Arrival Temperatures: 6.5 | 6.7 | 6.8 / 7.5 | 7.7 | 7.9
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes: _____

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply):

**TAT is exclusive of weekends and statutory holidays*
For 'Same Day' analysis, please contact your AGAT CPM

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y / N	Field Filtered - Metals, Hg, CrVI	O. Reg 153: Metals and Inorganics	O. Reg 153: All Metals ☐ 153 Metals (excl. Hydrides)	O. Reg 153: Hydride Metals	O. Reg 153: ORPs: ☐ B-HWS ☐ Cl ☐ CN	O. Reg 153: ☐ CrVI ☐ EC ☐ FOC ☐ Hg	O. Reg 153: ☐ pH ☐ SAR	Full Metals Scan	Regulation/Custom Metals	Nutrients: ☐ TP ☐ NH_4 ☐ TKN	☐ NO_3 ☐ NO_2 ☐ NO_2+NO_3	Volatiles: ☒ VOC ☐ BTEX ☐ THM	CCME Fractions 1 to 4	ABNs	PAHs	PCBs: ☐ Total ☐ Aroclors	Organochlorine Pesticides	TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	Sewer Use	Metals	Grain Size (75 um)	TCLP as per Quote
BH18-12 S1	Sept. 20/18	AM	3	Soil		N												☑	☑		☑					☑		
BH18-12 S4	Sept. 20/18	AM	3	Soil		N												☑	☑		☑					☑		
BH18-13 S1	Sept. 20/18	AM	3	Soil		N												☑	☑		☑					☑		
BH18-13 S5	Sept. 20/18	PM	3	Soil		N												☑	☑		☑					☑		
BH18-14 S1	Sept. 20/18	AM	3	Soil		N												☑	☑		☑					☑		
BH18-14 S3	Sept. 20/18	AM	3	Soil		N												☑	☑		☑					☑		
BH18-7 S3	Sept. 19/18	PM	1	Soil		N															☑					☑		
BH18-9 S3	Sept. 20/18	AM	1	Soil		N															☑					☑		
BH18-6 S3	Sept. 19/18	AM	1	Soil		N																					☑	
BH18-13 S6	Sept. 20/18	AM	1	Soil		N																					☑	
TCLP Renton	Sept. 20/18	PM	3	Soil		N																						☑

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Rebecca Warrack	Sept 24/18	8:30am		20-Sept-24	7:15
	20-Sept-24	4:10			
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page 3 of 4
No:

Document ID: DIV-78-2511-013

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AGAT Laboratories

2/5

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water intended for human consumption)

Report Information:

Company: WSP Canada Inc.
Contact: Radwan Tamr
Address: 1821 Provincial Road, Suite 100
Windsor, ON N8W 5V7
Phone: 226-826-0702 Fax: 519-974-5175
Reports to be sent to:
1. Email: Radwan.Tamr@wsp.com
2. Email: Jenna.McVitty@wsp.com

Project Information:

Project: MTO Assign 16
Site Location: Renton
Sampled By: SM
AGAT Quote #: 133060 PO: 181-11117-00-100-1002
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☑ No ☐
Company: EMAIL TO:
Contact: Payables.Ontario@wsp.com
Address: Radwan.Tamr@wsp.com
Email: Jenna.McVitty@wsp.com

Regulatory Requirements:

☐ No Regulatory Requirement
(Please check all applicable boxes)

☑ Regulation 153/04
Table 1 *Indicate One*
☑ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☑ Coarse
☐ Fine

☐ Sewer Use
☐ Sanitary
☐ Storm
Region _____ *Indicate One*

☐ Regulation 558
☐ CCME
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
_____ *Indicate One*

Is this submission for a **Record of Site Condition?** ☐ Yes ☑ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☑ No

Sample Matrix Legend

B Biota
GW Ground Water
O Oil
P Paint
S Soil
SD Sediment
SW Surface Water

Laboratory Use Only

Work Order #: _____
Cooler Quantity: _____
Arrival Temperatures: 7.3 7.4 7.4 / 7.0 7.4 7.5
Custody Seal Intact: ☐Yes ☐No ☐N/A
Notes: _____

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply):

**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y/N
S100	Sept. 19/18	AM	2	Soil	Limited sample	N
S200	Sept. 19/18	AM	2	Soil	Limited sample	N
S300	Sept.19/18	AM	1	Soil		N
S400	Sept. 20/18	AM	2	Soil		N

Field Filtered - Metals, Hg, CrVI: ☐

O. Reg 153: ☐ Metals and Inorganics ☐ All Metals ☐ 153 Metals (excl. Hydrides) ☐ Hydride Metals | ☐ ORPs: ☐ B-HWS ☐ Cr ☐ CN ☐ Cr⁶⁺ ☐ EC ☐ FOC ☐ Hg ☐ pH ☐ SAR | ☐ Full Metals Scan | ☐ Regulation/Custom Metals | ☐ Nutrients: ☐ TP ☐ NH_3 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_3+NO_2 | ☑ Volatiles: ☑ VOC ☐ BTEX ☐ THM | ☑ CCME Fractions 1 to 4 | ☐ ABNs | ☑ PAHs | ☐ PCBs: ☐ Total ☐ Aroclors | ☐ Organochlorine Pesticides | ☐ TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs | ☐ Sewer Use | ☑ Metals | ☐ Grain Size (75 um) | ☐ TCLP as per Quote

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Rebecca Warnock	Sept 24/18	8:30am		2018/09/24	7:15
	2018/09/24	9:10			

Page 4 of 4

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