Phase Two Environmental Site Assessment

1760 St. Laurent Boulevard, Ottawa, Ontario

Type of Document:
Final

Client:
11421247 Canada Inc.
768 St. Joseph Boulevard, #100
Gatineau, QC │ J8Y 4B8

Project Number:
OTT-00256275-B0

Prepared By:
EXP Services Inc.
100-2650 Queensview Drive
Ottawa, ON K2B 8H6

Date Submitted:
December 13, 2019

Phase Two Environmental Site Assessment

1760 St. Laurent Boulevard, Ottawa, Ontario

Type of Document:
Final

Client:
11421247 Canada Inc.
768 St. Joseph Boulevard, #100
Ottawa ON | J8Y 4B8

Project Number:
OTT-00256275-B0

Prepared By:
EXP Services Inc.
100-2650 Queensview Drive
Ottawa, ON K2B 8H6
Canada
613-688-1899
www.exp.com



Leah Wells, B.A.Sc., EIT
Environmental Engineer-in-Training
Earth and Environment

Patricia Stelmack, M.Sc., P. Eng.
Senior Engineer
Earth and Environment

Date Submitted:
December 13, 2019

Legal Notification

This report was prepared by EXP Services Inc. for the account of **11421247 Canada Inc.**

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. EXP Services Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this project.

Executive Summary

EXP Services Inc. (EXP) was retained by 11421247 Canada Inc. to conduct a Phase Two Environmental Site Assessment (ESA) of the property located at 1760 St. Laurent Boulevard in Ottawa, Ontario hereinafter referred to as the "Phase Two property". The objective of the Phase Two ESA was to address areas of potential environmental concern (APECs) identified in a Phase One ESA conducted at the Phase Two property by EXP.

A Phase Two ESA is deemed to be warranted because the Phase One property has, historically, been used for commercial purposes as a dry-cleaning operation (Dutch Girl Cleaners; 1986-1988). Regulation 153/04 specifies that a property that has been used in connection with a dry-cleaning facility is considered to be an enhanced investigation property. It is understood that future development of the Phase One property is most likely to be residential. As a result, a Record of Site Condition must be filed.

This report has been prepared in accordance with general requirements outlined in CSA Standard Z769-00 (2013) and in accordance with generally accepted professional practices. Subject to this standard of care, EXP makes no express or implied warranties regarding its services and no third-party beneficiaries are intended. Limitation of liability, scope of report and third-party reliance are outlined in Section 7 of this report.

The Phase Two property is located within a commercial and residential neighbourhood near the intersection of Industrial Avenue and St. Laurent Boulevard. The site is occupied by a single building with three commercial units and a paved parking lot.

The Phase One ESA identified the following Potentially Contaminating Activities (PCA) and Areas of Potential Environmental Concern (APEC):

- APEC #1 – The area that includes the building and the land immediately surrounding the building, as the property was previously operated as a dry-cleaning facility (PCA #37 – Operation of Dry-Cleaning Equipment); and
- APEC #2 – The area adjacent to the south property boundary, as an auto service station is located south adjacent to the Phase One property (PCA #10 – Commercial Autobody Shops).

A total of four boreholes were drilled into bedrock, and all four were completed as monitoring wells. Soil and groundwater samples were collected from all four of the boreholes.

A summary of the findings from the delineation soil and groundwater sampling program is as follows:

- Soil samples collected from all of the boreholes were within the MECP Table 3 standards for BTEX and PHC.
- Soil samples collected from all of the boreholes were within the MECP standards for PAH.
- Soil samples collected from all of the boreholes were within the MECP Table 3 standards for inorganic parameters;
- Groundwater samples collected from all of the monitoring wells were within the MECP Table 3 standards for VOC;

Bedrock was encountered at depths of 6.0, 6.5, 6.9 and 7.1 mbgs.

The groundwater flow direction is easterly.

This executive summary is a brief synopsis of the report and should not be read in lieu of reading the report in its entirety.

Table of Contents

1. Introduction 1
1.1 Site Description 1
1.2 Background 1
1.3 Past Investigations 2
1.4 Regulatory Framework 2
2. Investigation Methodology 3
2.1 Borehole Drilling and Shallow Monitoring Well Installation 3
2.2 Soil Sampling 3
2.3 Monitoring Well Development and Groundwater Monitoring and Sampling 4
2.4 Quality Assurance and Quality Control Measures 4
3. Results 6
3.1 Soil Quality 6
3.2 Groundwater Quality 6
3.3 Groundwater Monitoring 6
3.4 Quality Assurance and Quality Control Results 7
4. Summary 8
5. References 9
6. General Limitations 10

Appendices

Appendix A: Figures

Appendix B: Borehole Logs

Appendix C: Analytical Summary Tables

Appendix D: Laboratory Certificates of Analysis

1. Introduction

EXP Services Inc. (EXP) was retained by 11421247 Canada Inc. to conduct a Phase Two Environmental Site Assessment (ESA) of the property located at 1760 St. Laurent Boulevard in Ottawa, Ontario hereinafter referred to as the "Phase Two property". The objective of the Phase Two ESA was to address areas of potential environmental concern (APECs) identified in a Phase One ESA conducted at the Phase Two property by EXP.

The Phase Two property is currently occupied by a single story, three-unit, commercial building. A Phase Two ESA is deemed to be warranted because the Phase One property has, historically, been used for commercial purposes as a dry-cleaning operation (Dutch Girl Cleaners; 1986-1988). Regulation 153/04 specifies that a property that has been used in connection with a dry-cleaning facility is considered to be an enhanced investigation property. It is understood that future development of the Phase One property is most likely to be residential. As a result, a Record of Site Condition must be filed.

This report has been prepared in accordance with general requirements outlined in CSA Standard Z769-00 (2013) and in accordance with generally accepted professional practices. Subject to this standard of care, EXP makes no express or implied warranties regarding its services and no third-party beneficiaries are intended. Limitation of liability, scope of report and third-party reliance are outlined in Section 6 of this report.

1.1 Site Description

The Phase Two property is located within a commercial and residential neighbourhood near the intersection of Industrial Avenue and St. Laurent Boulevard. The site is occupied by a single building with three commercial units and a paved parking lot. The Phase Two property has an area of 0.7 hectares. A Site Location Plan is provided as Figure 1 in Appendix A.

The Phase Two property, which has a municipal address of 1760 St. Laurent Boulevard, has a property identification number (PIN), numbers (PIN), 042610177. The legal description of the Phase One property is JG S PT LOT 14 N PT LOT 15;RP 5R997 PARTS 1 AND 2.

1.2 Background

Based on a review of historical aerial photographs, historical maps, previous reports and other records, it appears that the Phase One property was first developed as a storage facility for a paper products distributor (Wilson J.C. Limited) after a water well was installed in the area in 1961. According to the city directory search, the Phase One property was the first property to be developed in the Phase One study area. A site plan is presented as Figure 2 in Appendix A.

The Phase Two property is zoned for Arterial Mainstreet use (AM10). The AM designation means that the property is zoned for a broad range of uses including mixed use commercial, residential and institutional use for the buildings on the property. Potable water is available from the City of Ottawa, and there are no potable water wells nearby.

The closest body of water is Greens Creek. The creek is approximately 1.7 km northeast of the Phase Two property and flows in a northeasterly direction toward the Ottawa River, which is more than 6 km north of the Phase Two property. The groundwater flow direction is inferred to be easterly.

Based on the Phase Two ESA investigation, the Phase Two property is not a shallow soil property as defined in Section 43.1 of the regulation. It does not include all or part of a water body or is adjacent to a water body or includes land that is within 30 metres of a water body.

Bedrock in the general area of the Phase Two property consists of shale, limestone, dolostone and siltstone. Native surficial soil consists of fine-textured glaciomarine deposits of silt and clay with minor sand and gravel. Bedrock is approximately 6 meters below ground surface (mbgs) at the Phase One property. The local topography slopes to the north.

1.3 Past Investigations

A Phase One ESA was completed by EXP. The findings of the Phase One ESA were presented in a report entitled *Phase One Environmental Site Assessment, 1760 St. Laurent Boulevard, Ottawa, Ontario,* EXP Services Inc., dated December 12, 2019. The Phase One ESA identified the following Potentially Contaminating Activities (PCA) and Areas of Potential Environmental Concern (APEC):

- APEC #1 – The area that includes the building and the land immediately surrounding the building, as the property was previously operated as a dry-cleaning facility (PCA #37 – Operation of Dry-Cleaning Equipment); and
- APEC #2 – The area adjacent to the south property boundary, as an auto service station is located south adjacent to the Phase One property (PCA #10 – Commercial Autobody Shops).

1.4 Regulatory Framework

Analytical results obtained for soil and groundwater samples were compared to Site Condition Standards (SCS) established under subsection 169.4(1) of the Environmental Protection Act, and presented in the document entitled *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*, Ontario Ministry of Environment, Conservation and Parks (MECP), 2011. This document provides tabulated background SCS (Table 1) applicable to environmentally sensitive sites and effects-based generic SCS (Tables 2 to 9) applicable to non-environmentally sensitive sites. The effects-based SCS (Tables 2 to 9) are protective of human health and the environment for different groundwater conditions (potable and non-potable), land use scenarios (residential, parkland, institutional, commercial, industrial, community and agricultural/other), soil texture (coarse or medium/fine) and restoration depth (full or stratified).

For assessment purposes, EXP selected the MECP Table 3 SCS for a residential/institutional/community property use with medium and fine-grained soil in a non-potable groundwater condition. The selection of this category was based on the following factors:

- The proposed future use of the subject property may be residential;
- The subject property is not considered to be a sensitive site and is not located in an area designated in a municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of groundwater;
- The subject property is supplied with potable water from the City of Ottawa;
- The soil at the Phase Two property has a pH value between 5 and 9 for surficial soils and between 5 and 11 for subsurface soils, as confirmed during the current investigation;
- The predominant soil type on the site, based on grain size analyses conducted during the current investigation, is silty clay, which is considered to be medium and fine-textured;
- Bedrock is deeper than 2.0 metres below grade across the subject property;
- There are no surface water bodies within 30 metres of the subject property; and
- There is no intention to carry out a stratified restoration at the subject property.

2. Investigation Methodology

2.1 Borehole Drilling and Monitoring Well Installation

The site investigative activities consisted of the drilling of boreholes to facilitate the collection of soil samples for chemical analysis, to record relevant geotechnical information and the installation of monitoring wells for hydrogeological property characterization and the collection of groundwater samples for chemical analysis.

Prior to the commencement of drilling, the locations of underground public utilities including telephone, natural gas and electrical lines were marked at the subject property by public locating companies. A private utility locating contractor was also retained to clear the individual borehole locations.

On November 18 and 19, 2019, four boreholes (BH1 to BH4) were advanced at the Phase Two property by George Downing Estate Drilling Ltd. (Downing), a licensed well contractor, under the full-time supervision of EXP staff. A CME 55 track mounted drill rig with split spoon samplers was used to collect the soil samples. Dedicated nitrile gloves (one pair per sample) were used during sample handling. No petroleum-based greases or solvents were used during drilling activities.

EXP staff continuously monitored the drilling activities to log the stratigraphy observed from the recovered samples, to record the depth of the samples, to record total depths of borings, and to screen the samples by recording visual or olfactory observations of potential impacts and measuring petroleum vapours. Field observations are documented on the borehole logs provided in Appendix B.

Monitoring wells were installed in BH1 to BH4 to facilitate groundwater sampling. The monitoring wells consisted of a 51 millimetre diameter Schedule 40 PVC screen that was 3.0 m long and a Schedule 40 PVC riser pipe. The annular space around the monitoring wells was backfilled with sand to a height of approximately 0.3 m above the top of the screen. A bentonite seal was added from the top of the sand pack to approximately 0.3 m below ground surface. The monitoring wells were protected with monument casings. Details of the installations are shown on the borehole logs provided in Appendix B.

The locations of the boreholes and monitoring wells are shown on Figure 2 in Appendix A.

2.2 Soil Sampling

Soil samples for geologic characterization were collected on a continuous basis in the overburden materials using 5 cm diameter, 61 cm long, split spoon samplers advanced into the subsurface using the drill rig. A split spoon sample was collected approximately every 80 cm as drilling progressed. The split spoon samplers were decontaminated between sampling intervals by EXP staff using a potable water/phosphate-free detergent solution followed by rinses with potable water. The soil cores were removed from the samplers upon retrieval by drilling personnel. Geologic details of the recovered cores were logged by EXP field staff. EXP staff continuously monitored the drilling activities to log the stratigraphy observed from the recovered soil cores, to record the depth of soil sample collection, to record total depths of borings, and to record visual or olfactory observations of potential impacts. Field observations are summarized on the borehole logs provided in Appendix B.

Soil samples identified for possible laboratory analysis were collected from the split spoon sampler and placed directly into pre-cleaned, laboratory-supplied glass sample jars/vials. Samples to be analysed for PHC fraction F1 and BTEX were collected using a soil core sampler and placed in to vials containing methanol as a preservative. The jars and vials were sealed with Teflon-lined lids to minimize head-space and reduce the potential for induced volatilization during storage/transport prior to analysis. All soil samples were placed in clean coolers containing ice prior to and during transportation to the subcontract laboratory, Bureau Veritas (BV) of Ottawa, Ontario.

Two soil samples and one duplicate were submitted for analysis of BTEX, PHC, PAH, and metals. Four soil samples and one duplicate were submitted for analysis of VOC. Two soil samples were also submitted for analysis of grain size and pH.

2.3 Monitoring Well Development and Groundwater Monitoring and Sampling

Following the conclusion or the drilling program, the monitoring wells were developed by purging water until it became clear or until the monitoring well became dry.

On November 25, 2019, the monitoring wells were inspected for general physical condition, groundwater depth, and the presence of organic vapors. All measurements of organic vapours in the riser were made with a MiniRAE 2000. Immediately after removing the well cap, the collection tube of the MiniRAE was inserted into the riser and the peak instrument reading was recorded. EXP used a Heron water level tape to measure the static water level in each monitoring well. Both the probe and the measuring tape that come into contact with liquids within a monitor were cleaned with phosphate-free soap and tap water, rinsed with distilled water and then finally rinsed with methanol after each measurement.

Groundwater samples from all four monitoring wells were obtained using a low-flow sampling technique with a Horiba U-52 multiparameter water quality meter. This technique involves pumping groundwater at low rates, typically less than 500 mL per minute, to minimize drawdown. Prior to collecting the groundwater samples, the monitoring wells were purged with the low-flow sampling equipment and field parameters (turbidity, dissolved oxygen, conductivity, temperature, pH, and oxidation reduction potential) were monitored until stable readings were achieved. These parameters are considered to be stable when three consecutive readings meet the following conditions:

- Turbidity: within 10% for values greater than 5 nephelometric turbidity units (NTU), or three values less than 5 NTU;
- Dissolved oxygen: within 10% for values greater than 0.5 mg/L, or three values less than 0.5 mg/L;
- Conductivity: within 3%;
- Temperature: ± 1°C;
- pH: ± 0.1 unit; and,
- Oxidation reduction potential: ±10 millivolts.

When stabilization occurs, equilibrium between groundwater within a monitor and the surrounding formation water is attained. As such, samples collected when stabilization occurs are considered to be representative of formation water.

Groundwater samples were submitted for analysis of VOC.

2.4 Quality Assurance and Quality Control Measures

All soil and groundwater samples were placed in coolers containing ice packs prior to and during transportation to the laboratory, Bureau Veritas (BV). BV is accredited to the ISO/IEC 17025:2005 standard - *General Requirements for the Competence of Testing and Calibration Laboratories*.

A QA/QC program was also implemented to ensure that the analytical results received are accurate and dependable. A QA/QC program is a system of documented checks that validate the reliability of the data. Quality Assurance is a system that ensures that quality control procedures are correctly performed and documented. Quality Control refers to the established procedures observed both in the field and in the laboratory, designed to ensure that the resulting end data meet intended quality objectives. The QA/QC program implemented by EXP incorporated the following components:

- Collecting and analysing field duplicate soil and groundwater samples to ensure analytical precision;
- Submitting and analysing a field blank in conjunction with analysis of parameters in groundwater;
- Submitting and analysing a trip blank sample in conjunction with analysis of volatile parameters in groundwater;
- Using dedicated and/or disposable sampling equipment;
- Following proper decontamination protocols to minimize cross-contamination;
- Maintaining field notes and completing field forms to document field activities; and
- Using only laboratory-supplied sample containers and following prescribed sample protocols, including using proper preservation techniques, meeting sample hold times, and documenting sample transmission on chains of custody, to ensure the integrity of the samples is maintained.

BV's QA/QC program involved the systematic analysis of control standards for the purpose of optimizing the measuring system as well as establishing system precision and accuracy and included calibration standards, method blanks, reference standards, spiked samples, surrogates and duplicates.

3. Results

3.1 Soil Quality

Chemical analyses were performed on selected soil samples recovered from BH1 to BH4.

Two soil samples and one field duplicate were submitted for chemical analysis of BTEX and PHC. The results are presented in Table 1 in Appendix C. All of the soil samples were within the MECP Table 3 SCS.

Two soil samples and one field duplicate were submitted for chemical analysis of PAH. The results are presented in Table 2 in Appendix C. All of the soil samples were within the MECP Table 3 SCS.

Two soil samples and one field duplicate were submitted for chemical analysis of metals. The results are presented in Table 3 in Appendix C. All of the soil samples were within the MECP Table 3 SCS. Two soil samples submitted for analysis of pH were within the applicable ranges for surface and subsurface soils.

Four soil samples and one field duplicate were submitted for chemical analysis of VOC. The results are presented in Table 4 in Appendix C. All of the soil samples were within the MECP Table 3 SCS.

Two soil samples submitted for grain size analysis contained 57% and 99% of particles that were smaller than 75 microns. Thus, per Regulation 153/04, soil on the Phase Two property is considered to be fine and medium textured.

Copies of the laboratory Certificates of Analysis are provided in Appendix D.

3.2 Groundwater Quality

Chemical analyses were performed on groundwater samples collected from all new and existing monitoring wells using low flow sampling techniques.

A total of six groundwater samples, including one field duplicate and one field blank, were collected from the monitoring wells and were submitted for chemical analysis of VOC. The results are presented in Table 5 in Appendix C. All of the samples collected from shallow monitoring wells were within the 2011 MECP Table 3 standards for all parameters that were analysed.

Copies of the laboratory Certificates of Analysis are provided in Appendix D.

3.3 Groundwater Monitoring

On November 25, 2019, the monitoring wells were monitored. Monitoring consisted of inspection for general physical condition, groundwater depth, the presence of organic vapour, as described in Section 2.3.

Organic vapours ranged from 85 to 300 ug/m^3. The depth to groundwater ranged from 1.53 mbgs to 2.62 mbgs. Groundwater monitoring and elevation data are provided below.

Table 3.1 – Monitoring and Elevation Data

Monitoring Well ID	TOC Elevation (metres)	Ground Surface Elevation (metres)	Organic Vapour (ug/m^3)	Depth to Groundwater (mbTOC)	Groundwater Elevation (metres)	Depth to Groundwater (mbgs)
BH1	100.48	100.53	130	1.60	98.88	1.65
BH2	100.37	100.47	85	2.08	98.29	2.18
BH3	100.30	100.44	200	2.48	97.82	2.62
BH4	100.09	100.13	300	1.49	98.60	1.53

Notes: Elevations were measured relative to a designated benchmark, the catch basin on the southeast portion of the property, which was assigned an assumed elevation of 100,00 metres
mbTOC – metres below top of casing
mbgs – metres below ground surface

Based on the elevation data from the monitoring wells shown in Table 3.1, a groundwater contour plan was plotted, as shown in Figure 3 in Appendix A. The groundwater flow direction is easterly.

3.4 Quality Assurance and Quality Control Results

Quality assurance and quality control measures were taken during the field activities to meet the objectives of the sampling and quality assurance plan to collect unbiased and representative samples to characterize existing conditions in the fill materials and groundwater at the site.

BV's QA/QC program consisted of the preparation and analysis of laboratory duplicate samples to assess precision and sample homogeneity, method blanks to assess analytical bias, spiked blanks and QC standards to evaluate analyte recovery, matrix spikes to evaluate matrix interferences and surrogate compound recoveries to evaluate extraction efficiency. The laboratory QA/QC results are presented in the Quality Assurance Report provided in the Certificates of Analysis prepared by BV. The QA/QC results are reported as percent recoveries for matrix spikes, spiked blanks and QC standards, relative percent difference (RPD) for laboratory duplicates and analyte concentrations for method blanks.

Review of the laboratory QA/QC results reported indicated that they were within acceptable control limits or below applicable alert criteria for the sampled media and analytical test groups. Based on the assessment of the QA/QC, the analytical results reported by BV are of acceptable quality and data qualifications are not required.

For QA/QC purposes, the analytical sample results are quantitatively evaluated by calculating the RPD between the field samples and the field duplicates. To accurately calculate a statistically valid RPD, the concentration of the analytes found in both the original and duplicate sample must be greater than five times the reporting detection limit (RDL). The results of the RPD calculations are provided in Tables 6 to 10 in Appendix C. All of the RPD were either not calculable or within the applicable limits.

A trip blank and a field blank accompanied the submission of groundwater samples. Both the trip blank and field blank had non-detectable concentrations of all parameters that were analysed.

4. Summary

A total of four boreholes were drilled within the overburden and all of the boreholes were completed as monitoring wells. Soil samples were collected from all of the boreholes.

A summary of the findings from the delineation soil and groundwater sampling program is as follows:

- Soil samples collected from all of the boreholes were within the MECP Table 3 standards for BTEX and PHC.
- Soil samples collected from all of the boreholes were within the MECP standards for PAH.
- Soil samples collected from all of the boreholes were within the MECP Table 3 standards for inorganic parameters; and
- Groundwater samples collected from all of the monitoring wells were within the MECP Table 3 standards for VOC.

Bedrock was encountered at depths of 6.0, 6.5, 6.9 and 7.1 mbgs. The groundwater flow direction is easterly.

Based on the results of the Phase Two ESA, no further environmental investigations are deemed to be warranted.

5. References

This study was conducted in accordance with the applicable Regulations, Guidelines, Policies, Standards, Protocols and Objectives. Specific reference is made to the following documents.

- Canadian Standards Association, *CSA-Z769-00 (R2013), Phase II Environmental Assessment Standard*, 2013.
- EXP Services Inc., *Phase One Environmental Site Assessment, 1760 St. Laurent Boulevard, Ottawa, Ontario*, December 12, 2019.
- Ontario Ministry of the Environment, Conservation and Parks, *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*, December 1996.
- Ontario Ministry of the Environment, Conservation and Parks, *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*, April 15, 2011.
- Ontario Ministry of the Environment, Conservation and Parks, *Guide for Completing Phase Two Environmental Site Assessments under Ontario Regulation 153/04,* June 2011.
- Ontario Ministry of the Environment, Conservation and Parks, *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act,* July 1, 2011.
- Ontario Regulation 153/04, made under the *Environmental Protection Act*, as amended.
- Ontario R.R.O. 1990, Regulation 903, made under the *Water Resources Act*, as amended.

6. General Limitations

Basis of Report

This report ("Report") is based on site conditions known or inferred by the investigation undertaken as of the date of the Report. Should changes occur which potentially impact the condition of the site the recommendations of EXP may require re-evaluation. Where special concerns exist, or 11421247 Canada Inc. ("the Client") has special considerations or requirements, these should be disclosed to EXP to allow for additional or special investigations to be undertaken not otherwise within the scope of investigation conducted for the purpose of the Report.

Where applicable, recommended field services are the minimum necessary to ascertain that construction is being carried out in general conformity with building code guidelines, generally accepted practices and EXP's recommendations. Any reduction in the level of services recommended will result in EXP providing qualified opinions regarding the adequacy of the work. EXP can assist design professionals or contractors retained by the Client to review applicable plans, drawings, and specifications as they relate to the Report or to conduct field reviews during construction.

Reliance on Information Provided

The evaluation and conclusions contained in the Report are based on conditions in evidence at the time of site inspections and information provided to EXP by the Client and others. The Report has been prepared for the specific site, development, building, design or building assessment objectives and purpose as communicated by the Client. EXP has relied in good faith upon such representations, information and instructions and accepts no responsibility for any deficiency, misstatement or inaccuracy contained in the Report as a result of any misstatements, omissions, misrepresentation or fraudulent acts of persons providing information. Unless specifically stated otherwise, the applicability and reliability of the findings, recommendations, suggestions or opinions expressed in the Report are only valid to the extent that there has been no material alteration to or variation from any of the information provided to EXP. If new information about the environmental conditions at the Site is found, the information should be provided to EXP so that it can be reviewed and revisions to the conclusions and/or recommendations can be made, if warranted.

Standard of Care

The Report has been prepared in a manner consistent with the degree of care and skill exercised by engineering consultants currently practicing under similar circumstances and locale. No other warranty, expressed or implied, is made. Unless specifically stated otherwise, the Report does not contain environmental consulting advice.

Complete Report

All documents, records, data and files, whether electronic or otherwise, generated as part of this assignment form part of the Report. This material includes, but is not limited to, the terms of reference given to EXP by the Client, communications between EXP and the Client, other reports, proposals or documents prepared by EXP for the Client in connection with the site described in the Report. In order to properly understand the suggestions, recommendations and opinions expressed in the Report, reference must be made to the Report in its entirety. EXP is not responsible for use by any party of portions of the Report.

Use of Report

The information and opinions expressed in the Report, or any document forming part of the Report, are for the sole benefit of the Client. No other party may use or rely upon the Report in whole or in part without the

written consent of EXP. Any use of the Report, or any portion of the Report, by a third party are the sole responsibility of such third party. EXP is not responsible for damages suffered by any third party resulting from unauthorised use of the Report.

Where EXP has submitted both electronic file and a hard copy of the Report, or any document forming part of the Report, only the signed and sealed hard copy shall be the original documents for record and working purposes. In the event of a dispute or discrepancy, the hard copy shall govern. Electronic files transmitted by EXP utilize specific software and hardware systems. EXP makes no representation about the compatibility of these files with the Client's current or future software and hardware systems. Regardless of format, the documents described herein are EXP's instruments of professional service and shall not be altered without the written consent of EXP.

Appendix A:
Figures



0 200m 400m 800m

HORIZONTAL 1:20,000

exp Services Inc.
100-2650 Queensview Drive
Ottawa, ON K2B 8H6
www.exp.com

DESIGN	P.S.
DRAWN	M.N.
DATE	DEC. 2019
FILE NO	OTT-00256275-B0

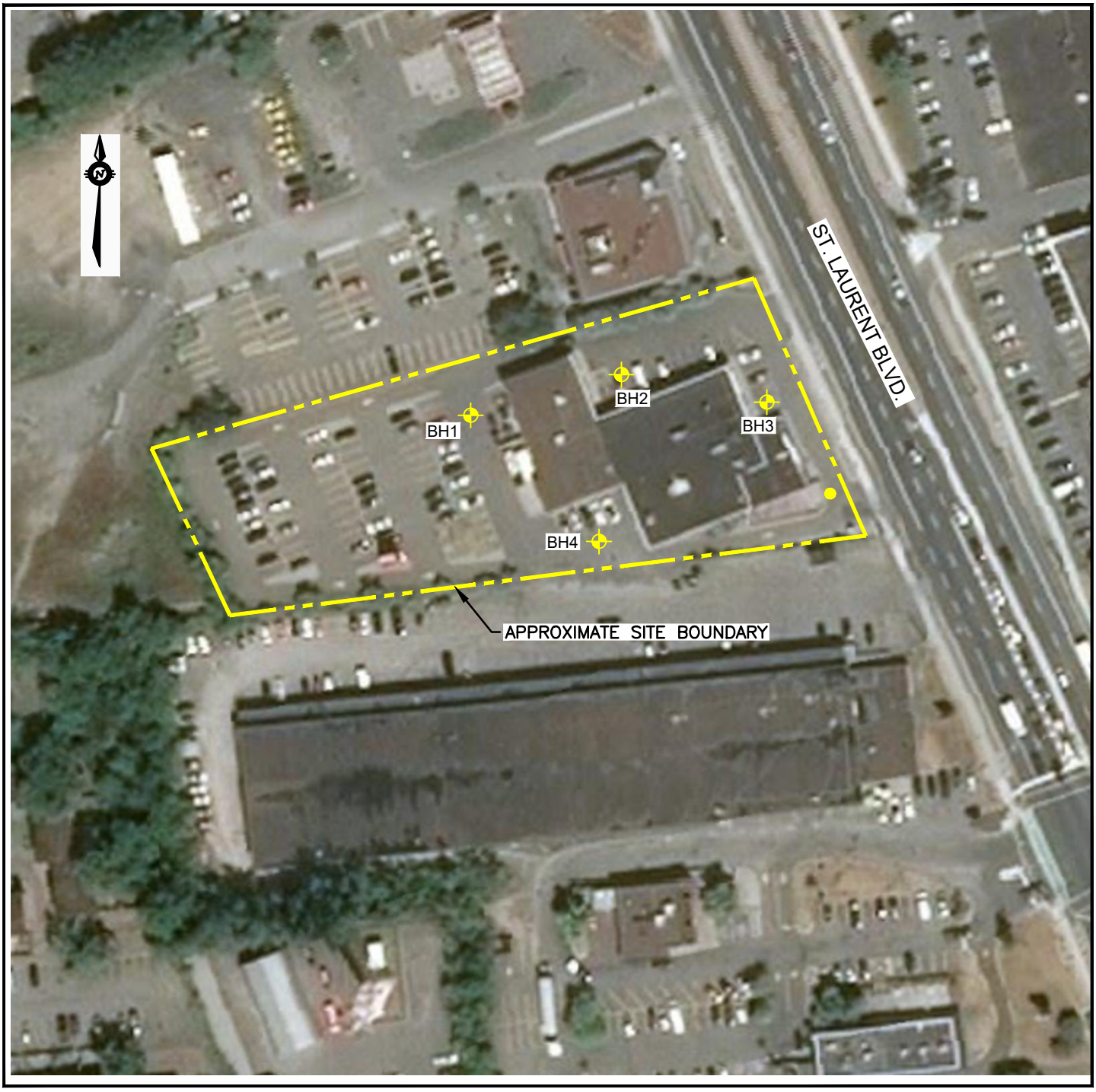
11421247 CANADA INC

SITE LOCATION PLAN
1760 ST. LAURENT BLVD., OTTAWA, ON

SCALE 1:20,000

SKETCH NO FIG 1

Filename: \\exp\data\OTT\OTT-00256275-B0\60 Execution\65 Drawings\256275-B0 Fig 1.dwg
Last Saved: Dec 13, 2019 10:18 AM Last Plotted: Dec 13, 2019 10:20 AM Plotted by: nugentm



LEGEND

BH1 BH/MW LOCATION AND NUMBER

0 10m 20m 50m

HORIZONTAL 1:1250

2019 DIGITAL GLOBE © CNES (2019) DISTRIBUTION AIRBUS DS

exp Services Inc.
100-2650 Queensview Drive
Ottawa, ON K2B 8H6
www.exp.com

DESIGN	P.S.
DRAWN	M.N.
DATE	DEC. 2019
FILE NO	OTT-00256275-B0

11421247 CANADA INC

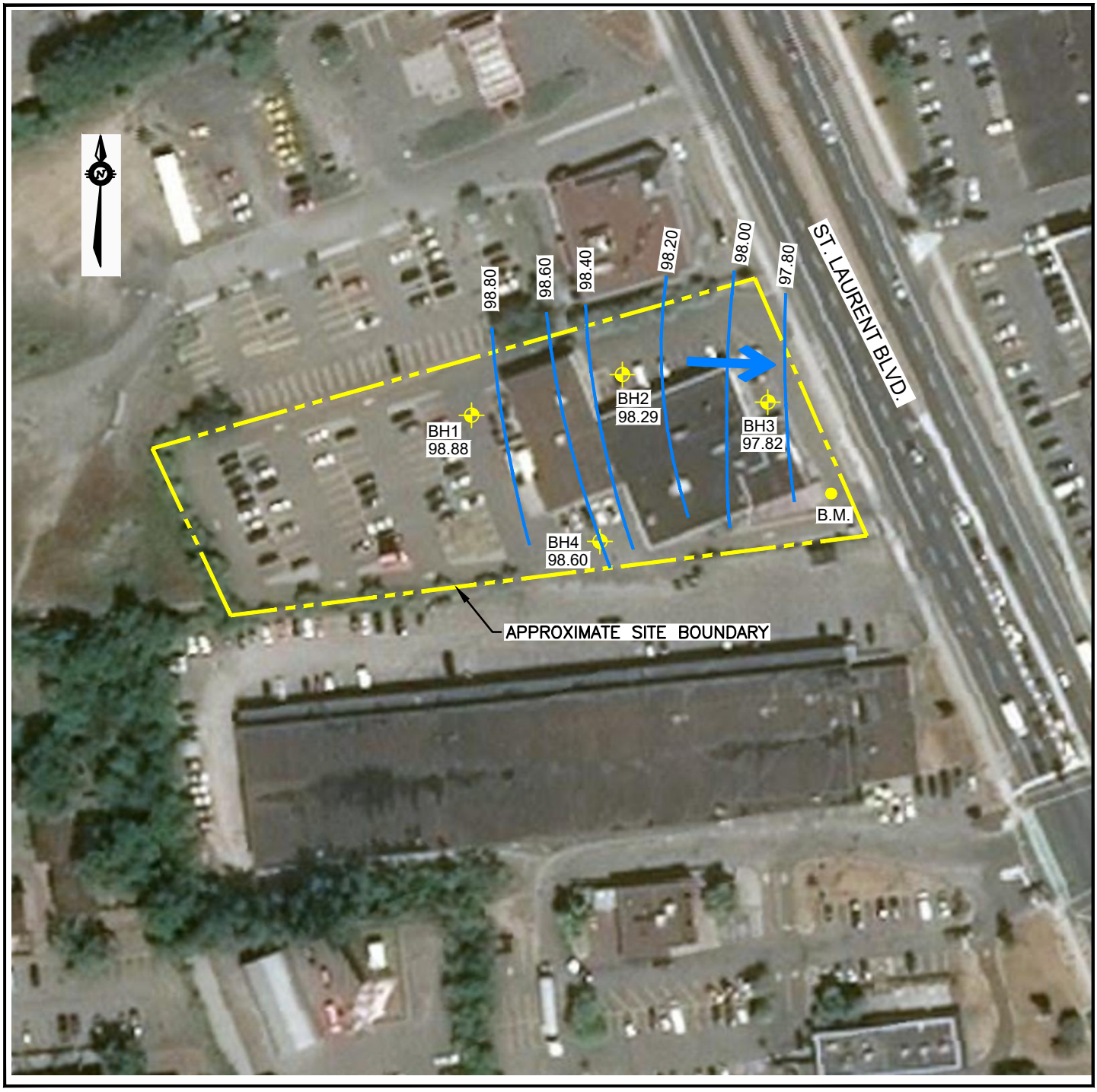
SITE PLAN

1760 ST. LAURENT BLVD., OTTAWA, ON

SCALE 1:1,250

SKETCH NO FIG 2

Filename: \\exp\data\OTT\OTT-00256275-B0\60 Execution\65 Drawings\256275-B0 Fig 2 BH-MW Plan.dwg
Last Saved: Dec 13, 2019 10:16 AM Last Plotted: Dec 13, 2019 11:27 AM Plotted by: nugentm



LEGEND

BH1 98.88 — BH/MW LOCATION AND NUMBER
GROUNDWATER ELEVATION (METRES)

GROUNDWATER FLOW DIRECTION

ELEVATIONS WERE SURVEYED RELATIVE TO A SITE BENCHMARK, CATCH BASIN ON SOUTH EAST CORNER OF PROPERTY, WHICH WAS ASSIGNED AN ELEVATION OF 100.00 METRES

2019 DIGITAL GLOBE © CNES (2019) DISTRIBUTION AIRBUS DS

0 10m 20m 50m
HORIZONTAL 1:1250

exp Services Inc.
100-2650 Queensview Drive
Ottawa, ON K2B 8H6
www.exp.com

DESIGN	P.S.
DRAWN	M.N.
DATE	DEC. 2019
FILE NO	OTT-00256275-B0

11421247 CANADA INC

GROUNDWATER CONTOUR PLAN
1760 ST. LAURENT BLVD., OTTAWA, ON

SCALE 1:1,250
SKETCH NO FIG 3

Filename: \\exp\data\OTT\OTT-00256275-B0\60 Execution\65 Drawings\256275-B0 Fig 2 BH-MW Plan.dwg
Last Saved: Dec 13, 2019 10:16 AM Last Plotted: Dec 13, 2019 11:26 AM Plotted by: nugentm

Appendix B:
Borehole Logs

Explanation of Terms Used on Borehole Records

SOIL DESCRIPTION

Terminology describing common soil genesis:

Topsoil: mixture of soil and humus capable of supporting good vegetative growth.

Peat: fibrous fragments of visible and invisible decayed organic matter.

Fill: where fill is designated on the borehole log it is defined as indicated by the sample recovered during the boring process. The reader is cautioned that fills are heterogeneous in nature and variable in density or degree of compaction. The borehole description may therefore not be applicable as a general description of site fill materials. All fills should be expected to contain obstruction such as wood, large concrete pieces or subsurface basements, floors, tanks, etc.; none of these may have been encountered in the boreholes. Since boreholes cannot accurately define the contents of the fill, test pits are recommended to provide supplementary information. Despite the use of test pits, the heterogeneous nature of fill will leave some ambiguity as to the exact composition of the fill. Most fills contain pockets, seams, or layers of organically contaminated soil. This organic material can result in the generation of methane gas and/or significant ongoing and future settlements. Fill at this site may have been monitored for the presence of methane gas and, if so, the results are given on the borehole logs. The monitoring process does not indicate the volume of gas that can be potentially generated nor does it pinpoint the source of the gas. These readings are to advise of the presence of gas only, and a detailed study is recommended for sites where any explosive gas/methane is detected. Some fill material may be contaminated by toxic/hazardous waste that renders it unacceptable for deposition in any but designated land fill sites; unless specifically stated the fill on this site has not been tested for contaminants that may be considered toxic or hazardous. This testing and a potential hazard study can be undertaken if requested. In most residential/commercial areas undergoing reconstruction, buried oil tanks are common and are generally not detected in a conventional geotechnical site investigation.

Till: the term till on the borehole logs indicates that the material originates from a geological process associated with glaciation. Because of this geological process the till must be considered heterogeneous in composition and as such may contain pockets and/or seams of material such as sand, gravel, silt or clay. Till often contains cobbles (60 to 200 mm) or boulders (over 200 mm). Contractors may therefore encounter cobbles and boulders during excavation, even if they are not indicated by the borings. It should be appreciated that normal sampling equipment cannot differentiate the size or type of any obstruction. Because of the horizontal and vertical variability of till, the sample description may be applicable to a very limited zone; caution is therefore essential when dealing with sensitive excavations or dewatering programs in till materials.

Terminology describing soil structure:

Desiccated: having visible signs of weathering by oxidization of clay minerals, shrinkage cracks, etc.

Stratified: alternating layers of varying material or color with the layers greater than 6 mm thick.

Laminated: alternating layers of varying material or color with the layers less than 6 mm thick.

Fissured: material breaks along plane of fracture.

Varved: composed of regular alternating layers of silt and clay.

Slickensided: fracture planes appear polished or glossy, sometimes striated.

Blocky: cohesive soil that can be broken down into small angular lumps which resist further breakdown.

Lensed: inclusion of small pockets of different soil, such as small lenses of sand scattered through a mass of clay; not thickness.

Seam: a thin, confined layer of soil having different particle size, texture, or color from materials above and below.

Homogeneous: same color and appearance throughout.

Well Graded: having wide range in grain sized and substantial amounts of all predominantly on grain size.

Uniformly Graded: predominantly on grain size.

All soil sample descriptions included in this report follow the ASTM D2487-11 Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System). The system divides soils into three major categories: (1) coarse grained, (2) fine-grained, and (3) highly organic. The soil is then subdivided based on either gradation or plasticity characteristics. The system provides a group symbol (e.g. SM) and group name (e.g. silty sand) for identification. The classification excludes particles larger than 76 mm. Please note that, with the exception of those samples where a grain size analysis has been made, all samples are classified visually in accordance with ASTM D2488-09a Standard Practice for Description and Identification of Soils (Visual-Manual Procedure). Visual classification is not sufficiently accurate to provide exact grain sizing or precise differentiation between size classification systems. Others may use different classification systems; one such system is the ISSMFE Soil Classification.

ISSMFE SOIL CLASSIFICATION

CLAY	SILT			SAND			GRAVEL			COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE		

0.002	0.006	0.02	0.06	0.2	0.6	2.0	6.0	20	60	200

EQUIVALENT GRAIN DIAMETER IN MILLIMETRES

CLAY (PLASTIC) TO	FINE	MEDIUM	CRS.	FINE	COARSE
SILT (NONPLASTIC)	SAND			GRAVEL	

UNIFIED SOIL CLASSIFICATION

Terminology describing materials outside the USCS, (e.g. particles larger than 76 mm, visible organic matter, construction debris) is based upon the proportion of these materials present and as described below in accordance with Note 16 in ASTM D2488-09a:

Table a: Percent or Proportion of Soil, Pp

	Criteria
Trace	Particles are present but estimated to be less than 5%
Few	5≤Pp≤10%
Little	15≤Pp≤25%
Some	30≤Pp≤45%
Mostly	50≤Pp≤100%

The standard terminology to describe cohesionless soils includes the compactness as determined by the Standard Penetration Test 'N' value:

Table b: Apparent Density of Cohesionless Soil

	'N' Value (blows/0.3 m)
Very Loose	N<5
Loose	5≤N<10
Compact	10≤N<30
Dense	30≤N<50
Very Dense	50≤N

The standard terminology to describe cohesive soils includes consistency, which is based on undrained shear strength as measured by insitu vane tests, penetrometer tests, unconfined compression tests or similar field and laboratory analysis, Standard Penetration Test 'N' values can also be used to provide an approximate indication of the consistency and shear strength of fine grained, cohesive soils:

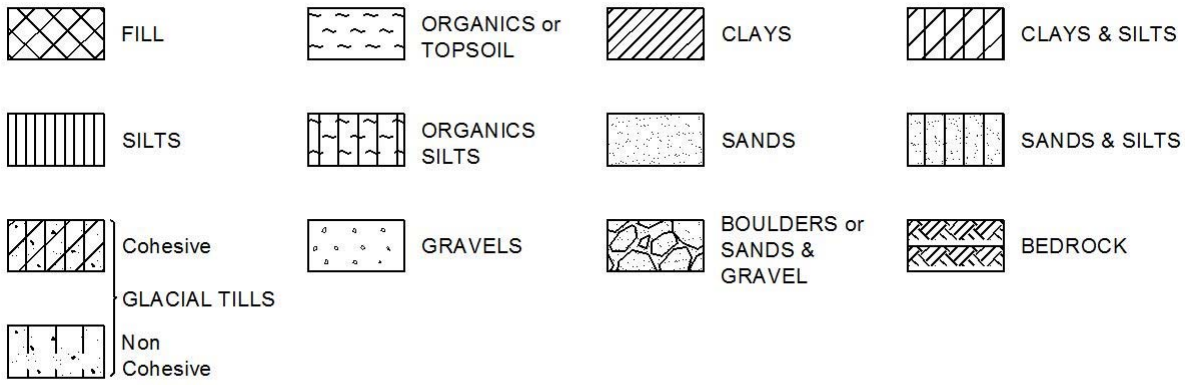
Table c: Consistency of Cohesive Soil

Consistency	Vane Shear Measurement (kPa)	'N' Value
Very Soft	<12.5	<2
Soft	12.5-25	2-4
Firm	25-50	4-8
Stiff	50-100	8-15
Very Stiff	100-200	15-30
Hard	>200	>30

Note: 'N' Value - The Standard Penetration Test records the number of blows of a 140 pound (64kg) hammer falling 30 inches (760mm), required to drive a 2 inch (50.8mm) O.D. split spoon sampler 1 foot (305mm). For split spoon samples where full penetration is not achieved, the number of blows is reported over the sampler penetration in meters (e.g. 50/0.15).

STRATA PLOT

Strata plots symbolize the soil or bedrock description. They are combinations of the following basic symbols:



WATER LEVEL MEASUREMENT



Log of Borehole MW1

Project No: OTT-000256275-A0

Project: Phase II Environmental Site Assessment

Location: 1760 St. Laurent Boulevard, Ottawa

Figure No. 3

Page. 1 of 2

Date Drilled: November 18th, 2019

Drill Type: CME 55 Rubber Track

Datum: Assumed

Logged by: MD Checked by: PS

Split Spoon Sample
Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Shear Strength by Vane Test

Combustible Vapour Reading
Natural Moisture Content
Atterberg Limits
Undrained Triaxial at % Strain at Failure
Shear Strength by Penetrometer Test

GWL	SYMBOL	SOIL DESCRIPTION	Assumed m	Depth	Standard Penetration Test N Value / Shear Strength kPa	Combustible Vapour Reading (ppm) / Natural Moisture Content % / Atterberg Limits (% Dry Weight)	SAMPLES	Natural Unit Wt. kN/m³
		ASPHALT ~ 76 mm	100.53	0				
		SANDY GRAVEL FILL	100.4					
		Brown and grey, moist, no odour or staining.	99.9					
		SILT WITH CLAY TO SILTY CLAY Trace fine gavel present, brownish grey, moist to wet, no odour or staining, (hard).	98.48	1	8	10.5	SS1	
				2	6	10.3	SS2	
					225 s = 4.5	11.3 11.5		
				3	4	11.5	SS3A	
						11.5	SS3B	
		SANDY GRAVELLY TILL Brown turning dark grey, moist / wet, no odour or staining, (loose to very dense).	97.4		8	19.9	SS4A	
						35.0	SS4B	
				4	5	27.3	SS5	
				5	4	20.6	SS6	
					27	12.2	SS7	
				6		119 / 27.0 mm	SS8	
			93.4	7	50 / 76 mm	19.0	SS9	
		SHALE BEDROCK Dark grey to black, some horizontal fractures and silt seams, fair to good quality.		8			RUN1	
				9				
				10			RUN2	

Continued Next Page

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. A flushmount monitoring well with a 51 mm slotted standpipe was installed in the borehole upon completion.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-000256275-A0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
4 days	1.7	-
7 days	2.1	-

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	7.57 - 9.07	100	71
2	9.07 - 10.59	100	84

LOG OF BOREHOLE LOGS OF BOREHOLES TEMPLATE - 1760 ST LAURENT.GPJ TROW OTTAWA.GDT 11-28-19

Log of Borehole MW1

Project No: OTT-000256275-A0

Project: Phase II Environmental Site Assessment

Figure No. 3

GWL	SYMBOL	SOIL DESCRIPTION	Assumed m	Depth	Standard Penetration Test N Value / Shear Strength kPa	Combustible Vapour Reading (ppm) / Natural Moisture Content % / Atterberg Limits (% Dry Weight)	SAMPLES	Natural Unit Wt. kN/m³
			90.53	10	20 40 60 80 / 50 100 150 200	250 500 750 / 20 40 60		
			89.9					
		End of Borehole at 10.59 m Depth, Borehole Terminated						

LOG OF BOREHOLE LOGS OF BOREHOLES TEMPLATE - 1760 ST LAURENT.GPJ TROW OTTAWA.GDT 11-28-19

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. A flushmount monitoring well with a 51 mm slotted standpipe was installed in the borehole upon completion.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-000256275-A0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
4 days	1.7	-
7 days	2.1	-

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %
1	7.57 - 9.07	100	71
2	9.07 - 10.59	100	84

Log of Borehole MW2

Project No: OTT-000256275-A0

Project: Phase II Environmental Site Assessment

Location: 1760 St. Laurent Boulevard, Ottawa

Figure No. 4

Page. 1 of 1

Date Drilled: November 18th, 2019

Drill Type: CME 55 Rubber Track

Datum: Assumed

Logged by: MD Checked by: PS

Split Spoon Sample | Auger Sample | SPT (N) Value | Dynamic Cone Test | Shelby Tube | Shear Strength by Vane Test (S)

Combustible Vapour Reading | Natural Moisture Content | Atterberg Limits | Undrained Triaxial at % Strain at Failure | Shear Strength by Penetrometer Test

GWL	SYMBOL	SOIL DESCRIPTION	Assumed m	Depth
		ASPHALT ~ 70 mm	100.465	0
		SANDY GRAVEL FILL Brown and grey, moist, no odour or staining, (compact).	100.4 99.9	
		FINE SAND WITH SOME SILT Brown, moist, no odour or staining, (loose).		1
		SILTY CLAY Brown, moist, no odour or staining, (very stiff).	99.1	
			98.135	2
				3
		CLAYEY TILL TO SANDY SILTY TILL Brownish grey turning dark grey, wet, no odour or staining, (loose to compact).	96.7	4
				5
				6
		SHALE BEDROCK	93.6	7
		Auger Refusal, Borehole Terminated at 8.33 m Depth	92.2	8

Standard Penetration Test N Value: 20 40 60 80

Shear Strength kPa: 50 100 150 200

Combustible Vapour Reading (ppm): 250 500 750

Natural Moisture Content % / Atterberg Limits (% Dry Weight): 20 40 60

SAMPLES	Natural Unit Wt. kN/m³	Test Results
SS1		17.1
SS2		17.0
SS3		7.7
SS4		31.7
VANE5		110, s = 8.0
SS6A		23.0
SS6B		23.0
SS7		16.7
SS8		21.4
SS9		38.6
SS10		50 / 76 mm, 21.0

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. A flushmount monitoring well with a 51 mm slotted standpipe was installed in the borehole upon completion.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-000256275-A0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
4 days	2.2	-
7 days	2.3	-

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

LOG OF BOREHOLE LOGS OF BOREHOLES TEMPLATE - 1760 ST LAURENT.GPJ TROW OTTAWA.GDT 11-28-19

Log of Borehole MW3

Project No: OTT-000256275-A0

Project: Phase II Environmental Site Assessment

Location: 1760 St. Laurent Boulevard, Ottawa

Figure No. 5

Page. 1 of 1

Date Drilled: November 19th, 2019

Drill Type: CME 55 Rubber Track

Datum: Assumed

Logged by: MD Checked by: PS

Split Spoon Sample
Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Shear Strength by Vane Test (S)
Combustible Vapour Reading
Natural Moisture Content
Atterberg Limits
Undrained Triaxial at % Strain at Failure
Shear Strength by Penetrometer Test

GWL	SYMBOL	SOIL DESCRIPTION	Assumed m	Depth	Standard Penetration Test N Value / Shear Strength kPa	Combustible Vapour Reading (ppm) / Natural Moisture Content % / Atterberg Limits (% Dry Weight)	SAMPLES	Natural Unit Wt. kN/m³
		ASPHALT	100.435 100.3	0				
		SANDY GRAVEL FILL Brown and grey, moist, no odour or staining, (compact).	99.6			29.5	SS1A	
		SAND WITH SOME GRAVEL FILL Brown, moist, no odour or staining, (compact).	99.0	1		21.8 29.4 22.0	SS1B SS2A SS2B	
		FINE SAND WITH SOME SILT AND CLAY Brown with some orange mottling at 1.4 to 1.5 m depth, moist, no odour or staining, (loose).	98.4	2		29.5 67.0	SS3A SS3B	
		SILTY CLAY TO CLAY WITH SOME SILT Brown turning grey, moist, no odour or staining, (very stiff).	97.735	3	150 s = 4.7	11.7 16.5	SS4 VANE5	
		CLAYEY TILL With stratified layers of silt, grey, wet, no odour or staining, (loose).	96.6	4		31.4	SS6	
				5		32.0 25.0	SS7 SS8	
		SHALE BEDROCK	93.9 93.7	6	62 / 355 mm	65.0 70.0	S9A SS9B	
		Auger Refusal, Borehole Terminated at 6.71 m Depth						

LOG OF BOREHOLE LOGS OF BOREHOLES TEMPLATE - 1760 ST LAURENT.GPJ TROW OTTAWA.GDT 11-28-19

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. A flushmount monitoring well with a 51 mm slotted standpipe was installed in the borehole upon completion.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-000256275-A0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
3 days	2.6	-
8 days	2.7	-

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

Log of Borehole MW4

Project No: OTT-000256275-A0

Project: Phase II Environmental Site Assessment

Location: 1760 St. Laurent Boulevard, Ottawa

Figure No. 6

Page. 1 of 1

Date Drilled: November 19th, 2019

Drill Type: CME 55 Rubber Track

Datum: Assumed

Logged by: MD Checked by: PS

Split Spoon Sample
Auger Sample
SPT (N) Value
Dynamic Cone Test
Shelby Tube
Shear Strength by Vane Test

Combustible Vapour Reading
Natural Moisture Content
Atterberg Limits
Undrained Triaxial at % Strain at Failure
Shear Strength by Penetrometer Test

GWL	SYMBOL	SOIL DESCRIPTION	Assumed m	Depth
			100.125	0
		ASPHALT ~ 50 mm	100.0	
		SANDY GRAVEL FILL Brown and grey, moist, no odour or staining, (compact).	99.5	
		SILTY CLAY TO CLAY WITH SOME SILT Brown, moist turning moist/wet, no odour or staining, (very stiff to stiff).		1
			98.025	2
		SAND SILT AND CLAY Stratified layers of sand silt and clay, brown, wet, no odour or staining, (loose).	97.8	
			97.0	3
		SANDY SILTY GRAVELLY TILL Stratified layers of silt, grey, wet, no odour or staining, (loose).		4
				5
			94.1	6
		SHALE BEDROCK	94.0	
		Borehole Terminated at 6.05 m Depth		

Standard Penetration Test N Value: 20 40 60 80
Shear Strength: 50 100 150 200 kPa

Combustible Vapour Reading (ppm): 250 500 750
Natural Moisture Content % Atterberg Limits (% Dry Weight): 20 40 60

Sample	SPT N	Shear Strength (kPa)	Combustible Vapour Reading (ppm)	Natural Moisture Content %
SS1	11			32.0
SS2	6	108		36.0
SS3		90, s = 6		49.0
SS4	6			41.0
SS5	8			48.0
SS6	8			43.5
SS7	6			55.0
SS8	24			35.0

Natural Unit Wt. kN/m³

NOTES:

1. Borehole data requires interpretation by EXP before use by others
2. A flushmount monitoring well with a 51 mm slotted standpipe was installed in the borehole upon completion.
3. Field work was supervised by an EXP representative.
4. See Notes on Sample Descriptions
5. Log to be read with EXP Report OTT-000256275-A0

WATER LEVEL RECORDS

Elapsed Time	Water Level (m)	Hole Open To (m)
3 days	1.5	-
6 days	2.1	-

CORE DRILLING RECORD

Run No.	Depth (m)	% Rec.	RQD %

LOG OF BOREHOLE LOGS OF BOREHOLES TEMPLATE - 1760 ST LAURENT.GPJ TROW OTTAWA.GDT 11-28-19

Appendix C:
Analytical Summary Tables

Table 1 - Petroleum Hydrocarbons in Soil
1760 St. Laurent Boulevard, Ottawa, Ontario
OTT-00256275-B0

Sample ID	**MECP Table 3 SCS** [1]	**BH3-SS2(A)**	**BH4-SS3**	**Dup 2 (Field Duplicate of BH4-SS3)**
Sampling Date		**19-Nov-2019**	**19-Nov-2019**	**19-Nov-2019**
Sample Depth (mbgs)		**0.8 to 1.1**	**1.8 to 2.1**	**1.8 to 2.1**
Benzene	0.17	<0.020	<0.020	<0.020
Toluene	6	<0.020	<0.020	<0.020
Ethylbenzene	15	<0.020	<0.020	<0.020
Total Xylenes	25	<0.040	<0.040	<0.040
F1 (C6-C10) - BTEX*	65	<10	<10	<10
F2 (C10-C16)	150	<10	<10	<10
F3 (C16-C34)	1300	71	<50	<50
F4 (C34-C50)**	5600	670	<50	<50

NOTES:

1	Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 3 Full Depth Generic Site Condition Standards (SCS) in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional property use and medium and fine textured soils.
	All results are reported in ppm (ug/g) unless otherwise indicated.
2	Trip blank provided by laboratory was for water analysis. Therefore, results are reported in ug/L.
*	F1 fraction does not include BTEX.
**	In instances where the PHC F2 to F4 chromatogram did not reach baseline, the F4 fraction result shown is the highest value obtained via the gas chromatograph/flame ionization detection method or the gravimetric method.
<(RDL)	Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.
NV	No Value
N/A	Not Applicable
-	Parameter not analyzed
m bgs	Metres below ground surface
	Indicates soil exceedance of MECP Table 3 SCS

Table 2 - Polycyclic Aromatic Hydrocarbons in Soil
1760 St. Laurent Boulevard, Ottawa, Ontario
OTT-00256275-B0

Sample ID	**MECP Table 3 SCS** [1]	**BH3-SS2(A)**	**BH4-SS3**	**Dup 2 (Field Duplicate of BH4-SS3)**
Sampling Date		**19-Nov-2019**	**19-Nov-2019**	**19-Nov-2019**
Sample Depth (mbgs)		**0.8 to 1.1**	**1.8 to 2.1**	**1.8 to 2.1**
Acenaphthene	58	<0.0050	<0.0050	<0.0050
Acenaphthylene	0.17	<0.0050	<0.0050	<0.0050
Anthracene	0.74	<0.0050	<0.0050	<0.0050
Benzo(a)anthracene	0.63	<0.0050	<0.0050	<0.0050
Benzo(a)pyrene	0.3	<0.0050	<0.0050	<0.0050
Benzo(b/j)fluoranthene	0.78	<0.0050	<0.0050	<0.0050
Benzo(g,h,i)perylene	7.8	<0.0050	<0.0050	<0.0050
Benzo(k)fluoranthene	0.78	<0.0050	<0.0050	<0.0050
Chrysene	7.8	<0.0050	<0.0050	<0.0050
Dibenz(a,h)anthracene	0.1	<0.0050	<0.0050	<0.0050
Fluoranthene	0.69	<0.0050	<0.0050	<0.0050
Fluorene	69	<0.0050	<0.0050	<0.0050
Indeno(1,2,3-cd)pyrene	0.48	<0.0050	<0.0050	<0.0050
1-Methylnaphthalene	3.4	<0.0050	<0.0050	<0.0050
2-Methylnaphthalene	3.4	<0.0050	<0.0050	<0.0050
Total Methylnaphthalene, 2-(1-)	3.4	<0.0071	<0.0071	<0.0071
Naphthalene	0.75	<0.0050	<0.0050	<0.0050
Phenanthrene	7.8	0.0052	<0.0050	<0.0050
Pyrene	78	<0.0050	<0.0050	<0.0050

NOTES:

1	Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 3 Full Depth Generic Site Condition Standards (SCS) in a Non- Potable Ground Water Condition for Residential/Parkland/Institutional property use and medium and fine textured soils.
	All results are reported in ppm (ug/g) unless otherwise indicated.
<(RDL)	Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.
NV	No Value
N/A	Not Applicable
-	Parameter not analyzed
m bgs	Metres below ground surface
	Indicates soil exceedance of MECP Table 3 SCS

Table 3- Inorganic Parameters in Soil
1760 St. Laurent Boulevard, Ottawa, Ontario
OTT-00256275-B0

Sample ID	MECP Table 3 SCS [1]	BH3-SS2(A)	BH4-SS3	Dup 2 (Field Duplicate of BH4-SS3)	BH4-SS7	BH4-SS2
Sampling Date		**19-Nov-2019**	**19-Nov-2019**	**19-Nov-2019**	**19-Nov-2019**	**19-Nov-2019**
Sample Depth (mbgs)		**0.8 to 1.1**	**1.8 to 2.1**	**1.8 to 2.1**	**4.6 to 5.2**	**0.8 to 1.4**
Antimony	7.5	0.24	<0.20	<0.20	-	-
Arsenic	18	5.2	1.0	1.3	-	-
Barium	390	80	160	120	-	-
Beryllium	5	0.55	0.61	0.51	-	-
Boron (Total)	120	6.3	<5.0	<5.0	-	-
Cadmium	1.2	0.14	0.11	<0.10	-	-
Chromium	160	18	42	32	-	-
Cobalt	22	15	11	10	-	-
Copper	180	28	26	24	-	-
Lead	120	13	6.2	6.1	-	-
Molybdenum	6.9	2.3	0.64	<0.50	-	-
Nickel	130	29	24	22	-	-
Selenium	2.4	<0.50	<0.50	<0.50	-	-
Silver	25	<0.20	<0.20	<0.20	-	-
Thallium	1	0.26	0.25	0.20	-	-
Uranium	23	0.76	0.62	0.64	-	-
Vanadium	86	24	69	61	-	-
Zinc	340	50	62	51	-	-
pH (no units)	*	-	-	-	7.67	7.33

NOTES:

1	Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 3 Full Depth Generic Site Condition Standards (SCS) in a Non- Potable Ground Water Condition for Residential/Parkland/Institutional property use and medium and fine textured soils.
	All results are reported in ppm (ug/g) unless otherwise indicated.
*	Acceptable pH ranges are between 5.0 and 9.0 for soils at depths less than 1.5 metres below grade and between 5.0 and 11.0 for soils deeper than 1.5 metres below grade.
<(RDL)	Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.
NV	No Value
N/A	Not Applicable
-	Parameter not analyzed
m bgs	Metres below ground surface
	Indicates soil exceedance of MECP Table 3 SCS

Table 4 - Volatile Organic Compounds in Soil
1760 St. Laurent Boulevard, Ottawa, Ontario
OTT-00256275-B0

Sample ID	MECP Table 3 SCS [1]	BH1-SS8	DUP 1 (Field Duplicate of BH1-SS8)	BH2-SS9	BH3-SS9(A)	BH4-SS7
Sampling Date		**18-Nov-2019**	**18-Nov-2019**	**18-Nov-2019**	**19-Nov-2019**	**19-Nov-2019**
Sample Depth (mbgs)		**6.1 to 6.5**	**6.1 to 6.5**	**6.1 to 6.5**	**6.1 to 6.3**	**4.6 to 5.2**
Acetone	28	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	0.17	<0.020	<0.020	<0.020	<0.020	<0.020
Bromodichloromethane	13	<0.050	<0.050	<0.050	<0.050	<0.050
Bromoform	0.26	<0.050	<0.050	<0.050	<0.050	<0.050
Bromomethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050
Carbon Tetrachloride	0.12	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorobenzene	2.7	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroform	0.18	<0.050	<0.050	<0.050	<0.050	<0.050
Dibromochloromethane	9.4	<0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dichlorobenzene	4.3	<0.050	<0.050	<0.050	<0.050	<0.050
1,3-Dichlorobenzene	6	<0.050	<0.050	<0.050	<0.050	<0.050
1,4-Dichlorobenzene	0.097	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorodifluoromethane	25	<0.050	<0.050	<0.050	<0.050	<0.050
1,1-Dichloroethane	11	<0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dichloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050
1,1-Dichloroethylene	0.05	<0.050	<0.050	<0.050	<0.050	<0.050
Cis-1,2-Dichloroethylene	30	<0.050	<0.050	<0.050	<0.050	<0.050
Trans-1,2-Dichloroethylene	0.75	<0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dichloropropane	0.085	<0.050	<0.050	<0.050	<0.050	<0.050
Cis-1,3-Dichloropropylene	NV	<0.030	<0.030	<0.030	<0.030	<0.030
Trans-1,3-Dichloropropylene	NV	<0.040	<0.040	<0.040	<0.040	<0.040
1,3-Dichloropropene (cis + trans)	0.083	<0.050	<0.050	<0.050	<0.050	<0.050
Ethylbenzene	15	<0.020	<0.020	<0.020	<0.020	<0.020
Ethylene Dibromide	0.05	<0.050	<0.050	<0.050	<0.050	<0.050
Hexane(n)	34	0.1	0.083	<0.050	<0.050	<0.050
Methyl Ethyl Ketone	44	<0.50	<0.50	<0.50	<0.50	<0.50
Methylene Chloride	0.96	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl Isobutyl Ketone	4.3	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl-t-Butyl Ether	1.4	<0.050	<0.050	<0.050	<0.050	<0.050
Styrene	2.2	<0.050	<0.050	<0.050	<0.050	<0.050
1,1,1,2-Tetrachloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050
1,1,2,2-Tetrachloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	6	<0.020	<0.020	<0.020	<0.020	<0.020
Tetrachloroethylene	2.3	<0.050	<0.050	<0.050	<0.050	<0.050
1,1,1-Trichloroethane	3.4	<0.050	<0.050	<0.050	<0.050	<0.050
1,1,2-Trichloroethane	0.05	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethylene	0.52	<0.050	<0.050	<0.050	<0.050	<0.050
Trichlorofluoromethane	5.8	<0.050	<0.050	<0.050	<0.050	<0.050
Vinyl Chloride	0.022	<0.020	<0.020	<0.020	<0.020	<0.020
Total Xylenes	25	0.028	<0.020	<0.020	<0.020	<0.020

NOTES:

1	Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 3 Full Depth Generic Site Condition Standards (SCS) in a Non- Potable Ground Water Condition for Residential/Parkland/Institutional property use and medium and finetextured soils.
	All results are reported in ppm (ug/g) unless otherwise indicated.
<(RDL)	Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.
NV	No Value
N/A	Not Applicable
-	Parameter not analyzed
m bgs	Metres below ground surface
	Indicates soil exceedance of MECP Table 3 SCS

Table 5 - Volatile Organic Compounds in Groundwater
1760 St. Laurent Boulevard, Ottawa, Ontario
OTT-00256275-B0

Sample ID	MECP Table 3 SCS [1]	BH1	GWD (Field Duplicate of BH1)	BH2	BH3	BH4	Field Blank	Trip Blank
Sampling Date		**25-Nov-2019**	**25-Nov-2019**	**25-Nov-2019**	**27-Nov-2019**	**27-Nov-2019**	**27-Nov-2019**	**27-Nov-2019**
Screen Interval (mbgs)		**3.8 to 6.8**	**3.8 to 6.8**	**4.6 to 7.6**	**3.7 to 6.7**	**3.1 to 6.1**	**NA**	**NA**
Acetone	130000	<10	<10	<10	<10	<10	<10	<10
Benzene	430	0.4	0.39	<0.20	<0.20	<0.20	<0.20	<0.20
Bromodichloromethane	85000	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	770	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	56	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon Tetrachloride	8.4	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chlorobenzene	630	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chloroform	22	0.38	0.37	<0.20	<0.20	<0.20	<0.20	<0.20
Dibromochloromethane	82000	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichlorobenzene	9600	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	9600	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	67	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	4400	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	3100	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichloroethane	12	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Cis-1,2-Dichloroethylene	17	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trans-1,2-Dichloroethylene	17	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloropropane	140	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Cis-1,3-Dichloropropylene	NV	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Trans-1,3-Dichloropropylene	NV	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
1,3-Dichloropropene (cis + trans)	45	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Ethylbenzene	2300	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Ethylene Dibromide	0.83	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Hexane(n)	520	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl Ethyl Ketone	1500000	<10	<10	<10	<10	<10	<10	<10
Methylene Chloride	5500	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl Isobutyl Ketone	580000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyl-t-Butyl Ether	1400	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Styrene	9100	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1,2-Tetrachloroethane	28	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	15	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	18000	0.82	0.74	<0.20	<0.20	<0.20	<0.20	<0.20
Tetrachloroethylene	17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,1-Trichloroethane	6700	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,1,2-Trichloroethane	30	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane	2500	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Vinyl Chloride	1.7	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
m-Xylene & p-Xylene	NV	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
o-Xylene	NV	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Total Xylenes	4200	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

NOTES:

1	Ontario Ministry of Environment, Conservation and Parks (MECP), Soil, Groundwater and Sediment Standards for use under Part XV.1 of the Environmental Protection Act, April 2011, Table 3 Full Depth Generic Site Condition Standards (SCS) in a Non- Potable Ground Water Condition for all types of property use and medium and fine textured soils.
	All results are reported in ppb (ug/L) unless otherwise indicated.
<(RDL)	Non-detectable results are shown as "< (RDL)" where RDL represents the reporting detection limit.
NV	No Value
N/A	Not Applicable
-	Parameter not analyzed
m bgs	Metres below ground surface
	Indicates groundwater exceedance of MECP Table 3 SCS

Table 6 - Relative Percent Differences - Petroleum Hydrocarbons in Soil
1760 St. Laurent Boulevard, Ottawa, Ontario
OTT-00256275-B0

Parameter	Units	RDL	BH4-SS3	Dup 2	RPD (%)	Alert Limit (%)
			19-Nov-2019	19-Nov-2019		
Petroleum Hydrocarbons						
F1 PHCs (C6-C10) - BTEX	ug/g	10	<10	<10	nc	60
F2 PHCs (C10-C16)	ug/g	10	<10	<10	nc	60
F3 PHCs (C16-C34)	ug/g	50	<50	<50	nc	60
F4 PHCs (C34-C50)	ug/g	50	<50	<50	nc	60
Volatiles						
Benzene	ug/g	0.020	<0.020	<0.020	nc	100
Toluene	ug/g	0.020	<0.020	<0.020	nc	100
Ethylbenzene	ug/g	0.020	<0.020	<0.020	nc	100
Total Xylenes	ug/g	0.020	<0.040	<0.040	nc	100

NOTES:

Analysis by Bureau Veritas Laboratories
All results on dry weight basis; <RDL means not detected at reporting detection limit (RDL)
- means "not analysed"
nc means "not calculable" - one (or both) of the results are <5x RDL
Exceedances of alert limits are shown in **bold**

Table 7 - Relative Percent Differences - Polycyclic Aromatic Hydrocarbons in Soil
1760 St. Laurent Boulevard, Ottawa, Ontario
OTT-00256275-B0

Parameter	Units	RDL	BH4-SS3	Dup 2	RPD (%)	Alert Limit (%)
			19-Nov-2019	19-Nov-2019		
Polycyclic Aromatic Hydrocarbons						
Acenaphthene	ug/g	0.0050	<0.0050	<0.0050	nc	80
Acenaphthylene	ug/g	0.0050	<0.0050	<0.0050	nc	80
Anthracene	ug/g	0.0050	<0.0050	<0.0050	nc	80
Benzo(a)anthracene	ug/g	0.0050	<0.0050	<0.0050	nc	80
Benzo(a)pyrene	ug/g	0.0050	<0.0050	<0.0050	nc	80
Benzo(b/j)fluoranthene	ug/g	0.0050	<0.0050	<0.0050	nc	80
Benzo(ghi)perylene	ug/g	0.0050	<0.0050	<0.0050	nc	80
Benzo(k)fluoranthene	ug/g	0.0050	<0.0050	<0.0050	nc	80
Chrysene	ug/g	0.0050	<0.0050	<0.0050	nc	80
Dibenzo(a,h)anthracene	ug/g	0.0050	<0.0050	<0.0050	nc	80
Fluoranthene	ug/g	0.0050	<0.0050	<0.0050	nc	80
Fluorene	ug/g	0.0050	<0.0050	<0.0050	nc	80
Indeno(1,2,3-cd)pyrene	ug/g	0.0050	<0.0050	<0.0050	nc	80
1-Methylnaphthalene	ug/g	0.0050	<0.0050	<0.0050	nc	80
2-Methylnaphthalene	ug/g	0.0050	<0.0050	<0.0050	nc	80
Methylnaphthalene, 2-(1-)	ug/g	0.0071	<0.0071	<0.0071	nc	80
Naphthalene	ug/g	0.0050	<0.0050	<0.0050	nc	80
Phenanthrene	ug/g	0.0050	<0.0050	<0.0050	nc	80
Pyrene	ug/g	0.0050	<0.0050	<0.0050	nc	80

NOTES:

Analysis by Bureau Veritas Laboratories

All results on dry weight basis; <RDL means not detected at reporting detection limit (RDL)

- means "not analysed"

nc means "not calculable" - one (or both) of the results are <5x RDL

Exceedances of alert limits are shown in **bold**

Table 8 - Relative Percent Differences - Inorganic Parameters in Soil
1760 St. Laurent Boulevard, Ottawa, Ontario
OTT-00256275-B0

Parameter	Units	RDL	BH4-SS3	Dup 2	RPD (%)	Alert Limit (%)
			19-Nov-2019	19-Nov-2019		
Inorganic Parameters						
Antimony	ug/g	0.20	<0.20	<0.20	nc	60
Arsenic	ug/g	1.0	1.0	1.3	nc	60
Barium	ug/g	0.50	160	120	29	60
Beryllium	ug/g	0.20	0.61	0.51	nc	60
Boron	ug/g	5.0	<5.0	<5.0	nc	60
Cadmium	ug/g	0.10	0.11	<0.10	nc	60
Chromium	ug/g	1.0	42	32	27	60
Cobalt	ug/g	0.10	11	10	10	60
Copper	ug/g	0.50	26	24	8	60
Lead	ug/g	1.0	6.2	6.1	2	60
Molybdenum	ug/g	0.50	0.64	<0.50	nc	60
Nickel	ug/g	0.50	24	22	9	60
Selenium	ug/g	0.20	<0.50	<0.50	nc	60
Silver	ug/g	0.50	<0.20	<0.20	nc	60
Thallium	ug/g	0.050	0.25	0.20	nc	60
Uranium	ug/g	0.050	0.62	0.64	3	60
Vanadium	ug/g	5.0	69	61	12	60
Zinc	ug/g	5.0	62	51	19	60

NOTES:

Analysis by Bureau Veritas Laboratories
All results on dry weight basis; <RDL means not detected at reporting detection limit (RDL)
- means "not analysed"
nc means "not calculable" - one (or both) of the results are <5x RDL
Exceedances of alert limits are shown in **bold**

Table 9 - Relative Percent Differences - Volatile Organic Compounds in Soil
1760 St. Laurent Boulevard, Ottawa, Ontario
OTT-00256275-B0

Parameter	Units	RDL	BH1-SS8	Dup 1	RPD (%)	Alert Limit (%)
			18-Nov-2019	18-Nov-2019		
Volatile Organic Parameters						
Acetone	ug/g dry	0.50	<0.50	<0.50	nc	100
Benzene	ug/g dry	0.020	<0.020	<0.020	nc	100
Bromodichloromethane	ug/g dry	0.050	<0.050	<0.050	nc	100
Bromoform	ug/g dry	0.050	<0.050	<0.050	nc	100
Bromomethane	ug/g dry	0.050	<0.050	<0.050	nc	100
Carbon Tetrachloride	ug/g dry	0.050	<0.050	<0.050	nc	100
Chlorobenzene	ug/g dry	0.050	<0.050	<0.050	nc	100
Chloroform	ug/g dry	0.050	<0.050	<0.050	nc	100
Dibromochloromethane	ug/g dry	0.050	<0.050	<0.050	nc	100
1,2-Dichlorobenzene	ug/g dry	0.050	<0.050	<0.050	nc	100
1,3-Dichlorobenzene	ug/g dry	0.050	<0.050	<0.050	nc	100
1,4-Dichlorobenzene	ug/g dry	0.050	<0.050	<0.050	nc	100
Dichlorodifluoromethane	ug/g dry	0.050	<0.050	<0.050	nc	100
1,1-Dichloroethane	ug/g dry	0.050	<0.050	<0.050	nc	100
1,2-Dichloroethane	ug/g dry	0.050	<0.050	<0.050	nc	100
1,1-Dichloroethylene	ug/g dry	0.050	<0.050	<0.050	nc	100
Cis-1,2-Dichloroethylene	ug/g dry	0.050	<0.050	<0.050	nc	100
Trans-1,2-Dichloroethylene	ug/g dry	0.050	<0.050	<0.050	nc	100
1,2-Dichloropropane	ug/g dry	0.050	<0.050	<0.050	nc	100
Cis-1,3-Dichloropropylene	ug/g dry	0.030	<0.030	<0.030	nc	100
Trans-1,3-Dichloropropylene	ug/g dry	0.040	<0.040	<0.040	nc	100
1,3-Dichloropropene (cis + trans)	ug/g dry	0.050	<0.050	<0.050	nc	100
Ethylbenzene	ug/g dry	0.020	<0.020	<0.020	nc	100
Ethylene Dibromide	ug/g dry	0.050	<0.050	<0.050	nc	100
Hexane(n)	ug/g dry	0.050	0.1	0.083	19	100
Methyl Ethyl Ketone	ug/g dry	0.50	<0.50	<0.50	nc	100
Methylene Chloride	ug/g dry	0.050	<0.050	<0.050	nc	100
Methyl Isobutyl Ketone	ug/g dry	0.50	<0.50	<0.50	nc	100
Methyl-t-Butyl Ether	ug/g dry	0.050	<0.050	<0.050	nc	100
Styrene	ug/g dry	0.050	<0.050	<0.050	nc	100
1,1,1,2-Tetrachloroethane	ug/g dry	0.050	<0.050	<0.050	nc	100
1,1,2,2-Tetrachloroethane	ug/g dry	0.050	<0.050	<0.050	nc	100
Toluene	ug/g dry	0.020	<0.020	<0.020	nc	100
Tetrachloroethylene	ug/g dry	0.050	<0.050	<0.050	nc	100
1,1,1-Trichloroethane	ug/g dry	0.050	<0.050	<0.050	nc	100
1,1,2-Trichloroethane	ug/g dry	0.050	<0.050	<0.050	nc	100
Trichloroethylene	ug/g dry	0.050	<0.050	<0.050	nc	100
Trichlorofluoromethane	ug/g dry	0.050	<0.050	<0.050	nc	100
Vinyl Chloride	ug/g dry	0.020	<0.020	<0.020	nc	100
Total Xylenes	ug/g dry	0.020	0.028	<0.020	nc	100

NOTES:

Analysis by Bureau Veritas Laboratories
All results on dry weight basis; <RDL means not detected at reporting detection limit (RDL)
- means "not analysed"
nc means "not calculable" - one (or both) of the results are <5x RDL
Exceedances of alert limits are shown in **bold**

Table 10 - Relative Percent Differences - Volatile Organic Compounds in Groundwater
1760 St. Laurent Boulevard, Ottawa, Ontario
OTT-00256275-B0

Parameter	Units	RDL	BH1	GWD	RPD (%)	Alert Limit (%)
			25-Nov-2019	25-Nov-2019		
Acetone	ug/L	10	<10	<10	nc	60
Benzene	ug/L	0.20	0.40	0.39	nc	60
Bromodichloromethane	ug/L	0.50	<0.50	<0.50	nc	60
Bromoform	ug/L	1.0	<1.0	<1.0	nc	60
Bromomethane	ug/L	0.50	<0.50	<0.50	nc	60
Carbon Tetrachloride	ug/L	0.20	<0.20	<0.20	nc	60
Chlorobenzene	ug/L	0.20	<0.20	<0.20	nc	60
Chloroform	ug/L	0.20	0.38	0.37	nc	60
Dibromochloromethane	ug/L	0.50	<0.50	<0.50	nc	60
1,2-Dichlorobenzene	ug/L	0.50	<0.50	<0.50	nc	60
1,3-Dichlorobenzene	ug/L	0.50	<0.50	<0.50	nc	60
1,4-Dichlorobenzene	ug/L	0.50	<0.50	<0.50	nc	60
1,1-Dichloroethane	ug/L	0.20	<0.20	<0.20	nc	60
1,2-Dichloroethane	ug/L	0.50	<0.50	<0.50	nc	60
1,1-Dichloroethylene	ug/L	0.20	<0.20	<0.20	nc	60
Dichlorodifluoromethane	ug/L	1.0	<1.0	<1.0	nc	60
Cis-1,2-Dichloroethylene	ug/L	0.50	<0.50	<0.50	nc	60
Trans-1,2-Dichloroethylene	ug/L	0.50	<0.50	<0.50	nc	60
1,2-Dichloropropane	ug/L	0.20	<0.20	<0.20	nc	60
Cis-1,3-Dichloropropylene	ug/L	0.30	<0.30	<0.30	nc	60
Trans-1,3-Dichloropropylene	ug/L	0.40	<0.40	<0.40	nc	60
1,3-Dichloropropene (cis + trans)	ug/L	0.50	<0.50	<0.50	nc	60
Ethylbenzene	ug/L	0.20	<0.20	<0.20	nc	60
Ethylene Dibromide	ug/L	0.20	<0.20	<0.20	nc	60
Hexane(n)	ug/L	1.0	<1.0	<1.0	nc	60
Methyl Ethyl Ketone	ug/L	10	<10	<10	nc	60
Methylene Chloride	ug/L	2.0	<2.0	<2.0	nc	60
Methyl Isobutyl Ketone	ug/L	5.0	<5.0	<5.0	nc	60
Methyl-t-Butyl Ether	ug/L	0.50	<0.50	<0.50	nc	60
Styrene	ug/L	0.50	<0.50	<0.50	nc	60
1,1,1,2-Tetrachloroethane	ug/L	0.50	<0.50	<0.50	nc	60
1,1,2,2-Tetrachloroethane	ug/L	0.50	<0.50	<0.50	nc	60
Toluene	ug/L	0.20	0.82	0.74	nc	60
Tetrachloroethylene	ug/L	0.20	<0.20	<0.20	nc	60
1,1,1-Trichloroethane	ug/L	0.20	<0.20	<0.20	nc	60
1,1,2-Trichloroethane	ug/L	0.50	<0.50	<0.50	nc	60
Trichloroethylene	ug/L	0.20	<0.20	<0.20	nc	60
Trichlorofluoromethane	ug/L	0.50	<0.50	<0.50	nc	60
Vinyl Chloride	ug/L	0.20	<0.20	<0.20	nc	60
Total Xylenes	ug/L	0.20	<0.20	<0.20	nc	60

NOTES:

Analysis by Bureau Veritas Laboratories

<RDL means not detected at reporting detection limit (RDL)

- means "not analysed"

nc means "not calculable" - one (or both) of the results are <5x RDL

Exceedances of alert limits are shown in **bold**

Appendix D:
Laboratory Certificates of Analysis

Your Project #: OTT-00256275-B0
Your C.O.C. #: 747775-02-01

Attention: Patricia Stelmack

exp Services Inc
100-2650 Queensview Drive
Ottawa, ON
CANADA K2B 8H6

Report Date: 2019/11/25
Report #: R5979818
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9W6850
Received: 2019/11/19, 15:30

Sample Matrix: Soil
Samples Received: 6

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
1,3-Dichloropropene Sum (1)	4	N/A	2019/11/22		EPA 8260C m
1,3-Dichloropropene Sum (1)	1	N/A	2019/11/25		EPA 8260C m
Moisture (1)	5	N/A	2019/11/21	CAM SOP-00445	Carter 2nd ed 51.2 m
pH CaCl2 EXTRACT (1)	2	2019/11/23	2019/11/25	CAM SOP-00413	EPA 9045 D m
Sieve, 75um (1)	2	N/A	2019/11/25	CAM SOP-00467	Carter 2nd ed m
Volatile Organic Compounds in Soil (1)	3	N/A	2019/11/21	CAM SOP-00228	EPA 8260C m
Volatile Organic Compounds in Soil (1)	2	N/A	2019/11/22	CAM SOP-00228	EPA 8260C m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Laboratories Mississauga

Your Project #: OTT-00256275-B0
Your C.O.C. #: 747775-02-01

Attention: Patricia Stelmack

exp Services Inc
100-2650 Queensview Drive
Ottawa, ON
CANADA K2B 8H6

Report Date: 2019/11/25
Report #: R5979818
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9W6850
Received: 2019/11/19, 15:30

Encryption Key



Alisha Williamson
Project Manager
25 Nov 2019 17:25:22

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Alisha Williamson, Project Manager
Email: Alisha.Williamson@bvlabs.com
Phone# (613)274-0573

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: B9W6850
Report Date: 2019/11/25

exp Services Inc
Client Project #: OTT-00256275-B0
Sampler Initials: MAD

O.REG 153 VOCS BY HS (SOIL)

BV Labs ID		LIX692	LIX693	LIX694	LIX695	LIX696		
Sampling Date		2019/11/18 12:00	2019/11/18 12:00	2019/11/18 15:00	2019/11/19 10:00	2019/11/19 12:00		
COC Number		747775-02-01	747775-02-01	747775-02-01	747775-02-01	747775-02-01		
	UNITS	**BH1-SS8**	**DUP1**	**BH2-SS9**	**BH3-SS9(A)**	**BH4-SS7**	**RDL**	**QC Batch**
Inorganics								
Moisture	%	8.2	7.6	9.3	11	10	1.0	6455509
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6452433
Volatile Organics								
Acetone (2-Propanone)	ug/g	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6454963
Benzene	ug/g	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	6454963
Bromodichloromethane	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
Bromoform	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
Bromomethane	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
Carbon Tetrachloride	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
Chlorobenzene	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
Chloroform	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
Dibromochloromethane	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
1,2-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
1,3-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
1,4-Dichlorobenzene	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
Dichlorodifluoromethane (FREON 12)	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
1,1-Dichloroethane	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
1,2-Dichloroethane	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
1,1-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
cis-1,2-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
trans-1,2-Dichloroethylene	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
1,2-Dichloropropane	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
cis-1,3-Dichloropropene	ug/g	<0.030	<0.030	<0.030	<0.030	<0.030	0.030	6454963
trans-1,3-Dichloropropene	ug/g	<0.040	<0.040	<0.040	<0.040	<0.040	0.040	6454963
Ethylbenzene	ug/g	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	6454963
Ethylene Dibromide	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
Hexane	ug/g	0.10	0.083	<0.050	<0.050	<0.050	0.050	6454963
Methylene Chloride(Dichloromethane)	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
Methyl Ethyl Ketone (2-Butanone)	ug/g	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6454963
Methyl Isobutyl Ketone	ug/g	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6454963
Methyl t-butyl ether (MTBE)	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
Styrene	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
1,1,1,2-Tetrachloroethane	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
1,1,2,2-Tetrachloroethane	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

BV Labs Job #: B9W6850
Report Date: 2019/11/25

exp Services Inc
Client Project #: OTT-00256275-B0
Sampler Initials: MAD

O.REG 153 VOCS BY HS (SOIL)

BV Labs ID		LIX692	LIX693	LIX694	LIX695	LIX696		
Sampling Date		2019/11/18 12:00	2019/11/18 12:00	2019/11/18 15:00	2019/11/19 10:00	2019/11/19 12:00		
COC Number		747775-02-01	747775-02-01	747775-02-01	747775-02-01	747775-02-01		
	UNITS	**BH1-SS8**	**DUP1**	**BH2-SS9**	**BH3-SS9(A)**	**BH4-SS7**	**RDL**	**QC Batch**
Tetrachloroethylene	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
Toluene	ug/g	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	6454963
1,1,1-Trichloroethane	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
1,1,2-Trichloroethane	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
Trichloroethylene	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
Trichlorofluoromethane (FREON 11)	ug/g	<0.050	<0.050	<0.050	<0.050	<0.050	0.050	6454963
Vinyl Chloride	ug/g	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	6454963
p+m-Xylene	ug/g	0.028	<0.020	<0.020	<0.020	<0.020	0.020	6454963
o-Xylene	ug/g	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	6454963
Total Xylenes	ug/g	0.028	<0.020	<0.020	<0.020	<0.020	0.020	6454963
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	98	98	100	101	101		6454963
D10-o-Xylene	%	124	120	121	129	128		6454963
D4-1,2-Dichloroethane	%	98	98	99	97	98		6454963
D8-Toluene	%	96	97	95	96	95		6454963

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

BV Labs Job #: B9W6850
Report Date: 2019/11/25

exp Services Inc
Client Project #: OTT-00256275-B0
Sampler Initials: MAD

RESULTS OF ANALYSES OF SOIL

BV Labs ID		LIX696	LIX697		
Sampling Date		2019/11/19 12:00	2019/11/19 11:30		
COC Number		747775-02-01	747775-02-01		
	UNITS	**BH4-SS7**	**BH4-SS2**	**RDL**	**QC Batch**
Inorganics					
Available (CaCl2) pH	pH	7.67	7.33		6460071
Miscellaneous Parameters					
Grain Size	%	FINE	FINE	N/A	6458035
Sieve - #200 (<0.075mm)	%	57	99	1	6458035
Sieve - #200 (>0.075mm)	%	43	1	1	6458035

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
N/A = Not Applicable

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

TEST SUMMARY

BV Labs ID: LIX692 **Collected:** 2019/11/18
Sample ID: BH1-SS8 **Shipped:**
Matrix: Soil **Received:** 2019/11/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6452433	N/A	2019/11/22	Automated Statchk
Moisture	BAL	6455509	N/A	2019/11/21	Gurpreet Kaur
Volatile Organic Compounds in Soil	GC/MS	6454963	N/A	2019/11/21	Manpreet Sarao

BV Labs ID: LIX693 **Collected:** 2019/11/18
Sample ID: DUP1 **Shipped:**
Matrix: Soil **Received:** 2019/11/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6452433	N/A	2019/11/22	Automated Statchk
Moisture	BAL	6455509	N/A	2019/11/21	Gurpreet Kaur
Volatile Organic Compounds in Soil	GC/MS	6454963	N/A	2019/11/21	Manpreet Sarao

BV Labs ID: LIX694 **Collected:** 2019/11/18
Sample ID: BH2-SS9 **Shipped:**
Matrix: Soil **Received:** 2019/11/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6452433	N/A	2019/11/25	Automated Statchk
Moisture	BAL	6455509	N/A	2019/11/21	Gurpreet Kaur
Volatile Organic Compounds in Soil	GC/MS	6454963	N/A	2019/11/22	Manpreet Sarao

BV Labs ID: LIX695 **Collected:** 2019/11/19
Sample ID: BH3-SS9(A) **Shipped:**
Matrix: Soil **Received:** 2019/11/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6452433	N/A	2019/11/22	Automated Statchk
Moisture	BAL	6455509	N/A	2019/11/21	Gurpreet Kaur
Volatile Organic Compounds in Soil	GC/MS	6454963	N/A	2019/11/21	Manpreet Sarao

BV Labs ID: LIX696 **Collected:** 2019/11/19
Sample ID: BH4-SS7 **Shipped:**
Matrix: Soil **Received:** 2019/11/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6452433	N/A	2019/11/22	Automated Statchk
Moisture	BAL	6455509	N/A	2019/11/21	Gurpreet Kaur
pH CaCl2 EXTRACT	AT	6460071	2019/11/23	2019/11/25	Surinder Rai
Sieve, 75um	SIEV	6458035	N/A	2019/11/25	Gurpreet Kaur
Volatile Organic Compounds in Soil	GC/MS	6454963	N/A	2019/11/22	Manpreet Sarao

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

BV Labs Job #: B9W6850
Report Date: 2019/11/25

exp Services Inc
Client Project #: OTT-00256275-B0
Sampler Initials: MAD

TEST SUMMARY

BV Labs ID: LIX697
Sample ID: BH4-SS2
Matrix: Soil

Collected: 2019/11/19
Shipped:
Received: 2019/11/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	6460071	2019/11/23	2019/11/25	Surinder Rai
Sieve, 75um	SIEV	6458035	N/A	2019/11/25	Gurpreet Kaur

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.7°C

Sample LIX692 [BH1-SS8] : VOC Analysis: Greater than 10g of soil was submitted in the field preserved vial. This significantly exceeds the protocol specification of approximately 5g. Additional methanol was added to the vial to ensure extraction efficiency.

Sample LIX693 [DUP1] : VOC Analysis: Greater than 10g of soil was submitted in the field preserved vial. This significantly exceeds the protocol specification of approximately 5g. Additional methanol was added to the vial to ensure extraction efficiency.

Sample LIX694 [BH2-SS9] : VOC Analysis: Greater than 10g of soil was submitted in the field preserved vial. This significantly exceeds the protocol specification of approximately 5g. Additional methanol was added to the vial to ensure extraction efficiency.

Sample LIX696 [BH4-SS7] : VOC Analysis: Greater than 10g of soil was submitted in the field preserved vial. This significantly exceeds the protocol specification of approximately 5g. Additional methanol was added to the vial to ensure extraction efficiency.

Results relate only to the items tested.

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

BV Labs Job #: B9W6850
Report Date: 2019/11/25

QUALITY ASSURANCE REPORT

exp Services Inc
Client Project #: OTT-00256275-B0
Sampler Initials: MAD

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6454963	4-Bromofluorobenzene	2019/11/21	101	60 - 140	102	60 - 140	101	%				
6454963	D10-o-Xylene	2019/11/21	117	60 - 130	105	60 - 130	112	%				
6454963	D4-1,2-Dichloroethane	2019/11/21	98	60 - 140	98	60 - 140	104	%				
6454963	D8-Toluene	2019/11/21	104	60 - 140	104	60 - 140	93	%				
6454963	1,1,1,2-Tetrachloroethane	2019/11/22	93	60 - 140	100	60 - 130	<0.050	ug/g	NC	50		
6454963	1,1,1-Trichloroethane	2019/11/22	93	60 - 140	96	60 - 130	<0.050	ug/g	NC	50		
6454963	1,1,2,2-Tetrachloroethane	2019/11/22	86	60 - 140	98	60 - 130	<0.050	ug/g	NC	50		
6454963	1,1,2-Trichloroethane	2019/11/22	89	60 - 140	96	60 - 130	<0.050	ug/g	NC	50		
6454963	1,1-Dichloroethane	2019/11/22	91	60 - 140	94	60 - 130	<0.050	ug/g	NC	50		
6454963	1,1-Dichloroethylene	2019/11/22	92	60 - 140	93	60 - 130	<0.050	ug/g	NC	50		
6454963	1,2-Dichlorobenzene	2019/11/22	91	60 - 140	97	60 - 130	<0.050	ug/g	NC	50		
6454963	1,2-Dichloroethane	2019/11/22	90	60 - 140	95	60 - 130	<0.050	ug/g	NC	50		
6454963	1,2-Dichloropropane	2019/11/22	90	60 - 140	94	60 - 130	<0.050	ug/g	NC	50		
6454963	1,3-Dichlorobenzene	2019/11/22	93	60 - 140	96	60 - 130	<0.050	ug/g	NC	50		
6454963	1,4-Dichlorobenzene	2019/11/22	94	60 - 140	97	60 - 130	<0.050	ug/g	NC	50		
6454963	Acetone (2-Propanone)	2019/11/22	86	60 - 140	94	60 - 140	<0.50	ug/g	NC	50		
6454963	Benzene	2019/11/22	89	60 - 140	93	60 - 130	<0.020	ug/g	NC	50		
6454963	Bromodichloromethane	2019/11/22	91	60 - 140	96	60 - 130	<0.050	ug/g	NC	50		
6454963	Bromoform	2019/11/22	87	60 - 140	99	60 - 130	<0.050	ug/g	NC	50		
6454963	Bromomethane	2019/11/22	81	60 - 140	82	60 - 140	<0.050	ug/g	NC	50		
6454963	Carbon Tetrachloride	2019/11/22	93	60 - 140	96	60 - 130	<0.050	ug/g	NC	50		
6454963	Chlorobenzene	2019/11/22	91	60 - 140	97	60 - 130	<0.050	ug/g	NC	50		
6454963	Chloroform	2019/11/22	91	60 - 140	95	60 - 130	<0.050	ug/g	NC	50		
6454963	cis-1,2-Dichloroethylene	2019/11/22	91	60 - 140	95	60 - 130	<0.050	ug/g	NC	50		
6454963	cis-1,3-Dichloropropene	2019/11/22	90	60 - 140	94	60 - 130	<0.030	ug/g	NC	50		
6454963	Dibromochloromethane	2019/11/22	90	60 - 140	99	60 - 130	<0.050	ug/g	NC	50		
6454963	Dichlorodifluoromethane (FREON 12)	2019/11/22	69	60 - 140	74	60 - 140	<0.050	ug/g	NC	50		
6454963	Ethylbenzene	2019/11/22	94	60 - 140	98	60 - 130	<0.020	ug/g	NC	50		
6454963	Ethylene Dibromide	2019/11/22	90	60 - 140	99	60 - 130	<0.050	ug/g	NC	50		
6454963	Hexane	2019/11/22	95	60 - 140	97	60 - 130	<0.050	ug/g	NC	50		
6454963	Methyl Ethyl Ketone (2-Butanone)	2019/11/22	87	60 - 140	97	60 - 140	<0.50	ug/g	NC	50		
6454963	Methyl Isobutyl Ketone	2019/11/22	92	60 - 140	103	60 - 130	<0.50	ug/g	NC	50		

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
6454963	Methyl t-butyl ether (MTBE)	2019/11/22	90	60 - 140	95	60 - 130	<0.050	ug/g	NC	50		
6454963	Methylene Chloride(Dichloromethane)	2019/11/22	95	60 - 140	99	60 - 130	<0.050	ug/g	NC	50		
6454963	o-Xylene	2019/11/22	94	60 - 140	99	60 - 130	<0.020	ug/g	NC	50		
6454963	p+m-Xylene	2019/11/22	96	60 - 140	100	60 - 130	<0.020	ug/g	NC	50		
6454963	Styrene	2019/11/22	98	60 - 140	104	60 - 130	<0.050	ug/g	NC	50		
6454963	Tetrachloroethylene	2019/11/22	94	60 - 140	96	60 - 130	<0.050	ug/g	NC	50		
6454963	Toluene	2019/11/22	91	60 - 140	96	60 - 130	<0.020	ug/g	NC	50		
6454963	Total Xylenes	2019/11/22					<0.020	ug/g	NC	50		
6454963	trans-1,2-Dichloroethylene	2019/11/22	92	60 - 140	94	60 - 130	<0.050	ug/g	NC	50		
6454963	trans-1,3-Dichloropropene	2019/11/22	93	60 - 140	97	60 - 130	<0.040	ug/g	NC	50		
6454963	Trichloroethylene	2019/11/22	93	60 - 140	96	60 - 130	<0.050	ug/g	NC	50		
6454963	Trichlorofluoromethane (FREON 11)	2019/11/22	89	60 - 140	91	60 - 130	<0.050	ug/g	NC	50		
6454963	Vinyl Chloride	2019/11/22	80	60 - 140	83	60 - 130	<0.020	ug/g	NC	50		
6455509	Moisture	2019/11/21							2.3	20		
6458035	Sieve - #200 (<0.075mm)	2019/11/25							6.4	20	55	53 - 58
6458035	Sieve - #200 (>0.075mm)	2019/11/25							10	20	45	42 - 47
6460071	Available (CaCl2) pH	2019/11/25			101	97 - 103			0.083	N/A		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

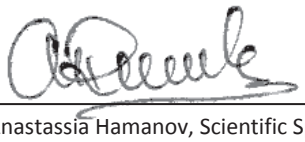
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Anastassia Hamanov, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvlabs.com

Page 1 of 1

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#30854 exp Services Inc	Company Name:		Quotation #:	B91717	BV Labs Job #:	Bottle Order #: 747775
Attention:	Accounts Payable	Attention:	Patricia Stelmack / Mark.devlin	P.O. #:			
Address:	100-2650 Queensview Drive Ottawa ON K2B 8H6	Address:		Project:	OTT-00256275-B0	COC #: C#747775-02-01	Project Manager: Alisha Williamson
Tel:	(613) 688-1899 Fax: (613) 225-7337	Tel:	Fax:	Project Name:			
Email:	accounting.ottawa@exp.com; Karen.Burke@exp.com;	Email:	patricia.stelmack@exp.com / mark.devlin@exp.com	Site #:			
				Sampled By:	MAD		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☒ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☒ Table 3 ☐ Agri/Other ☒ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☐ Sanitary Sewer Bylaw
- ☐ Reg 558. ☐ Storm Sewer Bylaw
- ☐ MISA Municipality ___
- ☐ PWQO
- ☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests..
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 VOCs by HS (Soil)	O.Reg 153 PHCs, BTEX/F1-F4 (Soil)	O.Reg 153 ICPMS Metals (Soil)	O.Reg 153 PAHs (Soil)	Sieve, 75um	pH CaCl2 EXTRACT	# of Bottles	Comments
1		BH1-SS8	Nov 18 2019	12:00 pm	S		X						3	
2		Dup1	Nov 18 2019	12:00 pm	S		X							
3		BH2-SS9	Nov 18 2019	3:00pm	S		X							
4		BH3-SS9(A)	Nov 19 2019	10:00am	S		X							
5		BH4-SS7	Nov 19 2019	12:00pm	S		X				X	X	4	19-Nov-19 15:30 Alisha Williamson B9W6850 THP ENV-1366
6		BH4-SS2	Nov 19 2019	11:30am	S						X	X	1	on ice
7														
8														
9														
10														

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Mark Devlin	19/11/19	3:40pm	Serge Leger	19/11/19	15:30	
			[illegible]	2019/11/20	08:00	

Laboratory Use Only				
Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	7,5,2	Present	X	
		Intact	X	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. 9,10,9

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Your Project #: OTT-00256275-B0
Your C.O.C. #: 747775-01-01

Attention: Patricia Stelmack

exp Services Inc
100-2650 Queensview Drive
Ottawa, ON
CANADA K2B 8H6

Report Date: 2019/11/28
Report #: R5983590
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9W6858
Received: 2019/11/19, 15:30

Sample Matrix: Soil
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum (1)	3	N/A	2019/11/22	CAM SOP-00301	EPA 8270D m
Petroleum Hydro. CCME F1 & BTEX in Soil (1, 2)	3	N/A	2019/11/23	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 3)	3	2019/11/22	2019/11/25	CAM SOP-00316	CCME CWS m
F4G (CCME Hydrocarbons Gravimetric) (1)	1	2019/11/27	2019/11/27	CAM SOP-00316	CCME PHC-CWS m
Strong Acid Leachable Metals by ICPMS (1)	3	2019/11/22	2019/11/26	CAM SOP-00447	EPA 6020B m
Moisture (1)	3	N/A	2019/11/21	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM) (1)	3	2019/11/21	2019/11/22	CAM SOP-00318	EPA 8270D m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Laboratories Mississauga
(2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.
(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas Laboratories conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your Project #: OTT-00256275-B0
Your C.O.C. #: 747775-01-01

Attention: Patricia Stelmack

exp Services Inc
100-2650 Queensview Drive
Ottawa, ON
CANADA K2B 8H6

Report Date: 2019/11/28
Report #: R5983590
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9W6858
Received: 2019/11/19, 15:30

Encryption Key



Alisha Williamson
Project Manager
28 Nov 2019 10:41:03

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Alisha Williamson, Project Manager
Email: Alisha.Williamson@bvlabs.com
Phone# (613)274-0573

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

BV Labs Job #: B9W6858
Report Date: 2019/11/28

exp Services Inc
Client Project #: OTT-00256275-B0
Sampler Initials: MAD

O.REG 153 ICPMS METALS (SOIL)

BV Labs ID		LIX770	LIX771	LIX771	LIX772		
Sampling Date		2019/11/19 09:30	2019/11/19 11:00	2019/11/19 11:00	2019/11/19 11:00		
COC Number		747775-01-01	747775-01-01	747775-01-01	747775-01-01		
	UNITS	**BH3-SS2(A)**	**BH4-SS3**	**BH4-SS3 Lab-Dup**	**DUP2**	**RDL**	**QC Batch**
Metals							
Acid Extractable Antimony (Sb)	ug/g	0.24	<0.20	<0.20	<0.20	0.20	6458148
Acid Extractable Arsenic (As)	ug/g	5.2	1.0	1.1	1.3	1.0	6458148
Acid Extractable Barium (Ba)	ug/g	80	160	170	120	0.50	6458148
Acid Extractable Beryllium (Be)	ug/g	0.55	0.61	0.60	0.51	0.20	6458148
Acid Extractable Boron (B)	ug/g	6.3	<5.0	<5.0	<5.0	5.0	6458148
Acid Extractable Cadmium (Cd)	ug/g	0.14	0.11	<0.10	<0.10	0.10	6458148
Acid Extractable Chromium (Cr)	ug/g	18	42	42	32	1.0	6458148
Acid Extractable Cobalt (Co)	ug/g	15	11	11	10	0.10	6458148
Acid Extractable Copper (Cu)	ug/g	28	26	25	24	0.50	6458148
Acid Extractable Lead (Pb)	ug/g	13	6.2	6.1	6.1	1.0	6458148
Acid Extractable Molybdenum (Mo)	ug/g	2.3	0.64	0.57	<0.50	0.50	6458148
Acid Extractable Nickel (Ni)	ug/g	29	24	24	22	0.50	6458148
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	<0.50	<0.50	0.50	6458148
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	<0.20	<0.20	0.20	6458148
Acid Extractable Thallium (Tl)	ug/g	0.26	0.25	0.26	0.20	0.050	6458148
Acid Extractable Uranium (U)	ug/g	0.76	0.62	0.63	0.64	0.050	6458148
Acid Extractable Vanadium (V)	ug/g	24	69	68	61	5.0	6458148
Acid Extractable Zinc (Zn)	ug/g	50	62	64	51	5.0	6458148

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

O.REG 153 PAHS (SOIL)

BV Labs ID		LIX770	LIX771	LIX772		
Sampling Date		2019/11/19 09:30	2019/11/19 11:00	2019/11/19 11:00		
COC Number		747775-01-01	747775-01-01	747775-01-01		
	UNITS	**BH3-SS2(A)**	**BH4-SS3**	**DUP2**	**RDL**	**QC Batch**
Calculated Parameters						
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	<0.0071	<0.0071	0.0071	6452434
Polyaromatic Hydrocarbons						
Acenaphthene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
Acenaphthylene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
Anthracene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
Benzo(a)anthracene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
Benzo(a)pyrene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
Benzo(b/j)fluoranthene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
Benzo(g,h,i)perylene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
Benzo(k)fluoranthene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
Chrysene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
Dibenzo(a,h)anthracene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
Fluoranthene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
Fluorene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
1-Methylnaphthalene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
2-Methylnaphthalene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
Naphthalene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
Phenanthrene	ug/g	0.0052	<0.0050	<0.0050	0.0050	6455887
Pyrene	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6455887
Surrogate Recovery (%)						
D10-Anthracene	%	97	101	104		6455887
D14-Terphenyl (FS)	%	98	98	102		6455887
D8-Acenaphthylene	%	93	85	88		6455887

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

O.REG 153 PHCS, BTEX/F1-F4 (SOIL)

BV Labs ID		LIX770	LIX771	LIX772		
Sampling Date		2019/11/19 09:30	2019/11/19 11:00	2019/11/19 11:00		
COC Number		747775-01-01	747775-01-01	747775-01-01		
	UNITS	**BH3-SS2(A)**	**BH4-SS3**	**DUP2**	**RDL**	**QC Batch**
Inorganics						
Moisture	%	7.4	24	20	1.0	6455509
BTEX & F1 Hydrocarbons						
Benzene	ug/g	<0.020	<0.020	<0.020	0.020	6460091
Toluene	ug/g	<0.020	<0.020	<0.020	0.020	6460091
Ethylbenzene	ug/g	<0.020	<0.020	<0.020	0.020	6460091
o-Xylene	ug/g	<0.020	<0.020	<0.020	0.020	6460091
p+m-Xylene	ug/g	<0.040	<0.040	<0.040	0.040	6460091
Total Xylenes	ug/g	<0.040	<0.040	<0.040	0.040	6460091
F1 (C6-C10)	ug/g	<10	<10	<10	10	6460091
F1 (C6-C10) - BTEX	ug/g	<10	<10	<10	10	6460091
F2-F4 Hydrocarbons						
F2 (C10-C16 Hydrocarbons)	ug/g	<10	<10	<10	10	6457590
F3 (C16-C34 Hydrocarbons)	ug/g	71	<50	<50	50	6457590
F4 (C34-C50 Hydrocarbons)	ug/g	160	<50	<50	50	6457590
Reached Baseline at C50	ug/g	No	Yes	Yes		6457590
Surrogate Recovery (%)						
1,4-Difluorobenzene	%	108	104	105		6460091
4-Bromofluorobenzene	%	94	98	97		6460091
D10-Ethylbenzene	%	81	77	72		6460091
D4-1,2-Dichloroethane	%	96	94	95		6460091
o-Terphenyl	%	95	99	95		6457590

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

PETROLEUM HYDROCARBONS (CCME)

BV Labs ID		LIX770		
Sampling Date		2019/11/19 09:30		
COC Number		747775-01-01		
	UNITS	**BH3-SS2(A)**	**RDL**	**QC Batch**
F2-F4 Hydrocarbons				
F4G-sg (Grav. Heavy Hydrocarbons)	ug/g	670	100	6465544

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

TEST SUMMARY

BV Labs ID: LIX770 **Collected:** 2019/11/19
Sample ID: BH3-SS2(A) **Shipped:**
Matrix: Soil **Received:** 2019/11/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6452434	N/A	2019/11/22	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6460091	N/A	2019/11/23	Abdi Mohamud
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6457590	2019/11/22	2019/11/25	(Kent) Maolin Li
F4G (CCME Hydrocarbons Gravimetric)	BAL	6465544	2019/11/27	2019/11/27	Narinderjeet Kaur
Strong Acid Leachable Metals by ICPMS	ICP/MS	6458148	2019/11/22	2019/11/26	Viviana Canzonieri
Moisture	BAL	6455509	N/A	2019/11/21	Gurpreet Kaur
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	6455887	2019/11/21	2019/11/22	Mitesh Raj

BV Labs ID: LIX771 **Collected:** 2019/11/19
Sample ID: BH4-SS3 **Shipped:**
Matrix: Soil **Received:** 2019/11/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6452434	N/A	2019/11/22	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6460091	N/A	2019/11/23	Abdi Mohamud
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6457590	2019/11/22	2019/11/25	(Kent) Maolin Li
Strong Acid Leachable Metals by ICPMS	ICP/MS	6458148	2019/11/22	2019/11/26	Viviana Canzonieri
Moisture	BAL	6455509	N/A	2019/11/21	Gurpreet Kaur
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	6455887	2019/11/21	2019/11/22	Mitesh Raj

BV Labs ID: LIX771 Dup **Collected:** 2019/11/19
Sample ID: BH4-SS3 **Shipped:**
Matrix: Soil **Received:** 2019/11/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Strong Acid Leachable Metals by ICPMS	ICP/MS	6458148	2019/11/22	2019/11/26	Viviana Canzonieri

BV Labs ID: LIX772 **Collected:** 2019/11/19
Sample ID: DUP2 **Shipped:**
Matrix: Soil **Received:** 2019/11/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6452434	N/A	2019/11/22	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6460091	N/A	2019/11/23	Abdi Mohamud
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6457590	2019/11/22	2019/11/25	(Kent) Maolin Li
Strong Acid Leachable Metals by ICPMS	ICP/MS	6458148	2019/11/22	2019/11/26	Viviana Canzonieri
Moisture	BAL	6455509	N/A	2019/11/21	Gurpreet Kaur
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	6455887	2019/11/21	2019/11/22	Mitesh Raj

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.7°C

Sample LIX770 [BH3-SS2(A)] : F1/BTEX Analysis: Greater than 10g of soil was submitted in the field preserved vial. This significantly exceeds the protocol specification of approximately 5g. Additional methanol was added to the vial to ensure extraction efficiency.

Results relate only to the items tested.

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

BV Labs Job #: B9W6858
Report Date: 2019/11/28

QUALITY ASSURANCE REPORT

exp Services Inc
Client Project #: OTT-00256275-B0
Sampler Initials: MAD

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6455887	D10-Anthracene	2019/11/21	96	50 - 130	105	50 - 130	102	%		
6455887	D14-Terphenyl (FS)	2019/11/21	97	50 - 130	104	50 - 130	100	%		
6455887	D8-Acenaphthylene	2019/11/21	87	50 - 130	98	50 - 130	92	%		
6457590	o-Terphenyl	2019/11/25	106	60 - 130	96	60 - 130	96	%		
6460091	1,4-Difluorobenzene	2019/11/23	102	60 - 140	101	60 - 140	103	%		
6460091	4-Bromofluorobenzene	2019/11/23	99	60 - 140	98	60 - 140	99	%		
6460091	D10-Ethylbenzene	2019/11/23	90	60 - 140	95	60 - 140	83	%		
6460091	D4-1,2-Dichloroethane	2019/11/23	91	60 - 140	93	60 - 140	91	%		
6455509	Moisture	2019/11/21							2.3	20
6455887	1-Methylnaphthalene	2019/11/21	96	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40
6455887	2-Methylnaphthalene	2019/11/21	88	50 - 130	91	50 - 130	<0.0050	ug/g	NC	40
6455887	Acenaphthene	2019/11/21	92	50 - 130	91	50 - 130	<0.0050	ug/g	NC	40
6455887	Acenaphthylene	2019/11/21	84	50 - 130	84	50 - 130	<0.0050	ug/g	NC	40
6455887	Anthracene	2019/11/21	91	50 - 130	90	50 - 130	<0.0050	ug/g	NC	40
6455887	Benzo(a)anthracene	2019/11/21	95	50 - 130	93	50 - 130	<0.0050	ug/g	13	40
6455887	Benzo(a)pyrene	2019/11/21	92	50 - 130	93	50 - 130	<0.0050	ug/g	32	40
6455887	Benzo(b/j)fluoranthene	2019/11/21	89	50 - 130	89	50 - 130	<0.0050	ug/g	NC	40
6455887	Benzo(g,h,i)perylene	2019/11/21	89	50 - 130	90	50 - 130	<0.0050	ug/g	NC	40
6455887	Benzo(k)fluoranthene	2019/11/21	92	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
6455887	Chrysene	2019/11/21	89	50 - 130	90	50 - 130	<0.0050	ug/g	26	40
6455887	Dibenzo(a,h)anthracene	2019/11/21	104	50 - 130	102	50 - 130	<0.0050	ug/g	NC	40
6455887	Fluoranthene	2019/11/21	92	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40
6455887	Fluorene	2019/11/21	87	50 - 130	85	50 - 130	<0.0050	ug/g	NC	40
6455887	Indeno(1,2,3-cd)pyrene	2019/11/21	92	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
6455887	Naphthalene	2019/11/21	81	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
6455887	Phenanthrene	2019/11/21	88	50 - 130	87	50 - 130	<0.0050	ug/g	NC	40
6455887	Pyrene	2019/11/21	92	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
6457590	F2 (C10-C16 Hydrocarbons)	2019/11/25	NC	50 - 130	97	80 - 120	<10	ug/g	0.21	30
6457590	F3 (C16-C34 Hydrocarbons)	2019/11/25	NC	50 - 130	96	80 - 120	<50	ug/g	3.4	30
6457590	F4 (C34-C50 Hydrocarbons)	2019/11/25	99	50 - 130	97	80 - 120	<50	ug/g	NC	30
6458148	Acid Extractable Antimony (Sb)	2019/11/26	88	75 - 125	102	80 - 120	<0.20	ug/g	NC	30
6458148	Acid Extractable Arsenic (As)	2019/11/26	107	75 - 125	103	80 - 120	<1.0	ug/g	2.3	30

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6458148	Acid Extractable Barium (Ba)	2019/11/26	NC	75 - 125	93	80 - 120	<0.50	ug/g	2.0	30
6458148	Acid Extractable Beryllium (Be)	2019/11/26	105	75 - 125	98	80 - 120	<0.20	ug/g	1.7	30
6458148	Acid Extractable Boron (B)	2019/11/26	101	75 - 125	97	80 - 120	<5.0	ug/g	NC	30
6458148	Acid Extractable Cadmium (Cd)	2019/11/26	106	75 - 125	100	80 - 120	<0.10	ug/g	13	30
6458148	Acid Extractable Chromium (Cr)	2019/11/26	NC	75 - 125	103	80 - 120	<1.0	ug/g	2.2	30
6458148	Acid Extractable Cobalt (Co)	2019/11/26	106	75 - 125	102	80 - 120	<0.10	ug/g	3.2	30
6458148	Acid Extractable Copper (Cu)	2019/11/26	NC	75 - 125	100	80 - 120	<0.50	ug/g	4.1	30
6458148	Acid Extractable Lead (Pb)	2019/11/26	102	75 - 125	100	80 - 120	<1.0	ug/g	1.6	30
6458148	Acid Extractable Molybdenum (Mo)	2019/11/26	104	75 - 125	99	80 - 120	<0.50	ug/g	11	30
6458148	Acid Extractable Nickel (Ni)	2019/11/26	106	75 - 125	102	80 - 120	<0.50	ug/g	2.8	30
6458148	Acid Extractable Selenium (Se)	2019/11/26	105	75 - 125	102	80 - 120	<0.50	ug/g	NC	30
6458148	Acid Extractable Silver (Ag)	2019/11/26	104	75 - 125	100	80 - 120	<0.20	ug/g	NC	30
6458148	Acid Extractable Thallium (Tl)	2019/11/26	102	75 - 125	98	80 - 120	<0.050	ug/g	3.4	30
6458148	Acid Extractable Uranium (U)	2019/11/26	102	75 - 125	97	80 - 120	<0.050	ug/g	1.1	30
6458148	Acid Extractable Vanadium (V)	2019/11/26	NC	75 - 125	103	80 - 120	<5.0	ug/g	0.97	30
6458148	Acid Extractable Zinc (Zn)	2019/11/26	NC	75 - 125	110	80 - 120	<5.0	ug/g	3.7	30
6460091	Benzene	2019/11/23	78	60 - 140	94	60 - 140	<0.020	ug/g	NC	50
6460091	Ethylbenzene	2019/11/23	88	60 - 140	99	60 - 140	<0.020	ug/g	NC	50
6460091	F1 (C6-C10) - BTEX	2019/11/23					<10	ug/g	NC	30
6460091	F1 (C6-C10)	2019/11/23	89	60 - 140	86	80 - 120	<10	ug/g	NC	30
6460091	o-Xylene	2019/11/23	87	60 - 140	95	60 - 140	<0.020	ug/g	NC	50
6460091	p+m-Xylene	2019/11/23	88	60 - 140	95	60 - 140	<0.040	ug/g	NC	50
6460091	Toluene	2019/11/23	80	60 - 140	92	60 - 140	<0.020	ug/g	NC	50
6460091	Total Xylenes	2019/11/23					<0.040	ug/g	NC	50

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6465544	F4G-sg (Grav. Heavy Hydrocarbons)	2019/11/27	91	65 - 135	103	65 - 135	<100	ug/g	13	50

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

Brad Newman, Scientific Service Specialist

Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvlabs.com

CHAIN OF CUSTODY RECORD

INVOICE TO:	REPORT TO:	PROJECT INFORMATION:	Laboratory Use Only:
Company Name: #30854 exp Services Inc	Company Name:	Quotation #: B91717	BV Labs Job #: / Bottle Order #: 747775
Attention: Accounts Payable	Attention: Patricia Stelmack / mark.devlin	P.O. #:	
Address: 100-2650 Queensview Drive, Ottawa ON K2B 8H6	Address:	Project: OTT-00256275-B0	COC #: C#747775-01-01 / Project Manager: Alisha Williamson
Tel: (613) 688-1899 Fax: (613) 225-7337	Tel: Fax:	Project Name:	
Email: accounting.ottawa@exp.com; Karen.Burke@exp.com;	Email: patricia.stelmack@exp.com / mark.devlin@exp.com	Site #: Sampled By: MAD	

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011): ☐ Table 1 ☒ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☒ Table 3 ☐ Agri/Other ☒ For RSC ☐ Table ___

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558. ☐ Storm Sewer Bylaw ☐ MISA Municipality ☐ PWQO ☐ Other

Special Instructions:

Include Criteria on Certificate of Analysis (Y/N)? ___

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects
Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests..
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.
Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 VOCs by HS (Soil)	O.Reg 153 PHCs, BTEX/F1-F4 (Soil)	O.Reg 153 ICPMS Metals (Soil)	O.Reg 153 PAHs (Soil)	Sieve, 75um	pH CaCl2 EXTRACT					# of Bottles	Comments
1		BH3-SS2(A)	Nov 19 2019	9:30am	S			X	X	X							4	
2		BH4-SS3	Nov 19 2019	11:00am	S			X	X	X							4	
3		Dup 2	Nov 19 2019	11:00am	S			X	X	X							4	
4																		
5																		
6																		
7																		
8																		
9																		
10																		

19-Nov-19 15:30
Alisha Williamson
B9W6858
THP ENV-1366

on ice

RECEIVED IN OTTAWA

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Mark Devlin	19/11/19	3:40pm	[illegible]	19/11/19	15:30	
Mark Devlin			Mark DEVLIN	2019/11/20	08:00	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	7,5,2	Present		
		Intact	X	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

97,10,9

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

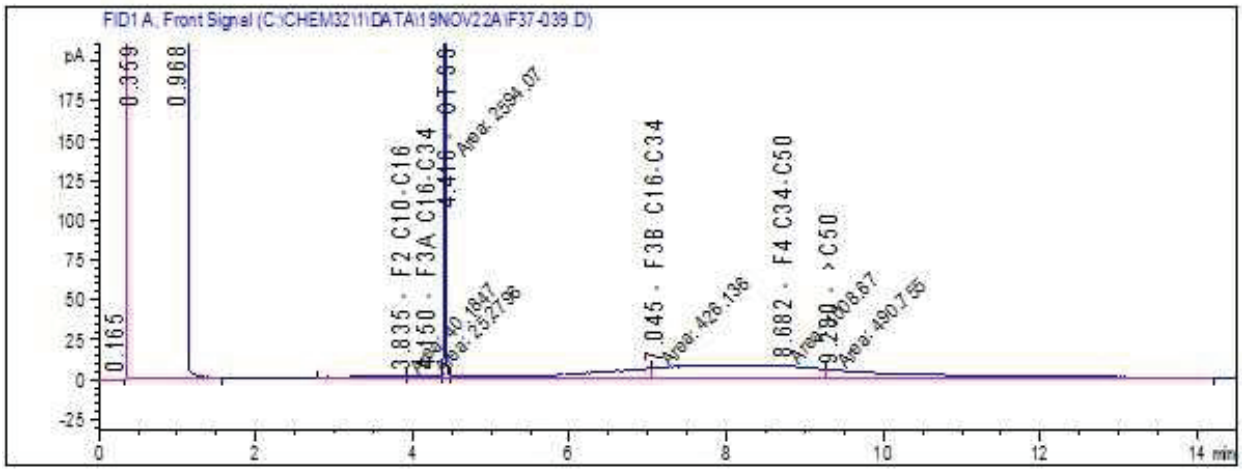
White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

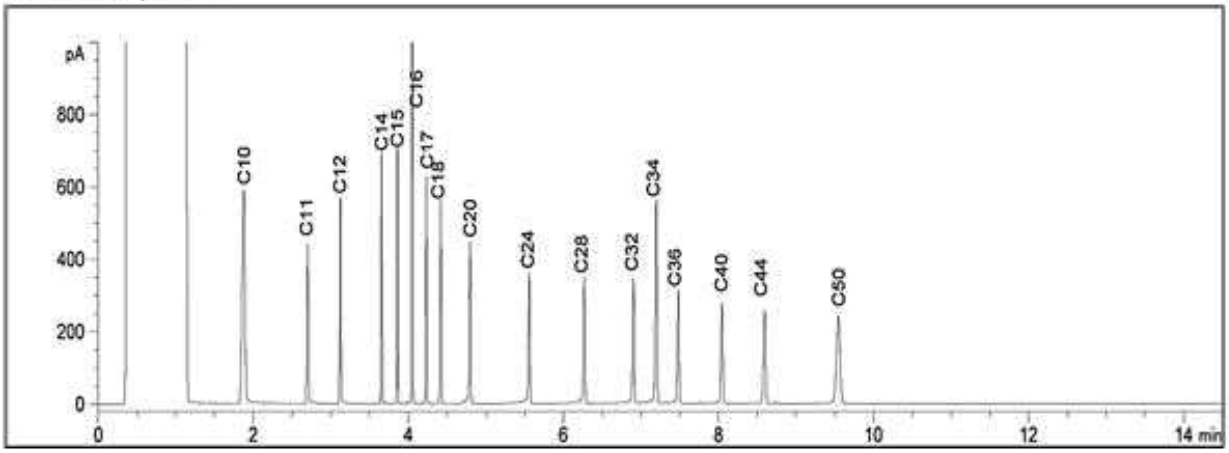
BV Labs Job #: B9W6858
Report Date: 2019/11/28
BV Labs Sample: LIX770

exp Services Inc
Client Project #: OTT-00256275-B0
Client ID: BH3-SS2(A)

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Reference Spectrum

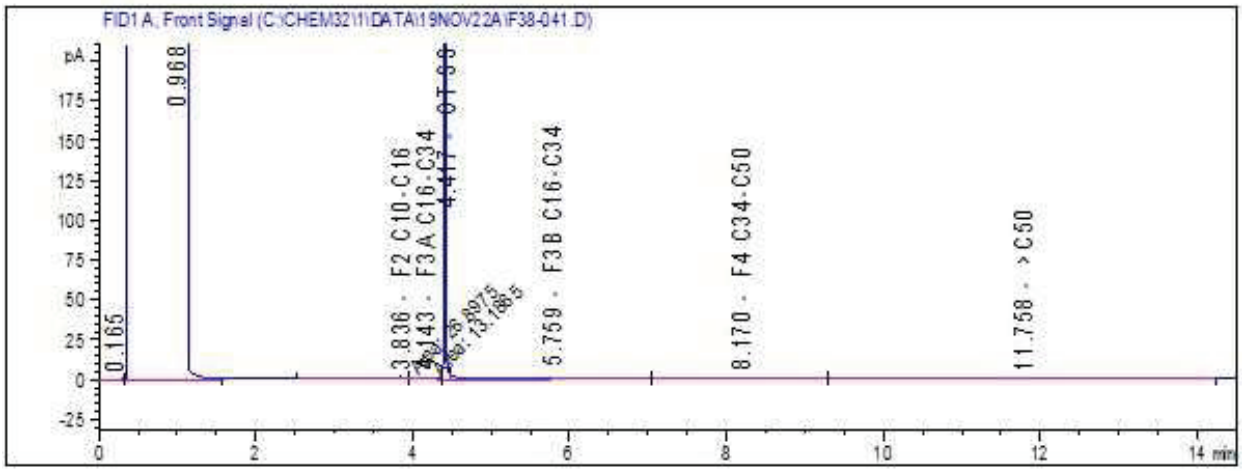


TYPICAL PRODUCT CARBON NUMBER RANGES

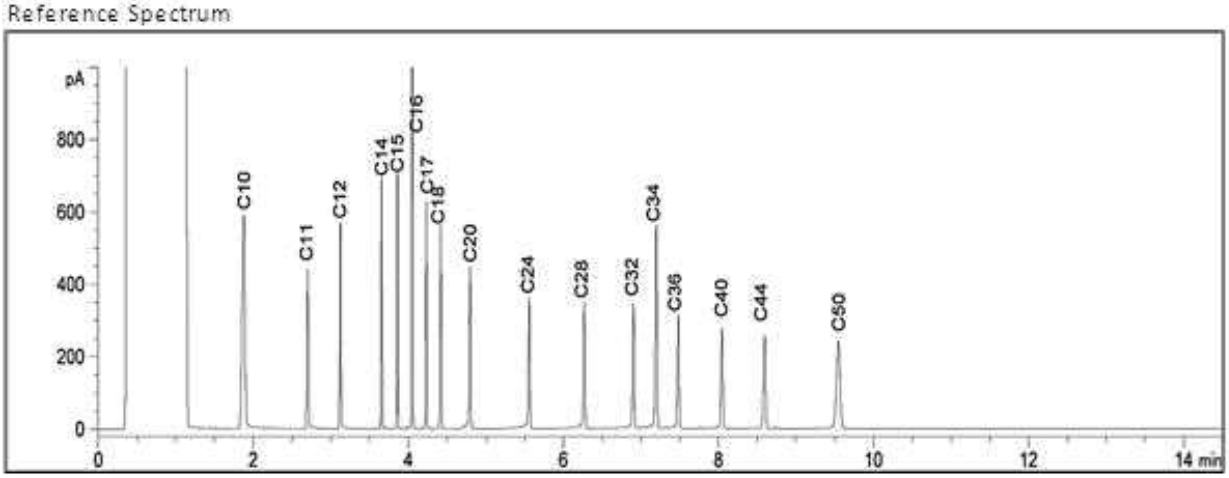
Gasoline: **C6 - C12**	Diesel: **C10 - C24**	Jet Fuels: **C6 - C16**
Varsol: **C8 - C12**	Fuel Oils: **C6 - C32**	Creosote: **C10 - C26**
Kerosene: **C8 - C16**	Motor Oils: **C16 - C50**	Asphalt: **C18 - C50+**

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Reference Spectrum



TYPICAL PRODUCT CARBON NUMBER RANGES

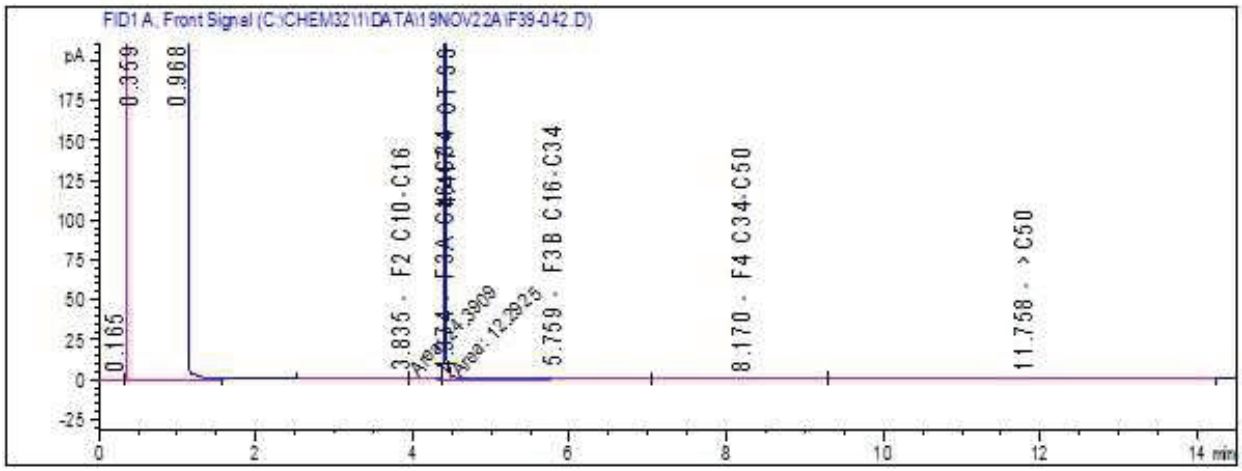
Gasoline: **C6 - C12**	Diesel: **C10 - C24**	Jet Fuels: **C6 - C16**
Varsol: **C8 - C12**	Fuel Oils: **C6 - C32**	Creosote: **C10 - C26**
Kerosene: **C8 - C16**	Motor Oils: **C16 - C50**	Asphalt: **C18 - C50+**

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

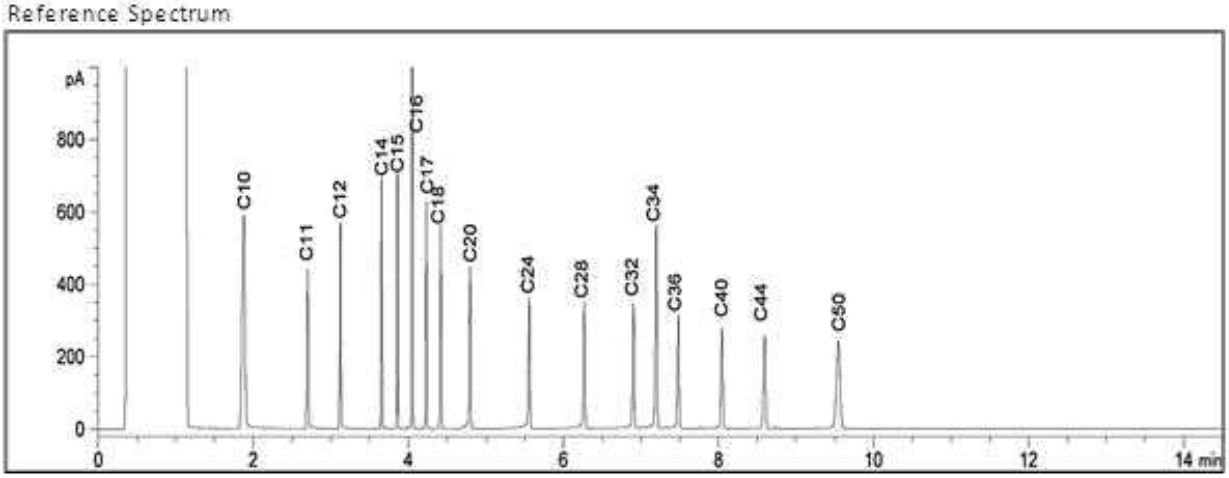
BV Labs Job #: B9W6858
Report Date: 2019/11/28
BV Labs Sample: LIX772

exp Services Inc
Client Project #: OTT-00256275-B0
Client ID: DUP2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



Reference Spectrum



TYPICAL PRODUCT CARBON NUMBER RANGES

Gasoline: **C6 - C12**	Diesel: **C10 - C24**	Jet Fuels: **C6 - C16**
Varsol: **C8 - C12**	Fuel Oils: **C6 - C32**	Creosote: **C10 - C26**
Kerosene: **C8 - C16**	Motor Oils: **C16 - C50**	Asphalt: **C18 - C50+**

Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Your Project #: OTT-00256275-B0
Your C.O.C. #: 747775-02-01

Attention: Patricia Stelmack

exp Services Inc
100-2650 Queensview Drive
Ottawa, ON
CANADA K2B 8H6

Report Date: 2019/11/25
Report #: R5979237
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9W6866
Received: 2019/11/19, 15:40

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Ignitability of a Sample (1)	1	2019/11/22	2019/11/22	CAM SOP-00432	EPA 1030 Rev. 1 m
TCLP Zero Headspace Extraction (1)	1	2019/11/20	2019/11/21	CAM SOP-00430	EPA 1311 m
VOCs in ZHE Leachates (1)	1	2019/11/21	2019/11/21	CAM SOP-00228	EPA 8260C m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Laboratories Mississauga

Your Project #: OTT-00256275-B0
Your C.O.C. #: 747775-02-01

Attention: Patricia Stelmack

exp Services Inc
100-2650 Queensview Drive
Ottawa, ON
CANADA K2B 8H6

Report Date: 2019/11/25
Report #: R5979237
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9W6866
Received: 2019/11/19, 15:40

Encryption Key



Alisha Williamson
Project Manager
25 Nov 2019 14:26:22

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Alisha Williamson, Project Manager
Email: Alisha.Williamson@bvlabs.com
Phone# (613)274-0573

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

O.REG 558 TCLP VOLATILE ORGANICS HS (SOIL)

BV Labs ID		LIX910	LIX910		
Sampling Date		2019/11/19 12:00	2019/11/19 12:00		
COC Number		747775-02-01	747775-02-01		
	UNITS	**R558-C**	**R558-C Lab-Dup**	**RDL**	**QC Batch**
Charge/Prep Analysis					
Amount Extracted (Wet Weight) (g)	N/A	25	25	N/A	6453366
Volatile Organics					
Leachable Benzene	mg/L	<0.020	<0.020	0.020	6454938
Leachable Carbon Tetrachloride	mg/L	<0.020	<0.020	0.020	6454938
Leachable Chlorobenzene	mg/L	<0.020	<0.020	0.020	6454938
Leachable Chloroform	mg/L	<0.020	<0.020	0.020	6454938
Leachable 1,2-Dichlorobenzene	mg/L	<0.050	<0.050	0.050	6454938
Leachable 1,4-Dichlorobenzene	mg/L	<0.050	<0.050	0.050	6454938
Leachable 1,2-Dichloroethane	mg/L	<0.050	<0.050	0.050	6454938
Leachable 1,1-Dichloroethylene	mg/L	<0.020	<0.020	0.020	6454938
Leachable Methylene Chloride(Dichloromethane)	mg/L	<0.20	<0.20	0.20	6454938
Leachable Methyl Ethyl Ketone (2-Butanone)	mg/L	<1.0	<1.0	1.0	6454938
Leachable Tetrachloroethylene	mg/L	<0.020	<0.020	0.020	6454938
Leachable Trichloroethylene	mg/L	<0.020	<0.020	0.020	6454938
Leachable Vinyl Chloride	mg/L	<0.020	<0.020	0.020	6454938
Surrogate Recovery (%)					
Leachable 4-Bromofluorobenzene	%	96	95		6454938
Leachable D4-1,2-Dichloroethane	%	101	102		6454938
Leachable D8-Toluene	%	93	94		6454938

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

MISCELLANEOUS (SOIL)

BV Labs ID		LIX910	
Sampling Date		2019/11/19 12:00	
COC Number		747775-02-01	
	UNITS	**R558-C**	**QC Batch**
Inorganics			
Ignitability	N/A	NF/NI	6457726
QC Batch = Quality Control Batch			

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

BV Labs Job #: B9W6866
Report Date: 2019/11/25

exp Services Inc
Client Project #: OTT-00256275-B0
Sampler Initials: MAD

TEST SUMMARY

BV Labs ID: LIX910
Sample ID: R558-C
Matrix: Soil

Collected: 2019/11/19
Shipped:
Received: 2019/11/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Ignitability of a Sample	BAL	6457726	2019/11/22	2019/11/22	Min Yang
TCLP Zero Headspace Extraction		6453366	2019/11/20	2019/11/21	Walt Wang
VOCs in ZHE Leachates	GC/MS	6454938	2019/11/21	2019/11/21	Manpreet Sarao

BV Labs ID: LIX910 Dup
Sample ID: R558-C
Matrix: Soil

Collected: 2019/11/19
Shipped:
Received: 2019/11/19

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
TCLP Zero Headspace Extraction		6453366	2019/11/20	2019/11/21	Walt Wang
VOCs in ZHE Leachates	GC/MS	6454938	2019/11/21	2019/11/21	Manpreet Sarao

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.7°C

Sample LIX910 [R558-C] : NF/NI = Non Flammable and Non Ignitable

Results relate only to the items tested.

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

BV Labs Job #: B9W6866
Report Date: 2019/11/25

QUALITY ASSURANCE REPORT

exp Services Inc
Client Project #: OTT-00256275-B0
Sampler Initials: MAD

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6454938	Leachable 4-Bromofluorobenzene	2019/11/21	103	70 - 130	101	70 - 130	96	%		
6454938	Leachable D4-1,2-Dichloroethane	2019/11/21	97	70 - 130	101	70 - 130	102	%		
6454938	Leachable D8-Toluene	2019/11/21	103	70 - 130	103	70 - 130	94	%		
6454938	Leachable 1,1-Dichloroethylene	2019/11/21	96	70 - 130	92	70 - 130	<0.020	mg/L	NC	30
6454938	Leachable 1,2-Dichlorobenzene	2019/11/21	97	70 - 130	97	70 - 130	<0.050	mg/L	NC	30
6454938	Leachable 1,2-Dichloroethane	2019/11/21	96	70 - 130	98	70 - 130	<0.050	mg/L	NC	30
6454938	Leachable 1,4-Dichlorobenzene	2019/11/21	99	70 - 130	98	70 - 130	<0.050	mg/L	NC	30
6454938	Leachable Benzene	2019/11/21	96	70 - 130	93	70 - 130	<0.020	mg/L	NC	30
6454938	Leachable Carbon Tetrachloride	2019/11/21	99	70 - 130	93	70 - 130	<0.020	mg/L	NC	30
6454938	Leachable Chlorobenzene	2019/11/21	97	70 - 130	96	70 - 130	<0.020	mg/L	NC	30
6454938	Leachable Chloroform	2019/11/21	97	70 - 130	95	70 - 130	<0.020	mg/L	NC	30
6454938	Leachable Methyl Ethyl Ketone (2-Butanone)	2019/11/21	99	60 - 140	105	60 - 140	<1.0	mg/L	NC	30
6454938	Leachable Methylene Chloride(Dichloromethane)	2019/11/21	101	70 - 130	100	70 - 130	<0.20	mg/L	NC	30
6454938	Leachable Tetrachloroethylene	2019/11/21	99	70 - 130	95	70 - 130	<0.020	mg/L	NC	30
6454938	Leachable Trichloroethylene	2019/11/21	99	70 - 130	95	70 - 130	<0.020	mg/L	NC	30
6454938	Leachable Vinyl Chloride	2019/11/21	86	70 - 130	79	70 - 130	<0.020	mg/L	NC	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

BV Labs Job #: B9W6866
Report Date: 2019/11/25

exp Services Inc
Client Project #: OTT-00256275-B0
Sampler Initials: MAD

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Brad Newman, Scientific Service Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvlabs.com

Page 1 of 1

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#30854 exp Services Inc	Company Name:		Quotation #:	B91717	BV Labs Job #:	Bottle Order #: 747775
Attention:	Accounts Payable	Attention:	Patricia Stelmack / mark devlin	P.O. #:			
Address:	100-2650 Queensview Drive Ottawa ON K2B 8H6	Address:		Project:	OTT-00256275-B0	COC #: C#747775-02-01	Project Manager: Alisha Williamson
Tel:	(613) 688-1899 Fax: (613) 225-7337	Tel:	Fax:	Project Name:			
Email:	accounting.ottawa@exp.com; Karen.Burke@exp.com;	Email:	patricia.stelmack@exp.com / mark.devlin@exp.com	Site #:			
				Sampled By:	MAD		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
- ☐ Table 1 ☐ Res/Park ☐ Medium/Fine
- ☐ Table 2 ☐ Ind/Comm ☐ Coarse
- ☐ Table 3 ☐ Agri/Other ☒ For RSC
- ☐ Table ___

Other Regulations
- ☐ CCME ☐ Sanitary Sewer Bylaw
- ☒ Reg 558. ☐ Storm Sewer Bylaw
- ☐ MISA Municipality _____
- ☐ PWQO
- ☐ Other _____

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? _____

Field Filtered (please circle): Metals / Hg / Cr VI

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	O.Reg 153 VOCs by HS (Soil)	O.Reg 153 PHCs, BTEX/F1-F4 (Soil)	O.Reg 153 ICPMS Metals (Soil)	O.Reg 153 PAHs (Soil)	Sieve, 75um	pH CaCl2 EXTRACT	VOC 3248	Ignitability			# of Bottles	Comments
1		R558-C	Nov19, 2019 ~~12:00 pm~~	12:00 pm	S							X	X			2	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☒
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests..
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: _____ Time Required: _____ ☐
Rush Confirmation Number: _____ *(call lab for #)*

19-Nov-19 15:40
Alisha Williamson
B9W6866
THP ENV-1366

on ice

RECEIVED IN OTTAWA

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Mark Devlin Mark Devlin	19/11/19	3:40pm	Serge Legar [illegible]	19/11/19 20/09/11/20	15:40 08:00	

Laboratory Use Only				
Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	7, 5, 2	Present		
		Intact	X	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS. 9, 10, 9

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

Your Project #: OTT-00256275-B0
Your C.O.C. #: 748949-01-01

Attention: Patricia Stelmack

exp Services Inc
100-2650 Queensview Drive
Ottawa, ON
CANADA K2B 8H6

Report Date: 2019/12/02
Report #: R5988101
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9X5577
Received: 2019/11/27, 13:20

Sample Matrix: Ground Water
Samples Received: 7

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
1,3-Dichloropropene Sum (1)	7	N/A	2019/12/02		EPA 8260C m
Volatile Organic Compounds in Water (1)	4	N/A	2019/11/29	CAM SOP-00228	EPA 8260C m
Volatile Organic Compounds in Water (1)	3	N/A	2019/11/30	CAM SOP-00228	EPA 8260C m

Remarks:

Bureau Veritas Laboratories are accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by BV Labs are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in BV Labs profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and BV Labs in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

BV Labs liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. BV Labs has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by BV Labs, unless otherwise agreed in writing. BV Labs is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by BV Labs, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Laboratories Mississauga

Your Project #: OTT-00256275-B0
Your C.O.C. #: 748949-01-01

Attention: Patricia Stelmack

exp Services Inc
100-2650 Queensview Drive
Ottawa, ON
CANADA K2B 8H6

Report Date: 2019/12/02
Report #: R5988101
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: B9X5577
Received: 2019/11/27, 13:20

Encryption Key



Alisha Williamson
Project Manager
02 Dec 2019 15:05:51

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Alisha Williamson, Project Manager
Email: Alisha.Williamson@bvlabs.com
Phone# (613)274-0573

==========

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

O.REG 153 VOCS BY HS (WATER)

BV Labs ID		LKW320			LKW320			LKW321		
Sampling Date		2019/11/25 15:00			2019/11/25 15:00			2019/11/25 15:00		
COC Number		748949-01-01			748949-01-01			748949-01-01		
	UNITS	**BH1**	**RDL**	**QC Batch**	**BH1 Lab-Dup**	**RDL**	**QC Batch**	**GWD**	**RDL**	**QC Batch**
Calculated Parameters										
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	0.50	6467973				<0.50	0.50	6467973
Volatile Organics										
Acetone (2-Propanone)	ug/L	<10	10	6470358	<10	10	6470358	<10	10	6470358
Benzene	ug/L	0.40	0.20	6470358	0.39	0.20	6470358	0.39	0.20	6470358
Bromodichloromethane	ug/L	<0.50	0.50	6470358	<0.50	0.50	6470358	<0.50	0.50	6470358
Bromoform	ug/L	<1.0	1.0	6470358	<1.0	1.0	6470358	<1.0	1.0	6470358
Bromomethane	ug/L	<0.50	0.50	6470358	<0.50	0.50	6470358	<0.50	0.50	6470358
Carbon Tetrachloride	ug/L	<0.20	0.20	6470358	<0.20	0.20	6470358	<0.20	0.20	6470358
Chlorobenzene	ug/L	<0.20	0.20	6470358	<0.20	0.20	6470358	<0.20	0.20	6470358
Chloroform	ug/L	0.38	0.20	6470358	0.38	0.20	6470358	0.37	0.20	6470358
Dibromochloromethane	ug/L	<0.50	0.50	6470358	<0.50	0.50	6470358	<0.50	0.50	6470358
1,2-Dichlorobenzene	ug/L	<0.50	0.50	6470358	<0.50	0.50	6470358	<0.50	0.50	6470358
1,3-Dichlorobenzene	ug/L	<0.50	0.50	6470358	<0.50	0.50	6470358	<0.50	0.50	6470358
1,4-Dichlorobenzene	ug/L	<0.50	0.50	6470358	<0.50	0.50	6470358	<0.50	0.50	6470358
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	1.0	6470358	<1.0	1.0	6470358	<1.0	1.0	6470358
1,1-Dichloroethane	ug/L	<0.20	0.20	6470358	<0.20	0.20	6470358	<0.20	0.20	6470358
1,2-Dichloroethane	ug/L	<0.50	0.50	6470358	<0.50	0.50	6470358	<0.50	0.50	6470358
1,1-Dichloroethylene	ug/L	<0.20	0.20	6470358	<0.20	0.20	6470358	<0.20	0.20	6470358
cis-1,2-Dichloroethylene	ug/L	<0.50	0.50	6470358	<0.50	0.50	6470358	<0.50	0.50	6470358
trans-1,2-Dichloroethylene	ug/L	<0.50	0.50	6470358	<0.50	0.50	6470358	<0.50	0.50	6470358
1,2-Dichloropropane	ug/L	<0.20	0.20	6470358	<0.20	0.20	6470358	<0.20	0.20	6470358
cis-1,3-Dichloropropene	ug/L	<0.30	0.30	6470358	<0.30	0.30	6470358	<0.30	0.30	6470358
trans-1,3-Dichloropropene	ug/L	<0.40	0.40	6470358	<0.40	0.40	6470358	<0.40	0.40	6470358
Ethylbenzene	ug/L	<0.20	0.20	6470358	<0.20	0.20	6470358	<0.20	0.20	6470358
Ethylene Dibromide	ug/L	<0.20	0.20	6470358	<0.20	0.20	6470358	<0.20	0.20	6470358
Hexane	ug/L	<1.0	1.0	6470358	<1.0	1.0	6470358	<1.0	1.0	6470358
Methylene Chloride(Dichloromethane)	ug/L	<2.0	2.0	6470358	<2.0	2.0	6470358	<2.0	2.0	6470358
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	10	6470358	<10	10	6470358	<10	10	6470358
Methyl Isobutyl Ketone	ug/L	<5.0	5.0	6470358	<5.0	5.0	6470358	<5.0	5.0	6470358
Methyl t-butyl ether (MTBE)	ug/L	<0.50	0.50	6470358	<0.50	0.50	6470358	<0.50	0.50	6470358
Styrene	ug/L	<0.50	0.50	6470358	<0.50	0.50	6470358	<0.50	0.50	6470358
1,1,1,2-Tetrachloroethane	ug/L	<0.50	0.50	6470358	<0.50	0.50	6470358	<0.50	0.50	6470358
1,1,2,2-Tetrachloroethane	ug/L	<0.50	0.50	6470358	<0.50	0.50	6470358	<0.50	0.50	6470358
Tetrachloroethylene	ug/L	<0.20	0.20	6470358	<0.20	0.20	6470358	<0.20	0.20	6470358

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

BV Labs Job #: B9X5577
Report Date: 2019/12/02

exp Services Inc
Client Project #: OTT-00256275-B0
Sampler Initials: LW

O.REG 153 VOCS BY HS (WATER)

BV Labs ID		LKW320			LKW320			LKW321		
Sampling Date		2019/11/25 15:00			2019/11/25 15:00			2019/11/25 15:00		
COC Number		748949-01-01			748949-01-01			748949-01-01		
	UNITS	**BH1**	**RDL**	**QC Batch**	**BH1 Lab-Dup**	**RDL**	**QC Batch**	**GWD**	**RDL**	**QC Batch**
Toluene	ug/L	0.82	0.20	6470358	0.77	0.20	6470358	0.74	0.20	6470358
1,1,1-Trichloroethane	ug/L	<0.20	0.20	6470358	<0.20	0.20	6470358	<0.20	0.20	6470358
1,1,2-Trichloroethane	ug/L	<0.50	0.50	6470358	<0.50	0.50	6470358	<0.50	0.50	6470358
Trichloroethylene	ug/L	<0.20	0.20	6470358	<0.20	0.20	6470358	<0.20	0.20	6470358
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	0.50	6470358	<0.50	0.50	6470358	<0.50	0.50	6470358
Vinyl Chloride	ug/L	<0.20	0.20	6470358	<0.20	0.20	6470358	<0.20	0.20	6470358
p+m-Xylene	ug/L	<0.20	0.20	6470358	<0.20	0.20	6470358	<0.20	0.20	6470358
o-Xylene	ug/L	<0.20	0.20	6470358	<0.20	0.20	6470358	<0.20	0.20	6470358
Total Xylenes	ug/L	<0.20	0.20	6470358	<0.20	0.20	6470358	<0.20	0.20	6470358
Surrogate Recovery (%)										
4-Bromofluorobenzene	%	90		6470358	89		6470358	89		6470358
D4-1,2-Dichloroethane	%	114		6470358	116		6470358	118		6470358
D8-Toluene	%	91		6470358	91		6470358	89		6470358

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

O.REG 153 VOCS BY HS (WATER)

BV Labs ID		LKW322	LKW323	LKW324	LKW325	LKW326		
Sampling Date		2019/11/25 18:00	2019/11/27 10:00	2019/11/27 12:30	2019/11/27 10:00	2019/11/27		
COC Number		748949-01-01	748949-01-01	748949-01-01	748949-01-01	748949-01-01		
	UNITS	**BH2**	**BH3**	**BH4**	**FB**	**TRIP BLANK**	**RDL**	**QC Batch**
Calculated Parameters								
1,3-Dichloropropene (cis+trans)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6467973
Volatile Organics								
Acetone (2-Propanone)	ug/L	<10	<10	<10	<10	<10	10	6470358
Benzene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358
Bromodichloromethane	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6470358
Bromoform	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	6470358
Bromomethane	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6470358
Carbon Tetrachloride	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358
Chlorobenzene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358
Chloroform	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358
Dibromochloromethane	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6470358
1,2-Dichlorobenzene	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6470358
1,3-Dichlorobenzene	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6470358
1,4-Dichlorobenzene	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6470358
Dichlorodifluoromethane (FREON 12)	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	6470358
1,1-Dichloroethane	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358
1,2-Dichloroethane	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6470358
1,1-Dichloroethylene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358
cis-1,2-Dichloroethylene	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6470358
trans-1,2-Dichloroethylene	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6470358
1,2-Dichloropropane	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358
cis-1,3-Dichloropropene	ug/L	<0.30	<0.30	<0.30	<0.30	<0.30	0.30	6470358
trans-1,3-Dichloropropene	ug/L	<0.40	<0.40	<0.40	<0.40	<0.40	0.40	6470358
Ethylbenzene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358
Ethylene Dibromide	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358
Hexane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	6470358
Methylene Chloride(Dichloromethane)	ug/L	<2.0	<2.0	<2.0	<2.0	<2.0	2.0	6470358
Methyl Ethyl Ketone (2-Butanone)	ug/L	<10	<10	<10	<10	<10	10	6470358
Methyl Isobutyl Ketone	ug/L	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	6470358
Methyl t-butyl ether (MTBE)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6470358
Styrene	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6470358
1,1,1,2-Tetrachloroethane	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6470358
1,1,2,2-Tetrachloroethane	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6470358
Tetrachloroethylene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358
Toluene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

BV Labs Job #: B9X5577
Report Date: 2019/12/02

exp Services Inc
Client Project #: OTT-00256275-B0
Sampler Initials: LW

O.REG 153 VOCS BY HS (WATER)

BV Labs ID		LKW322	LKW323	LKW324	LKW325	LKW326		
Sampling Date		2019/11/25 18:00	2019/11/27 10:00	2019/11/27 12:30	2019/11/27 10:00	2019/11/27		
COC Number		748949-01-01	748949-01-01	748949-01-01	748949-01-01	748949-01-01		
	UNITS	**BH2**	**BH3**	**BH4**	**FB**	**TRIP BLANK**	**RDL**	**QC Batch**
1,1,1-Trichloroethane	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358
1,1,2-Trichloroethane	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6470358
Trichloroethylene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358
Trichlorofluoromethane (FREON 11)	ug/L	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	6470358
Vinyl Chloride	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358
p+m-Xylene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358
o-Xylene	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358
Total Xylenes	ug/L	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	6470358
Surrogate Recovery (%)								
4-Bromofluorobenzene	%	89	88	88	88	88		6470358
D4-1,2-Dichloroethane	%	119	120	118	118	119		6470358
D8-Toluene	%	89	90	90	90	90		6470358

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

TEST SUMMARY

BV Labs ID: LKW320 **Collected:** 2019/11/25
Sample ID: BH1 **Shipped:**
Matrix: Ground Water **Received:** 2019/11/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6467973	N/A	2019/12/02	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	6470358	N/A	2019/11/29	Manpreet Sarao

BV Labs ID: LKW320 Dup **Collected:** 2019/11/25
Sample ID: BH1 **Shipped:**
Matrix: Ground Water **Received:** 2019/11/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Volatile Organic Compounds in Water	GC/MS	6470358	N/A	2019/11/29	Manpreet Sarao

BV Labs ID: LKW321 **Collected:** 2019/11/25
Sample ID: GWD **Shipped:**
Matrix: Ground Water **Received:** 2019/11/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6467973	N/A	2019/12/02	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	6470358	N/A	2019/11/29	Manpreet Sarao

BV Labs ID: LKW322 **Collected:** 2019/11/25
Sample ID: BH2 **Shipped:**
Matrix: Ground Water **Received:** 2019/11/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6467973	N/A	2019/12/02	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	6470358	N/A	2019/11/29	Manpreet Sarao

BV Labs ID: LKW323 **Collected:** 2019/11/27
Sample ID: BH3 **Shipped:**
Matrix: Ground Water **Received:** 2019/11/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6467973	N/A	2019/12/02	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	6470358	N/A	2019/11/29	Manpreet Sarao

BV Labs ID: LKW324 **Collected:** 2019/11/27
Sample ID: BH4 **Shipped:**
Matrix: Ground Water **Received:** 2019/11/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6467973	N/A	2019/12/02	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	6470358	N/A	2019/11/30	Manpreet Sarao

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

BV Labs Job #: B9X5577
Report Date: 2019/12/02

exp Services Inc
Client Project #: OTT-00256275-B0
Sampler Initials: LW

TEST SUMMARY

BV Labs ID: LKW325
Sample ID: FB
Matrix: Ground Water

Collected: 2019/11/27
Shipped:
Received: 2019/11/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6467973	N/A	2019/12/02	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	6470358	N/A	2019/11/30	Manpreet Sarao

BV Labs ID: LKW326
Sample ID: TRIP BLANK
Matrix: Ground Water

Collected: 2019/11/27
Shipped:
Received: 2019/11/27

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
1,3-Dichloropropene Sum	CALC	6467973	N/A	2019/12/02	Automated Statchk
Volatile Organic Compounds in Water	GC/MS	6470358	N/A	2019/11/30	Manpreet Sarao

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	2.0°C

Results relate only to the items tested.

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6470358	4-Bromofluorobenzene	2019/11/29	99	70 - 130	99	70 - 130	93	%		
6470358	D4-1,2-Dichloroethane	2019/11/29	108	70 - 130	105	70 - 130	115	%		
6470358	D8-Toluene	2019/11/29	106	70 - 130	107	70 - 130	91	%		
6470358	1,1,1,2-Tetrachloroethane	2019/11/29	107	70 - 130	106	70 - 130	<0.50	ug/L	NC	30
6470358	1,1,1-Trichloroethane	2019/11/29	99	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
6470358	1,1,2,2-Tetrachloroethane	2019/11/29	113	70 - 130	108	70 - 130	<0.50	ug/L	NC	30
6470358	1,1,2-Trichloroethane	2019/11/29	112	70 - 130	107	70 - 130	<0.50	ug/L	NC	30
6470358	1,1-Dichloroethane	2019/11/29	103	70 - 130	101	70 - 130	<0.20	ug/L	NC	30
6470358	1,1-Dichloroethylene	2019/11/29	105	70 - 130	105	70 - 130	<0.20	ug/L	NC	30
6470358	1,2-Dichlorobenzene	2019/11/29	97	70 - 130	95	70 - 130	<0.50	ug/L	NC	30
6470358	1,2-Dichloroethane	2019/11/29	111	70 - 130	106	70 - 130	<0.50	ug/L	NC	30
6470358	1,2-Dichloropropane	2019/11/29	99	70 - 130	97	70 - 130	<0.20	ug/L	NC	30
6470358	1,3-Dichlorobenzene	2019/11/29	95	70 - 130	93	70 - 130	<0.50	ug/L	NC	30
6470358	1,4-Dichlorobenzene	2019/11/29	101	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
6470358	Acetone (2-Propanone)	2019/11/29	113	60 - 140	104	60 - 140	<10	ug/L	NC	30
6470358	Benzene	2019/11/29	101	70 - 130	100	70 - 130	<0.20	ug/L	2.8	30
6470358	Bromodichloromethane	2019/11/29	103	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
6470358	Bromoform	2019/11/29	107	70 - 130	102	70 - 130	<1.0	ug/L	NC	30
6470358	Bromomethane	2019/11/29	120	60 - 140	112	60 - 140	<0.50	ug/L	NC	30
6470358	Carbon Tetrachloride	2019/11/29	97	70 - 130	98	70 - 130	<0.20	ug/L	NC	30
6470358	Chlorobenzene	2019/11/29	98	70 - 130	96	70 - 130	<0.20	ug/L	NC	30
6470358	Chloroform	2019/11/29	99	70 - 130	97	70 - 130	<0.20	ug/L	0.26	30
6470358	cis-1,2-Dichloroethylene	2019/11/29	96	70 - 130	94	70 - 130	<0.50	ug/L	NC	30
6470358	cis-1,3-Dichloropropene	2019/11/29	97	70 - 130	89	70 - 130	<0.30	ug/L	NC	30
6470358	Dibromochloromethane	2019/11/29	108	70 - 130	104	70 - 130	<0.50	ug/L	NC	30
6470358	Dichlorodifluoromethane (FREON 12)	2019/11/29	81	60 - 140	80	60 - 140	<1.0	ug/L	NC	30
6470358	Ethylbenzene	2019/11/29	92	70 - 130	93	70 - 130	<0.20	ug/L	NC	30
6470358	Ethylene Dibromide	2019/11/29	108	70 - 130	102	70 - 130	<0.20	ug/L	NC	30
6470358	Hexane	2019/11/29	109	70 - 130	110	70 - 130	<1.0	ug/L	NC	30
6470358	Methyl Ethyl Ketone (2-Butanone)	2019/11/29	114	60 - 140	106	60 - 140	<10	ug/L	NC	30
6470358	Methyl Isobutyl Ketone	2019/11/29	116	70 - 130	110	70 - 130	<5.0	ug/L	NC	30
6470358	Methyl t-butyl ether (MTBE)	2019/11/29	88	70 - 130	87	70 - 130	<0.50	ug/L	NC	30

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
6470358	Methylene Chloride(Dichloromethane)	2019/11/29	108	70 - 130	104	70 - 130	<2.0	ug/L	NC	30
6470358	o-Xylene	2019/11/29	93	70 - 130	99	70 - 130	<0.20	ug/L	NC	30
6470358	p+m-Xylene	2019/11/29	103	70 - 130	104	70 - 130	<0.20	ug/L	NC	30
6470358	Styrene	2019/11/29	100	70 - 130	105	70 - 130	<0.50	ug/L	NC	30
6470358	Tetrachloroethylene	2019/11/29	94	70 - 130	95	70 - 130	<0.20	ug/L	NC	30
6470358	Toluene	2019/11/29	100	70 - 130	99	70 - 130	<0.20	ug/L	6.0	30
6470358	Total Xylenes	2019/11/29					<0.20	ug/L	NC	30
6470358	trans-1,2-Dichloroethylene	2019/11/29	101	70 - 130	100	70 - 130	<0.50	ug/L	NC	30
6470358	trans-1,3-Dichloropropene	2019/11/29	110	70 - 130	95	70 - 130	<0.40	ug/L	NC	30
6470358	Trichloroethylene	2019/11/29	101	70 - 130	100	70 - 130	<0.20	ug/L	NC	30
6470358	Trichlorofluoromethane (FREON 11)	2019/11/29	104	70 - 130	104	70 - 130	<0.50	ug/L	NC	30
6470358	Vinyl Chloride	2019/11/29	94	70 - 130	93	70 - 130	<0.20	ug/L	NC	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

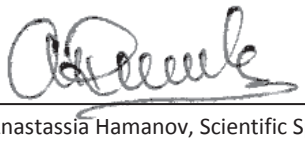
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Anastassia Hamanov, Scientific Specialist

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Bureau Veritas Laboratories 32 Colonnade Rd, Unit #1000, Nepean, ON K2E 7J6 Phone: 613 274-0573 Fax: 613 274-0574 Website: www.bvlabs.com

Bureau Veritas Laboratories
6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel:(905) 817-5700 Toll-free:800-563-6266 Fax:(905) 817-5777 www.bvlabs.com

Page 1 of 1

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#30854 exp Services Inc	Company Name:		Quotation #:	B91717	BV Labs Job #:	Bottle Order #:
Attention:	Accounts Payable	Attention:	Patricia Stelmack	P.O. #:			748949
Address:	100-2650 Queensview Drive Ottawa ON K2B 8H6	Address:		Project:	OTT-00256275-B0	COC #:	Project Manager:
Tel:	(613) 688-1899 Fax: (613) 225-7337	Tel:	Fax:	Project Name:		C#748949-01-01	Alisha Williamson
Email:	accounting.ottawa@exp.com; Karen.Burke@exp.com;	Email:	patricia.stelmack@exp.com	Site #:			
				Sampled By:	KW		

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BV LABS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Park ☐ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ___	☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558. ☐ Storm Sewer Bylaw ☐ MISA Municipality ___ ☑ PWQO ☐ Other ___	

Include Criteria on Certificate of Analysis (Y/N)? ___

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	ANALYSIS REQUESTED (PLEASE BE SPECIFIC): O.Reg 153 VOCs by HS (Water)	# of Bottles	Comments
1		BH1	Nov 25/19	3:00 pm	gw		X	3	
2		GW0	Nov 25/19	3:00pm	gw		X	3	
3		BH2	Nov 25/19	6:00pm	gw		X	3	
4		BH3	Nov 27/19	10:00	gw		X	3	
5		BH4	Nov 27/19	12:30	gw		X	3	
6		FB	Nov 27/19	10:00	gw		X	3	
7		Trip Blank	Nov 27/19						
8									
9									
10									

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects

Regular (Standard) TAT: ☑
(will be applied if Rush TAT is not specified):
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

27-Nov-19 13:20
Alisha Williamson
B9X5577
FCN ENV-1090

on ice

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
[illegible] Leah Wells	19/11/27	1:20	[illegible] Sergey Grey	19/11/27	13:20	
			[illegible] SIGN [illegible]	2019/11/28	08:00	

Laboratory Use Only				
Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	1, 4, 1	Present	X	
		Intact	X	

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BV LABS' STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVLABS.COM/TERMS-AND-CONDITIONS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVLABS.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO BV LABS

White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.