Phase Two Environmental Site Assessment
441 Maple Avenue, Burlington, Ontario

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Prepared for:

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Executive Summary

Better Life Retirement Residence (c/o 2564905 Ontario Inc.) (BLRR) retained BlueFrog Environmental Consulting Inc. (BlueFrog) to complete a Phase Two Environmental Site Assessment (ESA) of the subject property located at 441 Maple Avenue, Burlington, Ontario (hereinafter referred to as the Site).

The objective of this ESA was to assess environmental soil and groundwater conditions at areas of potential environmental concern (APECs) identified at the Site due to on-Site and/or off-Site potentially contaminating activities (PCAs). This work was done to facilitate redevelopment of the Site from an existing long-term care facility to a residential condominium building.

A Phase One ESA was completed by BlueFrog in January 2019. Based on the Phase One ESA results, the following APECs were identified:

On-Site

- A fuel oil UST was formerly located near the southwest corner of the building. The UST was removed in 1992 and was reportedly intact with no apparent leakage.
- A hydraulic elevator was located on-Site; based on the interviews and Site observations, hydraulic oil leaks have occurred.
- Imported fill materials of unknown quality.

Off-Site (phase one study area)

- A railway line was formerly located adjacent to the Site (from prior to 1910 to the late 1900s); the area of the railway line is now a parking area, located to the northeast of the Site and Maple Villa Long Term Care Centre currently has a license agreement for use of this property.

The Phase Two ESA was completed in general accordance with O.Reg 153/04 (as amended) and is briefly summarized in the table below.

Item	Comments
Field work dates	September 4, 9 and 18, 2020
Total number of assessment locations advanced	4
Assessment locations completed as boreholes	BH1 and BH4
Assessment locations completed as monitoring wells	MW2 and MW3
Maximum assessment depth	5.5 metres below ground surface (m bgs)
Stratigraphy	Gravelly sand fill from 0.7 m bgs to 2.1 m bgs overlying silt followed by weathered shale bedrock to the maximum depth of assessment of 5.5 m bgs. Weathered shale bedrock was encountered at depths ranging from 2.9 m to 3.4 m bgs. Asphalt was present above the fill materials in all borehole locations.
Field evidence of impact	Petroleum odours in BH1 (2.0 to 2.1 m bgs)
Soil vapour concentration	Combustible soil vapours (CSV): not detected (<5 ppmv) to 240 ppmv. Organic soil vapours (OSV): not detected (<1 ppmv) to 24 ppmv.

Item	Comments
Depth to groundwater	2.30 m to 3.96 m bgs.
Inferred groundwater flow direction	The Site-specific groundwater flow direction was inferred to be towards Ontario Lake. Groundwater flow may be influenced by underground utilities and coarse-grained material used to backfill the tank removal excavation near BH1 and at the parking lot to the east of the building.
Monitoring well headspace vapour concentration	CV: not detected to 10 % of the lower explosive limit (LEL). OV: not detected to 2 ppmv.
Site Condition Standard	Ministry of the Environment, Conservation and Parks (MECP) full depth generic site condition standards for a non-potable groundwater condition (Table 3) for residential/parkland/Institutional property use, fine textured soils
Soil Exceedances	Petroleum hydrocarbon fraction F2 in BH1 at 2.2 m
Groundwater Exceedances	None.

Based on the findings, in our opinion, the soil impact identified near the former fuel oil UST located at the southwestern corner of the on-Site building (APEC-1) has been reasonably delineated and no further assessment work is necessary. Further, no soil or groundwater impacts were identified near the hydraulic oil leak from the hydraulic elevator (APEC-2), imported fill materials on Site (APEC-3), and soil and groundwater close to the former railway line (APEC-4) and, therefore, no further soil or groundwater assessment work is necessary in these areas of the Site at this time.

There is a potential concern for human health from the inhalation of PHC impacted vapour from soil. As part of the future development to a residential condominium building, a three-level underground parking garage will be constructed. We understand the parking garage will be located coincident with the PHC impacts, as such, it is expected that all of the PHC impacts will be removed and disposed off-Site at a MECP approved waste receiving facility.

This Executive Summary is not intended to be a stand-alone document, but a summary of findings as described in the accompanying Report. It is intended to be used in conjunction with the scope of services and limitations described therein.

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1.0 Introduction and Objectives

Better Life Retirement Residence (c/o 2564905 Ontario Inc.) (BLRR) retained BlueFrog Environmental Consulting Inc. (BlueFrog) to complete a Phase Two Environmental Site Assessment (ESA) of the subject property located at 441 Maple Avenue, Burlington, Ontario (hereinafter referred to as the Site).

The objective of this ESA was to assess environmental soil and groundwater conditions at areas of potential environmental concern (APECs) identified at the Site due to on-Site and/or off-Site potentially contaminating activities (PCAs). This work was completed to facilitate redevelopment of the Site.

A Phase One ESA was conducted by BlueFrog in January 2019. Based on the Phase One ESA results the following APECs were identified at the Site:

On-Site

- A fuel oil UST was formerly located near the southwest corner of the building. The UST was removed in 1992 and was reportedly intact with no apparent leakage.
- A hydraulic elevator was located on-Site; based on the interviews and Site observations, hydraulic oil leaks have occurred.
- Imported fill materials of unknown quality.

Off-Site (phase one study area)

- A railway line was formerly located adjacent to the Site (from prior to 1910 to the late 1900s); the area of the railway line is now a parking area, located to the northeast of the Site and is leased by Maple Villa Long Term Care Centre.

This report has been prepared based on fieldwork and/or review of information conducted by BlueFrog, for the sole benefit and use by BLRR. In performing the work, BlueFrog has relied in good faith on information provided by others and has assumed that the information provided is both complete and accurate. The work was performed to current industry practice for similar environmental work, within the same regulatory jurisdiction. The findings presented herein should be considered in the context of the scope of work; further, the findings are considered valid only at the time the report was produced. The information presented herein shall not be construed as legal advice.

The conclusions, recommendations, and/or opinions presented in this report are based upon engineering and/or geoscience judgement and experience within the context of BLRR's objectives and the applicable guidelines, regulations, and legislation existing at the time the report was produced.

1.1 Site Description

Table i Phase Two Property Description

Item	Comments
Municipal address	441 Maple Avenue, Burlington, Ontario
Legal description	Part of Lots 64, 65, 66, 67, 77 & 78 Registered Plan 65 Being in the City of Burlington, Regional Municipality of Halton.
Property identifier number (PIN)	07083-0059(LT)
Size	0.28 hectares (approximately 2800 m^2)

Item	Comments
Boundaries	As shown on the plan of survey prepared and signed by an Ontario Land Surveyor provided in **Appendix A**.

1.2 Property Ownership

The owner of the Site is 2564905 Ontario Inc., located at 30 Harding Blvd. West, Unit 210 in Richmond Hill, Ontario. The property owner engaged the qualified person to conduct the Phase Two ESA.

1.3 Current and Proposed Future Uses

The Site is currently used as a two-storey building occupied by Maple Villa Long Term Care Centre.

The proposed future use for this property is a multi-storey retirement home with three levels of underground parking.

1.4 Applicable Site Condition Standard

Based on the details provided in **Table ii** below, the site condition standard selected:

- Full depth generic site condition standard in a non-potable groundwater condition (MECP 2011 Table 3) for residential/parkland/institutional property use and fine textured soils.

Table ii Site Condition Standard

Item	Comments
Groundwater condition	Non-potable: The Site is supplied by a municipal drinking water system. No drinking water wells are located within 250 m of the Site.
Environmentally sensitive areas	No part of Site is on or within 30 m of an area of natural significance. pH values for surface soil samples are not less than 5 or greater than 9. pH values for subsurface soil samples are not less than 5 or greater than 11.
Shallow soil property	As indicated by soils encountered during drilling and other available borehole logs from previous investigations by others, less than one third of the phase two property consists of soil equal to or less than 2 metres in depth beneath the soil surface, excluding any non-soil surface treatment. The groundwater level in all monitored wells were above 3.0 m except in BH1-S and MW1. BH1-S and MW1 are located within the footprint of the former underground storage tank, which has been backfilled with coarse fill materials and have a “bathtub” effect, raising the water level artificially. The water level in those two wells does not represent the actual groundwater level, and therefore the shallow groundwater condition has not been selected.
Proximity to a waterbody	A waterbody is not located on, adjacent to, or within 30 m of the phase two property.
Current and proposed land use	The current use of the Site is residential.
Soil texture	Fine textured soils, as determined by the borehole logs and grain size analysis, which collectively indicated that 50 percent or more by mass of particles that are smaller than 75 micrometres in mean diameter.
Full depth or stratified	The full depth rather than the stratified generic site condition standards were selected.

2.0 Background Information

2.1 Physical Setting

The Site location is shown on **Figure 1**. A Site plan is presented as **Figure 2**.

A description of the general physical setting of the Phase Two Property is presented in **Table iii** below.

Table iii General Physical Setting

Item	Comments
Water bodies within the Phase Two study area	None.
Areas of natural significance within the Phase Two study area	None identified.
Topography of the Phase Two Property	The area of the Phase Two Property is generally flat to gently sloping from northwest to southeast and has an elevation of approximately 85 m above sea level (masl).
Surface water drainage at the Phase Two Property	Stormwater collected at the Phase Two Property is expected to drain overland and flow to catch basins on-site which drain to the city storm sewer lines or infiltrate into the ground in landscaped areas.
Regional surface water drainage	Regional surface water is expected to drain into the Ontario Lake, located approximately 180 m southeast of the Phase Two Property.
Regional surficial and bedrock geology	Expected native surface soils: Lacustrine deposits: sand, gravelly sand and gravel nearshore and beach deposits.; based on Ontario Geological Survey, Quaternary geology map.
	Expected bedrock: Bedrock underlying the Site is described as: shale, limestone, dolostone, and siltstone (Ontario Geological Survey, Bedrock Geology of Ontario).
Surrounding Properties	The Site is bounded to the north and south by multi-story residential buildings, to the northeast by a parking lot followed by Brock Avenue and commercial buildings, and to the southwest by Maple Avenue followed by residential dwellings.

2.2 Past Investigations

The following previous environmental reports were available for review and are summarized as follows.

- *Phase I Environmental Assessment, 441 Maple Avenue, Burlington, Ontario,* prepared by Trow Consulting Engineers Ltd. for Maple Villa Nursing Home, dated April 29, 1994.
    - The report identified the former fuel oil UST as an environmental concern and potential issues with asbestos, leaded paint, and PCBs in electrical fixtures due to the age of the Site building. No other issues of concern were identified by Trow.
- *Letter Correspondence from Trow to CMHC Re: Phase I Environmental Assessment, 441 Maple Avenue, Burlington, Ontario,* dated April 25, 1995.
    - Based on Trow's letter, the fuel oil UST was removed by MacKenzie Excavation in November 1992. MacKenzie reported the tank was intact with no apparent leakage. Consequently, environmental testing was not recommended by Trow.
- *Geotechnical Investigation and Engineering Design Report, 441 Maple Avenue, Burlington, Ontario,* prepared by Terraprobe for Mr. Sam Badawi, dated December 18, 2017.
    - Four boreholes were drilled, one advanced to a depth of 17.3 metres below grade and the other three to a maximum depth of 6.7 mbgs, terminating in shale.
    - Groundwater was measured in the monitoring wells between 3.7 mbgs and 3.9 mbgs. The Site-specific groundwater flow direction was not determined; however, since Lake Ontario is located to the southeast, groundwater flow was considered to be to the southeast.
    - The stratigraphy encountered was fill overlying silt which extended to the shale located about 3 m below grade.

- A copy of Terraprobe's Site plan detailing the locations of the monitoring wells is included in Figure 2.

- *Groundwater Sampling, 441 Maple Avenue, Burlington, Ontario,* prepared by BlueFrog for Better Life Retirement Residence Inc., dated December 28, 2018.
  - Four existing monitoring wells on-Site were sampled (BH1-S [shallow), BH2 to BH4); one was understood to be located close proximity of the former fuel oil UST (BH1-S), and two were downgradient of the area where the former fuel oil UST was located (BH3 and BH4).

    Prior to sampling, each monitoring well was developed by removing three well volumes of groundwater or until the monitoring wells were considered dry. Once the groundwater in the monitoring wells had recharged the groundwater in the monitoring wells was sampled and submitted to Maxxam Analytical for analysis. The samples were analysed for benzene, toluene, ethylbenzene, and xylene (BTEX) and petroleum hydrocarbon (PHC) fractions F1 to F4. The results were compared to MECP O. Reg. 153/04 Table 3 standards; there were no exceedances of the standards in the three groundwater samples submitted for analyse for the Site.

3.0 Scope of Work

3.1 Overview of Site Investigation

The objective of the Phase Two ESA was to address the APECs and associated PCOCs identified in the Phase One ESA Report and comments received from the City of Burlington, and involved the following main activities:

- Advance four boreholes and install two monitoring wells at the locations shown on **Figure 2** and described in **Table iv**, Assessment Rationale, below.
- Collect soil samples from all of the boreholes for laboratory analysis as described in **Table iv**.
- Collect a composite sample of soil from the drill cuttings and submit the sample to Bureau Veritas (BV) for Toxicity Characteristic Leaching Procedure (TCLP) analysis to facilitate disposal of the soil at a MECP approved landfill.
- Monitor the newly installed monitoring wells for water level, subsurface vapour concentration, and presence or absence of free product.
- Collect groundwater samples from the existing and newly installed monitoring wells for laboratory analysis as described in **Table iv**.
- Prepare a report documenting the field activities and results.

Table iv Assessment Rationale

Assessment Location	Rationale	Soil Samples	Groundwater Samples
BH1	APEC 1: Former fuel oil UST.	BTEX (3) PHC (3) PAH (3) PCBs (1) OCPs (1) Metals (2)	BTEX (1) PHC (1) VOC (5)
MW2 and BH4	APEC 2: Hydraulic elevator.	BTEX (2) PHC (2) VOC (5)	

Assessment Location	Rationale	Soil Samples	Groundwater Samples
		PAH (5)	
BH1/MW2/MW3/BH4	APEC 3: Fill materials of unknown quality.	BTEX (1) PHC (1) PAH (1) PCBs (2) OCPs (2) Metals (1)	BTEX (2) PHC (2) Metals (2)
MW3 /BH3 and BH4	APEC 4: Former railway adjacent to northeast property line.	BTEX (1) PHC (1) PAH (1) PCBs (2) OCPs (2) Metals (1)	BTEX (2) PHC (2) Metals (2)
Duplicate	Quality assurance and quality control duplicate sample. 1 sample per 10	BTEX (1) PHC (1) PAH (1) PCBs (1) OCPs (1) Metals (1)	BTEX (1) PHC (1) VOC (1)
Trip Blank	Quality assurance and quality control trip blank	N/A	BTEX/F1 (1)
2 Boreholes	Soil samples collected from selected impacted areas and stratigraphic units, with analysis to assist in the interpretation of the applicable standards for the Site	Grain size, pH (2)	N/A
Soil waste	To facilitate disposal of soil cuttings	TCLP (1)	N/A

Notes:
BTEX – benzene, toluene, ethylbenzene, xylenes
PHC – petroleum hydrocarbons (fractions F1 to F4 and F4 gravimetric if required)
VOCs – volatile organic compounds
PAHs – polycyclic aromatic hydrocarbons
PCBs – polychlorinated biphenyls
OCPs – organochlorine pesticides
N/A – not applicable
(1) – number of samples submitted for analysis

3.2 Media Investigated

There are no water bodies located within the Site. As such, sediment and surface water sampling were not included in this Phase Two ESA. No off-Site investigation was conducted during this Phase Two ESA, except groundwater samples were collected from BH3 and BH4 located northeast of MW3. MW2 and MW3 installed by BlueFrog were dry during groundwater monitoring and sampling on September 9, 2020 due to slow recharge from the tight formation soils.

The sampling plan and rationale are detailed in **Table iv**. The plan includes the collection of quality assurance and quality control (QA/QC) and residue samples.

3.3 Phase One Conceptual Site Model

The Phase One Conceptual Site Model is summarized in **Table v** below.

Table v Phase One Conceptual Site Model

Item	Comments
Existing buildings and structures	One existing two-story building is located at the Site.
Water bodies	There are no water bodies within the Phase One Study Area.
Areas of natural significance	There are no areas of natural significance identified within the Phase One Study Area.
Drinking water wells	There are no drinking water wells within the Phase One Study Area.
Roadways	The Site is located on the east side of Maple Avenue. Located approximately 75 m north of the Site is Lakeshore Road. Brock Avenue is located approximately 30 m east of the Site and Elgin Street is located approximately 135 m north of the Site.
Adjacent land use	The Site is bounded to the north, south and west by multi story apartment or low-rise residential dwellings, to the east by a parking lot followed by Brock Avenue.
PCAs and tanks	PCAs were identified and may contribute to an APEC, based on the distance from the Phase One Property, contaminant pathways, the direction of local groundwater flow, and mobility and/or persistence of the associated potential contaminants of concern. The PCAs identified include a former fuel oil UST at southwest corner of the on-Site building, hydraulic elevator located on the south-central and north-central portion of the onsite building and reported leaking, and a former railway adjacent to northeast property line. PCA #28 - Gasoline and Associated Products Storage in Fixed Tanks PCA #30 - Importation of Fill Material of Unknown Quality PCA #46 – Rail Yards, Tracks and Spurs
APECs	Four APECs were identified, which are: APEC 1: Former fuel oil UST located at the southwest corner of the building APEC 2: Hydraulic elevator, located south-central and north-central portion of the on-Site building APEC 3: Unknown quality of the backfill APEC 4: Former railway adjacent to northeast property line
PCOCs	PCOCs associated with the APECs on-Site include BTEX, PHC fractions F1-F4, PAHs, PCBs, OCPs and metals.
Underground Utilities	Utilities are solely underground. These include natural gas, electrical, telecommunications, water and sanitary sewer. No mounding was observed in the groundwater contours therefore it is unlikely buried utilities are interacting with the water table.
Geological and hydrogeological information	The groundwater flow direction was inferred to be Lake Ontario. The depth to groundwater was approximately 2.30 to 3.96 m bgs. Soils were described as gravelly sand fill overlying sand followed by weathered shale bedrock. Bedrock was encountered at depths from 2.9 m to 3.4 m bgs.
Uncertainties or lack of information that could affect the validity of the model	There were no uncertainties or lack of information that could affect the validity of the model.

3.4 Deviations from Sampling and Analysis Plan

There were no deviations from the sampling and analysis plan, except i) a monitoring well was not installed in borehole BH1 (APEC 1) as an existing monitoring well in good condition was found in close proximity and installed

to the same depth and ii) groundwater samples could not be collected from MW2 and MW3 installed by BlueFrog as both of these well were dry during sampling.

Therefore, groundwater samples were collected from BH3 and BH4 previously installed by Terraprobe, which provided representative groundwater quality data to address APEC 4.

No soil impacts were identified in any of the samples collected from MW 2 and BH 4 (APEC 2), all petroleum related parameters were below the detection limit and, therefore, groundwater was not sampled.

3.5 Impediments

All applicable areas of the Site were accessible and there were no impediments affecting the sampling and analysis plan.

4.0 Methodology

4.1 General

This Phase Two ESA was completed in general accordance with MECP Guidance for Completing Phase Two Environmental Site Assessments under Ontario Regulation 153/04 (as amended), the MECP Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (as amended), and standard industry practice.

Sampling and laboratory analyses followed the plan described in Section 4.1. Each sampling method followed the associated standard operating procedure.

4.2 Drilling, Monitoring Well Installation

Public and private utility locates were completed prior to the initiation of the drilling program.

BlueFrog staff supervised the drilling of the boreholes and installation of monitoring wells detailed in **Table vi** below. The assessment locations are presented on **Figure 2**.

Table vi Drilling and Monitoring Well Installation

Item	Comments
Drilling dates	September 4, 2020
Drilling contractor	Sonic Soil Sampling
Drill rig	Track Mounted Solid Stem Drill Machine: Comacchio GEO205
Number of borehole locations	Two (2): BH1 and BH4
Assessment locations completed as monitoring wells	Two (2): MW2 and MW3
Maximum assessment depth	5.5 m bgs
Measures to minimize cross-contamination	Soil samples were collected using a 51mm outside diameter steel split spoon sampling tool at regular intervals, disposable soil syringes, and trowels. The trowels were brushed clean, then scrubbed with soapy water, then rinsed with distilled water, and then allowed to air-dry prior to collecting each sample. The sampling technician wore nitrile gloves, minimized touching of the samples, and switched to a new pair of gloves prior to handling each new sample.
Frequency of sample collection	Field screening soil samples were collected every 0.76 m or less and were used to select the locations for samples submitted for laboratory analysis comprised of one sample per borehole.

	The sample locations are shown on the borehole logs in **Appendix B**.

During borehole advancement, boreholes were logged for textural classification and visual observations. Drill cuttings were collected in steel drums for disposal at a MECP licensed waste receiver. A composite soil sample was submitted to BV for laboratory analysis of waste classification parameters to facilitate off-Site disposal.

4.3 Soil Sampling

During the drilling program soil samples were collected using a 51mm outside diameter steel split spoon sampling tool at regular intervals. The samples were collected using a stainless-steel trowel and nitrile gloves and placed in laboratory supplied jars. Each soil sample was immediately split and one portion of the sample was placed in a clean plastic bag for screening, the remainder of the sample was placed in containers supplied by the laboratory and stored in coolers with ice for possible analysis. The sampling devices were cleaned with a solution of phosphate-free detergent and water, then rinsed with distilled water, between samples.

The soil samples submitted for analysis of BTEX and PHC fraction F1 were collected using a clean disposable sampling syringe and placed in 40-mL vials pre-charged with 10 mL of methanol. Approximately 5 g of soil was collected in the sampling syringe and placed in each methanol filled sampling vial. Samples for the remaining parameters were collected in 120-mL or 250-mL glass jars with Teflon lined lids, as supplied and specified by the laboratory. Before collected each sample, clean nitrile gloves were donned to prevent cross contamination.

The stratigraphic profile encountered in the boreholes is discussed in **Section 5.1**. Detailed stratigraphic descriptions are presented on the borehole logs in **Appendix B**.

4.4 Field Screening Measurements

The details of field screening measurements and equipment are described in the table below.

Table vii Field Screening Measurements and Equipment Details

Item	Comments
Make and model number	RKI Eagle 2 with catalytic combustible gas sensor and photoionization detector (PID) sensor.
Detectable chemicals and detection limits	Capable of measuring a wide range of combustible organic and inorganic chemical vapours (operated in methane elimination mode).
	Detection limit of 5 parts per million by volume (ppmv) to 100% of the lower explosive limit (% LEL) for n-hexane. Detection limit of 1 ppmv to 4000 ppmv for isobutylene
Precision of the measurements	5 ppmv on the ppm scale and 1 % on the LEL scale for n-hexane 1 ppmv for isobutylene
Accuracy of the measurements	+/- 5%
Calibration reference standards	n-hexane [nominal 1650 ppmv or 15% LEL] and isobutylene [nominal 100 ppmv], delivered at the operational flow rate of the instrument.
Procedures for checking calibration	Daily bump test by comparing the meter readings to the known gas concentrations of the supply tanks. Recalibration is completed if reading differs from the known concentration by more than 10%

Typically, one soil sample considered to be worst case based on field screening measurement and visual observations was selected from each borehole for laboratory analysis. One soil sample was collected below the contaminated zone for delineating the impact.

Field screening methods did not differ from the proposed standard operating procedure in the sampling and analysis plan.

4.5 Groundwater Monitoring Well Installation

A monitoring well, consisting of a 51 mm diameter polyvinyl chloride (PVC) 10 slot screen, measuring 2.3 m and 3.1 m in length, and an un-slotted riser was installed in two of the boreholes. Sand pack was placed in the annulus between the slotted PVC pipe and borehole walls to a maximum of 0.30 m above the well screen. Hydrated bentonite chips were placed in the annulus between the solid PVC pipe and borehole walls on top of the sand pack to approximately 0.3 mbgs. The monitoring wells were completed with a J-plug and flush-mounted or monument casing set in concrete grout to protect the monitoring well from damage.

The screened interval at each monitoring well was selected to intercept the water table based on field evidence.

Monitoring well installation details are presented on the borehole logs in **Appendix B** and in **Table 1**. The well records are presented in **Appendix C**.

The newly installed monitoring wells were not developed as the wells were dry during groundwater sampling on September 9, 2020.

BlueFrog's well development procedure is to use dedicated tubing for each monitoring well and a submersible pump. The submersible pump is cleaned with a solution of phosphate-free detergent and water, then rinsed with distilled water, between monitoring wells. Each monitoring well is purged of 3 to 10 well volumes until reasonably free clear or until dry three times to remove fine materials disturbed during the construction of the well.

4.6 Groundwater Field measurement of Water Quality Parameters

The selected existing monitoring wells (BH1-S [shallow], BH-D [deep], BH3, BH4 and MW1), were monitored for headspace vapour concentrations, depth to groundwater, and the presence or absence of free phase product. The newly installed monitoring wells (MW2 and MW3) were dry during monitoring.

Immediately after removing the monitoring wells caps, the maximum combustible vapour (CV) and organic vapour (OV) concentrations in the monitoring wells headspaces were measured using an RKI EAGLE 2 gas monitor operated in methane elimination mode. This was done by inserting the collection tube of the RKI EAGLE 2 into the top portion of the riser pipes and recording the peak instrument readings.

The depth to the water table and presence or absence of free phase product in the monitoring wells was determined with a Solinst interface meter that was cleaned with a solution of phosphate-free detergent and water, then rinsed with distilled water, between monitoring wells.

Monitoring wells were purged before sampling. Groundwater samples were collected from the newly installed monitoring wells using a low-flow purging methodology. Low-flow purging was completed using a variable-flow peristaltic pump to remove groundwater from the mid-point of the monitoring well screened zone.

The pump was connected to a flow-through cell equipped with a multimeter (Horiba U-22) that measured pH, temperature, electrical conductivity, dissolved oxygen (DO), reduction oxidation potential (REDOX), and turbidity.

The groundwater sample was collected when the pH, temperature, electrical conductivity, DO and REDOX measurements generally stabilized, as noted in **Table viii** below, over three consecutive readings, taken at a maximum rate of at least one per every flow-through cell volume.

Table viii Low flow parameter stabilization

Parameter	Comments
Temperature	± 3%
pH	± 0.1 pH Units
Electrical Conductivity	± 3%
Dissolved Oxygen	± 10%
REDOX	± 10 mV
Turbidity	± 10%

The pump and flow-through cell were connected to the monitoring wells with polyethylene and silicone tubing sections dedicated to each monitoring well. All groundwater samples were collected using dedicated tubing.

Purged groundwater was placed in sealed drums at the Site for storage for later disposal.

4.7 Groundwater Sampling

Groundwater samples were collected from the selected existing monitoring wells (MW1, BH3 and BH4) using a low-flow purging methodology. Low-flow purging was completed using a variable-flow peristaltic pump to remove groundwater from the mid-point of the monitoring well screened zone.

Once groundwater quality parameters stabilized as described in Section 5.6 samples were collected into sample bottles specified and supplied by the laboratory:

- for analysis of PHC fraction F1, in septum topped 40-mL clear glass vials (with zero headspace), pre-charged with sodium bisulphate preservative;
- for analysis of PHC fractions F2 to F4 and PAHs were each collected in 100-mL amber glass bottles, pre-charged with sodium bisulphate preservative; and ,
- For analysis of dissolved metals were each collected in 120 mL plastic bottles, pre-charged with nitric acid preservative.

The groundwater samples were placed in coolers on ice immediately after they were collected.

4.8 Sediment Sampling

Sediment sampling was not included in this Phase Two ESA.

4.9 Analytical Testing

Soil and groundwater samples were submitted to the BV laboratory in Mississauga, Ontario. BV's Mississauga laboratory is accredited by the Standards Council of Canada. Analytical methods used by the laboratory are referenced in the certificates of analysis presented in **Appendix C**. Analytical procedures were conducted in accordance with the MECP Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (as amended).

4.10 Residue Management Procedures

Drill cuttings, purged water, and fluids from equipment cleaning were collected in steel drums for disposal at a MECP licensed waste receiver.

To facilitate disposal of the drill cuttings generated throughout the investigation, one composite soil sample was collected and submitted for ignitability testing and TCLP analysis, with the leachate being analyzed for inorganics.

4.11 Surveying

The newly installed (MW2 and MW3) and selected existing (MW1, BH1-S, BH1-D, BH3 and BH4) monitoring wells were vertically and horizontally surveyed and tied into a common datum using a self-leveling laser unit. The top nut of the fire hydrant located on the west side of the building on Maple Avenue was used as a benchmark with an assigned elevation of 100 m.

The survey was conducted by BlueFrog personnel on September 9, 2020.

4.12 Quality Assurance and Quality Control (QA/QC)

A QA/QC program was implemented to reduce and quantify potential issues introduced during sample collection, handling, shipping and analysis. The QA/QC program included, but was not limited to, using trained field personnel, dedicated sampling equipment, employing sample-specific identification and labelling procedures, using laboratory supplied sample containers pre-charged with preservatives as required, using chain of custody records, a trip blank sample and duplicate samples.

Table ix QA/QC Measures

Item	Comments
Sample containers	All samples were collected in laboratory supplied containers specific to the media being sampled and analysis being requested. Where necessary, containers were pre-charged with appropriate preservatives by the laboratory. Each container was labeled with a laboratory supplied label and given a unique sample name.
Sample handling and custody	Samples were placed in coolers on ice immediately after they were collected. Chains of custody were completed. Chains of custody were relinquished to the laboratory with the sample coolers.
Equipment cleaning	Equipment cleaning procedures are described in Sections 4.3 and 4.6
Field quality control	Field duplicates and trip blanks were collected as indicated in the sampling and analysis plan in table iv. Field instrument calibration checks are described in Section 4.4.
Deviations from QA/QC sample and analysis plan	None.

5.0 Review and Evaluation

5.1 Geology

Field observations are summarized in **Table x** below, and are also presented on the borehole logs in **Appendix B.**

Table x Field Observations – Soil

Item	Comments
Stratigraphy	The stratigraphic profile encountered with increasing depth in the boreholes generally consisted of gravelly sand fill from 0.7 m bgs to 2.1 m bgs overlying silt followed by weathered shale bedrock to the maximum depth of assessment of 5.5 m bgs. Weathered shale bedrock was encountered at depths from 2.9 m to 3.4 m bgs. Asphalt was present above the fill materials in all borehole locations.
Vapour concentrations	The soil vapour concentrations ranged from: Combustible soil vapours (CSV): not detected (<5 ppmv) to 240 ppmv. Organic soil vapours (OSV): not detected (<1 ppmv) to 24 ppmv.

Item	Comments
Visual evidence of impact (e.g., staining or free product)	Petroleum odour in BH1 (2.0 to 2.1 m bgs)

Detailed geologic information including estimated thickness of geologic units, elevations of geologic units and descriptions of each geological unit is presented in the borehole logs in **Appendix B** and illustrated in cross sections on **Figure 6 to Figure 9.**

5.2 Groundwater Elevations and Flow Direction

Field observations are summarized in **Table xi** below, and are detailed in **Table 1**, following the text.

The rationale for the locations of the monitoring wells are described in the sample and analysis plan in Section 4.1. Screened intervals were selected based on field screening such that the water table intercepts the screened interval at each location.

Table xi Field Observations – Groundwater

Item	Comments
Monitoring dates	September 9, 2020
Groundwater levels	2.30 m to 3.96 m bgs.
Free product	Not detected.
Inferred groundwater direction	The Site-specific groundwater flow direction was inferred to be towards Ontario Lake. Groundwater flow may be influenced by underground utilities and coarse-grained material used to backfill the tank removal excavation near BH1 and in the parking lot to the northeast of the building.
Temporal Variability	Lake Ontario is located southeast of the Site and the shoreline of the lake is oriented in a southwest to northeast direction. There was no hydrogeological information provided in the previous environmental assessment report. No temporal variability in groundwater flow was observed. The reported water levels and/or inferred direction of groundwater flow apply on the date of monitoring. Water levels and/or inferred direction of groundwater flow can change with the passage of time due to various factors including precipitation, surface runoff, seasonal variability, variation in aquifer recharge or discharge, and changes made to surface or subsurface features.
Vapour concentrations	The monitoring well headspace vapour concentrations ranged from: CV: not detected to 10 % of the lower explosive limit (LEL) OV: not detected to 2 ppmv
Buried Utilities	No mounding was observed in the groundwater contours therefore, it is unlikely buried utilities are interacting with the water table.

Groundwater elevations and flow direction in the monitoring wells were determined using measurements from the monitoring events and the elevation survey results.

There are two hydro-stratigraphic units at the Site.

- a shallow water table is present in the weathered shale bedrock, and
- a deeper water bearing unit within the shale bedrock.

The detailed stratigraphy is presented on the logs in **Appendix B** and shown in the cross-sections on **Figures 7** and **9**.

5.3 Hydraulic Conductivity

Hydraulic conductivity testing could not be completed as the two monitoring wells installed by BlueFrog were dry. However, BlueFrog completed hydraulic conductivity testing in the shallow weathered shale bedrock at another Site in Burlington in August 2020, where hydraulic conductivity ranged from 2.91 x 10^{-6} m/s to 6.17 x 10^{-6} m/s.

The average hydraulic conductivity for the shallow aquifer was approximately 4.08 x 10^{-6} m/s.

Vertical hydraulic gradients determined for one well screen pair, BH1-S and BH1-D, had a downward flow gradient.

5.4 Fine-Medium Soil Texture

Coarse soil texture site condition standards were not applied to this Site. Fine-medium textured soils, as determined by the borehole logs and grain size analysis, which collectively indicated that less than two-thirds of the soil at the property, measured by volume, consisted of 50 percent or more of particles that are smaller than 75 µm in diameter. Therefore, the fine-medium site condition standards were applied.

5.5 Soil Field Screening

Detailed borehole logs summarizing the results of soil field screening are presented as **Appendix B**. The combustible soil vapour concentrations ranged from not detected (<5 ppmv) to 240 ppmv. The organic soil vapour concentrations ranged from not detected (<1 ppmv) to 24 ppmv.

5.6 Soil Quality

The soil analytical results are presented and compared to the applicable MECP Table 3 Site conditions standards in **Table 2**.

The laboratory certificates of analysis are presented as **Appendix C**.

The concentration of each parameter of concern in soil analyzed met the applicable MECP standards, except for the following:

- PHC fraction F2 in BH1-2.2

A composite soil sample of the drill cuttings generated throughout the investigation were submitted for laboratory analysis to facilitate disposal. The soils are classified as non-hazardous and not ignitable.

The soil analytical results are presented on **Figure 4**, and in cross sections in **Figures 6 and 8.**

5.7 Groundwater Quality

The groundwater analytical results are presented and compared to the applicable MECP Table 3 Site conditions standards in **Table 3**.

The laboratory certificates of analysis are presented as **Appendix C**.

The concentration of each parameter of concern in groundwater analyzed satisfied the applicable MECP standards.

The groundwater analytical results are presented on **Figure 5** and in cross sections in **Figures 7 and 9.**

5.8 Sediment Quality

Sediment sampling was not included in this Phase Two ESA.

5.9 Quality Assurance and Quality Control (QA/QC)

The importance and intent of the QA/QC programme were to determine if the analytical results are useful, appropriate and accurate in the determining whether the Phase Two Property, meets the applicable site condition standards.

One soil field duplicate, one groundwater field duplicate and one water trip blank were collected and submitted for laboratory analysis for QA/QC.

The results of the field duplicates, trip blank, and laboratory quality control analyses are presented in the laboratory certificates of analysis in **Appendix C**. The analyses included instrument and extraction surrogate recovery, method blanks, matrix duplicates, and matrix spikes and were considered acceptable with respect to conventional QA/QC standards.

All samples were handled in accordance with the analytical protocols and sampling and analysis plan with respect to holding time, preservation method, storage requirements, or container type. All Certificates of Analysis that were provided by the laboratory comply with subsection 47 (3) of the regulation, a Certificate of Analysis was received for each sample submitted for analysis and have been included in **Appendix C**.

No laboratory qualified results or sample remarks were identified that would materially affect the validity of the findings presented in this report.

5.10 Phase Two Conceptual Site Model

The expected human receptors at the Site for the proposed use as a residential condominium building are the following:

- Resident (all stages of life)
- Adult subsurface worker
- Adult indoor worker (long-term)
- Adult outdoor worker (long-term)
- Property visitor
- Trespasser

The likely possible routes of exposure are:

- Garden produce ingestion (resident)
- Dermal contact (resident, subsurface worker, outdoor worker)
- Inhalation of dust (subsurface worker)
- Inhalation of vapours (resident, subsurface worker, outdoor worker, indoor worker)

Based on the Site location, the terrestrial ecological receptors identified in the MECP modified generic risk assessment model have been considered in the ecological receptor conceptual site model. These receptors considered are:

- Terrestrial plants (on- and off-Site)
- Soil invertebrates (on- and off-Site)
- Mammals (on- and off-Site)
- Birds (on- and off-Site)
- Aquatic receptors (off-Site)

The Phase Two ESA conceptual site model is presented on **Figure 10** and summarized in **Table xii** below.

Table xii Phase Two Conceptual Site Model

Item	Comments
PCAs (Section 3.3)	PCA #28 - Gasoline and Associated Products Storage in Fixed Tanks PCA #30 - Importation of Fill Material of Unknown Quality PCA #46 – Rail Yards, Tracks and Spurs
APECs (Section 3.3)	APEC 1: Former fuel oil UST, located southwest corner of the building: APEC 2: Hydraulic elevator, located south-central and north-central portion of the on-Site building APEC 3: Unknown quality of the backfill APEC 4: Former railway adjacent to northeast property line
Potential for underground utilities and structures to affect contaminant distribution and transport (Section 3.2)	Utilities are solely underground. These include natural gas, telecommunications, electrical, water, and sanitary sewer. The locations of underground utilities are shown on **Figure 2**. We understand that the proposed development includes three levels of underground parking structure that will prevent groundwater draw-down post-construction and underground utilities are not expected to affect the water table. Underground utilities at the Site could include natural gas, electrical, telecommunications, water, and sanitary sewer. No mounding of the shallow aquifer groundwater surface was observed based on monitoring; therefore, it is unlikely buried utilities are influencing the water table.
Stratigraphy from ground surface to the deepest aquifer or aquitard investigated (Section 5.1)	The general stratigraphic profile observed at the borehole locations consisted of gravelly sand fill from 0.7 m bgs to 2.1 m bgs overlying silt followed by weathered shale bedrock to the maximum depth of assessment of 5.5 m bgs. Weathered shale bedrock was at depths from 2.9 m to 3.4 m bgs. Asphalt was located above the fill materials in all borehole locations. There are two hydro-stratigraphic units at the Site. • a perched localized water table present in the weathered shale bedrock underneath the silt layer, and • a lower water bearing unit within the shale bedrock. The detailed stratigraphy is presented on the logs in **Appendix B** and shown in the cross-sections on **Figures 7** and **9**.
Hydrogeological characteristics (Section 5.2 and 5.3)	The potentiometric surface elevations are presented in **Table 1** and shown on **Figure 3** for the shallow aquifer. Potentiometric surface elevations are also shown in cross-section on **Figures 7 and 9**.
	Groundwater in the shallow aquifer flowed in a northeasterly to easterly direction on September 9, 2020. Groundwater in the deep aquifer could not be contoured because of limited data. Groundwater is anticipated to ultimately discharge to Lake Ontario.
	Hydraulic conductivities could not be measured as two newly installed monitoring wells were dry. However, BlueFrog completed hydraulic conductivity testing in the shallow weathered shale bedrock at another property in Burlington, the average hydraulic conductivity in the weathered shale (shallow aquifer) was approximately 4.08×10^{-6} m/s. Vertical hydraulic gradients determined for one well screen pair (shallow to deep) had a downward flow gradient.
Approximate depth to water table (Section 5.2)	The depth to groundwater in the shallow aquifer ranged from 2.31 m bgs (MW1) to 3.96 m bgs (BH4) during the monitoring event on September 9, 2020. The average depth to groundwater was 3.01 m bgs. The depth to groundwater in the deep aquifer was 7.99 m bgs. Only one deep monitoring well was located at the southwestern portion of the Site.

Item	Comments
Environmentally sensitive areas, shallow soil property, or water body (Section 1.4)	No part of the Phase Two ESA Property is on or within 30 m of an area of natural significance.
	pH values for surface (<1.5 m bgs) soil samples were not less than 5 or greater than 9.
	pH values for subsurface (>1.5 m bgs) soil samples were not less than 5 or greater than 11.
	As indicated by the available borehole logs, less than one third of the Phase Two ESA Property consists of soil equal to or less than 2 m beneath the soil surface, excluding any non-soil surface treatment.
	A waterbody is not located on, adjacent to, or within 30 m of the Phase Two Property.
Soil brought from another property and placed on, in or under the Phase Two Property	There was no soil brought from another property to the Phase Two ESA Property during the investigation.
Locations of proposed buildings or structures	We understand that a multi-storey residential building will be constructed at the Phase Two ESA Property.
Contaminants greater than the applicable SCS	
PHC fraction F2	Soil concentrations were greater than the applicable Table 3 SCSs for one contaminant of concern in one soil sample and the results are presented in **Table 2**.

The contaminated soil was identified in BH1 in a sample collected at 1.6 m to 2.2 m bgs near the southwest corner of the building near the location of a former fuel oil tank. There is a potential for the residents, subsurface workers, outdoor workers, and indoor workers to inhale vapours from PHC impacted soil. As such, a sub-slab soil vapour or indoor air quality assessment should be conducted inside the building to determine if the PHC impacted soil represents a potential vapour intrusion risk to the identified receptors.

As part of the future development, the soil from this area will be removed as three levels of underground parking will be constructed and, therefore, no further assessment work is recommended. There are no complete routes of exposure to ecological receptors at the Site and, therefore, ecological receptors are not considered further.

5.11 Maximum Concentrations

The maximum concentrations of parameters analyzed in samples of soil and groundwater during the investigation that remain at the Site are presented in **Tables 4** and **5**, respectively.

6.0 Conclusions

The objective of this ESA was to assess environmental soil and groundwater conditions at areas of potential environmental concern (APECs) identified at the Site due to on-Site and/or off-Site potentially contaminating activities (PCAs) following a Phase One ESA conducted by BlueFrog in January 2019.

During the Phase Two ESA, four boreholes with two monitoring wells were advanced. Soil and groundwater samples were collected and submitted for laboratory analysis of BTEX, PHC fractions F1 to F4, PAHs, PCBs, OCPs, metals, grain size and/or pH.

The results of the assessment are summarized as follows:

- **Stratigraphy and soil observations:** The stratigraphic profile encountered with increasing depth in the boreholes generally consisted of gravelly sand fill from approximately 0.7 to 2.1 m bgs overlying silt followed by weathered shale bedrock to the maximum depth of assessment of 5.5 m bgs. Weathered shale bedrock was identified at depths from 2.9 m to 3.4 m bgs.
- **Groundwater depth and flow direction:** The depth to groundwater ranged from 2.30 m to 3.96 m bgs. The Site-specific groundwater flow direction was inferred to be towards Lake Ontario.
- **Site Condition Standards:** The MECP full depth generic site condition standards for a non-potable groundwater condition (Table 3) for residential/parkland/institutional property use, fine textured soils, were selected for comparison with the soil and groundwater analytical results.
- **Soil Analytical Results**: All samples submitted for analysis satisfied the applicable MECP Table 3 standards, except:
  - PHC fraction F2 in BH1-2.2
- **Groundwater Analytical Results**: All samples submitted for analysis satisfied the applicable MECP Table 3 standards.

Based on the findings, in our opinion, the soil impact identified near the former fuel oil UST located at the southwestern corner of the on-Site building (APEC-1) has been reasonably delineated and no further assessment work is necessary. Further, no soil impacts were identified near the hydraulic oil leak from the hydraulic elevator (APEC-2), imported fill materials on Site (APEC-3), and soil and groundwater close to the former railway line (APEC-4) and, therefore, no further soil or groundwater assessment work is necessary in these areas of the Site at this time.

There is a potential concern for human health from the inhalation of PHC impacted vapour from soil. As part of the future development to a residential condominium building, a three-level underground parking garage will be constructed. We understand the parking garage will be located coincident with the PHC impacts, as such, it is expected that all of the PHC impacts will be removed and disposed off-Site at a MECP approved waste receiving facility.

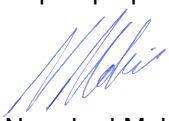
7.0 Closure

We trust that the above information meets your present needs. Statement of qualifications for the undersigned are available on request. Please do not hesitate to contact us if you have any questions or comments.

Sincerely,

BlueFrog Environmental Consulting Inc.

Report prepared by:



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Senior Engineer
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647.989.4297

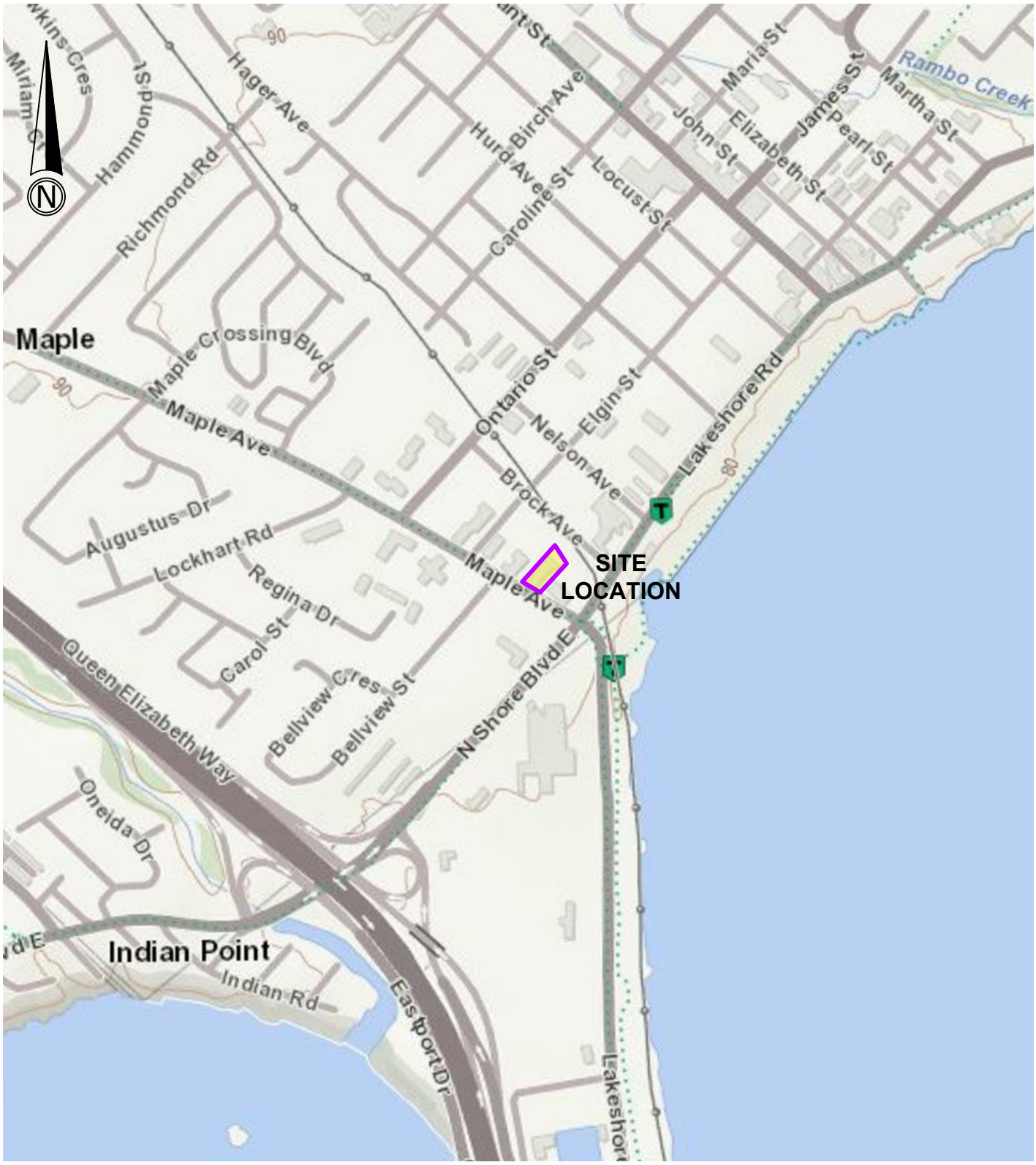
Report reviewed by:



Gerry Parrott, P.Geo, QP$_{ESA}$
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416.407.9769

FIGURES

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MAP REFERENCE: Ontario Ministry of Natural Resources and Foresty

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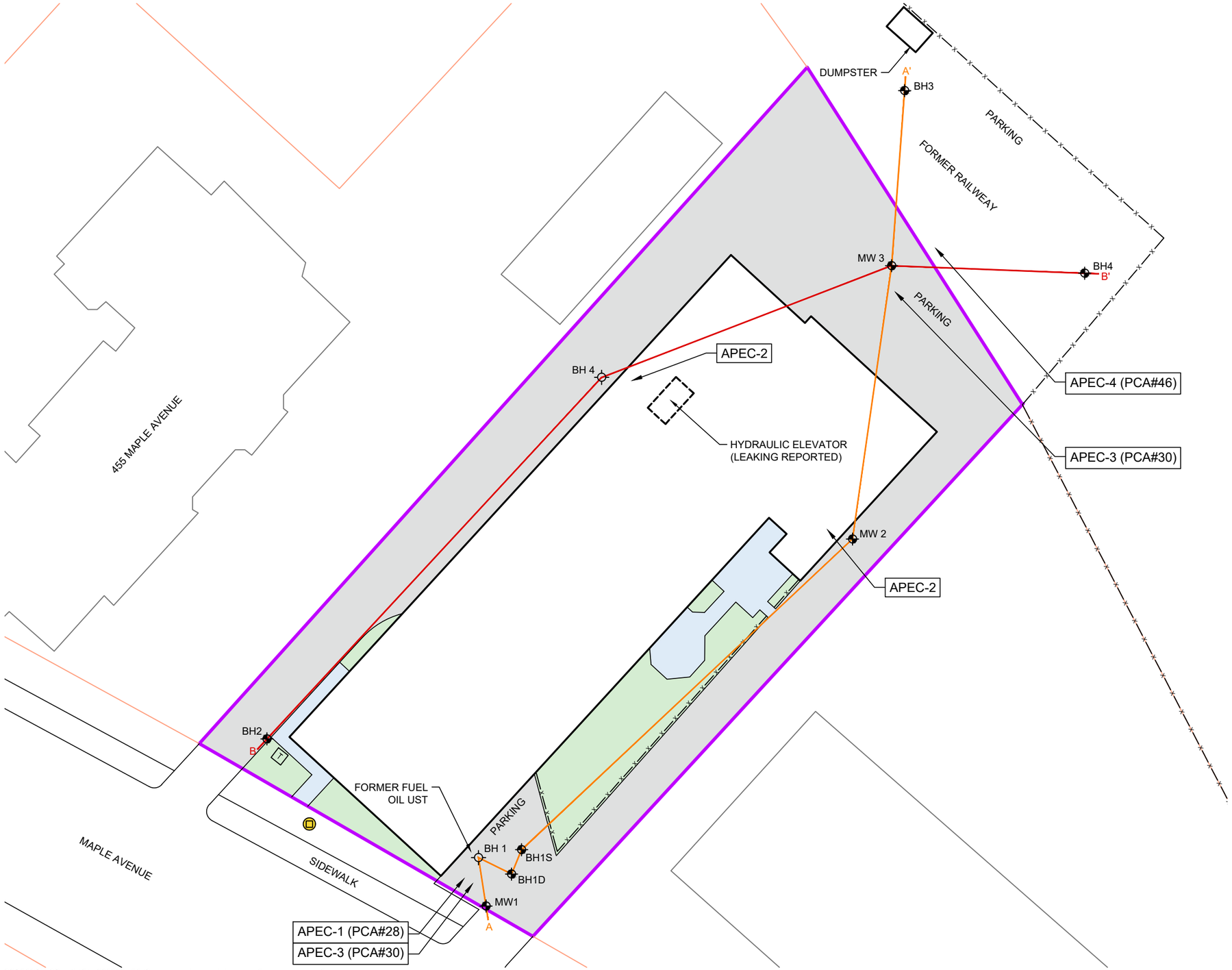
BlueFrog Environmental Consulting Inc.

SITE LOCATION MAP

441 MAPLE AVENUE, BURLINGTON, ONTARIO

0025-001.02	OCTOBER 2020	FIGURE 1

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PROPERTY BOUNDARY REFERENCE: Ontario Ministry of Natural Resources and Foresty

DRAWING SHOULD BE PRINTED ON 11x17 PAPER FOR ACCURATE SCALING.

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0 5 10 20m

Scale 1 : 400

LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- PROPERTY BOUNDARY
- BOREHOLE
  - BH 1 AND BH 4 INSTALLED BY BLUEFROG (2020)
- MONITORING WELL
  - MW 2 AND MW3 INSTALLED BY BLUEFROG (2020)
  - MW 1 INSTALLED BY OTHERS
  - BH1 TO BH4 INSTALLED BY TERRAPROBE (2017)
- FENCE
- FIRE HYDRANT
- TRANSFORMER
- ASPHALT
- CONCRETE
- LANDSCAPED AREA
- CROSS SECTION LOCATION

NOTES:

LOCATIONS ARE APPROXIMATE.

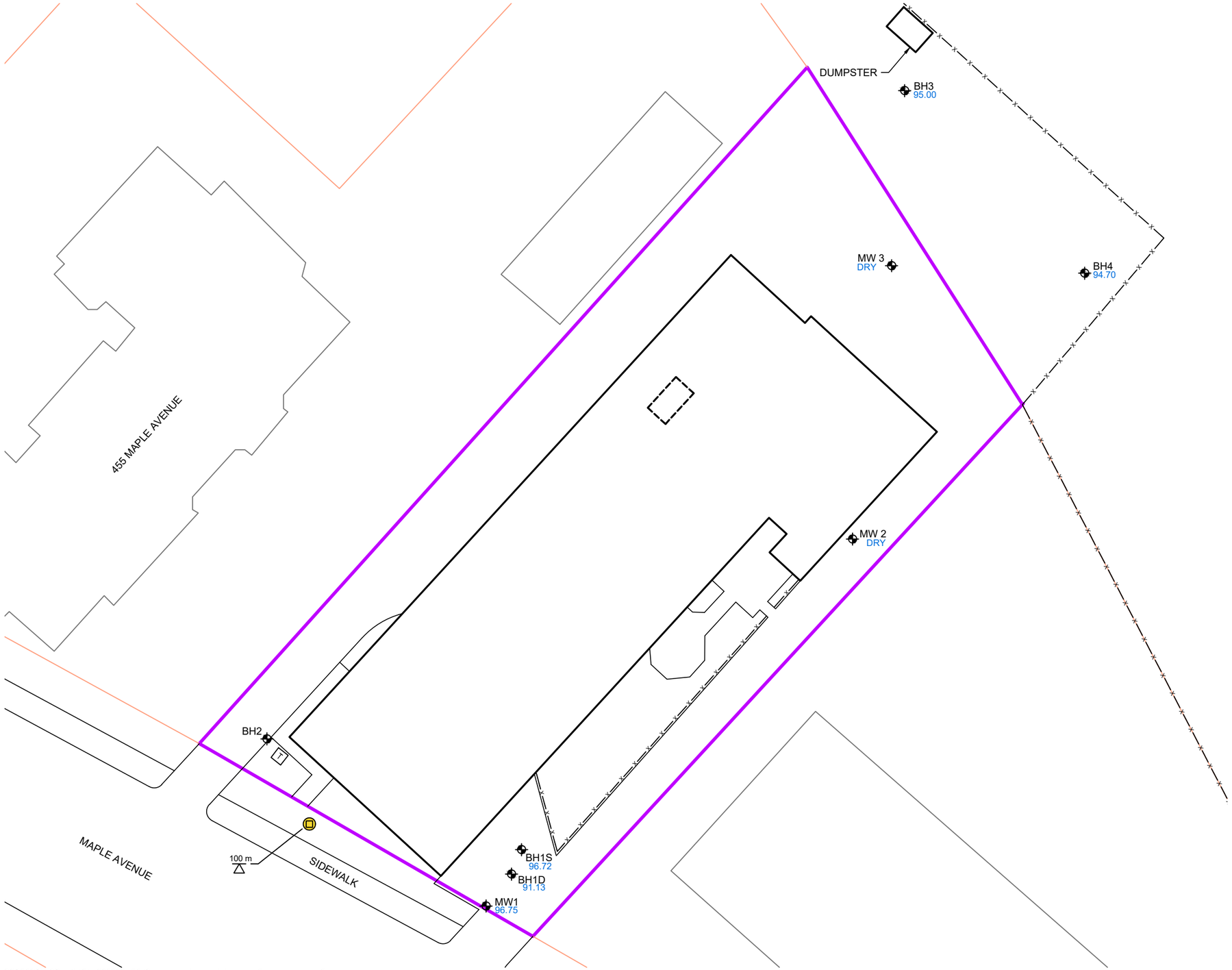
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SITE PLAN

441 MAPLE AVENUE, BURLINGTON, ONTARIO

0025-001.02	OCTOBER 2020	FIGURE 2

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LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- PROPERTY BOUNDARY
- MONITORING WELL
  - MW 2 AND MW3 INSTALLED BY BLUEFROG (2020)
  - MW 1 INSTALLED BY OTHERS
  - BH1 TO BH4 INSTALLED BY TERRAPROBE (2017)
- FENCE
- FIRE HYDRANT
- TRANSFORMER
- 95.00 GROUNDWATER ELEVATION (masl)
- 100 m BENCHMARK

NOTES:

LOCATIONS ARE APPROXIMATE.

BENCHMARK IS THE TOP NUT OF A FIRE HYDRANT LOCATED ON THE WEST SIDE OF THE BUILDING ON MAPLE AVENUE WITH AN ASSIGNED ELEVATION OF 100 m.

PROPERTY BOUNDARY REFERENCE: Ontario Ministry of Natural Resources and Foresty

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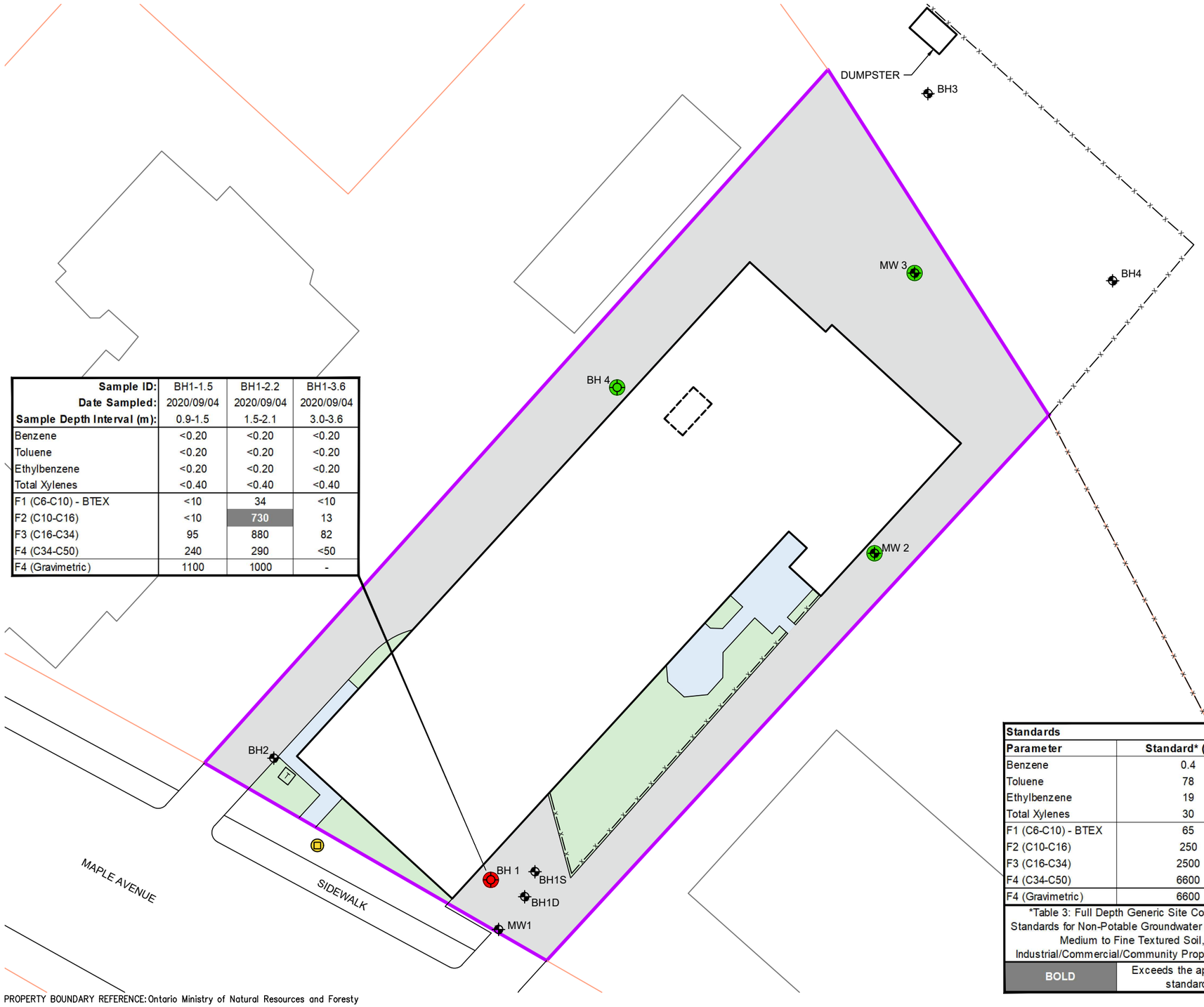
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ELEVATION OF POTENTIOMETRIC SURFACE - SEPTEMBER 09, 2020

441 MAPLE AVENUE, BURLINGTON, ONTARIO

0025-001.02	OCTOBER 2020	FIGURE 3

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Sample ID:	BH1-1.5	BH1-2.2	BH1-3.6
Date Sampled:	2020/09/04	2020/09/04	2020/09/04
Sample Depth Interval (m):	0.9-1.5	1.5-2.1	3.0-3.6
Benzene	<0.20	<0.20	<0.20
Toluene	<0.20	<0.20	<0.20
Ethylbenzene	<0.20	<0.20	<0.20
Total Xylenes	<0.40	<0.40	<0.40
F1 (C6-C10) - BTEX	<10	34	<10
F2 (C10-C16)	<10	**730**	13
F3 (C16-C34)	95	880	82
F4 (C34-C50)	240	290	<50
F4 (Gravimetric)	1100	1000	-

PROPERTY BOUNDARY REFERENCE: Ontario Ministry of Natural Resources and Foresty

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LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- PROPERTY BOUNDARY
- BOREHOLE
  - BH 1 AND BH 4 INSTALLED BY BLUEFROG (2020)
- MONITORING WELL
  - MW 2 AND MW3 INSTALLED BY BLUEFROG (2020)
  - MW 1 INSTALLED BY OTHERS
  - BH1 TO BH4 INSTALLED BY TERRAPROBE (2017)
- FENCE
- FIRE HYDRANT
- TRANSFORMER
- ASPHALT
- CONCRETE
- LANDSCAPED AREA
- SOIL ANALYTICAL RESULTS FOR ONE OR MORE ANALYZED PARAMETER EXCEED THE APPLICABLE CRITERIA
- SOIL ANALYTICAL RESULTS FOR ALL ANALYZED PARAMETERS MEET THE APPLICABLE CRITERIA

NOTES:

LOCATIONS ARE APPROXIMATE.

Standards	
Parameter	**Standard* (µg/g)**
Benzene	0.4
Toluene	78
Ethylbenzene	19
Total Xylenes	30
F1 (C6-C10) - BTEX	65
F2 (C10-C16)	250
F3 (C16-C34)	2500
F4 (C34-C50)	6600
F4 (Gravimetric)	6600

*Table 3: Full Depth Generic Site Condition Standards for Non-Potable Groundwater Condition, Medium to Fine Textured Soil, Industrial/Commercial/Community Property Use.

BOLD	Exceeds the applicable standard.

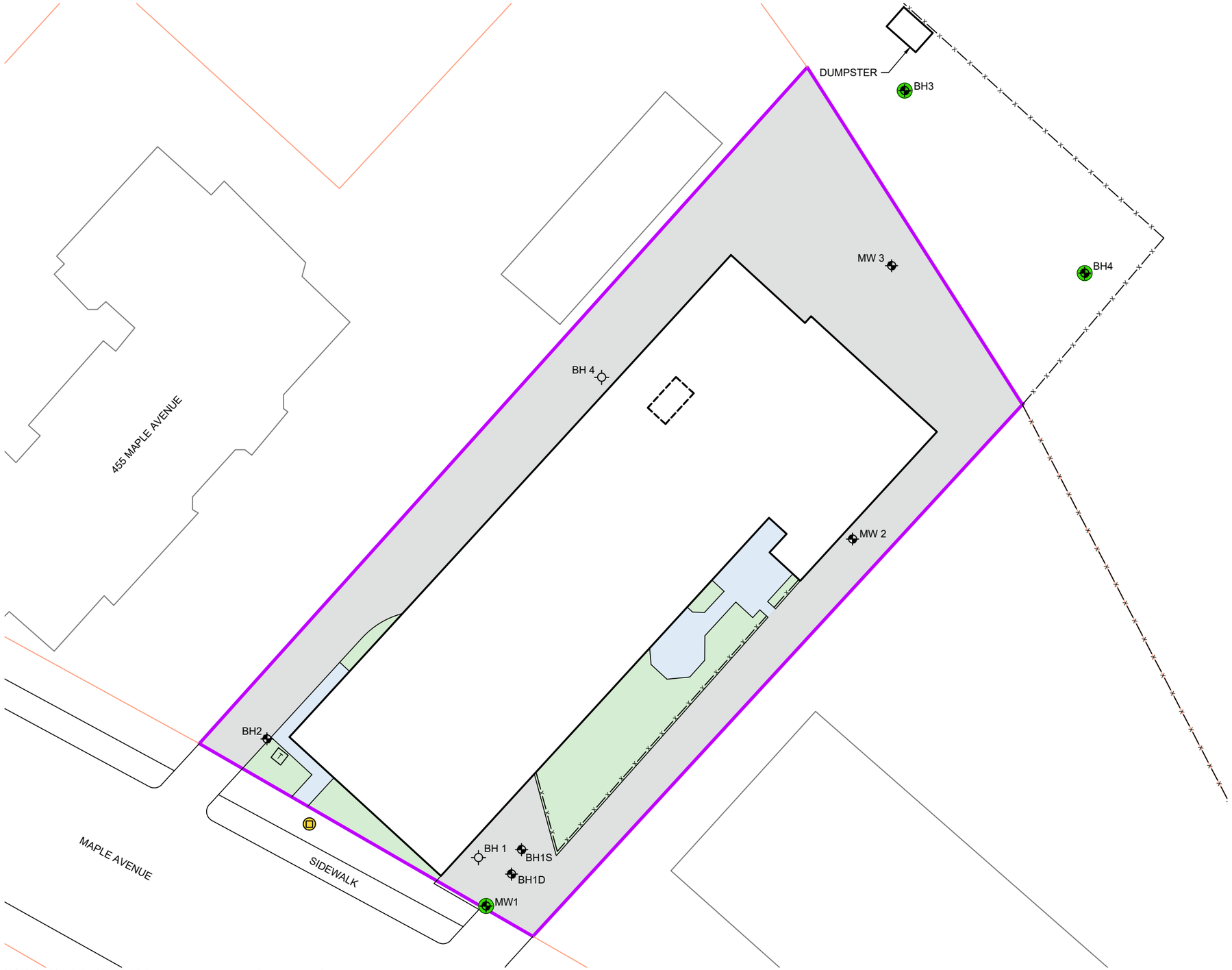
BlueFrog Environmental Consulting Inc.

SOIL ANALYTICAL RESULTS - PETROLEUM HYDROCARBONS

441 MAPLE AVENUE, BURLINGTON, ONTARIO

0025-001.02	OCTOBER 2020	FIGURE 4

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LEGEND

- SITE BOUNDARY
- BUILDING FOOTPRINT
- PROPERTY BOUNDARY
- BOREHOLE
  - BH 1 AND BH 4 INSTALLED BY BLUEFROG (2020)
- MONITORING WELL
  - MW 2 AND MW3 INSTALLED BY BLUEFROG (2020)
  - MW 1 INSTALLED BY OTHERS
  - BH1 TO BH4 INSTALLED BY TERRAPROBE (2017)
- FENCE
- FIRE HYDRANT
- TRANSFORMER
- ASPHALT
- CONCRETE
- LANDSCAPED AREA
- GROUNDWATER ANALYTICAL RESULTS FOR ONE OR MORE ANALYZED PARAMETER EXCEED THE APPLICABLE CRITERIA (NONE PRESENT)
- GROUNDWATER ANALYTICAL RESULTS FOR ALL ANALYZED PARAMETERS MEET THE APPLICABLE CRITERIA

NOTES:

LOCATIONS ARE APPROXIMATE.

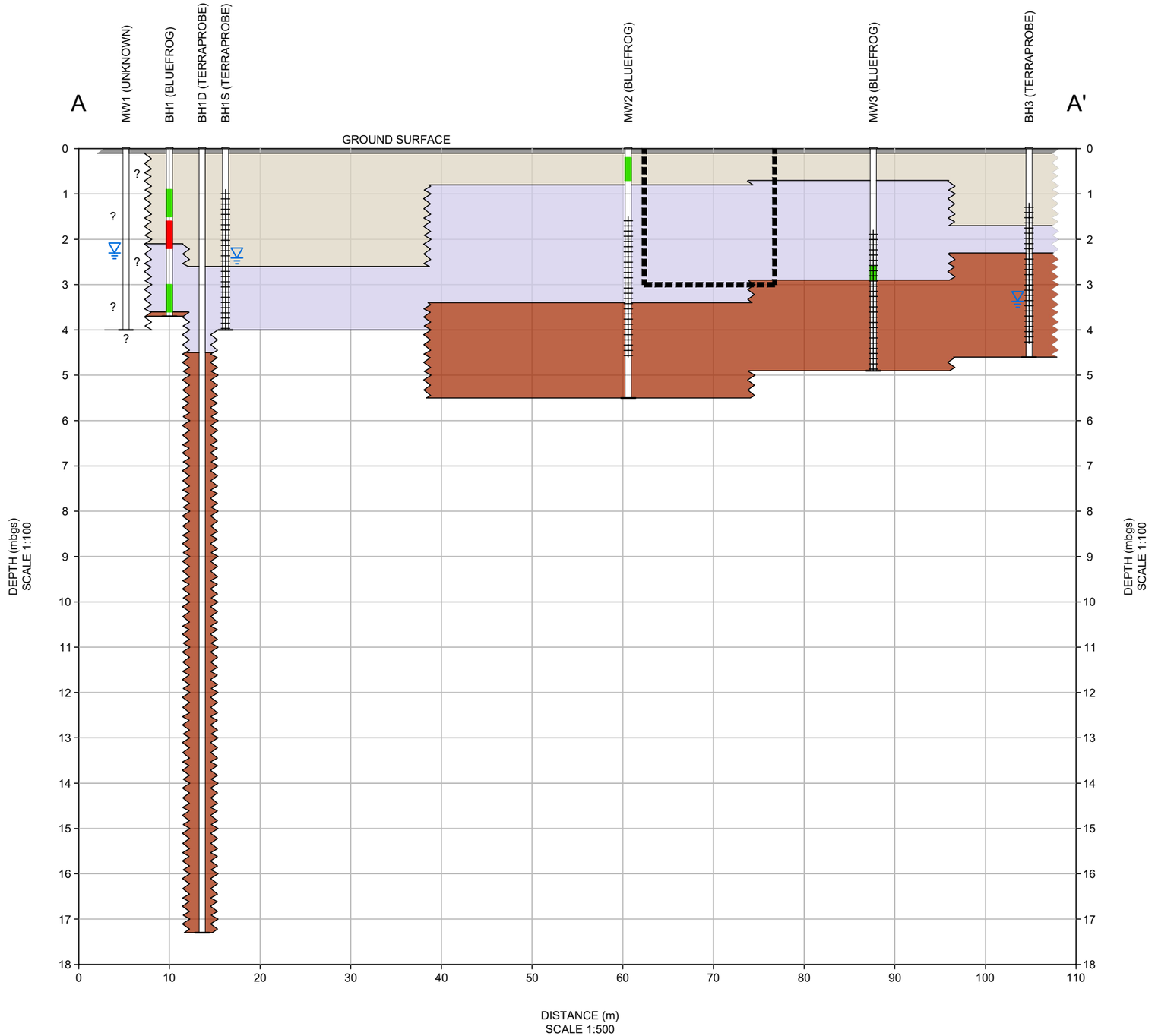
BlueFrog Environmental Consulting Inc.

GROUNDWATER ANALYTICAL RESULTS - PETROLEUM HYDROCARBONS

441 MAPLE AVENUE, BURLINGTON, ONTARIO

0025-001.02	OCTOBER 2020	FIGURE 5

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BH/MW4
- BOREHOLE / WELL I.D.
- TOP OF BOREHOLE / WELL
- BOREHOLE / MONITORING WELL
- SCREENED INTERVAL

LEGEND

- ASPHALT
- SAND FILL
- SILT
- SHALE BEDROCK
- BUILDING
- GROUNDWATER ELEVATION
- SOIL ANALYTICAL RESULTS FOR ONE OR MORE ANALYZED PARAMETER EXCEED THE APPLICABLE CRITERIA
- SOIL ANALYTICAL RESULTS FOR ALL ANALYZED PARAMETERS MEET THE APPLICABLE CRITERIA

NOTES:

LOCATIONS ARE APPROXIMATE.

SCALE: AS SHOWN
VERTICAL EXAGGERATION 5x.

DRAWING SHOULD BE PRINTED ON 11x17 PAPER FOR ACCURATE SCALING.

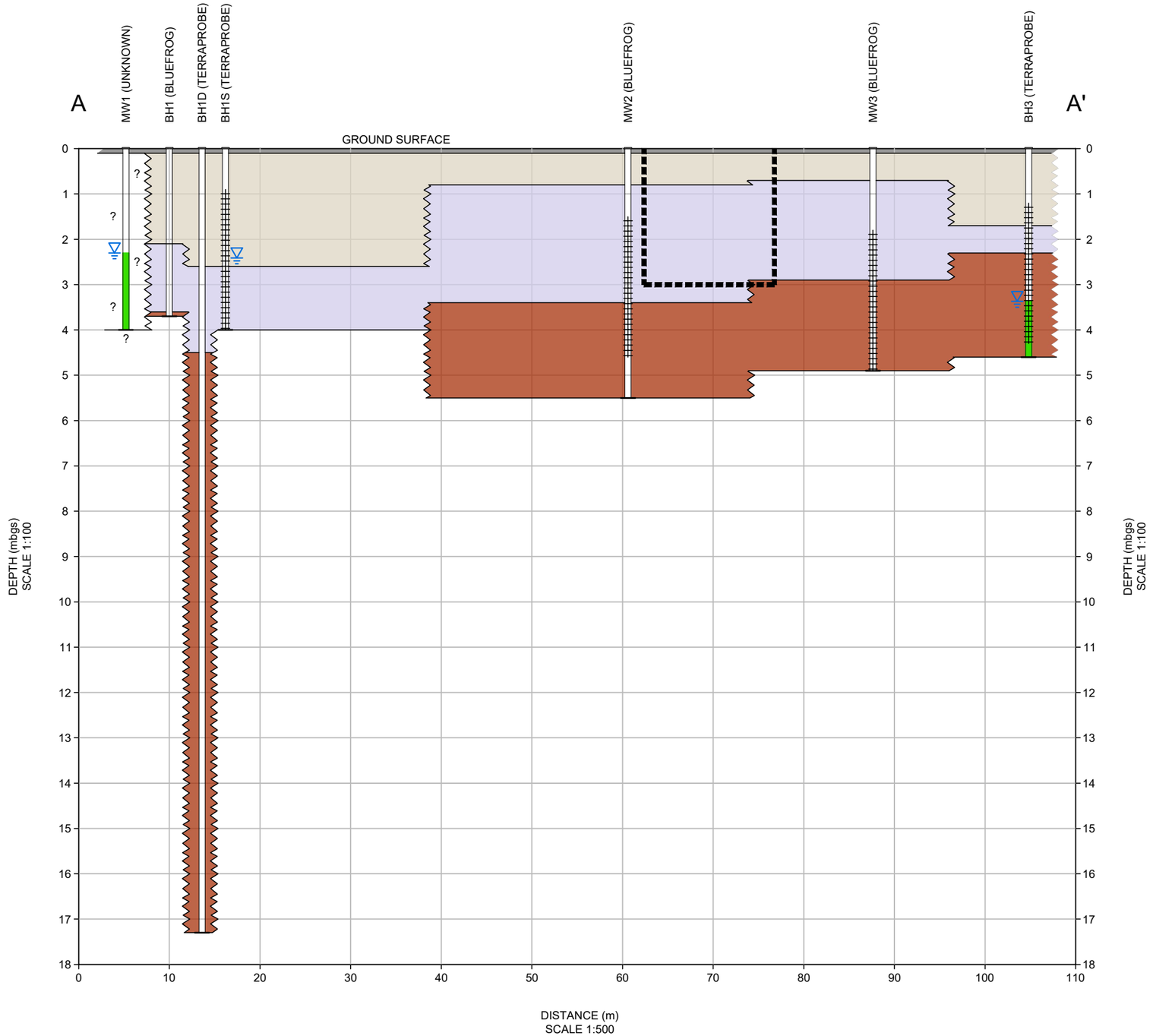
BlueFrog Environmental Consulting Inc.

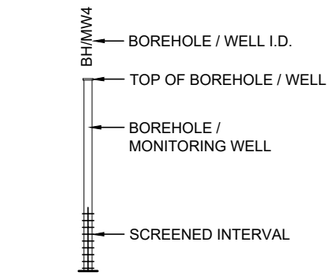
HYDROGEOLOGICAL CROSS SECTION A-A' - SOIL ANALYTICAL RESULTS (PETROLEUM HYDROCARBONS)

441 MAPLE AVENUE, BURLINGTON, ONTARIO

0025-001.02	OCTOBER 2020	FIGURE 6

File: 0025-001.02_20PH2.dwg Date: Monday, October 26, 2020 1:31:20 PM By: CDuff





LEGEND

- ASPHALT
- SAND FILL
- SILT
- SHALE BEDROCK
- BUILDING
- GROUNDWATER ELEVATION
- GROUNDWATER ANALYTICAL RESULTS FOR ONE OR MORE ANALYZED PARAMETER EXCEED THE APPLICABLE CRITERIA (NONE PRESENT)
- GROUNDWATER ANALYTICAL RESULTS FOR ALL ANALYZED PARAMETERS MEET THE APPLICABLE CRITERIA

NOTES:

LOCATIONS ARE APPROXIMATE.

SCALE: AS SHOWN
VERTICAL EXAGGERATION 5x.

DRAWING SHOULD BE PRINTED ON 11x17 PAPER FOR ACCURATE SCALING.

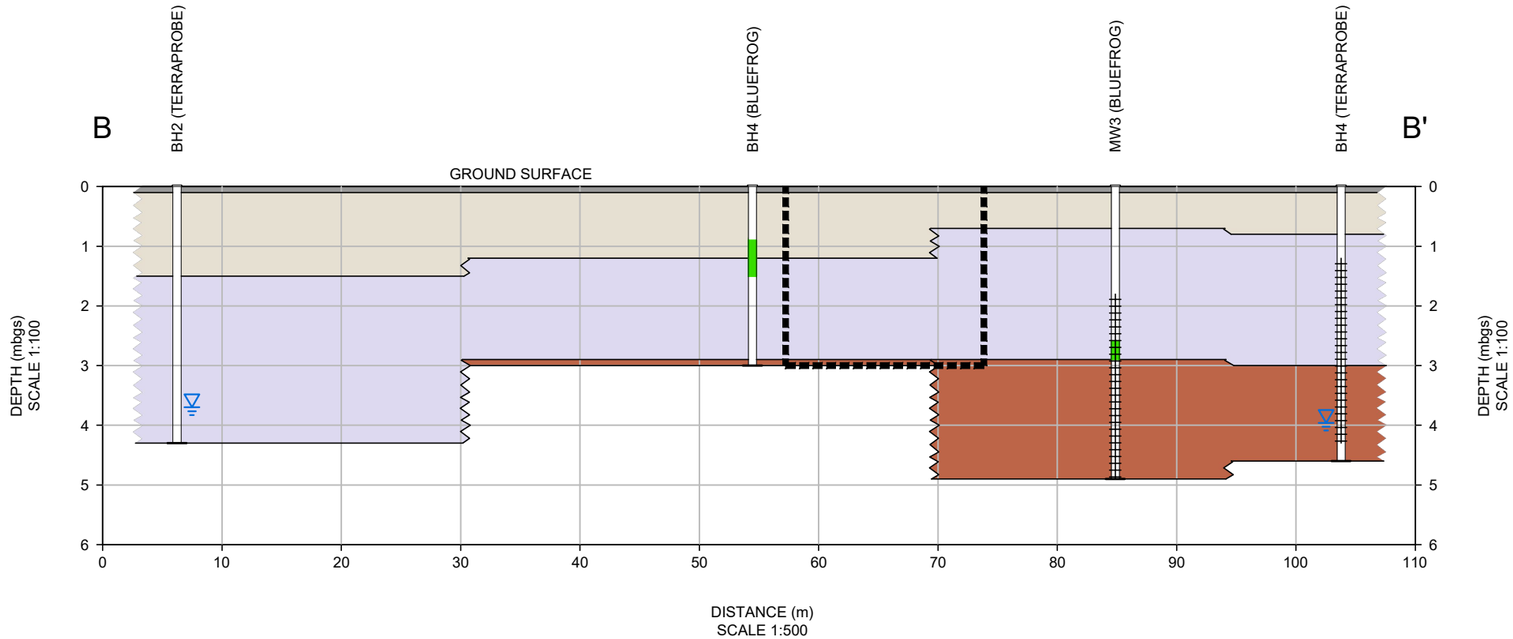
BlueFrog Environmental Consulting Inc.

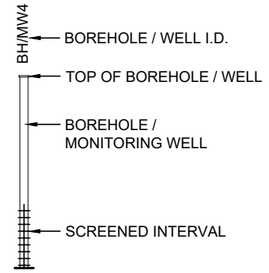
HYDROGEOLOGICAL CROSS SECTION A-A' - GROUNDWATER ANALYTICAL RESULTS (PETROLEUM HYDROCARBONS)

441 MAPLE AVENUE, BURLINGTON, ONTARIO

0025-001.02	OCTOBER 2020	FIGURE 7

File: 0025-001.02_20PH2.dwg Date: Monday, October 26, 2020 1:31:20 PM By: CDuff





LEGEND

- ASPHALT
- SAND FILL
- SILT
- SHALE BEDROCK
- BUILDING
- GROUNDWATER ELEVATION
- SOIL ANALYTICAL RESULTS FOR ONE OR MORE ANALYZED PARAMETER EXCEED THE APPLICABLE CRITERIA (NONE PRESENT)
- SOIL ANALYTICAL RESULTS FOR ALL ANALYZED PARAMETERS MEET THE APPLICABLE CRITERIA

NOTES:

LOCATIONS ARE APPROXIMATE.

SCALE: AS SHOWN
VERTICAL EXAGGERATION 5x.

DRAWING SHOULD BE PRINTED ON 11x17 PAPER FOR ACCURATE SCALING.

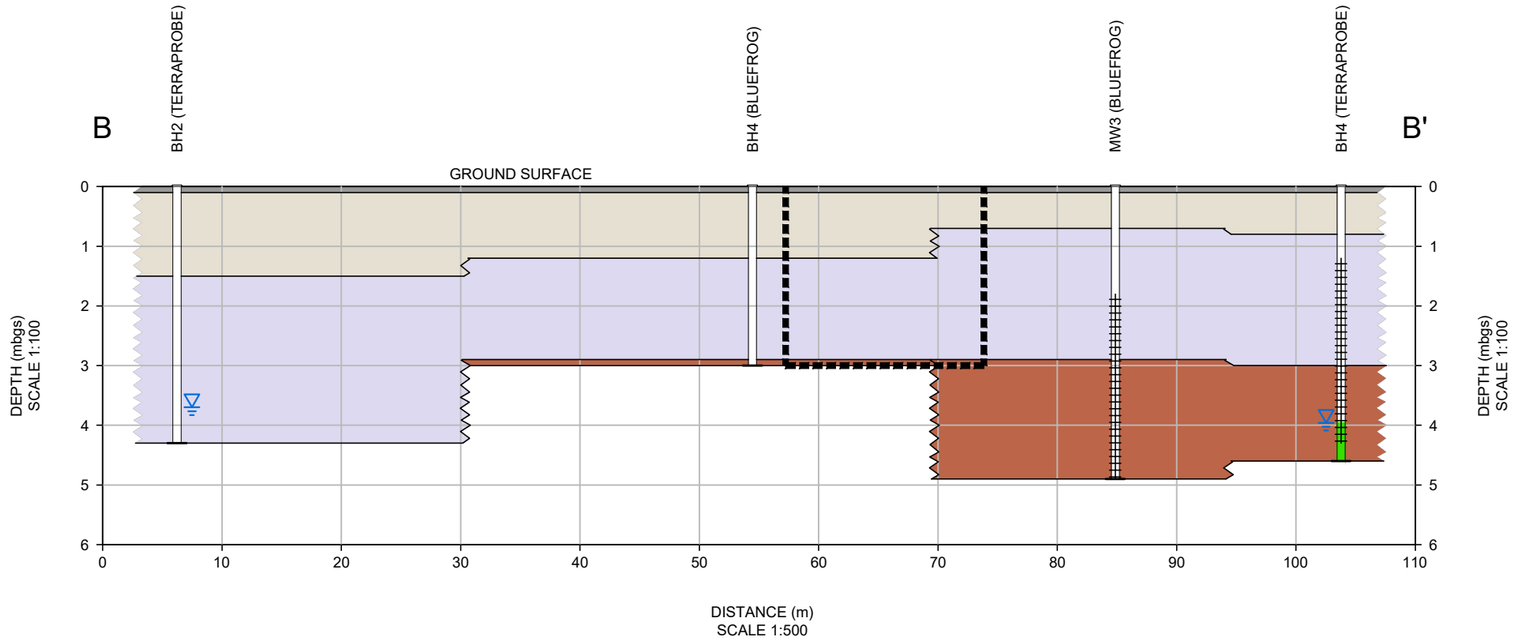
BlueFrog Environmental Consulting Inc.

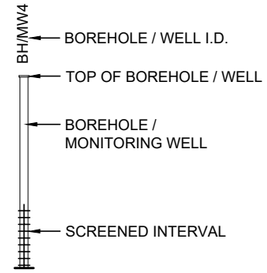
HYDROGEOLOGICAL CROSS SECTION B-B' - SOIL ANALYTICAL RESULTS (PETROLEUM HYDROCARBONS)

441 MAPLE AVENUE, BURLINGTON, ONTARIO

0025-001.02	OCTOBER 2020	FIGURE 8

File: 0025-001.02_20PH2.dwg Date: Monday, October 26, 2020 1:31:20 PM By: CDuff





LEGEND

- ASPHALT
- SAND FILL
- SILT
- SHALE BEDROCK
- BUILDING
- GROUNDWATER ELEVATION
- GROUNDWATER ANALYTICAL RESULTS FOR ONE OR MORE ANALYZED PARAMETER EXCEED THE APPLICABLE CRITERIA (NONE PRESENT)
- GROUNDWATER ANALYTICAL RESULTS FOR ALL ANALYZED PARAMETERS MEET THE APPLICABLE CRITERIA

NOTES:

LOCATIONS ARE APPROXIMATE.

SCALE: AS SHOWN
VERTICAL EXAGGERATION 5x.

DRAWING SHOULD BE PRINTED ON 11x17 PAPER FOR ACCURATE SCALING.

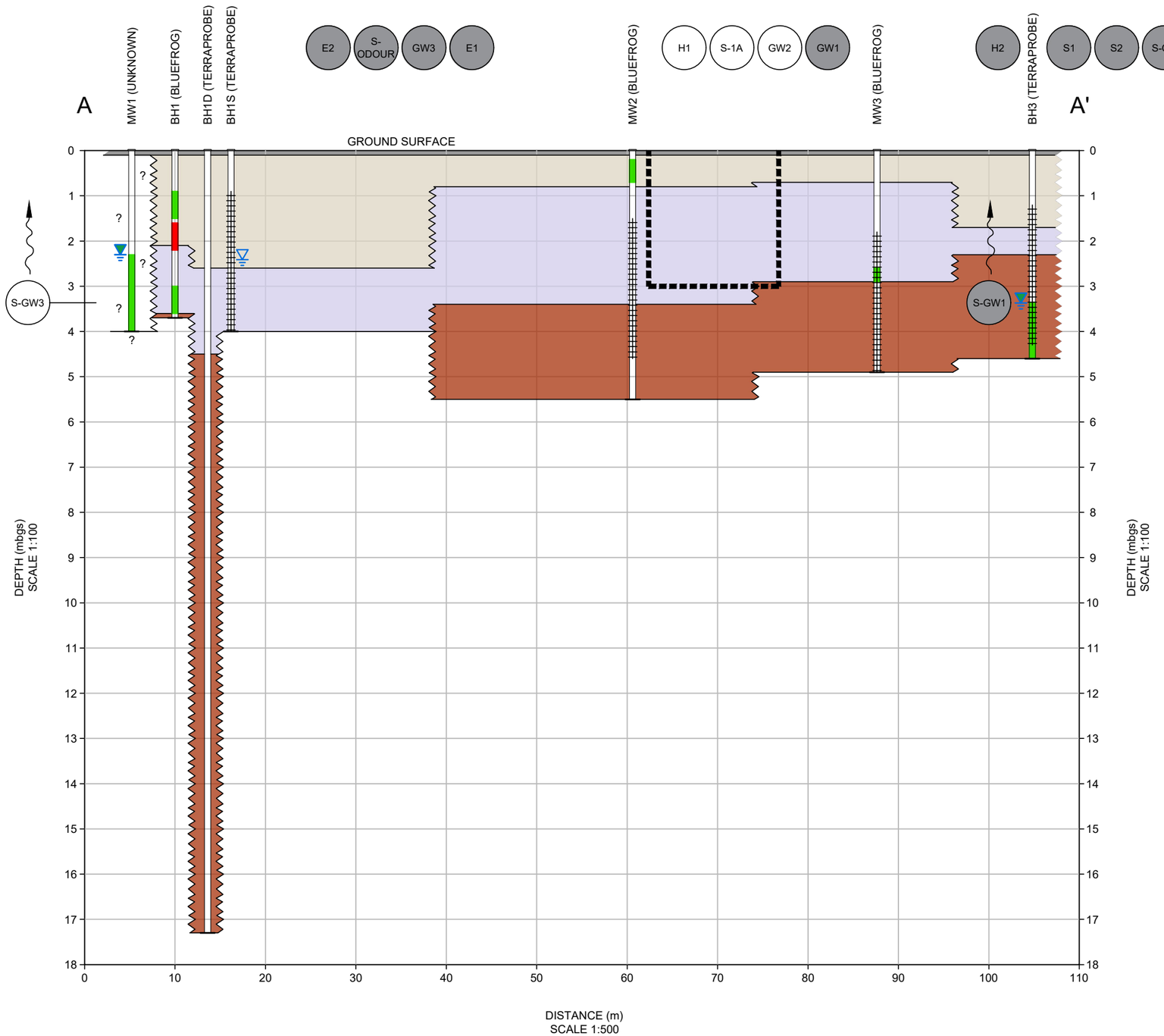
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HYDROGEOLOGICAL CROSS SECTION B-B' - GROUNDWATER ANALYTICAL RESULTS (PETROLEUM HYDROCARBONS)

441 MAPLE AVENUE, BURLINGTON, ONTARIO

0025-001.02	OCTOBER 2020	FIGURE 9

File: 0025-001.02_20PH2.dwg Date: Monday, October 26, 2020 1:31:20 PM By: CDuff



LEGEND

EXPOSURE PATHWAYS

SOIL:

S1 - HIGH FREQUENCY HUMAN HEALTH EXPOSURE
S2 - LOWER FREQUENCY HUMAN HEALTH EXPOSURE
S-1A - SOIL TO INDOOR AIR
S-OA - SOIL TO OUTDOOR AIR RECEPTORS
S-ODOUR - SOIL TO ODOUR RECEPTORS

GROUNDWATER:

GW1 - THE PROTECTION OF DRINKING WATER
GW2 - THE PROTECTION OF INDOOR AIR FROM VAPOURS
GW3 - THE PROTECTION OF THE AQUATIC ENVIRONMENT
S-GW1 - SOIL TO POTABLE GROUNDWATER
S-GW3 - SOIL TO GROUNDWATER TO SURFACE WATER

RECEPTORS

ECOLOGICAL:

E1 - MAMMALS/BIRDS
E2 - PLANTS AND SOIL INVERTEBRATES

HUMAN HEALTH:

H1 - RESIDENTS
H2 - OUTDOOR RESIDENTS

EXPOSURE PATHWAYS AND RECEPTORS - APPLICABLE

EXPOSURE PATHWAYS AND RECEPTORS - NOT APPLICABLE

ANALYSIS OF INFORMATION:

- MEETS TABLE 3 SCS (SOIL)
- EXCEEDS TABLE 3 SCS (SOIL)
- MEETS TABLE 3 SCS (GROUNDWATER)
- EXCEEDS TABLE 3 SCS (GROUNDWATER)

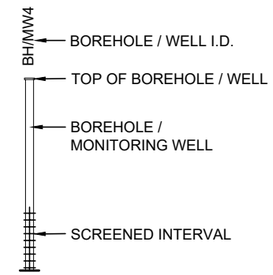
SCS (SITE CONDITIONS STANDARDS) REFER TO STANDARDS FROM *TABLE 3 OF APRIL 15, 2011 SOIL, GROUNDWATER AND SEDIMENT STANDARDS FOR USE UNDER PART XV.1 OF THE ENVIRONMENTAL PROTECTION ACT*; RESIDENTIAL / PARKLAND / INSTITUTIONAL LAND USE, FINE TEXTURED SOIL.

- ASPHALT
- SAND FILL
- SILT
- SHALE BEDROCK
- BUILDING
- GROUNDWATER ELEVATION

NOTES:

LOCATIONS ARE APPROXIMATE.

SCALE: AS SHOWN
VERTICAL EXAGGERATION 5x.



DRAWING SHOULD BE PRINTED ON 11x17 PAPER FOR ACCURATE SCALING.

BlueFrog Environmental Consulting Inc.

PHASE TWO CONCEPTUAL SITE MODEL

441 MAPLE AVENUE, BURLINGTON, ONTARIO

0025-001.02	OCTOBER 2020	FIGURE 10

TABLES

Table 1: Groundwater Monitoring Well Details and Results

ASSESSMENT LOCATION	TOP OF PIPE ELEVATION[1] (m)	GROUND SURFACE ELEVATION (m)	SCREEN INTERVAL (mbgs)	DATE (yyyy/mm/dd)	SUBSURFACE VAPOUR CONCENTRATIONS[2] (CV)	SUBSURFACE VAPOUR CONCENTRATIONS[2] (OV)	FREE PRODUCT THICKNESSES (mm)	POTENTIOMETRIC DEPTH (mbgs)	POTENTIOMETRIC ELEVATION[1] (m)
BH1-D	99.01	99.13	14.3 - 17.3	2020-09-09	5	ND	ND	7.99	91.13 *
BH1-S	99.01	99.13	1.0 - 4.0	2018-12-03 2020-09-09	5 ND	ND ND	ND ND	2.05 2.41	97.07 96.72
BH2	99.01	99.12	1.2 4.3	2018-12-03 2020-09-09	ND NM	1 NM	ND NM	3.12 NM	96.75 NM
BH3	98.30	98.37	1.2 - 4.3	2018-12-03 2020-09-09	ND ND	ND 1	ND ND	3.02 3.37	95.35 95.00 *
BH4	98.59	98.66	1.2 - 4.3	2018-12-03 2020-09-09	ND ND	1 ND	ND ND	3.22 3.96	95.44 * 94.70 *
MW1	98.98	99.06	UNKNOWN	2020-09-09	ND	ND	ND	2.30	96.75
MW2	99.25	99.38	1.5 - 4.6	2020-09-09	10% LEL	1	ND	Dry	-
MW3	98.70	98.81	1.0 - 4.1	2020-09-09	270	2	ND	Dry	-

Notes:

1 - Elevation relative to a local benchmark (top nut of the fire hydrant located west side of the building on Maple Avenue) of 100.00 m
2 - ppmv unless otherwise indicated
mbgs- metres below ground surface
mm - millimetres
NM - Not Monitored
ND - Not detected
* - Water level above top of screen
CV - Combustible vapours
OV - Organic Vapours

Table 2: Soil Analytical Results - Petroleum Hydrocarbons

Sample Location:	MECP[1] Table 3[2]	BH1			MW2	MW3		BH4
Sample ID:		BH1-1.5	BH1-2.2	BH1-3.6	MW2-0.7	MW3-2.9	DUP1	BH4-1.5
Sampling Date:		2020-09-04	2020-09-04	2020-09-04	2020-09-04	2020-09-04	2020-09-04	2020-09-04
Sample Depth Interval (m):		0.9-1.5	1.6-2.2	3.0-3.6	0.2-0.7	2.3-2.9	2.3-2.9	0.9-1.5
BTEX								
Benzene	0.4	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Toluene	78	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethylbenzene	19	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Xylenes	30	<0.040	<0.020	<0.040	<0.020	<0.020	<0.020	<0.040
Petroleum Hydrocarbons (PHC)								
F1 (C6-C10) - BTEX	65	<10	34	<10	<10	<10	<10	<10
F2 (C10-C16)	250	<10	**730**	13	<10	<10	<10	<10
F3 (C16-C34)	2500	95	880	82	<50	<50	<50	100
F4 (C34-C50)	6600	240	290	<50	<50	<50	<50	240
Reached Baseline at C50	-	NO	NO	YES	YES	YES	YES	NO
F4 Gravimetric	6600	1100	1000	-	-	-	-	970

BOLD Result exceeding the applicable standards.

- No value or not analyzed.

1. Standards refers to Ministry of the Environment, Conservation and Parks (MECP) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 9, 2004, amended as of April 15, 2011.
2. Ministry of the Environment, Conservation and Parks Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use in Fine Textured Soils.
3. All units are µg/g unless otherwise specified.

Table 2: Soil Analytical Results - Polycyclic Aromatic Hydrocarbons

Sample Location:		BH1			MW3	
Sample ID:	MECP[1]	BH1-1.5	BH1-2.2	BH1-3.6	MW3-2.9	DUP1
Sampling Date:	Table 3[2]	2020-09-04	2020-09-04	2020-09-04	2020-09-04	2020-09-04
Sample Depth (m):		0.9-1.5	1.5-2.3	3.0-3.6	2.6-2.9	2.6-2.9
Polycyclic Aromatic Hydrocarbons (PAHs)						
Acenaphthene	96	<0.0050	0.43	<0.0050	<0.0050	<0.0050
Acenaphthylene	0.17	<0.0050	**<0.30**	<0.0050	<0.0050	<0.0050
Anthracene	0.74	0.0051	<0.050	<0.0050	<0.0050	<0.0050
Benzo(a)anthracene	0.96	0.018	<0.050	<0.0050	<0.0050	<0.0050
Benzo(a)pyrene	0.3	0.018	<0.050	<0.0050	<0.0050	<0.0050
Benzo(b/j)fluoranthene	0.96	0.024	<0.050	<0.0050	<0.0050	<0.0050
Benzo(ghi)perylene	9.6	0.019	<0.050	<0.0050	<0.0050	<0.0050
Benzo(k)fluoranthene	0.96	0.0078	<0.050	<0.0050	<0.0050	<0.0050
Chrysene	9.6	0.018	<0.050	<0.0050	<0.0050	<0.0050
Dibenzo(a,h)anthracene	0.1	<0.0050	<0.050	<0.0050	<0.0050	<0.0050
Fluoranthene	9.6	0.04	0.064	<0.0050	<0.0050	0.009
Fluorene	69	<0.0050	0.44	<0.0050	<0.0050	<0.0050
Indeno(1,2,3-cd)pyrene	0.95	0.012	<0.050	<0.0050	<0.0050	<0.0050
1-Methylnaphthalene[4]	85	<0.0050	0.13	<0.0050	<0.0050	<0.0050
2-Methylnaphthalene[4]	85	<0.0050	<0.050	<0.0050	<0.0050	<0.0050
Methylnaphthalene, 2-(1-)[4]	85	<0.0071	0.13	<0.0071	<0.0071	<0.0071
Naphthalene	28	<0.0050	<0.20	<0.0050	<0.0050	<0.0050
Phenanthrene	16	0.025	1.2	0.0059	<0.0050	0.0077
Pyrene	96	0.034	0.16	<0.0050	<0.0050	0.0072

BOLD Result exceeding the applicable standards.

BOLD Detection limit exceeds the applicable standards.

1. Standards refers to Ministry of the Environment, Conservation and Parks (MECP) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 9, 2004, amended as of April 15, 2011.
2. Ministry of the Environment, Conservation and Parks Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use in Fine Textured Soils.
3. All units are µg/g unless otherwise specified.
4. The methylnaphthalene standards are applicable to both 1-methylnaphthalene and 2-methnaphthalene, with the provision that if both are detected the sum of the two must not exceed the standard.

Table 2: Soil Analytical Results - Metals

Sample Location:	MECP[1] Table 3[2]	BH1		MW3	
Sample ID:		BH1-1.5	BH1-3.6	MW3-2.9	DUP1
Sampling Date:		2020-09-04	2020-09-04	2020-09-04	2020-09-04
Sample Depth (m):		0.9-1.5	3.0-3.6	2.6-2.9	2.6-2.9
Metals					
Antimony	50	<0.20	<0.20	0.27	0.24
Arsenic	18	6	2.1	5.7	7.1
Barium	670	47	150	54	54
Beryllium	10	0.6	0.51	0.75	0.79
Boron (Hot Water Soluble)	2	1.4	0.26	0.28	0.28
Boron (Total)	120	16	11	22	22
Cadmium	1.9	0.29	<0.10	0.1	<0.10
Chromium	160	4.4	18	22	23
Chromium VI	10	<0.18	<0.18	<0.18	<0.18
Cobalt	100	2.8	8.5	13	13
Copper	300	9.7	18	18	16
Lead	120	22	9.5	12	12
Mercury	20	<0.050	<0.050	<0.050	<0.050
Molybdenum	40	1.3	<0.50	0.81	0.83
Nickel	340	6.7	19	28	27
Selenium	5.5	<0.50	<0.50	<0.50	<0.50
Silver	50	<0.20	<0.20	<0.20	<0.20
Thallium	3.3	0.055	0.1	0.11	0.095
Vanadium	86	7.3	25	29	30
Zinc	340	80	45	59	60
Uranium	33	16	0.98	0.5	0.51

BOLD Result exceeding the applicable standards.

1. Standards refers to Ministry of the Environment, Conservation and Parks (MECP) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 9, 2004, amended as of April 15, 2011.
2. Ministry of the Environment, Conservation and Parks Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use in Fine Textured Soils.
3. All units are µg/g unless otherwise specified.

Table 2: Soil Analytical Results - Organochlorine Pesticides

Sample Location:	MECP[1] Table 3[2]	BH1	MW3	MW3	
Sample ID:		BH1-3.6	MW3-0.2-0.3	MW3-2.9	DUP1
Sampling Date:		2020-09-04	2020-09-18	2020-09-04	2020-09-04
Sample Depth (m):		3.0-3.6	0.2-0.3	2.6-2.9	2.6-2.9
OC Pesticides and PCBs					
Aldrin	0.11	<0.0020	<0.01	<0.0020	<0.0020
Chlordane (alpha)	NV	<0.0020	<0.01	<0.0020	<0.0020
Chlordane (gamma)	NV	<0.0020	<0.01	<0.0020	<0.0020
Chlordane (total)	0.05	<0.0020	<0.01	<0.0020	<0.0020
o,p DDD	NV	<0.0020	<0.01	<0.0020	<0.0020
p,p-DDD	NV	<0.0020	<0.01	<0.0020	<0.0020
DDD (total)	4.6	<0.0020	<0.01	<0.0020	<0.0020
o,p DDE	NV	<0.0020	<0.01	<0.0020	<0.0020
p,p-DDE	NV	<0.0020	<0.01	<0.0020	<0.0020
DDE (total)	0.65	<0.0020	<0.01	<0.0020	<0.0020
op-DDT	NV	<0.0020	<0.01	<0.0020	<0.0020
pp-DDT	NV	<0.0020	<0.01	<0.0020	<0.0020
DDT (total)	1.4	<0.0020	<0.01	<0.0020	<0.0020
Dieldrin	0.11	<0.0020	<0.01	<0.0020	<0.0020
Endosulphan I	NV	<0.0020	<0.01	<0.0020	<0.0020
Endosulphan II	NV	<0.0020	<0.01	<0.0020	<0.0020
Total Endosulphan	0.38	<0.0020	<0.01	<0.0020	<0.0020
Endrin	0.04	<0.0020	<0.01	<0.0020	<0.0020
Heptachlor	0.19	<0.0020	<0.01	<0.0020	<0.0020
Heptachlor Epoxide	0.05	<0.0020	<0.01	<0.0020	<0.0020
Lindane	0.063	<0.0020	<0.01	<0.0020	<0.0020
Methoxychlor	1.6	<0.0050	<0.025	<0.0050	<0.0050

BOLD Result exceeding the applicable standards.

1. Standards refers to Ministry of the Environment, Conservation and Parks (MECP) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 9, 2004, amended as of April 15, 2011.
2. Ministry of the Environment, Conservation and Parks Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use in Fine Textured Soils.
3. All units are µg/g unless otherwise specified.

Table 2: Soil Analytical Results - Polychlorinated Biphenyls

Sample Location:	MECP[1] Table 3[2]	BH1	MW3	MW3	
Sample ID:		BH1-3.6	MW3-0.2-0.3	MW3-2.9	DUP1
Sampling Date:		2020-09-04	2020-09-18	2020-09-04	2020-09-04
Sample Depth (m):		3.0-3.6	0.2-0.3	2.6-2.9	2.6-2.9
Total PCB	1.1	<0.015	<0.075	<0.015	<0.015

BOLD Result exceeding the applicable standards.

1. Standards refers to Ministry of the Environment, Conservation and Parks (MECP) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 9, 2004, amended as of April 15, 2011.
2. Ministry of the Environment, Conservation and Parks Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use in Fine Textured Soils.
3. All units are µg/g unless otherwise specified.

Table 3: Groundwater Analytical Results - Petroleum Hydrocarbons

Sample Location:	MECP[1] Table 3[2]	BH1	BH2	BH3		BH4		MW1	
Sample ID:		BH1	BH2	BH3	BH3	BH4	BH4	MW1	DUP-2
Sampling Date:		2018-12-03	2018-12-03	2018-12-03	2020-09-09	2018-12-03	2020-09-09	2020-09-09	2020-09-09
BTEX									
Benzene	430	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Toluene	18000	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethylbenzene	2300	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Total Xylenes	4200	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Petroleum Hydrocarbons (PHC)									
F1 (C6-C10) - BTEX	750	<25	<25	<25	<25	<25	<25	<25	<25
F2 (C10-C16)	150	<100	<100	<100	<100	<100	<100	<100	<100
F3 (C16-C34)	500	<200	<200	<200	210	<200	<200	<200	<200
F4 (C34-C50)	500	<200	<200	<200	<200	<200	<200	<200	<200
Reached Baseline at C50	-	YES	YES	YES	YES	YES	YES	YES	YES
F4 Gravimetric	6600								

BOLD Result exceeding the applicable standards.

1. Standards refers to Ministry of the Environment, Conservation and Parks (MECP) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 9, 2004, amended as of April 15, 2011.
2. Ministry of the Environment, Conservation and Parks Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for All Types of Property Use in Fine Textured Soils.
3. All units are µg/L unless otherwise specified.

Table 3: Groundwater Analytical Results - Metals

Sample Location:	MECP[1] Table 3[2]	BH4
Sample ID:		BH4
Sampling Date:		2020-09-09
Metals		
Antimony	20000	<0.20
Arsenic	1900	<1
Barium	29000	190
Beryllium	67	<0.4
Boron (Total)	45000	130
Cadmium	2.7	<0.090
Chromium	810	<5.0
Cobalt	66	1.2
Copper	87	4.2
Lead	25	<0.50
Molybdenum	9200	1.9
Nickel	490	3.9
Sodium	2300000	1100000
Selenium	63	<2.0
Silver	1.5	<0.09
Thallium	510	<0.05
Vanadium	250	0.8
Zinc	1100	<5.0
Uranium	420	2.9
	BOLD	Result exceeding the applicable standards.

1. Standards refers to Ministry of the Environment, Conservation and Parks (MECP) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 9, 2004, amended as of April 15, 2011.
2. Ministry of the Environment, Conservation and Parks Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for All Types of Property Use in Fine Textured Soils.
3. All units are µg/L unless otherwise specified.

Table 4 - Maximum Concentration Data - Soil

Name of Chemicals		Maximum Concentrations	MECP[1] Table 3[2]	MGRA[3] Free Phase Threshold Value	Unit of measure
Petroleum Hydrocarbons					
F1 (C6-C10) - BTEX		34.00	65	2600	µg/g
F2 (C10-C16)		**730.00**	250	3900	µg/g
F3 (C16-C34)		880.00	2500	7200	µg/g
F4 (C34-C50)		290.00	6600	8000	µg/g
F4 Gravimetric		1100.00	6600	NV	µg/g
Volatile Organic Compounds					
Benzene	<	0.02	0.4	6200	µg/g
Toluene	<	0.02	78	4400	µg/g
Ethylbenzene	<	0.02	19	3800	µg/g
Polycyclic Aromatic Hydrocarbons					
Acenaphthene		0.430	96	4300	µg/g
Acenaphthylene	<	**0.300**	0.17	4000	µg/g
Anthracene		0.051	0.74	4300	µg/g
Benzo(a)anthracene		0.018	0.96	9200	µg/g
Benzo(a)pyrene		0.018	0.3	9200	µg/g
Benzo(b/j)fluoranthene		0.024	0.96	9200	µg/g
Benzo(ghi)perylene		0.019	9.6	9200	µg/g
Benzo(k)fluoranthene		0.0078	0.96	9200	µg/g
Chrysene		0.018	9.6	9300	µg/g
Dibenzo(a,h)anthracene	<	0.050	0.1	9200	µg/g
Fluoranthene		0.064	9.6	9200	µg/g
Fluorene		0.440	69	4200	µg/g
Indeno(1,2,3-cd)pyrene		0.012	0.95	9200	µg/g
1-Methylnaphthalene		0.130	85	NV	µg/g
2-Methylnaphthalene	<	0.050	85	NV	µg/g
Methylnaphthalene, 2-(1-)		0.130	85	5200	µg/g
Naphthalene	<	0.200	28	4000	µg/g
Phenanthrene		1.200	16	3500	µg/g
Pyrene		0.160	96	9300	µg/g
Metals					
Antimony		0.27	50	13000	µg/g
Arsenic		7.10	18	19000	µg/g
Barium		150	670	12000	µg/g
Beryllium		0.79	10	6200	µg/g
Boron (Hot Water Soluble)		1.40	2	7900	µg/g
Boron (Total)		22	120	7900	µg/g
Cadmium		0.29	1.9	29000	µg/g
Chromium		23	160	18000	µg/g
Chromium VI	<	0.18	10	NV	µg/g
Cobalt		13	100	30000	µg/g

Table 4 - Maximum Concentration Data - Soil

Name of Chemicals	Maximum Concentrations		MECP[1] Table 3[2]	MGRA[3] Free Phase Threshold Value	Unit of measure
Copper		18	300	NV	µg/g
Lead		22	120	38000	µg/g
Mercury	<	0.05	20	50000	µg/g
Molybdenum		1.30	40	34000	µg/g
Nickel		28	340	NV	µg/g
Selenium	<	0.50	5.5	NV	µg/g
Silver	<	0.20	50	35000	µg/g
Thallium		0.11	3.3	34000	µg/g
Vanadium		30	86	11000	µg/g
Zinc		80	340	24000	µg/g
Uranium		16	33	64000	µg/g
Polychlorinated Biphenyls					
PCB (total)	<	0.075	0.35	5000	µg/g
Organochllorine Pesticide					
Aldrin	<	0.01	0.11	NV	µg/g
Chlordane (total)	<	0.01	0.05	NV	µg/g
o,p DDD	<	0.01	NV	NV	µg/g
p,p-DDD	<	0.01	NV	NV	µg/g
DDD (total)	<	0.01	4.6	NV	µg/g
o,p DDE	<	0.01	NV	NV	µg/g
p,p-DDE	<	0.01	NV	NV	µg/g
DDE (total)	<	0.01	0.65	NV	µg/g
op-DDT	<	0.01	NV	NV	µg/g
pp-DDT	<	0.01	NV	NV	µg/g
DDT (total)	<	0.01	1.4	NV	µg/g
Dieldrin	<	0.01	0.11	NV	µg/g
Total Endosulphan	<	0.01	0.38	NV	µg/g
Endrin	<	0.01	0.04	NV	µg/g
Heptachlor	<	0.01	0.19	NV	µg/g
Heptachlor Epoxide	<	0.01	0.05	NV	µg/g
Lindane	<	0.01	0.063	NV	µg/g
Methoxychlor	<	0.025	1.6	NV	µg/g

BOLD Result exceeding the applicable criteria.

1. Criteria refers to Ministry of the Environment, Conservation and Parks (MECP) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 9, 2004, amended as of April 15, 2011.
2. Ministry of the Environment, Conservation and Parks Table 7: Generic Site Condition Standards for Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use in Fine Textured Soils.
3. Criteria refers to Modified Generic Risk Assesment (MGRA) "Approved Model"

Table 5 - Maximum Concentration Data - Groundwater

Contaminant Name	Maximum Concentrations		MECP[1] Table 3[2]	MGRA[3] 1/2 Solubility	Unit of measure
Petroleum Hydrocarbons					
F1 (C6-C10) - BTEX	<	25.00	750	1900	µg/L
F2 (C10-C16)	<	100.00	150	150	µg/L
F3 (C16-C34)		210.00	500	4.90E-08	µg/L
F4 (C34-C50)	<	200.00	500	3.9E-12	µg/L
Volatile Organic Compounds					
Benzene	<	0.02	430	4.7	µg/L
Ethylbenzene	<	0.02	18000	85000	µg/L
Toluene	<	0.02	2300	260000	µg/L
Total Xylenes	<	0.04	4200	53000	µg/L

BOLD Result exceeding the applicable criteria.

1. Criteria refers to Ministry of the Environment, Conservation and Parks (MECP) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" March 9, 2004, amended as of April 15, 2011.
2. Ministry of the Environment, Conservation and Parks Table 3: Generic Site Condition Standards for Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use in Fine Textured Soils.
3. Criteria refers to Modified Generic Risk Assesment (MGRA) "Approved Model"

APPENDIX A
SURVEY PLAN



SURVEYOR'S REAL PROPERTY REPORT

PLAN OF

PART OF LOTS 64,65,66,76,77 & 78 REGISTERED PLAN 65

BEING IN THE

CITY OF BURLINGTON

REGIONAL MUNICIPALITY OF HALTON

SCALE 1 : 250

0 5 10 20 metres

MacKAY, MacKAY & PETERS LIMITED – ONTARIO LAND SURVEYORS

© 2014

KNOWN AS MUNICIPAL No. 441 MAPLE AVENUE

SURVEY REPORT (BEING PART 2) (to be read in conjunction with plan being Part 1)

LAND REGISTRY OFFICE TITLE INFORMATION ON SUBJECT PROPERTY INCLUDING BOUNDARIES, EASEMENTS AND RIGHT OF WAYS – JANUARY 16, 2014

REGISTERED EASEMENTS AND/OR RIGHTS-OF-WAY:

SUBJECT TO RIGHT OF WAY OVER PART 2, PLAN 20R-11069 AS IN INST. 630997
TOGETHER WITH RIGHT OF WAY OVER PART 1, PLAN 20R-11069 AS IN INST. 630998

ADDITIONAL REMARKS:

REFER TO PART 1 OF PROPERTY REPORT FOR LOCATION OF BUILDINGS AND OTHER SETBACKS

Note :

MacKAY, MacKAY & PETERS LIMITED DOLLAY HOLDING LIMITED ["The Client(s)"], their solicitor and other related parties permission to use "original Copies" of the Surveyor's Real Property Report in transactions involving "The Client(s)".

"METRIC" DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

Legend :

- ■ DENOTES A SURVEY MONUMENT FOUND
- □ DENOTES A SURVEY MONUMENT PLANTED
- SIB DENOTES STANDARD IRON BAR
- SSIB DENOTES SHORT STANDARD IRON BAR
- IB DENOTES IRON BAR
- ℄ DENOTES CENTRE LINE
- P1 DENOTES PLAN 20R-11069
- P2 DENOTES PLAN 20R-7466
- P3 DENOTES PLAN 20R-1215
- P4 DENOTES PLAN BY MACKAY, MACKAY & PETERS LIMITED, DATED APRIL 10, 2014
- # DENOTES ROUND
- WIT DENOTES WITNESS MONUMENT
- CC DENOTES CUT CROSS
- CP DENOTES CONCRETE PIN
- PIN DENOTES PROPERTY IDENTIFICATION NUMBER
- (OU) DENOTES ORIGIN UNKNOWN

Bearing Reference :

BEARINGS ARE UTM GRID AND ARE REFERRED TO THE NORTHERLY LIMIT OF MAPLE AVENUE, AS SHOWN ON ON PLAN P4, HAVING A BEARING OF N60°30'36"W.

Surveyor's Certificate :

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON THE 8th DAY OF APRIL, 2014.

MAY 5, 2014
DATE

ROSS A. CLARKE
ONTARIO LAND SURVEYOR
FOR: MACKAY, MACKAY & PETERS LIMITED

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
1902548

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR in accordance with Regulation 1026, Section 29(3)

CAD FILE: E:\(20) Halton\Registered Plans\RP0065\14-025-1\14-025 -1.dwg

MACKAY MACKAY & PETERS LIMITED
Established 1908

ONTARIO LAND SURVEYORS
3380 SOUTH SERVICE ROAD
BURLINGTON, ONTARIO L7N 3J5
PHONE (905) 639-1375
FAX: (905) 333-9544
e-mail: halton@mmplimited.com
Records of Sewell & Sewell and Yates & Yates LTD.

DRAWN BY:	A.B.
PARTY CHIEF:	C.M.
CHECKED BY:	R.A.C.
PROJECT NO.:	14-025-1

APPENDIX B
BOREHOLE LOGS

BOREHOLE LOG

PROJECT: Phase Two Environmental Site Assessment	REF. NO.:0025-001.02	**BOREHOLE NO: BH1**
LOCATION: 441 Maple Avenue, Burlington, Ontario	TPC ELEV.: N/A	START DATE:9/4/2020
CLIENT: Better Life Retirement Residence (c/o 2564905 Ontario Inc.)	GRADE ELEV.: N/A	COMPLETION DATE:9/4/2020
BENCHMARK:		PAGE 1 OF 1

Depth (m) Water Level	DESCRIPTION STRATIGRAPHY	SYMBOL	SAMPLING NUMBER	SAMPLE TYPE	"N" VALUE	RECOVERY %	SAMPLE NAME / LAB ANALYSES	ORGANIC VAPOUR CONCENTRATION (ppmv) ▲COMBUSTIBLE VAPOUR CONCENTRATION (ppmv) 100 200 300 400	■COMBUSTIBLE VAPOUR CONCENTRATION (% LEL) 20 40 60 80	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft) Water Level
	ASPHALT											
	SAND (Fill) - light brown, gravelly, moist											
			1	ST		29		▲70 ND				
1			2	ST		38	Sample collected	▲70 ND				
			3	ST		100	Sample collected	▲55 ▲24				
2	- petroleum odour from 2.0m to 2.1m, wet at 2.0m											
	SILT - brown, trace clay, moist											
			4	ST		100		▲70 ND				
3			5	ST		100	Sample collected	▲45 ND				
	WEATHERED SHALE - reddish brown, damp											
	END OF BOREHOLE AT 3.7m											

BlueFrog Environmental Consulting Inc

LOGGED BY: KES	EQUIPMENT: Comacchio GEO205	DAYLIGHTING: n/a
REVIEWED BY: NM	METHOD: Solid Stem	WELL DIAMETER: n/a
DRAFTED BY: AD	GAS METER TYPE: RKI Eagle 2	BOREHOLE DIAMETER: 150mm

BOREHOLE LOG

PROJECT: Phase Two Environmental Site Assessment	REF. NO.:0025-001.02	**BOREHOLE NO: MW2**
LOCATION: 441 Maple Avenue, Burlington, Ontario	TPC ELEV.:99.25 m	START DATE:9/4/2020
CLIENT: Better Life Retirement Residence (c/o 2564905 Ontario Inc.)	GRADE ELEV.:99.38 m	COMPLETION DATE:9/4/2020
BENCHMARK:Top nut of the fire hydrant located west side of the building on Maple Avenue.		PAGE 1 OF 1

Depth (m) Water Level	DESCRIPTION STRATIGRAPHY	SYMBOL	SAMPLING NUMBER	SAMPLE TYPE	"N" VALUE	RECOVERY %	SAMPLE NAME / LAB ANALYSES	ORGANIC VAPOUR CONCENTRATION (ppmv) / COMBUSTIBLE VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMBUSTIBLE VAPOUR CONCENTRATION (% LEL) 20 40 60 80	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft) Water Level
0	ASPHALT											0
	SAND (Fill) - brown, gravelly, moist		1	ST		77	Sample collected	55, ND				1
	SILT - brown, some clay, moist		2	ST		100		50, ND				2
1			3	ST		100		ND				3
	- clayey below 1.9m		4	ST		100		ND				4
2								ND				5
			5	ST		100		ND				6
3								ND		Monitoring Well Installed, Screened from 1.5 to 4.6m.		7
	WEATHERED SHALE - reddish brown, moist		6	ST		100		ND				8
4								ND				9
			7	ST		100		ND				10
5												11
	END OF BOREHOLE AT 5.5m											12
												13
												14
												15
												16
												17
												18

BlueFrog Environmental Consulting Inc

LOGGED BY: KES	EQUIPMENT: Comacchio GEO205	DAYLIGHTING: n/a
REVIEWED BY: NM	METHOD: Solid Stem	WELL DIAMETER: n/a
DRAFTED BY: AD	GAS METER TYPE: RKI Eagle 2	BOREHOLE DIAMETER: 150mm

BOREHOLE LOG

PROJECT: Phase Two Environmental Site Assessment	REF. NO.:0025-001.02	**BOREHOLE NO: MW3**
LOCATION: 441 Maple Avenue, Burlington, Ontario	TPC ELEV.:98.7 m	START DATE:9/4/2020
CLIENT: Better Life Retirement Residence (c/o 2564905 Ontario Inc.)	GRADE ELEV.:98.81 m	COMPLETION DATE:9/4/2020
BENCHMARK:Top nut of the fire hydrant located west side of the building on Maple Avenue.		PAGE 1 OF 1

Depth (m) Water Level	DESCRIPTION STRATIGRAPHY	SYMBOL	SAMPLING NUMBER	SAMPLE TYPE	"N" VALUE	RECOVERY %	SAMPLE NAME / LAB ANALYSES	ORGANIC VAPOUR CONCENTRATION (ppmv) / COMBUSTIBLE VAPOUR CONCENTRATION (ppmv) 100 200 300 400	COMBUSTIBLE VAPOUR CONCENTRATION (% LEL) 20 40 60 80	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft) Water Level
	ASPHALT											
	SAND (Fill) - brown, gravelly, damp		1	ST		35		ND				1
	SILT - brown, clayey, trace sand, damp		2	ST		20		ND ND				2
1			3	ST		63		ND ND				3
			4	ST		100		ND ND				4
	- moist below 2.5m		5	ST		100	Sample collected	ND ND ND				5
2			6	ST		100		ND				6
	WEATHERED SHALE - reddish brown, damp									Monitoring Well Installed, Screened from 1.8 to 4.1m.		7
												8
												9
3												10
												11
												12
												13
4												14
												15
	END OF BOREHOLE AT 4.9m											16

BlueFrog Environmental Consulting Inc

LOGGED BY: KES	EQUIPMENT: Comacchio GEO205	DAYLIGHTING: n/a
REVIEWED BY: NM	METHOD: Solid Stem	WELL DIAMETER: 51mm
DRAFTED BY: AD	GAS METER TYPE: RKI Eagle 2	BOREHOLE DIAMETER: 150mm

BOREHOLE LOG

PROJECT: Phase Two Environmental Site Assessment	REF. NO.:0025-001.02	**BOREHOLE NO: BH4**
LOCATION: 441 Maple Avenue, Burlington, Ontario	TPC ELEV.: N/A	START DATE:9/4/2020
CLIENT: Better Life Retirement Residence (c/o 2564905 Ontario Inc.)	GRADE ELEV.: N/A	COMPLETION DATE:9/4/2020
BENCHMARK:		PAGE 1 OF 1

Depth (m) Water Level	DESCRIPTION STRATIGRAPHY	SYMBOL	SAMPLING NUMBER	SAMPLE TYPE	"N" VALUE	RECOVERY %	SAMPLE NAME / LAB ANALYSES	ORGANIC VAPOUR CONCENTRATION (ppmv) ▲COMBUSTIBLE VAPOUR CONCENTRATION (ppmv) 100 200 300 400	■COMBUSTIBLE VAPOUR CONCENTRATION (% LEL) 20 40 60 80	COMMENTS AND MONITORING WELL NOTES	MONITORING WELL	Depth (ft) Water Level
	ASPHALT											
	SAND (Fill) - brown, gravelly, trace silt, moist		1	ST		100		▲35 ND				1
1			2	ST		67	Sample collected	▲240 2				2 3 4
	SILT - brown, trace sand, moist to wet		3	ST		100		▲165 ND				5 6
2			4	ST		100		▲60 ND				7 8
	WEATHERED SHALE - reddish brown, moist											9
	END OF BOREHOLE AT 3.0m											

BlueFrog Environmental Consulting Inc

LOGGED BY: KES	EQUIPMENT: Comacchio GEO205	DAYLIGHTING: n/a
REVIEWED BY: NM	METHOD: Solid Stem	WELL DIAMETER: 51mm
DRAFTED BY: AD	GAS METER TYPE: RKI Eagle 2	BOREHOLE DIAMETER: 150mm

APPENDIX C
LABORATORY CERTIFICATES OF ANALYSIS

Your P.O. #: 0025-001.02
Your Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your C.O.C. #: 791290-02-01

Attention: Nawshad Mohsin

BLUEFROG ENVIRONMENTAL CONSULTING INC.
SUITE 100-208 WYECROFT ROAD
OAKVILLE, ON
CANADA L6K 3T8

Report Date: 2020/09/14
Report #: R6329695
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0N1103
Received: 2020/09/08, 13:33

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Cyanide (WAD) in Leachates	1	N/A	2020/09/11	CAM SOP-00457	OMOE 3015 m
Fluoride by ISE in Leachates	1	2020/09/11	2020/09/11	CAM SOP-00449	SM 23 4500-F- C m
Total Metals in TCLP Leachate by ICPMS	1	2020/09/11	2020/09/11	CAM SOP-00447	EPA 6020B m
Nitrate(NO3) + Nitrite(NO2) in Leachate	1	N/A	2020/09/11	CAM SOP-00440	SM 23 4500-NO3I/NO2B
TCLP - % Solids	1	2020/09/10	2020/09/11	CAM SOP-00401	EPA 1311 Update I m
TCLP - Extraction Fluid	1	N/A	2020/09/11	CAM SOP-00401	EPA 1311 Update I m
TCLP - Initial and final pH	1	N/A	2020/09/11	CAM SOP-00401	EPA 1311 Update I 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.

Your P.O. #: 0025-001.02
Your Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your C.O.C. #: 791290-02-01

Attention: Nawshad Mohsin

BLUEFROG ENVIRONMENTAL CONSULTING INC.
SUITE 100-208 WYECROFT ROAD
OAKVILLE, ON
CANADA L6K 3T8

Report Date: 2020/09/14
Report #: R6329695
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0N1103
Received: 2020/09/08, 13:33

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ema Gitej, Senior Project Manager
Email: Ema.Gitej@bvlabs.com
Phone# (905)817-5829

==========

This report has been generated and distributed using a secure automated process.
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Bureau Veritas Laboratories 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0N1103
Report Date: 2020/09/14

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: PS

O.REG 558 TCLP INORGANICS PACKAGE (SOIL)

BV Labs ID		NOL238		
Sampling Date		2020/09/04 17:00		
COC Number		791290-02-01		
	UNITS	TCLP - 1	RDL	QC Batch
Inorganics				
Leachable Fluoride (F-)	mg/L	0.46	0.10	6938746
Leachable WAD Cyanide (Free)	mg/L	<0.010	0.010	6938742
Leachable Nitrite (N)	mg/L	<0.10	0.10	6938731
Leachable Nitrate (N)	mg/L	<1.0	1.0	6938731
Leachable Nitrate + Nitrite (N)	mg/L	<1.0	1.0	6938731
Metals				
Leachable Arsenic (As)	mg/L	<0.2	0.2	6938635
Leachable Barium (Ba)	mg/L	0.3	0.2	6938635
Leachable Boron (B)	mg/L	0.9	0.1	6938635
Leachable Cadmium (Cd)	mg/L	<0.05	0.05	6938635
Leachable Chromium (Cr)	mg/L	<0.1	0.1	6938635
Leachable Lead (Pb)	mg/L	<0.1	0.1	6938635
Leachable Mercury (Hg)	mg/L	<0.001	0.001	6938635
Leachable Selenium (Se)	mg/L	<0.1	0.1	6938635
Leachable Silver (Ag)	mg/L	<0.01	0.01	6938635
Leachable Uranium (U)	mg/L	<0.01	0.01	6938635

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0N1103
Report Date: 2020/09/14

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: PS

O.REG 558 TCLP LEACHATE PREPARATION (SOIL)

BV Labs ID		NOL238		
Sampling Date		2020/09/04 17:00		
COC Number		791290-02-01		
	UNITS	**TCLP - 1**	**RDL**	**QC Batch**
Inorganics				
Final pH	pH	6.73		6937252
Initial pH	pH	9.93		6937252
TCLP - % Solids	%	100	0.2	6937237
TCLP Extraction Fluid	N/A	FLUID 1		6937244

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0N1103
Report Date: 2020/09/14

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: PS

TEST SUMMARY

BV Labs ID: NOL238
Sample ID: TCLP - 1
Matrix: Soil

Collected: 2020/09/04
Shipped:
Received: 2020/09/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Cyanide (WAD) in Leachates	SKAL/CN	6938742	N/A	2020/09/11	Louise Harding
Fluoride by ISE in Leachates	ISE	6938746	2020/09/11	2020/09/11	Surinder Rai
Total Metals in TCLP Leachate by ICPMS	ICP1/MS	6938635	2020/09/11	2020/09/11	Arefa Dabhad
Nitrate(NO3) + Nitrite(NO2) in Leachate	LACH	6938731	N/A	2020/09/11	Alina Dobreanu
TCLP - % Solids	BAL	6937237	2020/09/10	2020/09/11	Jian (Ken) Wang
TCLP - Extraction Fluid		6937244	N/A	2020/09/11	Jian (Ken) Wang
TCLP - Initial and final pH	PH	6937252	N/A	2020/09/11	Jian (Ken) Wang

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

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0N1103
Report Date: 2020/09/14

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: PS

GENERAL COMMENTS

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

Package 1	5.3°C

Results relate only to the items tested.

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BV Labs Job #: C0N1103
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BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: PS

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
6938635	ADA	Matrix Spike	Leachable Arsenic (As)	2020/09/11		97	%	80 - 120
			Leachable Barium (Ba)	2020/09/11		100	%	80 - 120
			Leachable Boron (B)	2020/09/11		103	%	80 - 120
			Leachable Cadmium (Cd)	2020/09/11		98	%	80 - 120
			Leachable Chromium (Cr)	2020/09/11		92	%	80 - 120
			Leachable Lead (Pb)	2020/09/11		95	%	80 - 120
			Leachable Mercury (Hg)	2020/09/11		105	%	80 - 120
			Leachable Selenium (Se)	2020/09/11		100	%	80 - 120
			Leachable Silver (Ag)	2020/09/11		90	%	80 - 120
			Leachable Uranium (U)	2020/09/11		98	%	80 - 120
6938635	ADA	Leachate Blank	Leachable Arsenic (As)	2020/09/11	<0.2		mg/L	
			Leachable Barium (Ba)	2020/09/11	<0.2		mg/L	
			Leachable Boron (B)	2020/09/11	<0.1		mg/L	
			Leachable Cadmium (Cd)	2020/09/11	<0.05		mg/L	
			Leachable Chromium (Cr)	2020/09/11	<0.1		mg/L	
			Leachable Lead (Pb)	2020/09/11	<0.1		mg/L	
			Leachable Mercury (Hg)	2020/09/11	<0.001		mg/L	
			Leachable Selenium (Se)	2020/09/11	<0.1		mg/L	
			Leachable Silver (Ag)	2020/09/11	<0.01		mg/L	
			Leachable Uranium (U)	2020/09/11	<0.01		mg/L	
6938635	ADA	Spiked Blank	Leachable Arsenic (As)	2020/09/11		100	%	80 - 120
			Leachable Barium (Ba)	2020/09/11		99	%	80 - 120
			Leachable Boron (B)	2020/09/11		97	%	80 - 120
			Leachable Cadmium (Cd)	2020/09/11		99	%	80 - 120
			Leachable Chromium (Cr)	2020/09/11		95	%	80 - 120
			Leachable Lead (Pb)	2020/09/11		95	%	80 - 120
			Leachable Mercury (Hg)	2020/09/11		104	%	80 - 120
			Leachable Selenium (Se)	2020/09/11		104	%	80 - 120
			Leachable Silver (Ag)	2020/09/11		94	%	80 - 120
			Leachable Uranium (U)	2020/09/11		97	%	80 - 120
6938635	ADA	Method Blank	Leachable Arsenic (As)	2020/09/11	<0.2		mg/L	
			Leachable Barium (Ba)	2020/09/11	<0.2		mg/L	
			Leachable Boron (B)	2020/09/11	<0.1		mg/L	
			Leachable Cadmium (Cd)	2020/09/11	<0.05		mg/L	
			Leachable Chromium (Cr)	2020/09/11	<0.1		mg/L	
			Leachable Lead (Pb)	2020/09/11	<0.1		mg/L	
			Leachable Mercury (Hg)	2020/09/11	<0.001		mg/L	
			Leachable Selenium (Se)	2020/09/11	<0.1		mg/L	
			Leachable Silver (Ag)	2020/09/11	<0.01		mg/L	
			Leachable Uranium (U)	2020/09/11	<0.01		mg/L	
6938635	ADA	RPD	Leachable Arsenic (As)	2020/09/11	NC		%	35
			Leachable Barium (Ba)	2020/09/11	10		%	35
			Leachable Boron (B)	2020/09/11	NC		%	35
			Leachable Cadmium (Cd)	2020/09/11	NC		%	35
			Leachable Chromium (Cr)	2020/09/11	NC		%	35
			Leachable Lead (Pb)	2020/09/11	NC		%	35
			Leachable Mercury (Hg)	2020/09/11	NC		%	35
			Leachable Selenium (Se)	2020/09/11	NC		%	35
			Leachable Silver (Ag)	2020/09/11	NC		%	35
			Leachable Uranium (U)	2020/09/11	NC		%	35

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
6938731	ADB	Matrix Spike	Leachable Nitrite (N)	2020/09/11		102	%	80 - 120
			Leachable Nitrate (N)	2020/09/11		93	%	80 - 120
			Leachable Nitrate + Nitrite (N)	2020/09/11		99	%	80 - 120
6938731	ADB	Leachate Blank	Leachable Nitrite (N)	2020/09/11	<0.10		mg/L	
			Leachable Nitrate (N)	2020/09/11	<1.0		mg/L	
			Leachable Nitrate + Nitrite (N)	2020/09/11	<1.0		mg/L	
6938731	ADB	Spiked Blank	Leachable Nitrite (N)	2020/09/11		107	%	80 - 120
			Leachable Nitrate (N)	2020/09/11		96	%	80 - 120
			Leachable Nitrate + Nitrite (N)	2020/09/11		98	%	80 - 120
6938731	ADB	Method Blank	Leachable Nitrite (N)	2020/09/11	<0.10		mg/L	
			Leachable Nitrate (N)	2020/09/11	<1.0		mg/L	
			Leachable Nitrate + Nitrite (N)	2020/09/11	<1.0		mg/L	
6938731	ADB	RPD	Leachable Nitrite (N)	2020/09/11	NC		%	25
			Leachable Nitrate (N)	2020/09/11	NC		%	25
			Leachable Nitrate + Nitrite (N)	2020/09/11	NC		%	25
6938742	LHA	Matrix Spike	Leachable WAD Cyanide (Free)	2020/09/11		90	%	80 - 120
6938742	LHA	Leachate Blank	Leachable WAD Cyanide (Free)	2020/09/11	<0.010		mg/L	
6938742	LHA	Spiked Blank	Leachable WAD Cyanide (Free)	2020/09/11		101	%	80 - 120
6938742	LHA	Method Blank	Leachable WAD Cyanide (Free)	2020/09/11	<0.0020		mg/L	
6938742	LHA	RPD	Leachable WAD Cyanide (Free)	2020/09/11	NC		%	20
6938746	SAU	Matrix Spike	Leachable Fluoride (F-)	2020/09/11		105	%	80 - 120
6938746	SAU	Leachate Blank	Leachable Fluoride (F-)	2020/09/11	<0.10		mg/L	
6938746	SAU	Spiked Blank	Leachable Fluoride (F-)	2020/09/11		108	%	80 - 120
6938746	SAU	Method Blank	Leachable Fluoride (F-)	2020/09/11	<0.10		mg/L	
6938746	SAU	RPD	Leachable Fluoride (F-)	2020/09/11	NC		%	25

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.

Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination.

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.

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).

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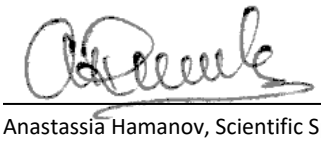
Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0N1103
Report Date: 2020/09/14

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: PS

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.

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CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#34874 BLUEFROG ENVIRONMENTAL CONSULTIN	Company Name:		Quotation #:	C03792	BV Labs Job #:	Bottle Order #:
Attention:	Nawshad Mohsin	Attention:	Nawshad Mohsin	P.O. #:	0025-001.02		791290
Address:	SUITE 100-208 WYECROFT ROAD	Address:		Project:	0025-001.02	COC #:	Project Manager:
	OAKVILLE ON L6K 3T8			Project Name:		C#791290-02-01	Ema Gitej
Tel:	(647) 989-4297 Fax:	Tel:	(647) 989-4297 Fax:	Site #:	441 Maple Avenue, Burlington		
Email:	nmohsin@bluefrogconsulting.ca	Email:	nmohsin@bluefrogconsulting.ca	Sampled By:	K.R.S.M.		

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 ☐ Reg 406 Table ___; ☐ 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 PHCs, BTEX/F1-F4 (Soil)	O.Reg 153 PAHs (Soil)	O.Reg 153 OC Pesticides (incl. PCBs)	O.Reg 153 Metals Pkg (ICPMS, Hg, Cr VI, BHOT)	pH, SAR, Conductivity	Sieve, 75um	O.Reg 558 TCLP Inorganics Package				# of Bottles	Comments
1		TCLP-1	Sept 4 2020	1700	Soil								✓				1	
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

08-Sep-20 13:33
Ema Gitej
C0N1103
SBS ENV-1138

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
				20/09/08	13:33	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal Present	Yes	No
	5|7	Intact	✓	

* 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. A626704

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 P.O. #: 0025-001.02
Your Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your C.O.C. #: 791290-03-01

Attention: Nawshad Mohsin

BLUEFROG ENVIRONMENTAL CONSULTING INC.
SUITE 100-208 WYECROFT ROAD
OAKVILLE, ON
CANADA L6K 3T8

Report Date: 2020/09/17
Report #: R6335725
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0N1138
Received: 2020/09/08, 13:33

Sample Matrix: Soil
Samples Received: 9

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum (1)	5	N/A	2020/09/12	CAM SOP-00301	EPA 8270D m
Hot Water Extractable Boron (1)	4	2020/09/10	2020/09/10	CAM SOP-00408	R153 Ana. Prot. 2011
Hexavalent Chromium in Soil by IC (1, 2)	4	2020/09/14	2020/09/14	CAM SOP-00436	EPA 3060/7199 m
Petroleum Hydro. CCME F1 & BTEX in Soil (1, 3)	5	N/A	2020/09/11	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 4)	7	2020/09/10	2020/09/11	CAM SOP-00316	CCME CWS m
F4G (CCME Hydrocarbons Gravimetric) (1)	3	2020/09/12	2020/09/12	CAM SOP-00316	CCME PHC-CWS m
Strong Acid Leachable Metals by ICPMS (1)	4	2020/09/10	2020/09/10	CAM SOP-00447	EPA 6020B m
Moisture (1)	7	N/A	2020/09/09	CAM SOP-00445	Carter 2nd ed 51.2 m
OC Pesticides (Selected) & PCB (1, 5)	3	2020/09/11	2020/09/12	CAM SOP-00307	SW846 8081, 8082
OC Pesticides Summed Parameters (1)	3	N/A	2020/09/10	CAM SOP-00307	EPA 8081/8082 m
PAH Compounds in Soil by GC/MS (SIM) (1)	5	2020/09/10	2020/09/12	CAM SOP-00318	EPA 8270D m
pH CaCl2 EXTRACT (1)	1	2020/09/11	2020/09/11	CAM SOP-00413	EPA 9045 D m
Sieve, 75um (1)	2	N/A	2020/09/10	CAM SOP-00467	ASTM D1140 -17 m
Volatile Organic Compounds and F1 PHCs (1)	3	N/A	2020/09/11	CAM SOP-00230	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.

Your P.O. #: 0025-001.02
Your Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your C.O.C. #: 791290-03-01

Attention: Nawshad Mohsin

BLUEFROG ENVIRONMENTAL CONSULTING INC.
SUITE 100-208 WYECROFT ROAD
OAKVILLE, ON
CANADA L6K 3T8

Report Date: 2020/09/17
Report #: R6335725
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0N1138
Received: 2020/09/08, 13:33

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.
(1) This test was performed by Bureau Veritas Laboratories Mississauga
(2) Soils are reported on a dry weight basis unless otherwise specified.
(3) 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.
(4) 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.
(5) Chlordane (Total) = Alpha Chlordane + Gamma Chlordane

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ema Gitej, Senior Project Manager
Email: Ema.Gitej@bvlabs.com
Phone# (905)817-5829
==========
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 #: C0N1138
Report Date: 2020/09/17

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: KES

O.REG 153 METALS PACKAGE (SOIL)

BV Labs ID		NOL446	NOL448	NOL449	NOL451		
Sampling Date		2020/09/04 10:05	2020/09/04 15:05	2020/09/04 15:30	2020/09/04 10:05		
COC Number		791290-03-01	791290-03-01	791290-03-01	791290-03-01		
	UNITS	MW3 - 2.9	BH1 - 1.5	BH1 - 3.6	DUP 1	RDL	QC Batch
Inorganics							
Chromium (VI)	ug/g	<0.18	<0.18	<0.18	<0.18	0.18	6942133
Metals							
Hot Water Ext. Boron (B)	ug/g	0.28	1.4	0.26	0.28	0.050	6936643
Acid Extractable Antimony (Sb)	ug/g	0.27	<0.20	<0.20	0.24	0.20	6936261
Acid Extractable Arsenic (As)	ug/g	5.7	6.0	2.1	7.1	1.0	6936261
Acid Extractable Barium (Ba)	ug/g	54	47	150	54	0.50	6936261
Acid Extractable Beryllium (Be)	ug/g	0.75	0.60	0.51	0.79	0.20	6936261
Acid Extractable Boron (B)	ug/g	22	16	11	22	5.0	6936261
Acid Extractable Cadmium (Cd)	ug/g	0.10	0.29	<0.10	<0.10	0.10	6936261
Acid Extractable Chromium (Cr)	ug/g	22	4.4	18	23	1.0	6936261
Acid Extractable Cobalt (Co)	ug/g	13	2.8	8.5	13	0.10	6936261
Acid Extractable Copper (Cu)	ug/g	18	9.7	18	16	0.50	6936261
Acid Extractable Lead (Pb)	ug/g	12	22	9.5	12	1.0	6936261
Acid Extractable Molybdenum (Mo)	ug/g	0.81	1.3	<0.50	0.83	0.50	6936261
Acid Extractable Nickel (Ni)	ug/g	28	6.7	19	27	0.50	6936261
Acid Extractable Selenium (Se)	ug/g	<0.50	<0.50	<0.50	<0.50	0.50	6936261
Acid Extractable Silver (Ag)	ug/g	<0.20	<0.20	<0.20	<0.20	0.20	6936261
Acid Extractable Thallium (Tl)	ug/g	0.11	0.055	0.10	0.095	0.050	6936261
Acid Extractable Uranium (U)	ug/g	0.50	0.85	0.98	0.51	0.050	6936261
Acid Extractable Vanadium (V)	ug/g	29	7.3	25	30	5.0	6936261
Acid Extractable Zinc (Zn)	ug/g	59	80	45	60	5.0	6936261
Acid Extractable Mercury (Hg)	ug/g	<0.050	<0.050	<0.050	<0.050	0.050	6936261

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas Laboratories 6790 Kitimat Rd, Unit 4, Mississauga, ON L5N 5L9 Phone: (905) 826-3080 Fax: (905) 826-4151 Toll Free: 1 877-726-3080 www.bvlabs.com

BV Labs Job #: C0N1138
Report Date: 2020/09/17

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: KES

O.REG 153 OC PESTICIDES (SOIL)

BV Labs ID		NOL446	NOL449	NOL451		
Sampling Date		2020/09/04 10:05	2020/09/04 15:30	2020/09/04 10:05		
COC Number		791290-03-01	791290-03-01	791290-03-01		
	UNITS	MW3 - 2.9	BH1 - 3.6	DUP 1	RDL	QC Batch
Calculated Parameters						
Chlordane (Total)	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6933301
o,p-DDD + p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6933301
o,p-DDE + p,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6933301
o,p-DDT + p,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6933301
Total Endosulfan	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6933301
Total PCB	ug/g	<0.015	<0.015	<0.015	0.015	6933301
Pesticides & Herbicides						
Aldrin	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
a-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
g-Chlordane	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
o,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
p,p-DDD	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
o,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
p,p-DDE	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
o,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
p,p-DDT	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
Dieldrin	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
Lindane	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
Endosulfan I (alpha)	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
Endosulfan II (beta)	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
Endrin	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
Heptachlor	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
Heptachlor epoxide	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
Hexachlorobenzene	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
Hexachlorobutadiene	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
Hexachloroethane	ug/g	<0.0020	<0.0020	<0.0020	0.0020	6939059
Methoxychlor	ug/g	<0.0050	<0.0050	<0.0050	0.0050	6939059
Aroclor 1242	ug/g	<0.015	<0.015	<0.015	0.015	6939059
Aroclor 1248	ug/g	<0.015	<0.015	<0.015	0.015	6939059
Aroclor 1254	ug/g	<0.015	<0.015	<0.015	0.015	6939059

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: C0N1138
Report Date: 2020/09/17

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: KES

O.REG 153 OC PESTICIDES (SOIL)

BV Labs ID		NOL446	NOL449	NOL451		
Sampling Date		2020/09/04 10:05	2020/09/04 15:30	2020/09/04 10:05		
COC Number		791290-03-01	791290-03-01	791290-03-01		
	UNITS	MW3 - 2.9	BH1 - 3.6	DUP 1	RDL	QC Batch
Aroclor 1260	ug/g	<0.015	<0.015	<0.015	0.015	6939059
Surrogate Recovery (%)						
2,4,5,6-Tetrachloro-m-xylene	%	82	75	75		6939059
Decachlorobiphenyl	%	79	72	75		6939059

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: KES

O.REG 153 PAHS (SOIL)

BV Labs ID		NOL444		NOL446	NOL448	NOL449		
Sampling Date		2020/09/04 15:07		2020/09/04 10:05	2020/09/04 15:05	2020/09/04 15:30		
COC Number		791290-03-01		791290-03-01	791290-03-01	791290-03-01		
	UNITS	BH1 - 2.2	RDL	MW3 - 2.9	BH1 - 1.5	BH1 - 3.6	RDL	QC Batch
Calculated Parameters								
Methylnaphthalene, 2-(1-)	ug/g	0.13	0.071	<0.0071	<0.0071	<0.0071	0.0071	6933411
Polyaromatic Hydrocarbons								
Acenaphthene	ug/g	0.43	0.050	<0.0050	<0.0050	<0.0050	0.0050	6936887
Acenaphthylene	ug/g	<0.30 (1)	0.30	<0.0050	<0.0050	<0.0050	0.0050	6936887
Anthracene	ug/g	<0.050	0.050	<0.0050	0.0051	<0.0050	0.0050	6936887
Benzo(a)anthracene	ug/g	<0.050	0.050	<0.0050	0.018	<0.0050	0.0050	6936887
Benzo(a)pyrene	ug/g	<0.050	0.050	<0.0050	0.018	<0.0050	0.0050	6936887
Benzo(b/j)fluoranthene	ug/g	<0.050	0.050	<0.0050	0.024	<0.0050	0.0050	6936887
Benzo(g,h,i)perylene	ug/g	<0.050	0.050	<0.0050	0.019	<0.0050	0.0050	6936887
Benzo(k)fluoranthene	ug/g	<0.050	0.050	<0.0050	0.0078	<0.0050	0.0050	6936887
Chrysene	ug/g	<0.050	0.050	<0.0050	0.018	<0.0050	0.0050	6936887
Dibenzo(a,h)anthracene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	6936887
Fluoranthene	ug/g	0.064	0.050	<0.0050	0.040	<0.0050	0.0050	6936887
Fluorene	ug/g	0.44	0.050	<0.0050	<0.0050	<0.0050	0.0050	6936887
Indeno(1,2,3-cd)pyrene	ug/g	<0.050	0.050	<0.0050	0.012	<0.0050	0.0050	6936887
1-Methylnaphthalene	ug/g	0.13	0.050	<0.0050	<0.0050	<0.0050	0.0050	6936887
2-Methylnaphthalene	ug/g	<0.050	0.050	<0.0050	<0.0050	<0.0050	0.0050	6936887
Naphthalene	ug/g	<0.20 (1)	0.20	<0.0050	<0.0050	<0.0050	0.0050	6936887
Phenanthrene	ug/g	1.2	0.050	<0.0050	0.025	0.0059	0.0050	6936887
Pyrene	ug/g	0.16	0.050	<0.0050	0.034	<0.0050	0.0050	6936887
Surrogate Recovery (%)								
D10-Anthracene	%	113		110	82	109		6936887
D14-Terphenyl (FS)	%	89		97	76	100		6936887
D8-Acenaphthylene	%	97		89	70	98		6936887

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) DL was raised due to matrix interference.

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BV Labs Job #: C0N1138
Report Date: 2020/09/17

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: KES

O.REG 153 PAHS (SOIL)

BV Labs ID		NOL451		
Sampling Date		2020/09/04 10:05		
COC Number		791290-03-01		
	UNITS	DUP 1	RDL	QC Batch
Inorganics				
Moisture	%	9.0	1.0	6934166
Calculated Parameters				
Methylnaphthalene, 2-(1-)	ug/g	<0.0071	0.0071	6933411
Polyaromatic Hydrocarbons				
Acenaphthene	ug/g	<0.0050	0.0050	6936887
Acenaphthylene	ug/g	<0.0050	0.0050	6936887
Anthracene	ug/g	<0.0050	0.0050	6936887
Benzo(a)anthracene	ug/g	<0.0050	0.0050	6936887
Benzo(a)pyrene	ug/g	<0.0050	0.0050	6936887
Benzo(b/j)fluoranthene	ug/g	<0.0050	0.0050	6936887
Benzo(g,h,i)perylene	ug/g	<0.0050	0.0050	6936887
Benzo(k)fluoranthene	ug/g	<0.0050	0.0050	6936887
Chrysene	ug/g	<0.0050	0.0050	6936887
Dibenzo(a,h)anthracene	ug/g	<0.0050	0.0050	6936887
Fluoranthene	ug/g	0.0090	0.0050	6936887
Fluorene	ug/g	<0.0050	0.0050	6936887
Indeno(1,2,3-cd)pyrene	ug/g	<0.0050	0.0050	6936887
1-Methylnaphthalene	ug/g	<0.0050	0.0050	6936887
2-Methylnaphthalene	ug/g	<0.0050	0.0050	6936887
Naphthalene	ug/g	<0.0050	0.0050	6936887
Phenanthrene	ug/g	0.0077	0.0050	6936887
Pyrene	ug/g	0.0072	0.0050	6936887
Surrogate Recovery (%)				
D10-Anthracene	%	112		6936887
D14-Terphenyl (FS)	%	102		6936887
D8-Acenaphthylene	%	96		6936887

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: C0N1138
Report Date: 2020/09/17

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: KES

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

BV Labs ID		NOL444	NOL445	NOL446			NOL447	NOL448		
Sampling Date		2020/09/04 15:07	2020/09/04 11:45	2020/09/04 10:05			2020/09/04 16:31	2020/09/04 15:05		
COC Number		791290-03-01	791290-03-01	791290-03-01			791290-03-01	791290-03-01		
	UNITS	BH1 - 2.2	MW2 - 0.7	MW3 - 2.9	RDL	QC Batch	BH4 - 1.5	BH1 - 1.5	RDL	QC Batch
Inorganics										
Moisture	%	14	12	5.5	1.0	6934166	11	23	1.0	6934166
Volatile Organics										
Benzene	ug/g	<0.020	<0.020	<0.020	0.020	6935647				
Ethylbenzene	ug/g	<0.020	<0.020	<0.020	0.020	6935647				
Toluene	ug/g	<0.020	<0.020	<0.020	0.020	6935647				
p+m-Xylene	ug/g	<0.020	<0.020	<0.020	0.020	6935647				
o-Xylene	ug/g	<0.020	<0.020	<0.020	0.020	6935647				
Total Xylenes	ug/g	<0.020	<0.020	<0.020	0.020	6935647				
F1 (C6-C10)	ug/g	34	<10	<10	10	6935647				
F1 (C6-C10) - BTEX	ug/g	34	<10	<10	10	6935647				
BTEX & F1 Hydrocarbons										
Benzene	ug/g						<0.020	<0.020	0.020	6936910
Toluene	ug/g						<0.020	<0.020	0.020	6936910
Ethylbenzene	ug/g						<0.020	<0.020	0.020	6936910
o-Xylene	ug/g						<0.020	<0.020	0.020	6936910
p+m-Xylene	ug/g						<0.040	<0.040	0.040	6936910
Total Xylenes	ug/g						<0.040	<0.040	0.040	6936910
F1 (C6-C10)	ug/g						<10	<10	10	6936910
F1 (C6-C10) - BTEX	ug/g						<10	<10	10	6936910
F2-F4 Hydrocarbons										
F2 (C10-C16 Hydrocarbons)	ug/g	730	<10	<10	10	6936814	<10	<10	10	6936814
F3 (C16-C34 Hydrocarbons)	ug/g	880	<50	<50	50	6936814	100	95	50	6936814
F4 (C34-C50 Hydrocarbons)	ug/g	290	<50	<50	50	6936814	240	240	50	6936814
Reached Baseline at C50	ug/g	No	Yes	Yes		6936814	No	No		6936814
Surrogate Recovery (%)										
1,4-Difluorobenzene	%						112	115		6936910
4-Bromofluorobenzene	%						89	101		6936910
D10-o-Xylene	%						94	109		6936910
D4-1,2-Dichloroethane	%						92	103		6936910
o-Terphenyl	%	98	94	96		6936814	95	94		6936814

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: C0N1138
Report Date: 2020/09/17

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: KES

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

BV Labs ID		NOL444	NOL445	NOL446			NOL447	NOL448		
Sampling Date		2020/09/04 15:07	2020/09/04 11:45	2020/09/04 10:05			2020/09/04 16:31	2020/09/04 15:05		
COC Number		791290-03-01	791290-03-01	791290-03-01			791290-03-01	791290-03-01		
	UNITS	BH1 - 2.2	MW2 - 0.7	MW3 - 2.9	RDL	QC Batch	BH4 - 1.5	BH1 - 1.5	RDL	QC Batch
4-Bromofluorobenzene	%	105	95	91		6935647				
D10-o-Xylene	%	158 (1)	113	109		6935647				
D4-1,2-Dichloroethane	%	93	91	90		6935647				
D8-Toluene	%	97	100	101		6935647				

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
(1) The recovery for the extraction surrogate compound was above the upper control limit for duplicate analyses of the soil sample. Visible loss of methanol was observed in this sample. As a result, there is an increased level of uncertainty associated with the values reported for this sample.

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BV Labs Job #: C0N1138
Report Date: 2020/09/17

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: KES

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

BV Labs ID		NOL449			NOL451		
Sampling Date		2020/09/04 15:30			2020/09/04 10:05		
COC Number		791290-03-01			791290-03-01		
	UNITS	BH1 - 3.6	RDL	QC Batch	DUP 1	RDL	QC Batch
Inorganics							
Moisture	%	13	1.0	6934166			
BTEX & F1 Hydrocarbons							
Benzene	ug/g	<0.020	0.020	6936910	<0.020	0.020	6936910
Toluene	ug/g	<0.020	0.020	6936910	<0.020	0.020	6936910
Ethylbenzene	ug/g	<0.020	0.020	6936910	<0.020	0.020	6936910
o-Xylene	ug/g	<0.020	0.020	6936910	<0.020	0.020	6936910
p+m-Xylene	ug/g	<0.040	0.040	6936910	<0.040	0.040	6936910
Total Xylenes	ug/g	<0.040	0.040	6936910	<0.040	0.040	6936910
F1 (C6-C10)	ug/g	<10	10	6936910	<10	10	6936910
F1 (C6-C10) - BTEX	ug/g	<10	10	6936910	<10	10	6936910
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/g	13	10	6936814	<10	10	6936814
F3 (C16-C34 Hydrocarbons)	ug/g	82	50	6936814	<50	50	6936814
F4 (C34-C50 Hydrocarbons)	ug/g	<50	50	6936814	<50	50	6936814
Reached Baseline at C50	ug/g	Yes		6936814	Yes		6936814
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	117		6936910	110		6936910
4-Bromofluorobenzene	%	99		6936910	95		6936910
D10-o-Xylene	%	106		6936910	102		6936910
D4-1,2-Dichloroethane	%	100		6936910	97		6936910
o-Terphenyl	%	93		6936814	94		6936814

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: C0N1138
Report Date: 2020/09/17

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
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Sampler Initials: KES

RESULTS OF ANALYSES OF SOIL

BV Labs ID		NOL444		NOL450		
Sampling Date		2020/09/04 15:07		2020/09/04 16:40		
COC Number		791290-03-01		791290-03-01		
	UNITS	BH1 - 2.2	QC Batch	BH4 - 2.9	RDL	QC Batch
Inorganics						
Available (CaCl2) pH	pH	7.75	6938798			
Miscellaneous Parameters						
Grain Size	%	COARSE	6933408	FINE	N/A	6933408
Sieve - #200 (<0.075mm)	%	42	6933408	98	1	6933408
Sieve - #200 (>0.075mm)	%	59	6933408	2	1	6933408

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

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Report Date: 2020/09/17

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Your P.O. #: 0025-001.02
Sampler Initials: KES

PETROLEUM HYDROCARBONS (CCME)

BV Labs ID		NOL444	NOL447	NOL448			NOL452		
Sampling Date		2020/09/04 15:07	2020/09/04 16:31	2020/09/04 15:05			2020/09/04 10:05		
COC Number		791290-03-01	791290-03-01	791290-03-01			791290-03-01		
	UNITS	BH1 - 2.2	BH4 - 1.5	BH1 - 1.5	RDL	QC Batch	TRIP BLANK	RDL	QC Batch
BTEX & F1 Hydrocarbons									
Benzene	ug/g						<0.020	0.020	6936910
Toluene	ug/g						<0.020	0.020	6936910
Ethylbenzene	ug/g						<0.020	0.020	6936910
o-Xylene	ug/g						<0.020	0.020	6936910
p+m-Xylene	ug/g						<0.040	0.040	6936910
Total Xylenes	ug/g						<0.040	0.040	6936910
F1 (C6-C10)	ug/g						<10	10	6936910
F1 (C6-C10) - BTEX	ug/g						<10	10	6936910
F2-F4 Hydrocarbons									
F4G-sg (Grav. Heavy Hydrocarbons)	ug/g	1000	970	1100	100	6940714			
Surrogate Recovery (%)									
1,4-Difluorobenzene	%						116		6936910
4-Bromofluorobenzene	%						103		6936910
D10-o-Xylene	%						101		6936910
D4-1,2-Dichloroethane	%						100		6936910

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: KES

TEST SUMMARY

BV Labs ID: NOL444 **Collected:** 2020/09/04
Sample ID: BH1 - 2.2 **Shipped:**
Matrix: Soil **Received:** 2020/09/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6933411	N/A	2020/09/12	Automated Statchk
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6936814	2020/09/10	2020/09/11	Ksenia Trofimova
F4G (CCME Hydrocarbons Gravimetric)	BAL	6940714	2020/09/12	2020/09/12	Imelda Villanueva
Moisture	BAL	6934166	N/A	2020/09/09	Prgya Panchal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	6936887	2020/09/10	2020/09/12	Mitesh Raj
pH CaCl2 EXTRACT	AT	6938798	2020/09/11	2020/09/11	Neil Dassanayake
Sieve, 75um	SIEV	6933408	N/A	2020/09/10	Prgya Panchal
Volatile Organic Compounds and F1 PHCs	GC/MSFD	6935647	N/A	2020/09/11	Anna Gabrielyan

BV Labs ID: NOL445 **Collected:** 2020/09/04
Sample ID: MW2 - 0.7 **Shipped:**
Matrix: Soil **Received:** 2020/09/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6936814	2020/09/10	2020/09/11	Ksenia Trofimova
Moisture	BAL	6934166	N/A	2020/09/09	Prgya Panchal
Volatile Organic Compounds and F1 PHCs	GC/MSFD	6935647	N/A	2020/09/11	Anna Gabrielyan

BV Labs ID: NOL446 **Collected:** 2020/09/04
Sample ID: MW3 - 2.9 **Shipped:**
Matrix: Soil **Received:** 2020/09/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6933411	N/A	2020/09/12	Automated Statchk
Hot Water Extractable Boron	ICP	6936643	2020/09/10	2020/09/10	Archana Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	6942133	2020/09/14	2020/09/14	Violeta Porcila
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6936814	2020/09/10	2020/09/11	Ksenia Trofimova
Strong Acid Leachable Metals by ICPMS	ICP/MS	6936261	2020/09/10	2020/09/10	Viviana Canzonieri
Moisture	BAL	6934166	N/A	2020/09/09	Prgya Panchal
OC Pesticides (Selected) & PCB	GC/ECD	6939059	2020/09/11	2020/09/12	Li Peng
OC Pesticides Summed Parameters	CALC	6933301	N/A	2020/09/10	Automated Statchk
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	6936887	2020/09/10	2020/09/12	Mitesh Raj
Volatile Organic Compounds and F1 PHCs	GC/MSFD	6935647	N/A	2020/09/11	Anna Gabrielyan

BV Labs ID: NOL447 **Collected:** 2020/09/04
Sample ID: BH4 - 1.5 **Shipped:**
Matrix: Soil **Received:** 2020/09/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6936910	N/A	2020/09/11	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6936814	2020/09/10	2020/09/11	Ksenia Trofimova
F4G (CCME Hydrocarbons Gravimetric)	BAL	6940714	2020/09/12	2020/09/12	Imelda Villanueva
Moisture	BAL	6934166	N/A	2020/09/09	Prgya Panchal

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BV Labs Job #: C0N1138
Report Date: 2020/09/17

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: KES

TEST SUMMARY

BV Labs ID: NOL448
Sample ID: BH1 - 1.5
Matrix: Soil

Collected: 2020/09/04
Shipped:
Received: 2020/09/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6933411	N/A	2020/09/12	Automated Statchk
Hot Water Extractable Boron	ICP	6936643	2020/09/10	2020/09/10	Archana Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	6942133	2020/09/14	2020/09/14	Violeta Porcila
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6936910	N/A	2020/09/11	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6936814	2020/09/10	2020/09/11	Ksenia Trofimova
F4G (CCME Hydrocarbons Gravimetric)	BAL	6940714	2020/09/12	2020/09/12	Imelda Villanueva
Strong Acid Leachable Metals by ICPMS	ICP/MS	6936261	2020/09/10	2020/09/10	Viviana Canzonieri
Moisture	BAL	6934166	N/A	2020/09/09	Prgya Panchal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	6936887	2020/09/10	2020/09/12	Mitesh Raj

BV Labs ID: NOL449
Sample ID: BH1 - 3.6
Matrix: Soil

Collected: 2020/09/04
Shipped:
Received: 2020/09/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6933411	N/A	2020/09/12	Automated Statchk
Hot Water Extractable Boron	ICP	6936643	2020/09/10	2020/09/10	Archana Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	6942133	2020/09/14	2020/09/14	Violeta Porcila
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6936910	N/A	2020/09/11	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6936814	2020/09/10	2020/09/11	Ksenia Trofimova
Strong Acid Leachable Metals by ICPMS	ICP/MS	6936261	2020/09/10	2020/09/10	Viviana Canzonieri
Moisture	BAL	6934166	N/A	2020/09/09	Prgya Panchal
OC Pesticides (Selected) & PCB	GC/ECD	6939059	2020/09/11	2020/09/12	Li Peng
OC Pesticides Summed Parameters	CALC	6933301	N/A	2020/09/10	Automated Statchk
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	6936887	2020/09/10	2020/09/12	Mitesh Raj

BV Labs ID: NOL450
Sample ID: BH4 - 2.9
Matrix: Soil

Collected: 2020/09/04
Shipped:
Received: 2020/09/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Sieve, 75um	SIEV	6933408	N/A	2020/09/10	Prgya Panchal

BV Labs ID: NOL451
Sample ID: DUP 1
Matrix: Soil

Collected: 2020/09/04
Shipped:
Received: 2020/09/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	6933411	N/A	2020/09/12	Automated Statchk
Hot Water Extractable Boron	ICP	6936643	2020/09/10	2020/09/10	Archana Patel
Hexavalent Chromium in Soil by IC	IC/SPEC	6942133	2020/09/14	2020/09/14	Violeta Porcila
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6936910	N/A	2020/09/11	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	6936814	2020/09/10	2020/09/11	Ksenia Trofimova
Strong Acid Leachable Metals by ICPMS	ICP/MS	6936261	2020/09/10	2020/09/10	Viviana Canzonieri
Moisture	BAL	6934166	N/A	2020/09/09	Prgya Panchal

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BV Labs Job #: C0N1138
Report Date: 2020/09/17

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: KES

TEST SUMMARY

BV Labs ID: NOL451
Sample ID: DUP 1
Matrix: Soil

Collected: 2020/09/04
Shipped:
Received: 2020/09/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
OC Pesticides (Selected) & PCB	GC/ECD	6939059	2020/09/11	2020/09/12	Li Peng
OC Pesticides Summed Parameters	CALC	6933301	N/A	2020/09/10	Automated Statchk
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	6936887	2020/09/10	2020/09/12	Mitesh Raj

BV Labs ID: NOL452
Sample ID: TRIP BLANK
Matrix: Soil

Collected: 2020/09/04
Shipped:
Received: 2020/09/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	6936910	N/A	2020/09/11	Abdikarim Ali

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BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: KES

GENERAL COMMENTS

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

Package 1	4.7°C

Sample NOL444 [BH1 - 2.2] : PAH analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Sample NOL449 [BH1 - 3.6] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Results relate only to the items tested.

BV Labs Job #: C0N1138
Report Date: 2020/09/17

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: KES

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
6933408	CYN	QC Standard	Sieve - #200 (<0.075mm)	2020/09/10		56	%	53 - 58
			Sieve - #200 (>0.075mm)	2020/09/10		44	%	42 - 47
6933408	CYN	RPD	Sieve - #200 (<0.075mm)	2020/09/10	1.6		%	20
			Sieve - #200 (>0.075mm)	2020/09/10	6.3		%	20
6934166	CPS	RPD	Moisture	2020/09/09	1.9		%	20
6935647	AYA	Matrix Spike	4-Bromofluorobenzene	2020/09/10		105	%	60 - 140
			D10-o-Xylene	2020/09/10		118	%	60 - 130
			D4-1,2-Dichloroethane	2020/09/10		92	%	60 - 140
			D8-Toluene	2020/09/10		105	%	60 - 140
			Benzene	2020/09/10		95	%	60 - 140
			Ethylbenzene	2020/09/10		96	%	60 - 140
			Toluene	2020/09/10		95	%	60 - 140
			p+m-Xylene	2020/09/10		107	%	60 - 140
			o-Xylene	2020/09/10		101	%	60 - 140
			F1 (C6-C10)	2020/09/10		107	%	60 - 140
6935647	AYA	Spiked Blank	4-Bromofluorobenzene	2020/09/10		104	%	60 - 140
			D10-o-Xylene	2020/09/10		112	%	60 - 130
			D4-1,2-Dichloroethane	2020/09/10		92	%	60 - 140
			D8-Toluene	2020/09/10		104	%	60 - 140
			Benzene	2020/09/10		96	%	60 - 130
			Ethylbenzene	2020/09/10		97	%	60 - 130
			Toluene	2020/09/10		96	%	60 - 130
			p+m-Xylene	2020/09/10		108	%	60 - 130
			o-Xylene	2020/09/10		102	%	60 - 130
			F1 (C6-C10)	2020/09/10		97	%	80 - 120
6935647	AYA	Method Blank	4-Bromofluorobenzene	2020/09/10		89	%	60 - 140
			D10-o-Xylene	2020/09/10		103	%	60 - 130
			D4-1,2-Dichloroethane	2020/09/10		91	%	60 - 140
			D8-Toluene	2020/09/10		101	%	60 - 140
			Benzene	2020/09/10	<0.020		ug/g	
			Ethylbenzene	2020/09/10	<0.020		ug/g	
			Toluene	2020/09/10	<0.020		ug/g	
			p+m-Xylene	2020/09/10	<0.020		ug/g	
			o-Xylene	2020/09/10	<0.020		ug/g	
			Total Xylenes	2020/09/10	<0.020		ug/g	
			F1 (C6-C10)	2020/09/10	<10		ug/g	
			F1 (C6-C10) - BTEX	2020/09/10	<10		ug/g	
6935647	AYA	RPD	Benzene	2020/09/10	NC		%	50
			Ethylbenzene	2020/09/10	NC		%	50
			Toluene	2020/09/10	NC		%	50
			p+m-Xylene	2020/09/10	NC		%	50
			o-Xylene	2020/09/10	NC		%	50
			Total Xylenes	2020/09/10	NC		%	50
			F1 (C6-C10)	2020/09/10	NC		%	30
			F1 (C6-C10) - BTEX	2020/09/10	NC		%	30
6936261	VIV	Matrix Spike	Acid Extractable Antimony (Sb)	2020/09/10		99	%	75 - 125
			Acid Extractable Arsenic (As)	2020/09/10		101	%	75 - 125
			Acid Extractable Barium (Ba)	2020/09/10		94	%	75 - 125
			Acid Extractable Beryllium (Be)	2020/09/10		99	%	75 - 125
			Acid Extractable Boron (B)	2020/09/10		102	%	75 - 125
			Acid Extractable Cadmium (Cd)	2020/09/10		100	%	75 - 125
			Acid Extractable Chromium (Cr)	2020/09/10		99	%	75 - 125

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Acid Extractable Cobalt (Co)	2020/09/10		99	%	75 - 125
			Acid Extractable Copper (Cu)	2020/09/10		97	%	75 - 125
			Acid Extractable Lead (Pb)	2020/09/10		99	%	75 - 125
			Acid Extractable Molybdenum (Mo)	2020/09/10		101	%	75 - 125
			Acid Extractable Nickel (Ni)	2020/09/10		101	%	75 - 125
			Acid Extractable Selenium (Se)	2020/09/10		103	%	75 - 125
			Acid Extractable Silver (Ag)	2020/09/10		102	%	75 - 125
			Acid Extractable Thallium (Tl)	2020/09/10		99	%	75 - 125
			Acid Extractable Uranium (U)	2020/09/10		98	%	75 - 125
			Acid Extractable Vanadium (V)	2020/09/10		101	%	75 - 125
			Acid Extractable Zinc (Zn)	2020/09/10		105	%	75 - 125
			Acid Extractable Mercury (Hg)	2020/09/10		91	%	75 - 125
6936261	VIV	Spiked Blank	Acid Extractable Antimony (Sb)	2020/09/10		97	%	80 - 120
			Acid Extractable Arsenic (As)	2020/09/10		101	%	80 - 120
			Acid Extractable Barium (Ba)	2020/09/10		96	%	80 - 120
			Acid Extractable Beryllium (Be)	2020/09/10		97	%	80 - 120
			Acid Extractable Boron (B)	2020/09/10		103	%	80 - 120
			Acid Extractable Cadmium (Cd)	2020/09/10		98	%	80 - 120
			Acid Extractable Chromium (Cr)	2020/09/10		100	%	80 - 120
			Acid Extractable Cobalt (Co)	2020/09/10		100	%	80 - 120
			Acid Extractable Copper (Cu)	2020/09/10		100	%	80 - 120
			Acid Extractable Lead (Pb)	2020/09/10		100	%	80 - 120
			Acid Extractable Molybdenum (Mo)	2020/09/10		98	%	80 - 120
			Acid Extractable Nickel (Ni)	2020/09/10		99	%	80 - 120
			Acid Extractable Selenium (Se)	2020/09/10		103	%	80 - 120
			Acid Extractable Silver (Ag)	2020/09/10		99	%	80 - 120
			Acid Extractable Thallium (Tl)	2020/09/10		97	%	80 - 120
			Acid Extractable Uranium (U)	2020/09/10		96	%	80 - 120
			Acid Extractable Vanadium (V)	2020/09/10		102	%	80 - 120
			Acid Extractable Zinc (Zn)	2020/09/10		101	%	80 - 120
			Acid Extractable Mercury (Hg)	2020/09/10		88	%	80 - 120
6936261	VIV	Method Blank	Acid Extractable Antimony (Sb)	2020/09/10	<0.20		ug/g	
			Acid Extractable Arsenic (As)	2020/09/10	<1.0		ug/g	
			Acid Extractable Barium (Ba)	2020/09/10	<0.50		ug/g	
			Acid Extractable Beryllium (Be)	2020/09/10	<0.20		ug/g	
			Acid Extractable Boron (B)	2020/09/10	<5.0		ug/g	
			Acid Extractable Cadmium (Cd)	2020/09/10	<0.10		ug/g	
			Acid Extractable Chromium (Cr)	2020/09/10	<1.0		ug/g	
			Acid Extractable Cobalt (Co)	2020/09/10	<0.10		ug/g	
			Acid Extractable Copper (Cu)	2020/09/10	<0.50		ug/g	
			Acid Extractable Lead (Pb)	2020/09/10	<1.0		ug/g	
			Acid Extractable Molybdenum (Mo)	2020/09/10	<0.50		ug/g	
			Acid Extractable Nickel (Ni)	2020/09/10	<0.50		ug/g	
			Acid Extractable Selenium (Se)	2020/09/10	<0.50		ug/g	
			Acid Extractable Silver (Ag)	2020/09/10	<0.20		ug/g	
			Acid Extractable Thallium (Tl)	2020/09/10	<0.050		ug/g	
			Acid Extractable Uranium (U)	2020/09/10	<0.050		ug/g	
			Acid Extractable Vanadium (V)	2020/09/10	<5.0		ug/g	
			Acid Extractable Zinc (Zn)	2020/09/10	<5.0		ug/g	
			Acid Extractable Mercury (Hg)	2020/09/10	<0.050		ug/g	
6936261	VIV	RPD	Acid Extractable Lead (Pb)	2020/09/10	11		%	30
6936643	APT	Matrix Spike	Hot Water Ext. Boron (B)	2020/09/10		97	%	75 - 125

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
6936643	APT	Spiked Blank	Hot Water Ext. Boron (B)	2020/09/10		99	%	75 - 125
6936643	APT	Method Blank	Hot Water Ext. Boron (B)	2020/09/10	<0.050		ug/g	
6936643	APT	RPD	Hot Water Ext. Boron (B)	2020/09/10	5.4		%	40
6936814	KTR	Matrix Spike	o-Terphenyl	2020/09/11		93	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2020/09/11		101	%	50 - 130
			F3 (C16-C34 Hydrocarbons)	2020/09/11		108	%	50 - 130
			F4 (C34-C50 Hydrocarbons)	2020/09/11		104	%	50 - 130
6936814	KTR	Spiked Blank	o-Terphenyl	2020/09/11		92	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2020/09/11		98	%	80 - 120
			F3 (C16-C34 Hydrocarbons)	2020/09/11		105	%	80 - 120
			F4 (C34-C50 Hydrocarbons)	2020/09/11		99	%	80 - 120
6936814	KTR	Method Blank	o-Terphenyl	2020/09/11		95	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2020/09/11	<10		ug/g	
			F3 (C16-C34 Hydrocarbons)	2020/09/11	<50		ug/g	
			F4 (C34-C50 Hydrocarbons)	2020/09/11	<50		ug/g	
6936814	KTR	RPD	F2 (C10-C16 Hydrocarbons)	2020/09/11	NC		%	30
			F3 (C16-C34 Hydrocarbons)	2020/09/11	NC		%	30
			F4 (C34-C50 Hydrocarbons)	2020/09/11	NC		%	30
6936887	RAJ	Matrix Spike	D10-Anthracene	2020/09/12		102	%	50 - 130
			D14-Terphenyl (FS)	2020/09/12		96	%	50 - 130
			D8-Acenaphthylene	2020/09/12		93	%	50 - 130
			Acenaphthene	2020/09/12		99	%	50 - 130
			Acenaphthylene	2020/09/12		91	%	50 - 130
			Anthracene	2020/09/12		100	%	50 - 130
			Benzo(a)anthracene	2020/09/12		107	%	50 - 130
			Benzo(a)pyrene	2020/09/12		92	%	50 - 130
			Benzo(b/j)fluoranthene	2020/09/12		99	%	50 - 130
			Benzo(g,h,i)perylene	2020/09/12		106	%	50 - 130
			Benzo(k)fluoranthene	2020/09/12		104	%	50 - 130
			Chrysene	2020/09/12		106	%	50 - 130
			Dibenzo(a,h)anthracene	2020/09/12		116	%	50 - 130
			Fluoranthene	2020/09/12		104	%	50 - 130
			Fluorene	2020/09/12		98	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2020/09/12		110	%	50 - 130
			1-Methylnaphthalene	2020/09/12		110	%	50 - 130
			2-Methylnaphthalene	2020/09/12		109	%	50 - 130
			Naphthalene	2020/09/12		89	%	50 - 130
			Phenanthrene	2020/09/12		98	%	50 - 130
			Pyrene	2020/09/12		103	%	50 - 130
6936887	RAJ	Spiked Blank	D10-Anthracene	2020/09/11		106	%	50 - 130
			D14-Terphenyl (FS)	2020/09/11		98	%	50 - 130
			D8-Acenaphthylene	2020/09/11		96	%	50 - 130
			Acenaphthene	2020/09/11		98	%	50 - 130
			Acenaphthylene	2020/09/11		89	%	50 - 130
			Anthracene	2020/09/11		98	%	50 - 130
			Benzo(a)anthracene	2020/09/11		101	%	50 - 130
			Benzo(a)pyrene	2020/09/11		92	%	50 - 130
			Benzo(b/j)fluoranthene	2020/09/11		108	%	50 - 130
			Benzo(g,h,i)perylene	2020/09/11		102	%	50 - 130
			Benzo(k)fluoranthene	2020/09/11		103	%	50 - 130
			Chrysene	2020/09/11		110	%	50 - 130
			Dibenzo(a,h)anthracene	2020/09/11		91	%	50 - 130

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Fluoranthene	2020/09/11		106	%	50 - 130
			Fluorene	2020/09/11		97	%	50 - 130
			Indeno(1,2,3-cd)pyrene	2020/09/11		101	%	50 - 130
			1-Methylnaphthalene	2020/09/11		107	%	50 - 130
			2-Methylnaphthalene	2020/09/11		104	%	50 - 130
			Naphthalene	2020/09/11		85	%	50 - 130
			Phenanthrene	2020/09/11		101	%	50 - 130
			Pyrene	2020/09/11		106	%	50 - 130
6936887	RAJ	Method Blank	D10-Anthracene	2020/09/11		110	%	50 - 130
			D14-Terphenyl (FS)	2020/09/11		93	%	50 - 130
			D8-Acenaphthylene	2020/09/11		88	%	50 - 130
			Acenaphthene	2020/09/11	<0.0050		ug/g	
			Acenaphthylene	2020/09/11	<0.0050		ug/g	
			Anthracene	2020/09/11	<0.0050		ug/g	
			Benzo(a)anthracene	2020/09/11	<0.0050		ug/g	
			Benzo(a)pyrene	2020/09/11	<0.0050		ug/g	
			Benzo(b/j)fluoranthene	2020/09/11	<0.0050		ug/g	
			Benzo(g,h,i)perylene	2020/09/11	<0.0050		ug/g	
			Benzo(k)fluoranthene	2020/09/11	<0.0050		ug/g	
			Chrysene	2020/09/11	<0.0050		ug/g	
			Dibenzo(a,h)anthracene	2020/09/11	<0.0050		ug/g	
			Fluoranthene	2020/09/11	<0.0050		ug/g	
			Fluorene	2020/09/11	<0.0050		ug/g	
			Indeno(1,2,3-cd)pyrene	2020/09/11	<0.0050		ug/g	
			1-Methylnaphthalene	2020/09/11	<0.0050		ug/g	
			2-Methylnaphthalene	2020/09/11	<0.0050		ug/g	
			Naphthalene	2020/09/11	<0.0050		ug/g	
			Phenanthrene	2020/09/11	<0.0050		ug/g	
			Pyrene	2020/09/11	<0.0050		ug/g	
6936887	RAJ	RPD	Acenaphthene	2020/09/12	NC		%	40
			Acenaphthylene	2020/09/12	NC		%	40
			Anthracene	2020/09/12	NC		%	40
			Benzo(a)anthracene	2020/09/12	18		%	40
			Benzo(a)pyrene	2020/09/12	11		%	40
			Benzo(b/j)fluoranthene	2020/09/12	7.3		%	40
			Benzo(g,h,i)perylene	2020/09/12	5.4		%	40
			Benzo(k)fluoranthene	2020/09/12	2.2		%	40
			Chrysene	2020/09/12	9.6		%	40
			Dibenzo(a,h)anthracene	2020/09/12	NC		%	40
			Fluoranthene	2020/09/12	13		%	40
			Fluorene	2020/09/12	NC		%	40
			Indeno(1,2,3-cd)pyrene	2020/09/12	7.1		%	40
			1-Methylnaphthalene	2020/09/12	NC		%	40
			2-Methylnaphthalene	2020/09/12	NC		%	40
			Naphthalene	2020/09/12	NC		%	40
			Phenanthrene	2020/09/12	5.3		%	40
			Pyrene	2020/09/12	5.4		%	40
6936910	AAI	Matrix Spike	1,4-Difluorobenzene	2020/09/11		114	%	60 - 140
			4-Bromofluorobenzene	2020/09/11		100	%	60 - 140
			D10-o-Xylene	2020/09/11		110	%	60 - 140
			D4-1,2-Dichloroethane	2020/09/11		91	%	60 - 140
			Benzene	2020/09/11		120	%	60 - 140

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Toluene	2020/09/11		100	%	60 - 140
			Ethylbenzene	2020/09/11		120	%	60 - 140
			o-Xylene	2020/09/11		119	%	60 - 140
			p+m-Xylene	2020/09/11		111	%	60 - 140
			F1 (C6-C10)	2020/09/11		91	%	60 - 140
6936910	AAI	Spiked Blank	1,4-Difluorobenzene	2020/09/10		113	%	60 - 140
			4-Bromofluorobenzene	2020/09/10		97	%	60 - 140
			D10-o-Xylene	2020/09/10		95	%	60 - 140
			D4-1,2-Dichloroethane	2020/09/10		91	%	60 - 140
			Benzene	2020/09/10		113	%	60 - 140
			Toluene	2020/09/10		94	%	60 - 140
			Ethylbenzene	2020/09/10		111	%	60 - 140
			o-Xylene	2020/09/10		107	%	60 - 140
			p+m-Xylene	2020/09/10		102	%	60 - 140
			F1 (C6-C10)	2020/09/10		89	%	80 - 120
6936910	AAI	Method Blank	1,4-Difluorobenzene	2020/09/11		118	%	60 - 140
			4-Bromofluorobenzene	2020/09/11		93	%	60 - 140
			D10-o-Xylene	2020/09/11		94	%	60 - 140
			D4-1,2-Dichloroethane	2020/09/11		101	%	60 - 140
			Benzene	2020/09/11	<0.020		ug/g	
			Toluene	2020/09/11	<0.020		ug/g	
			Ethylbenzene	2020/09/11	<0.020		ug/g	
			o-Xylene	2020/09/11	<0.020		ug/g	
			p+m-Xylene	2020/09/11	<0.040		ug/g	
			Total Xylenes	2020/09/11	<0.040		ug/g	
			F1 (C6-C10)	2020/09/11	<10		ug/g	
			F1 (C6-C10) - BTEX	2020/09/11	<10		ug/g	
6936910	AAI	RPD	Benzene	2020/09/11	NC		%	50
			Toluene	2020/09/11	NC		%	50
			Ethylbenzene	2020/09/11	NC		%	50
			o-Xylene	2020/09/11	NC		%	50
			p+m-Xylene	2020/09/11	NC		%	50
			Total Xylenes	2020/09/11	NC		%	50
			F1 (C6-C10)	2020/09/11	NC		%	30
			F1 (C6-C10) - BTEX	2020/09/11	NC		%	30
6938798	NYS	Spiked Blank	Available (CaCl2) pH	2020/09/11		100	%	97 - 103
6938798	NYS	RPD	Available (CaCl2) pH	2020/09/11	0.36		%	N/A
6939059	LPG	Matrix Spike	2,4,5,6-Tetrachloro-m-xylene	2020/09/12		98	%	50 - 130
			Decachlorobiphenyl	2020/09/12		104	%	50 - 130
			Aldrin	2020/09/12		95	%	50 - 130
			a-Chlordane	2020/09/12		107	%	50 - 130
			g-Chlordane	2020/09/12		115	%	50 - 130
			o,p-DDD	2020/09/12		104	%	50 - 130
			p,p-DDD	2020/09/12		94	%	50 - 130
			o,p-DDE	2020/09/12		102	%	50 - 130
			p,p-DDE	2020/09/12		97	%	50 - 130
			o,p-DDT	2020/09/12		113	%	50 - 130
			p,p-DDT	2020/09/12		118	%	50 - 130
			Dieldrin	2020/09/12		99	%	50 - 130
			Lindane	2020/09/12		86	%	50 - 130
			Endosulfan I (alpha)	2020/09/12		81	%	50 - 130
			Endosulfan II (beta)	2020/09/12		88	%	50 - 130

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Endrin	2020/09/12		99	%	50 - 130
			Heptachlor	2020/09/12		107	%	50 - 130
			Heptachlor epoxide	2020/09/12		88	%	50 - 130
			Hexachlorobenzene	2020/09/12		94	%	50 - 130
			Hexachlorobutadiene	2020/09/12		82	%	50 - 130
			Hexachloroethane	2020/09/12		68	%	50 - 130
			Methoxychlor	2020/09/12		120	%	50 - 130
6939059	LPG	Spiked Blank	2,4,5,6-Tetrachloro-m-xylene	2020/09/12		80	%	50 - 130
			Decachlorobiphenyl	2020/09/12		98	%	50 - 130
			Aldrin	2020/09/12		78	%	50 - 130
			a-Chlordane	2020/09/12		89	%	50 - 130
			g-Chlordane	2020/09/12		93	%	50 - 130
			o,p-DDD	2020/09/12		87	%	50 - 130
			p,p-DDD	2020/09/12		82	%	50 - 130
			o,p-DDE	2020/09/12		84	%	50 - 130
			p,p-DDE	2020/09/12		89	%	50 - 130
			o,p-DDT	2020/09/12		105	%	50 - 130
			p,p-DDT	2020/09/12		115	%	50 - 130
			Dieldrin	2020/09/12		85	%	50 - 130
			Lindane	2020/09/12		73	%	50 - 130
			Endosulfan I (alpha)	2020/09/12		71	%	50 - 130
			Endosulfan II (beta)	2020/09/12		73	%	50 - 130
			Endrin	2020/09/12		84	%	50 - 130
			Heptachlor	2020/09/12		79	%	50 - 130
			Heptachlor epoxide	2020/09/12		73	%	50 - 130
			Hexachlorobenzene	2020/09/12		92	%	50 - 130
			Hexachlorobutadiene	2020/09/12		86	%	50 - 130
			Hexachloroethane	2020/09/12		67	%	50 - 130
			Methoxychlor	2020/09/12		114	%	50 - 130
6939059	LPG	RPD	Aldrin	2020/09/12	0.22		%	40
			a-Chlordane	2020/09/12	4.3		%	40
			g-Chlordane	2020/09/12	1.4		%	40
			o,p-DDD	2020/09/12	5.2		%	40
			p,p-DDD	2020/09/12	15		%	40
			o,p-DDE	2020/09/12	0.49		%	40
			p,p-DDE	2020/09/12	1.8		%	40
			o,p-DDT	2020/09/12	0.67		%	40
			p,p-DDT	2020/09/12	2.0		%	40
			Dieldrin	2020/09/12	16		%	40
			Lindane	2020/09/12	6.8		%	40
			Endosulfan I (alpha)	2020/09/12	10		%	40
			Endosulfan II (beta)	2020/09/12	20		%	40
			Endrin	2020/09/12	18		%	40
			Heptachlor	2020/09/12	12		%	40
			Heptachlor epoxide	2020/09/12	12		%	40
			Hexachlorobenzene	2020/09/12	16		%	40
			Hexachlorobutadiene	2020/09/12	1.0		%	40
			Hexachloroethane	2020/09/12	2.7		%	40
			Methoxychlor	2020/09/12	13		%	40
			Aldrin	2020/09/12	NC		%	40
			a-Chlordane	2020/09/12	NC		%	40
			g-Chlordane	2020/09/12	NC		%	40

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			o,p-DDD	2020/09/12	NC		%	40
			p,p-DDD	2020/09/12	NC		%	40
			o,p-DDE	2020/09/12	NC		%	40
			p,p-DDE	2020/09/12	NC		%	40
			o,p-DDT	2020/09/12	NC		%	40
			p,p-DDT	2020/09/12	NC		%	40
			Dieldrin	2020/09/12	NC		%	40
			Lindane	2020/09/12	NC		%	40
			Endosulfan I (alpha)	2020/09/12	NC		%	40
			Endosulfan II (beta)	2020/09/12	NC		%	40
			Endrin	2020/09/12	NC		%	40
			Heptachlor	2020/09/12	NC		%	40
			Heptachlor epoxide	2020/09/12	NC		%	40
			Hexachlorobenzene	2020/09/12	NC		%	40
			Hexachlorobutadiene	2020/09/12	NC		%	40
			Hexachloroethane	2020/09/12	NC		%	40
			Methoxychlor	2020/09/12	NC		%	40
			Aroclor 1242	2020/09/12	NC		%	40
			Aroclor 1248	2020/09/12	NC		%	40
			Aroclor 1254	2020/09/12	NC		%	40
			Aroclor 1260	2020/09/12	NC		%	40
6939059	LPG	Method Blank	2,4,5,6-Tetrachloro-m-xylene	2020/09/12		74	%	50 - 130
			Decachlorobiphenyl	2020/09/12		83	%	50 - 130
			Aldrin	2020/09/12	<0.0020		ug/g	
			a-Chlordane	2020/09/12	<0.0020		ug/g	
			g-Chlordane	2020/09/12	<0.0020		ug/g	
			o,p-DDD	2020/09/12	<0.0020		ug/g	
			p,p-DDD	2020/09/12	<0.0020		ug/g	
			o,p-DDE	2020/09/12	<0.0020		ug/g	
			p,p-DDE	2020/09/12	<0.0020		ug/g	
			o,p-DDT	2020/09/12	<0.0020		ug/g	
			p,p-DDT	2020/09/12	<0.0020		ug/g	
			Dieldrin	2020/09/12	<0.0020		ug/g	
			Lindane	2020/09/12	<0.0020		ug/g	
			Endosulfan I (alpha)	2020/09/12	<0.0020		ug/g	
			Endosulfan II (beta)	2020/09/12	<0.0020		ug/g	
			Endrin	2020/09/12	<0.0020		ug/g	
			Heptachlor	2020/09/12	<0.0020		ug/g	
			Heptachlor epoxide	2020/09/12	<0.0020		ug/g	
			Hexachlorobenzene	2020/09/12	<0.0020		ug/g	
			Hexachlorobutadiene	2020/09/12	<0.0020		ug/g	
			Hexachloroethane	2020/09/12	<0.0020		ug/g	
			Methoxychlor	2020/09/12	<0.0050		ug/g	
			Aroclor 1242	2020/09/12	<0.015		ug/g	
			Aroclor 1248	2020/09/12	<0.015		ug/g	
			Aroclor 1254	2020/09/12	<0.015		ug/g	
			Aroclor 1260	2020/09/12	<0.015		ug/g	
6940714	IV	Matrix Spike	F4G-sg (Grav. Heavy Hydrocarbons)	2020/09/12		109	%	65 - 135
6940714	IV	Spiked Blank	F4G-sg (Grav. Heavy Hydrocarbons)	2020/09/12		104	%	65 - 135
6940714	IV	Method Blank	F4G-sg (Grav. Heavy Hydrocarbons)	2020/09/12	<100		ug/g	
6940714	IV	RPD	F4G-sg (Grav. Heavy Hydrocarbons)	2020/09/12	0		%	50
6942133	VP2	Matrix Spike	Chromium (VI)	2020/09/14		84	%	70 - 130

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BV Labs Job #: C0N1138
Report Date: 2020/09/17

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: KES

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
6942133	VP2	Spiked Blank	Chromium (VI)	2020/09/14		93	%	80 - 120
6942133	VP2	Method Blank	Chromium (VI)	2020/09/14	<0.18		ug/g	
6942133	VP2	RPD	Chromium (VI)	2020/09/14	NC		%	35

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).

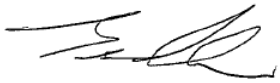
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BV Labs Job #: C0N1138
Report Date: 2020/09/17

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: KES

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.

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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:	#34874 BLUEFROG ENVIRONMENTAL CONSULTIN	Company Name:		Quotation #:	C03792	BV Labs Job #:	Bottle Order #: 791290
Attention:	Nawshad Mohsin	Attention:	Nawshad Mohsin	P.O. #:	0025-001.02		
Address:	SUITE 100-208 WYECROFT ROAD OAKVILLE ON L6K 3T8	Address:		Project:	0025-001.02	COC #: C#791290-03-01	Project Manager: Ema Gitej
Tel:	(647) 989-4297 Fax:	Tel:	(647) 989-4297 Fax:	Project Name:			
Email:	nmohsin@bluefrogconsulting.ca	Email:	nmohsin@bluefrogconsulting.ca	Site #:	441 Maple Avenue, Burlington		
				Sampled By:	KE South		

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 ☐ Reg 406 Table ☐ Other

Special Instructions:

Include Criteria on Certificate of Analysis (Y/N)? 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 PHCs, BTEX/F1-F4 (Soil)	O.Reg 153 PAHs (Soil)	O.Reg 153 OC Pesticides (Incl. PCBs)	O.Reg 153 Metals Pkg (ICPMS, Hg, Cr VI, BHOT)	pH, SAR, Conductivity	Sieve, 75um	O.Reg 558 TCLP Inorganics Package	BTEX / F1			# of Bottles	Comments
1		BH1 - 2.2	Sept. 4/2020	15:07	soil		✓	✓			✓	✓					3	Limited Sample collected Proceed with analysis
2		MW2 - 0.7		11:45			✓										2	
3		MW3 - 2.9		10:05			✓	✓	✓	✓							4	Limited sample collected. Proceed with analysis
4		BH4 - 1.5		16:31			✓										2	
5		BH1 - 1.5		15:05			✓	✓		✓							4	
6		BH1 - 3.6		15:30			✓	✓	✓	✓							4	
7		BH4 - 2.9		16:40							RS ✓	✓					1	
8		DUP1	↓	10:05	↓		✓	✓	✓	✓							4	Limited sample collected. Proceed with analysis
9		Trip Blank	11	10:05	Methanol									X			2	
10																		

08-Sep-20 13:33
Ema Gitej
C0N1138
SBS ENV-1138

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted	Laboratory Use Only: Time Sensitive	Temperature (°C) on Recei	Custody Seal Present	Yes	No
Kieth Salt	20/09/04	18:00		20/09/08	13:33			5 | 7 | 7	Intact	✓	

* 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

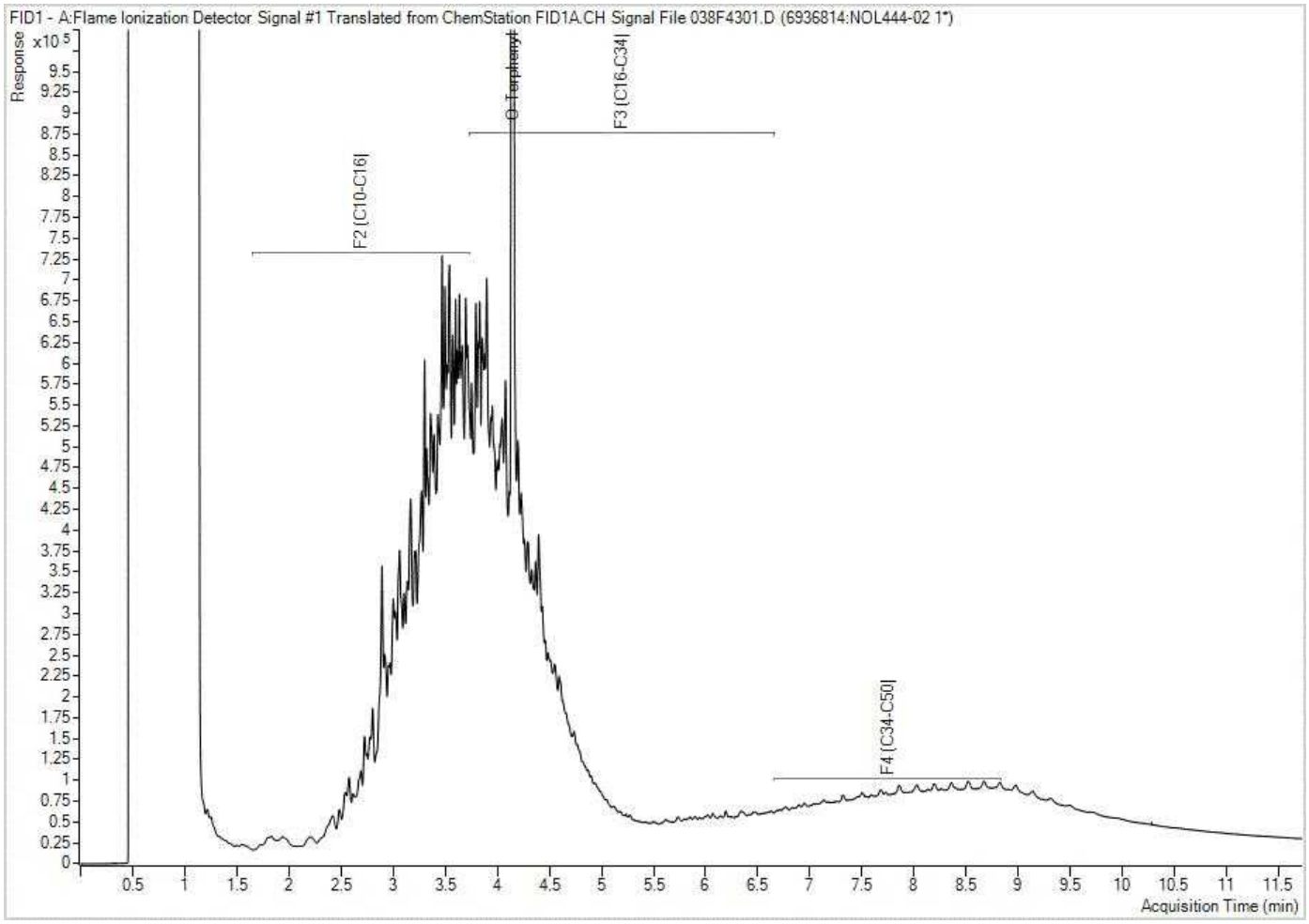
White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

BV Labs Job #: C0N1138
Report Date: 2020/09/17
BV Labs Sample: NOL444

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Project name: 441 MAPLE AVENUE, BURLINGTON
Client ID: BH1 - 2.2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

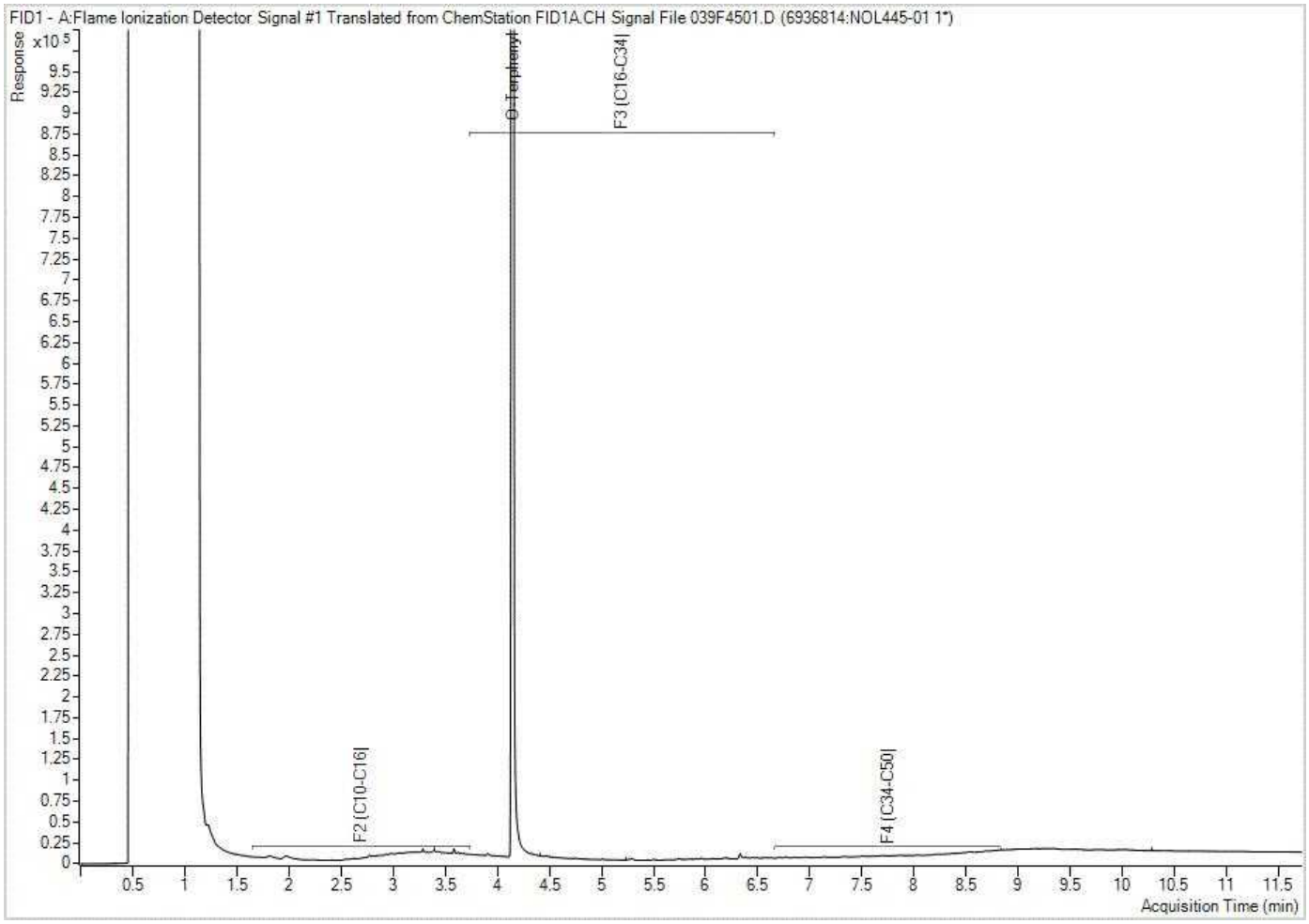


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C0N1138
Report Date: 2020/09/17
BV Labs Sample: NOL445

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Project name: 441 MAPLE AVENUE, BURLINGTON
Client ID: MW2 - 0.7

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

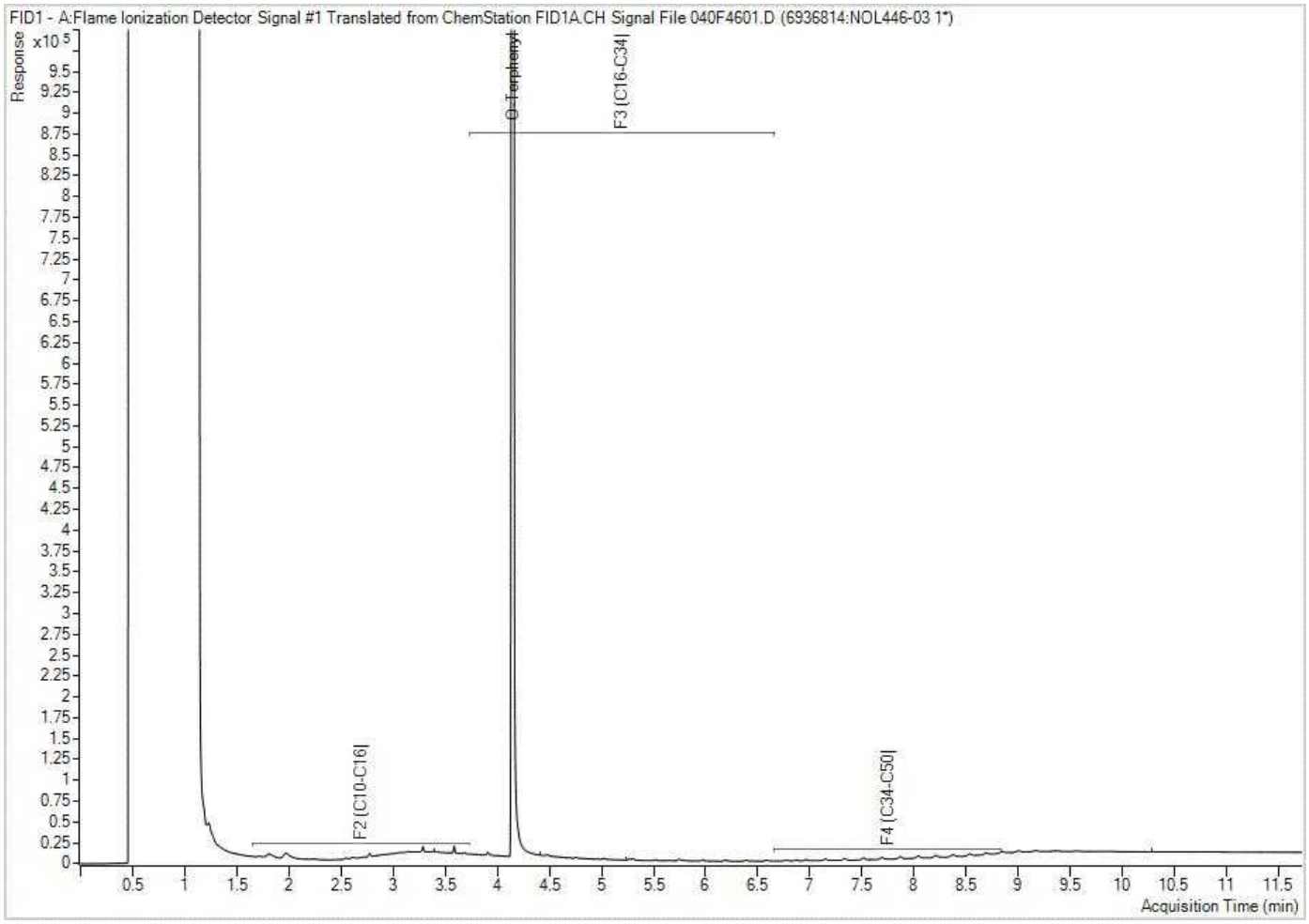


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C0N1138
Report Date: 2020/09/17
BV Labs Sample: NOL446

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Project name: 441 MAPLE AVENUE, BURLINGTON
Client ID: MW3 - 2.9

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

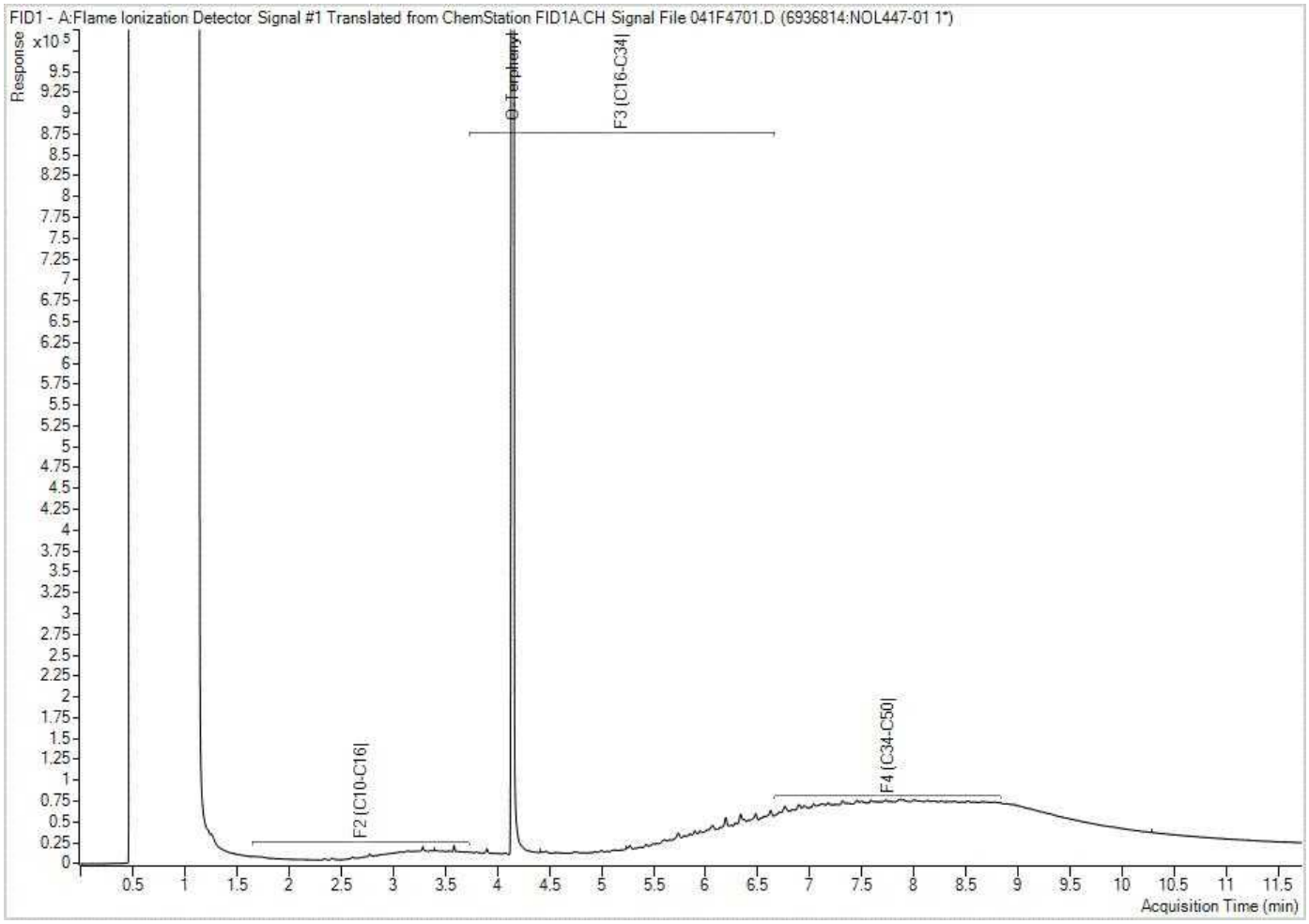


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C0N1138
Report Date: 2020/09/17
BV Labs Sample: NOL447

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Project name: 441 MAPLE AVENUE, BURLINGTON
Client ID: BH4 - 1.5

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

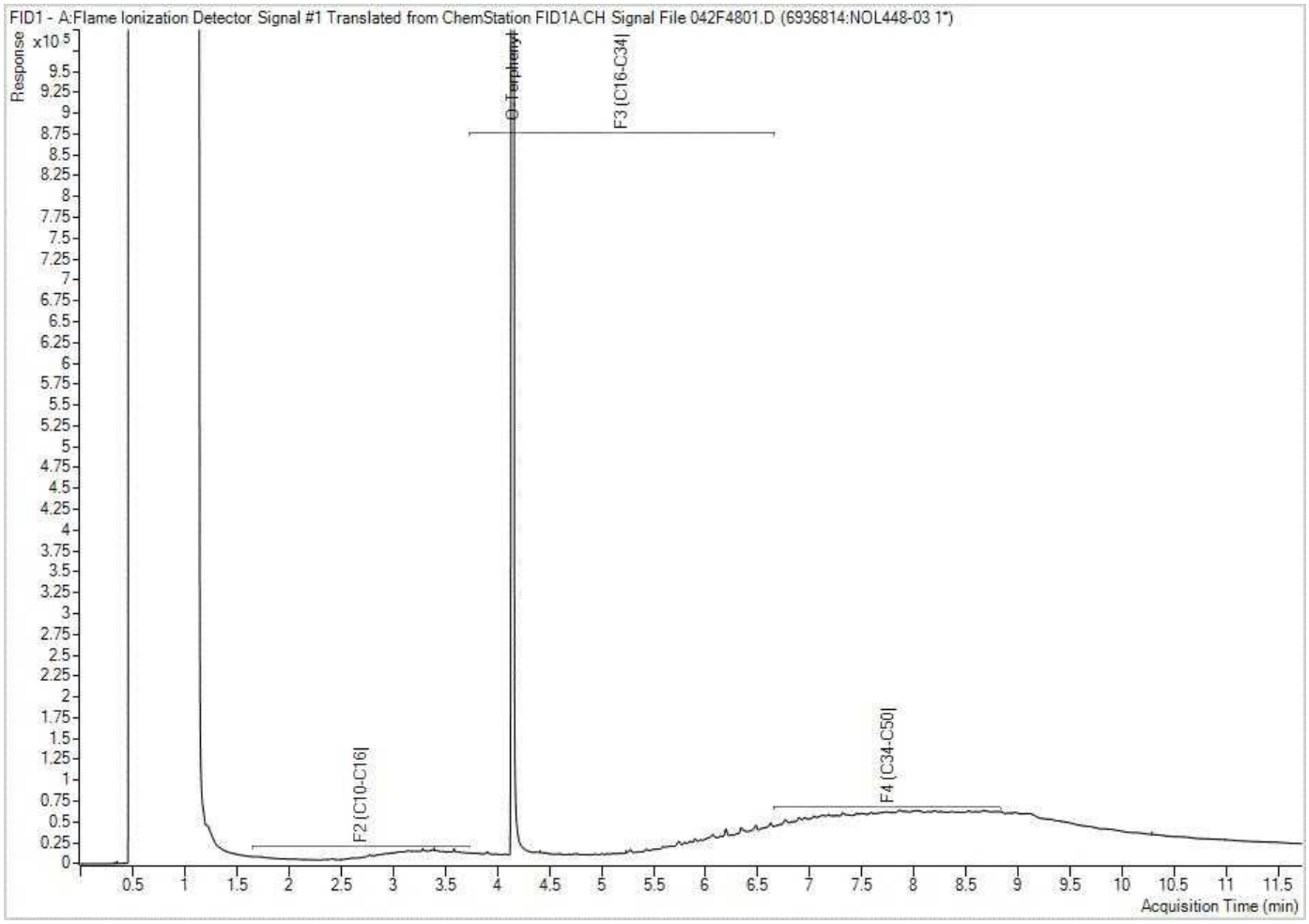


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C0N1138
Report Date: 2020/09/17
BV Labs Sample: NOL448

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Project name: 441 MAPLE AVENUE, BURLINGTON
Client ID: BH1 - 1.5

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

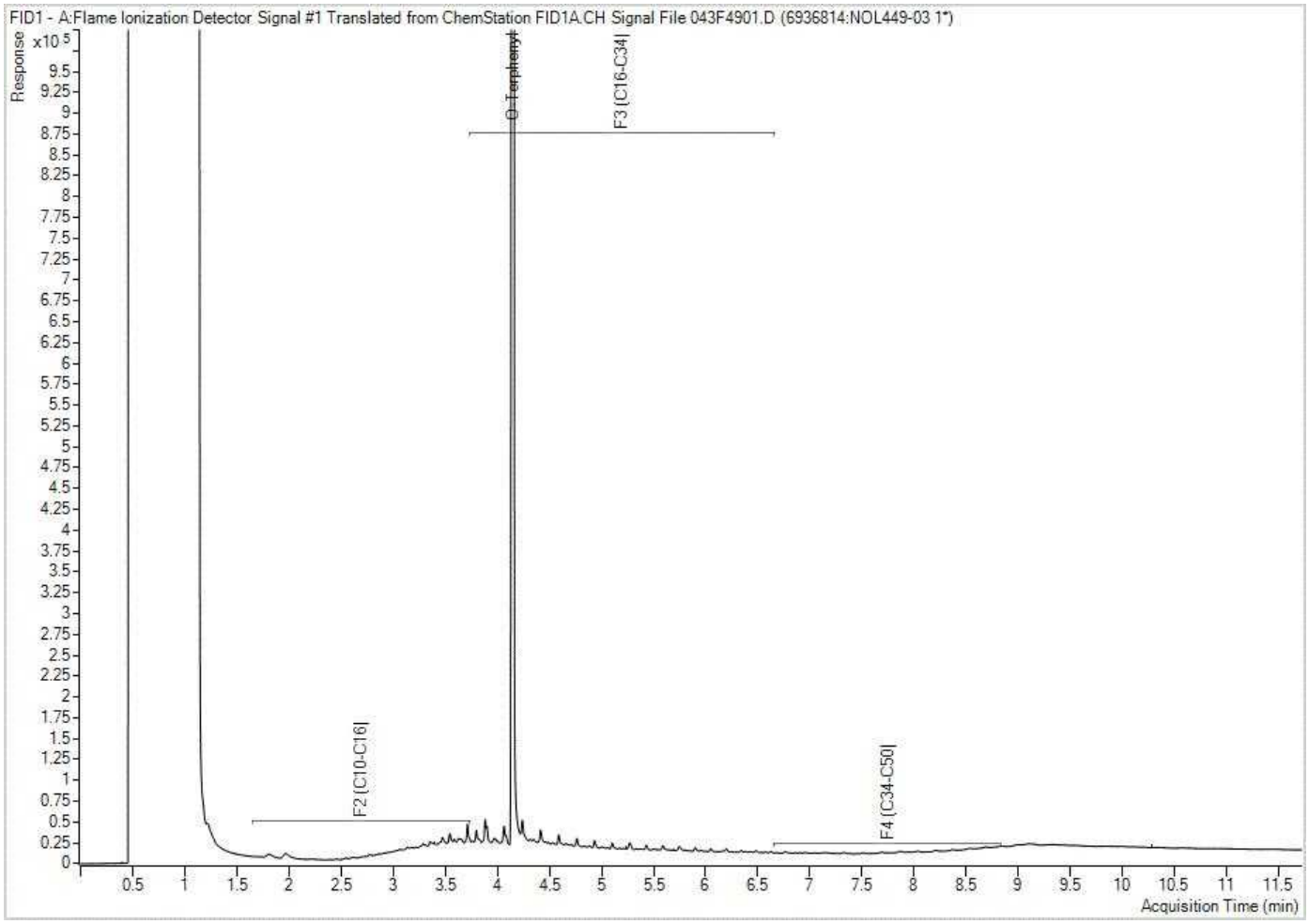


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C0N1138
Report Date: 2020/09/17
BV Labs Sample: NOL449

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Project name: 441 MAPLE AVENUE, BURLINGTON
Client ID: BH1 - 3.6

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

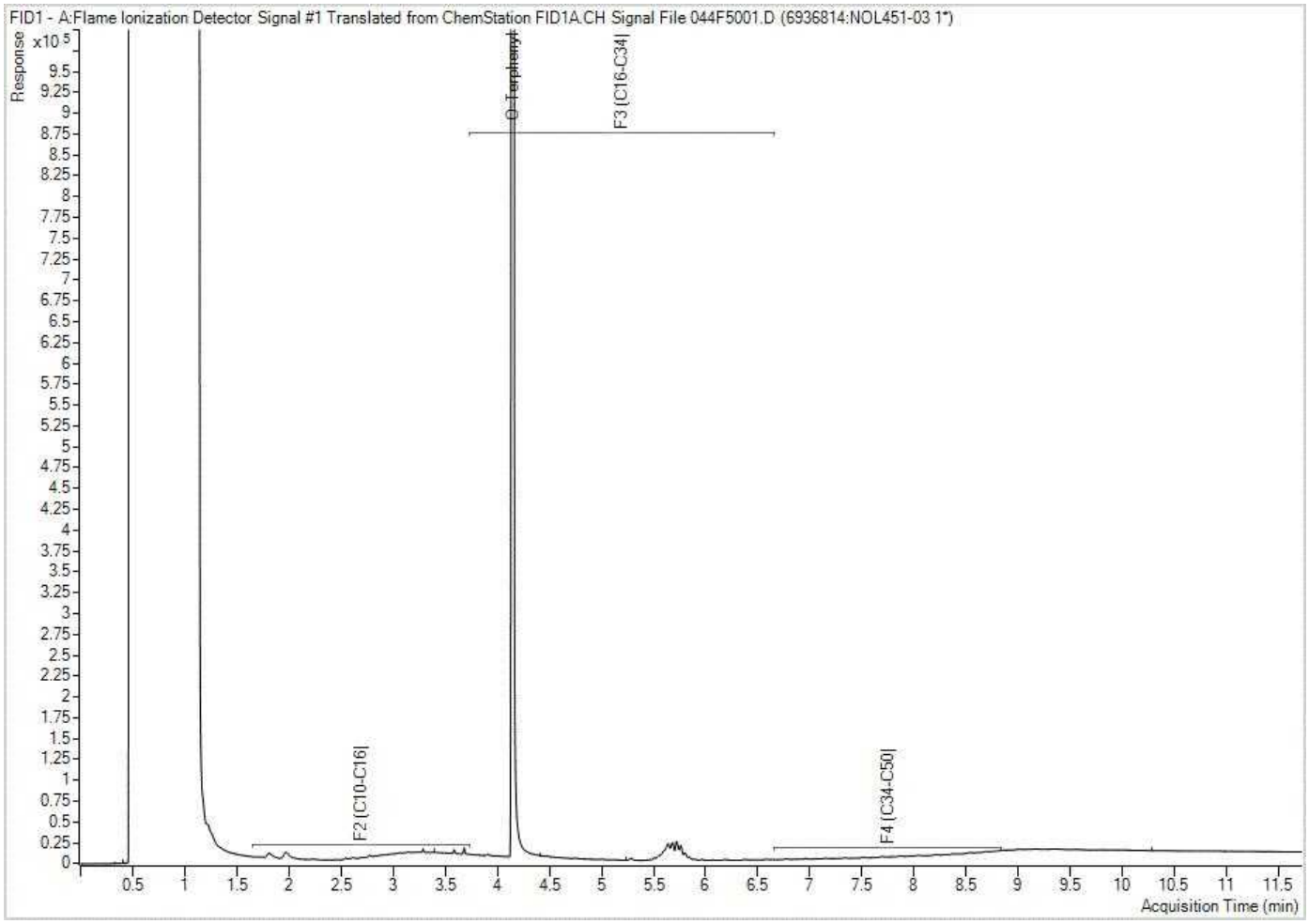


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C0N1138
Report Date: 2020/09/17
BV Labs Sample: NOL451

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Project name: 441 MAPLE AVENUE, BURLINGTON
Client ID: DUP 1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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

Your P.O. #: 0025-001.02
Your Project #: 0025-001.02
Site Location: 441 MAPLE AVE, BURLINGTON
Your C.O.C. #: 149120

Attention: Nawshad Mohsin

BLUEFROG ENVIRONMENTAL CONSULTING INC.
SUITE 100-208 WYECROFT ROAD
OAKVILLE, ON
CANADA L6K 3T8

Report Date: 2020/09/28
Report #: R6349073
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C0O3556
Received: 2020/09/18, 14:28

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Moisture	1	N/A	2020/09/21	CAM SOP-00445	Carter 2nd ed 51.2 m
OC Pesticides (Selected) & PCB (1)	1	2020/09/22	2020/09/23	CAM SOP-00307	SW846 8081, 8082
OC Pesticides Summed Parameters	1	N/A	2020/09/22	CAM SOP-00307	EPA 8081/8082 m
pH CaCl2 EXTRACT	1	2020/09/28	2020/09/28	CAM SOP-00413	EPA 9045 D 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) Chlordane (Total) = Alpha Chlordane + Gamma Chlordane

Your P.O. #: 0025-001.02
Your Project #: 0025-001.02
Site Location: 441 MAPLE AVE, BURLINGTON
Your C.O.C. #: 149120

Attention: Nawshad Mohsin

BLUEFROG ENVIRONMENTAL CONSULTING INC.
SUITE 100-208 WYECROFT ROAD
OAKVILLE, ON
CANADA L6K 3T8

Report Date: 2020/09/28
Report #: R6349073
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C0O3556
Received: 2020/09/18, 14:28

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ema Gitej, Senior Project Manager
Email: Ema.Gitej@bvlabs.com
Phone# (905)817-5829

==========

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

Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0O3556
Report Date: 2020/09/28

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: SS

O.REG 153 OC PESTICIDES (SOIL)

BV Labs ID		NQZ598		
Sampling Date		2020/09/18 12:00		
COC Number		149120		
	UNITS	MW3-0.2-0.3	RDL	QC Batch
Inorganics				
Moisture	%	6.3	1.0	6955022
Calculated Parameters				
Chlordane (Total)	ug/g	<0.010	0.010	6952323
o,p-DDD + p,p-DDD	ug/g	<0.010	0.010	6952323
o,p-DDE + p,p-DDE	ug/g	<0.010	0.010	6952323
o,p-DDT + p,p-DDT	ug/g	<0.010	0.010	6952323
Total Endosulfan	ug/g	<0.010	0.010	6952323
Total PCB	ug/g	<0.075	0.075	6952323
Pesticides & Herbicides				
Aldrin	ug/g	<0.010	0.010	6957945
a-Chlordane	ug/g	<0.010	0.010	6957945
g-Chlordane	ug/g	<0.010	0.010	6957945
o,p-DDD	ug/g	<0.010	0.010	6957945
p,p-DDD	ug/g	<0.010	0.010	6957945
o,p-DDE	ug/g	<0.010	0.010	6957945
p,p-DDE	ug/g	<0.010	0.010	6957945
o,p-DDT	ug/g	<0.010	0.010	6957945
p,p-DDT	ug/g	<0.010	0.010	6957945
Dieldrin	ug/g	<0.010	0.010	6957945
Lindane	ug/g	<0.010	0.010	6957945
Endosulfan I (alpha)	ug/g	<0.010	0.010	6957945
Endosulfan II (beta)	ug/g	<0.010	0.010	6957945
Endrin	ug/g	<0.010	0.010	6957945
Heptachlor	ug/g	<0.010	0.010	6957945
Heptachlor epoxide	ug/g	<0.010	0.010	6957945
Hexachlorobenzene	ug/g	<0.010	0.010	6957945
Hexachlorobutadiene	ug/g	<0.010	0.010	6957945
Hexachloroethane	ug/g	<0.010	0.010	6957945
Methoxychlor	ug/g	<0.025	0.025	6957945
Aroclor 1242	ug/g	<0.075	0.075	6957945

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0O3556
Report Date: 2020/09/28

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: SS

O.REG 153 OC PESTICIDES (SOIL)

BV Labs ID		NQZ598		
Sampling Date		2020/09/18 12:00		
COC Number		149120		
	UNITS	MW3-0.2-0.3	RDL	QC Batch
Aroclor 1248	ug/g	<0.075	0.075	6957945
Aroclor 1254	ug/g	<0.075	0.075	6957945
Aroclor 1260	ug/g	<0.075	0.075	6957945
Surrogate Recovery (%)				
2,4,5,6-Tetrachloro-m-xylene	%	101		6957945
Decachlorobiphenyl	%	82		6957945

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: C0O3556
Report Date: 2020/09/28

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: SS

RESULTS OF ANALYSES OF SOIL

BV Labs ID		NQZ598	NQZ598	
Sampling Date		2020/09/18 12:00	2020/09/18 12:00	
COC Number		149120	149120	
	UNITS	MW3-0.2-0.3	MW3-0.2-0.3 Lab-Dup	QC Batch
Inorganics				
Available (CaCl2) pH	pH	6.92	6.90	6968526

QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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BV Labs Job #: C0O3556
Report Date: 2020/09/28

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: SS

TEST SUMMARY

BV Labs ID: NQZ598
Sample ID: MW3-0.2-0.3
Matrix: Soil

Collected: 2020/09/18
Shipped:
Received: 2020/09/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	6955022	N/A	2020/09/21	Prgya Panchal
OC Pesticides (Selected) & PCB	GC/ECD	6957945	2020/09/22	2020/09/23	Li Peng
OC Pesticides Summed Parameters	CALC	6952323	N/A	2020/09/22	Automated Statchk
pH CaCl2 EXTRACT	AT	6968526	2020/09/28	2020/09/28	Surinder Rai

BV Labs ID: NQZ598 Dup
Sample ID: MW3-0.2-0.3
Matrix: Soil

Collected: 2020/09/18
Shipped:
Received: 2020/09/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
pH CaCl2 EXTRACT	AT	6968526	2020/09/28	2020/09/28	Surinder Rai

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BV Labs Job #: C0O3556
Report Date: 2020/09/28

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: SS

GENERAL COMMENTS

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

Package 1	8.0°C

Revised report (2020/09/28): pH analyiss included as per client request.

Revised report (2020/09/23): Sample ID updated as requested.

Sample NQZ598 [MW3-0.2-0.3] : OC Pesticide Analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Results relate only to the items tested.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0O3556
Report Date: 2020/09/28

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: SS

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
6955022	MIS	RPD	Moisture	2020/09/21	0.89		%	20
6957945	LPG	Matrix Spike	2,4,5,6-Tetrachloro-m-xylene	2020/09/23		82	%	50 - 130
			Decachlorobiphenyl	2020/09/23		70	%	50 - 130
			Aldrin	2020/09/23		72	%	50 - 130
			a-Chlordane	2020/09/23		75	%	50 - 130
			g-Chlordane	2020/09/23		83	%	50 - 130
			o,p-DDD	2020/09/23		82	%	50 - 130
			p,p-DDD	2020/09/23		69	%	50 - 130
			o,p-DDE	2020/09/23		77	%	50 - 130
			p,p-DDE	2020/09/23		75	%	50 - 130
			o,p-DDT	2020/09/23		86	%	50 - 130
			p,p-DDT	2020/09/23		90	%	50 - 130
			Dieldrin	2020/09/23		81	%	50 - 130
			Lindane	2020/09/23		68	%	50 - 130
			Endosulfan I (alpha)	2020/09/23		64	%	50 - 130
			Endosulfan II (beta)	2020/09/23		77	%	50 - 130
			Endrin	2020/09/23		84	%	50 - 130
			Heptachlor	2020/09/23		80	%	50 - 130
			Heptachlor epoxide	2020/09/23		72	%	50 - 130
			Hexachlorobenzene	2020/09/23		77	%	50 - 130
			Hexachlorobutadiene	2020/09/23		87	%	50 - 130
			Hexachloroethane	2020/09/23		65	%	50 - 130
			Methoxychlor	2020/09/23		117	%	50 - 130
6957945	LPG	Spiked Blank	2,4,5,6-Tetrachloro-m-xylene	2020/09/23		73	%	50 - 130
			Decachlorobiphenyl	2020/09/23		86	%	50 - 130
			Aldrin	2020/09/23		71	%	50 - 130
			a-Chlordane	2020/09/23		82	%	50 - 130
			g-Chlordane	2020/09/23		95	%	50 - 130
			o,p-DDD	2020/09/23		95	%	50 - 130
			p,p-DDD	2020/09/23		91	%	50 - 130
			o,p-DDE	2020/09/23		73	%	50 - 130
			p,p-DDE	2020/09/23		83	%	50 - 130
			o,p-DDT	2020/09/23		86	%	50 - 130
			p,p-DDT	2020/09/23		94	%	50 - 130
			Dieldrin	2020/09/23		103	%	50 - 130
			Lindane	2020/09/23		71	%	50 - 130
			Endosulfan I (alpha)	2020/09/23		80	%	50 - 130
			Endosulfan II (beta)	2020/09/23		80	%	50 - 130
			Endrin	2020/09/23		92	%	50 - 130
			Heptachlor	2020/09/23		76	%	50 - 130
			Heptachlor epoxide	2020/09/23		86	%	50 - 130
			Hexachlorobenzene	2020/09/23		83	%	50 - 130
			Hexachlorobutadiene	2020/09/23		94	%	50 - 130
			Hexachloroethane	2020/09/23		69	%	50 - 130
			Methoxychlor	2020/09/23		108	%	50 - 130
6957945	LPG	RPD	Aldrin	2020/09/23	8.3		%	40
			a-Chlordane	2020/09/23	3.6		%	40
			g-Chlordane	2020/09/23	12		%	40
			o,p-DDD	2020/09/23	7.4		%	40
			p,p-DDD	2020/09/23	6.6		%	40

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			o,p-DDE	2020/09/23	8.0		%	40
			p,p-DDE	2020/09/23	3.0		%	40
			o,p-DDT	2020/09/23	8.0		%	40
			p,p-DDT	2020/09/23	7.6		%	40
			Dieldrin	2020/09/23	15		%	40
			Lindane	2020/09/23	19		%	40
			Endosulfan I (alpha)	2020/09/23	5.8		%	40
			Endosulfan II (beta)	2020/09/23	10		%	40
			Endrin	2020/09/23	14		%	40
			Heptachlor	2020/09/23	8.7		%	40
			Heptachlor epoxide	2020/09/23	13		%	40
			Hexachlorobenzene	2020/09/23	2.0		%	40
			Hexachlorobutadiene	2020/09/23	0.20		%	40
			Hexachloroethane	2020/09/23	9.0		%	40
			Methoxychlor	2020/09/23	15		%	40
			Aldrin	2020/09/23	NC		%	40
			a-Chlordane	2020/09/23	NC		%	40
			g-Chlordane	2020/09/23	NC		%	40
			o,p-DDD	2020/09/23	NC		%	40
			p,p-DDD	2020/09/23	NC		%	40
			o,p-DDE	2020/09/23	NC		%	40
			p,p-DDE	2020/09/23	NC		%	40
			o,p-DDT	2020/09/23	NC		%	40
			p,p-DDT	2020/09/23	NC		%	40
			Dieldrin	2020/09/23	NC		%	40
			Lindane	2020/09/23	NC		%	40
			Endosulfan I (alpha)	2020/09/23	NC		%	40
			Endosulfan II (beta)	2020/09/23	NC		%	40
			Endrin	2020/09/23	NC		%	40
			Heptachlor	2020/09/23	NC		%	40
			Heptachlor epoxide	2020/09/23	NC		%	40
			Hexachlorobenzene	2020/09/23	NC		%	40
			Hexachlorobutadiene	2020/09/23	NC		%	40
			Hexachloroethane	2020/09/23	NC		%	40
			Methoxychlor	2020/09/23	NC		%	40
6957945	LPG	Method Blank	2,4,5,6-Tetrachloro-m-xylene	2020/09/23		77	%	50 - 130
			Decachlorobiphenyl	2020/09/23		84	%	50 - 130
			Aldrin	2020/09/23	<0.0020		ug/g	
			a-Chlordane	2020/09/23	<0.0020		ug/g	
			g-Chlordane	2020/09/23	<0.0020		ug/g	
			o,p-DDD	2020/09/23	<0.0020		ug/g	
			p,p-DDD	2020/09/23	<0.0020		ug/g	
			o,p-DDE	2020/09/23	<0.0020		ug/g	
			p,p-DDE	2020/09/23	<0.0020		ug/g	
			o,p-DDT	2020/09/23	<0.0020		ug/g	
			p,p-DDT	2020/09/23	<0.0020		ug/g	
			Dieldrin	2020/09/23	<0.0020		ug/g	
			Lindane	2020/09/23	<0.0020		ug/g	
			Endosulfan I (alpha)	2020/09/23	<0.0020		ug/g	
			Endosulfan II (beta)	2020/09/23	<0.0020		ug/g	

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Endrin	2020/09/23	<0.0020		ug/g	
			Heptachlor	2020/09/23	<0.0020		ug/g	
			Heptachlor epoxide	2020/09/23	<0.0020		ug/g	
			Hexachlorobenzene	2020/09/23	<0.0020		ug/g	
			Hexachlorobutadiene	2020/09/23	<0.0020		ug/g	
			Hexachloroethane	2020/09/23	<0.0020		ug/g	
			Methoxychlor	2020/09/23	<0.0050		ug/g	
			Aroclor 1242	2020/09/23	<0.015		ug/g	
			Aroclor 1248	2020/09/23	<0.015		ug/g	
			Aroclor 1254	2020/09/23	<0.015		ug/g	
			Aroclor 1260	2020/09/23	<0.015		ug/g	
6968526	SAU	Spiked Blank	Available (CaCl2) pH	2020/09/28		100	%	97 - 103
6968526	SAU	RPD [NQZ598-01]	Available (CaCl2) pH	2020/09/28	0.30		%	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.

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).

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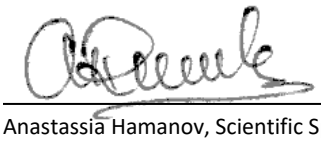
Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0O3556
Report Date: 2020/09/28

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: SS

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.

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

Your P.O. #: 0025-001.02
Your Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your C.O.C. #: 791288-02-01

Attention: Nawshad Mohsin

BLUEFROG ENVIRONMENTAL CONSULTING INC.
SUITE 100-208 WYECROFT ROAD
OAKVILLE, ON
CANADA L6K 3T8

Report Date: 2020/09/15
Report #: R6331604
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0N3737
Received: 2020/09/10, 13:50

Sample Matrix: Water
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Petroleum Hydro. CCME F1 & BTEX in Water	3	N/A	2020/09/14	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (1)	2	2020/09/14	2020/09/15	CAM SOP-00316	CCME PHC-CWS 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) 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 P.O. #: 0025-001.02
Your Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your C.O.C. #: 791288-02-01

Attention: Nawshad Mohsin

BLUEFROG ENVIRONMENTAL CONSULTING INC.
SUITE 100-208 WYECROFT ROAD
OAKVILLE, ON
CANADA L6K 3T8

Report Date: 2020/09/15
Report #: R6331604
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BV LABS JOB #: C0N3737
Received: 2020/09/10, 13:50

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Ema Gitej, Senior Project Manager
Email: Ema.Gitej@bvlabs.com
Phone# (905)817-5829

==========

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0N3737
Report Date: 2020/09/15

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: SBS

PETROLEUM HYDROCARBONS (CCME)

BV Labs ID		NOZ286		
Sampling Date		2020/09/04 12:55		
COC Number		791288-02-01		
	UNITS	TRIP BLANK-2	RDL	QC Batch
BTEX & F1 Hydrocarbons				
Benzene	ug/L	<0.20	0.20	6940870
Toluene	ug/L	<0.20	0.20	6940870
Ethylbenzene	ug/L	<0.20	0.20	6940870
o-Xylene	ug/L	<0.20	0.20	6940870
p+m-Xylene	ug/L	<0.40	0.40	6940870
Total Xylenes	ug/L	<0.40	0.40	6940870
F1 (C6-C10)	ug/L	<25	25	6940870
F1 (C6-C10) - BTEX	ug/L	<25	25	6940870
Surrogate Recovery (%)				
1,4-Difluorobenzene	%	97		6940870
4-Bromofluorobenzene	%	98		6940870
D10-o-Xylene	%	90		6940870
D4-1,2-Dichloroethane	%	88		6940870

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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BV Labs Job #: C0N3737
Report Date: 2020/09/15

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: SBS

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

BV Labs ID		NOZ285	NOZ287		
Sampling Date		2020/09/04 12:55	2020/09/04 12:55		
COC Number		791288-02-01	791288-02-01		
	UNITS	MW1	DUP-2	RDL	QC Batch
BTEX & F1 Hydrocarbons					
Benzene	ug/L	<0.20	<0.20	0.20	6940870
Toluene	ug/L	<0.20	<0.20	0.20	6940870
Ethylbenzene	ug/L	<0.20	<0.20	0.20	6940870
o-Xylene	ug/L	<0.20	<0.20	0.20	6940870
p+m-Xylene	ug/L	<0.40	<0.40	0.40	6940870
Total Xylenes	ug/L	<0.40	<0.40	0.40	6940870
F1 (C6-C10)	ug/L	<25	<25	25	6940870
F1 (C6-C10) - BTEX	ug/L	<25	<25	25	6940870
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	100	6942605
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	200	6942605
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	200	6942605
Reached Baseline at C50	ug/L	Yes	Yes		6942605
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	96	95		6940870
4-Bromofluorobenzene	%	99	99		6940870
D10-o-Xylene	%	91	92		6940870
D4-1,2-Dichloroethane	%	85	88		6940870
o-Terphenyl	%	99	101		6942605

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0N3737
Report Date: 2020/09/15

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: SBS

TEST SUMMARY

BV Labs ID: NOZ285
Sample ID: MW1
Matrix: Water

Collected: 2020/09/04
Shipped:
Received: 2020/09/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6940870	N/A	2020/09/14	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6942605	2020/09/14	2020/09/15	(Kent) Maolin Li

BV Labs ID: NOZ286
Sample ID: TRIP BLANK-2
Matrix: Water

Collected: 2020/09/04
Shipped:
Received: 2020/09/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6940870	N/A	2020/09/14	Haibin Wu

BV Labs ID: NOZ287
Sample ID: DUP-2
Matrix: Water

Collected: 2020/09/04
Shipped:
Received: 2020/09/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	6940870	N/A	2020/09/14	Haibin Wu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	6942605	2020/09/14	2020/09/15	(Kent) Maolin Li

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

GENERAL COMMENTS

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

Package 1	6.0°C

Results relate only to the items tested.

BV Labs Job #: C0N3737
Report Date: 2020/09/15

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: SBS

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
6940870	H_W	Matrix Spike	1,4-Difluorobenzene	2020/09/14		93	%	70 - 130
			4-Bromofluorobenzene	2020/09/14		101	%	70 - 130
			D10-o-Xylene	2020/09/14		91	%	70 - 130
			D4-1,2-Dichloroethane	2020/09/14		87	%	70 - 130
			Benzene	2020/09/14		88	%	70 - 130
			Toluene	2020/09/14		88	%	70 - 130
			Ethylbenzene	2020/09/14		100	%	70 - 130
			o-Xylene	2020/09/14		98	%	70 - 130
			p+m-Xylene	2020/09/14		97	%	70 - 130
			F1 (C6-C10)	2020/09/14		93	%	70 - 130
6940870	H_W	Spiked Blank	1,4-Difluorobenzene	2020/09/14		97	%	70 - 130
			4-Bromofluorobenzene	2020/09/14		99	%	70 - 130
			D10-o-Xylene	2020/09/14		99	%	70 - 130
			D4-1,2-Dichloroethane	2020/09/14		81	%	70 - 130
			Benzene	2020/09/14		92	%	70 - 130
			Toluene	2020/09/14		93	%	70 - 130
			Ethylbenzene	2020/09/14		107	%	70 - 130
			o-Xylene	2020/09/14		103	%	70 - 130
			p+m-Xylene	2020/09/14		104	%	70 - 130
			F1 (C6-C10)	2020/09/14		100	%	70 - 130
6940870	H_W	Method Blank	1,4-Difluorobenzene	2020/09/14		98	%	70 - 130
			4-Bromofluorobenzene	2020/09/14		97	%	70 - 130
			D10-o-Xylene	2020/09/14		95	%	70 - 130
			D4-1,2-Dichloroethane	2020/09/14		86	%	70 - 130
			Benzene	2020/09/14	<0.20		ug/L	
			Toluene	2020/09/14	<0.20		ug/L	
			Ethylbenzene	2020/09/14	<0.20		ug/L	
			o-Xylene	2020/09/14	<0.20		ug/L	
			p+m-Xylene	2020/09/14	<0.40		ug/L	
			Total Xylenes	2020/09/14	<0.40		ug/L	
			F1 (C6-C10)	2020/09/14	<25		ug/L	
			F1 (C6-C10) - BTEX	2020/09/14	<25		ug/L	
6940870	H_W	RPD	Benzene	2020/09/14	NC		%	30
			Toluene	2020/09/14	NC		%	30
			Ethylbenzene	2020/09/14	NC		%	30
			o-Xylene	2020/09/14	NC		%	30
			p+m-Xylene	2020/09/14	NC		%	30
			Total Xylenes	2020/09/14	NC		%	30
6942605	KLI	Matrix Spike	o-Terphenyl	2020/09/15		103	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2020/09/15		99	%	50 - 130
			F3 (C16-C34 Hydrocarbons)	2020/09/15		108	%	50 - 130
			F4 (C34-C50 Hydrocarbons)	2020/09/15		103	%	50 - 130
6942605	KLI	Spiked Blank	o-Terphenyl	2020/09/15		100	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2020/09/15		98	%	60 - 130
			F3 (C16-C34 Hydrocarbons)	2020/09/15		109	%	60 - 130
			F4 (C34-C50 Hydrocarbons)	2020/09/15		103	%	60 - 130
6942605	KLI	Method Blank	o-Terphenyl	2020/09/15		100	%	60 - 130
			F2 (C10-C16 Hydrocarbons)	2020/09/15	<100		ug/L	
			F3 (C16-C34 Hydrocarbons)	2020/09/15	<200		ug/L	
			F4 (C34-C50 Hydrocarbons)	2020/09/15	<200		ug/L	

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0N3737
Report Date: 2020/09/15

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: SBS

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
6942605	KLI	RPD	F2 (C10-C16 Hydrocarbons)	2020/09/15	NC		%	30
			F3 (C16-C34 Hydrocarbons)	2020/09/15	NC		%	30
			F4 (C34-C50 Hydrocarbons)	2020/09/15	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).

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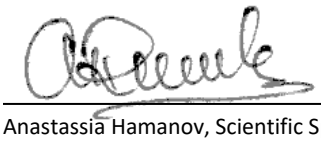
Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

BV Labs Job #: C0N3737
Report Date: 2020/09/15

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Site Location: 441 MAPLE AVENUE, BURLINGTON
Your P.O. #: 0025-001.02
Sampler Initials: SBS

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

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Microbiology testing is conducted at 6660 Campobello Rd. Chemistry testing is conducted at 6740 Campobello Rd.

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

10-Sep-20 13:50
Ema Gitej
C0N3737
URE ENV-1176

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Only:
Company Name:	#34874 BLUEFROG ENVIRONMENTAL CONSULTIN	Company Name:		Quotation #:	C03792	Bottle Order #:
Attention:	Nawshad Mohsin	Attention:	Nawshad Mohsin	P.O. #:	0025-001.02	791288
Address:	SUITE 100-208 WYECROFT ROAD	Address:		Project:	0025-001.02	
	OAKVILLE ON L6K 3T8			Project Name:		COC #: / Project Manager:
Tel:	(647) 989-4297 Fax:	Tel:	(647) 989-4297 Fax:	Site #:	441 Maple Avenue, Burlington	C#791288-02-01 / Ema Gitej
Email:	nmohsin@bluefrogconsulting.ca	Email:	nmohsin@bluefrogconsulting.ca	Sampled By:	SBS	

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 ☐ Reg 406 Table ___
- ☐ Other ___

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? 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 PHCs, BTEX/F1-F4	O.Reg 153 OC Pesticides incl. PCBs	O.Reg 153 Metals Pkg (ICPMS, Hg, Cr VI)	BTEX/F1	PAHs (Hold)					# of Bottles	Comments
1		MW1	2020-09-01	1255	GW		X				X					4	Hold PAHs
2		Trip Blank-2	↓	1255	Methanol					X						2	
3		DUP-2	↓	1255	GW		X				X					4	Hold PAHs
4																	
5																	
6																	
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
Shawn Scott	20-09-09	1700		20/09/10	13:50	

Laboratory Use Only
Time Sensitive | Temperature (°C) on Recei: 6/7.5 | Custody Seal Present ✓ / Intact | Yes ✓ | No

* 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.

20/09/10

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

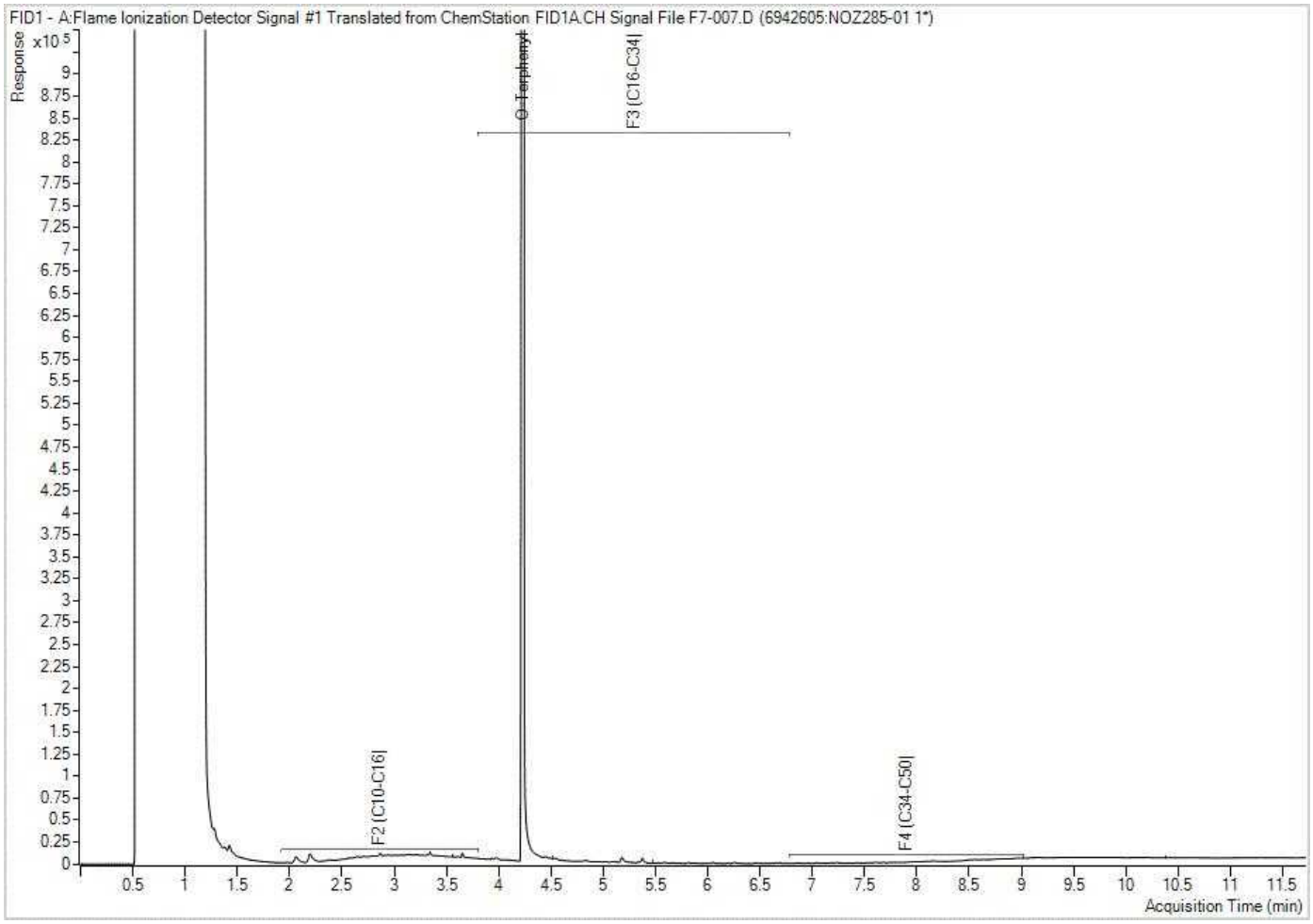
White: BV Labs Yellow: Client

Bureau Veritas Canada (2019) Inc.

BV Labs Job #: C0N3737
Report Date: 2020/09/15
BV Labs Sample: NOZ285

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Project name: 441 MAPLE AVENUE, BURLINGTON
Client ID: MW1

Petroleum Hydrocarbons F2-F4 in Water Chromatogram

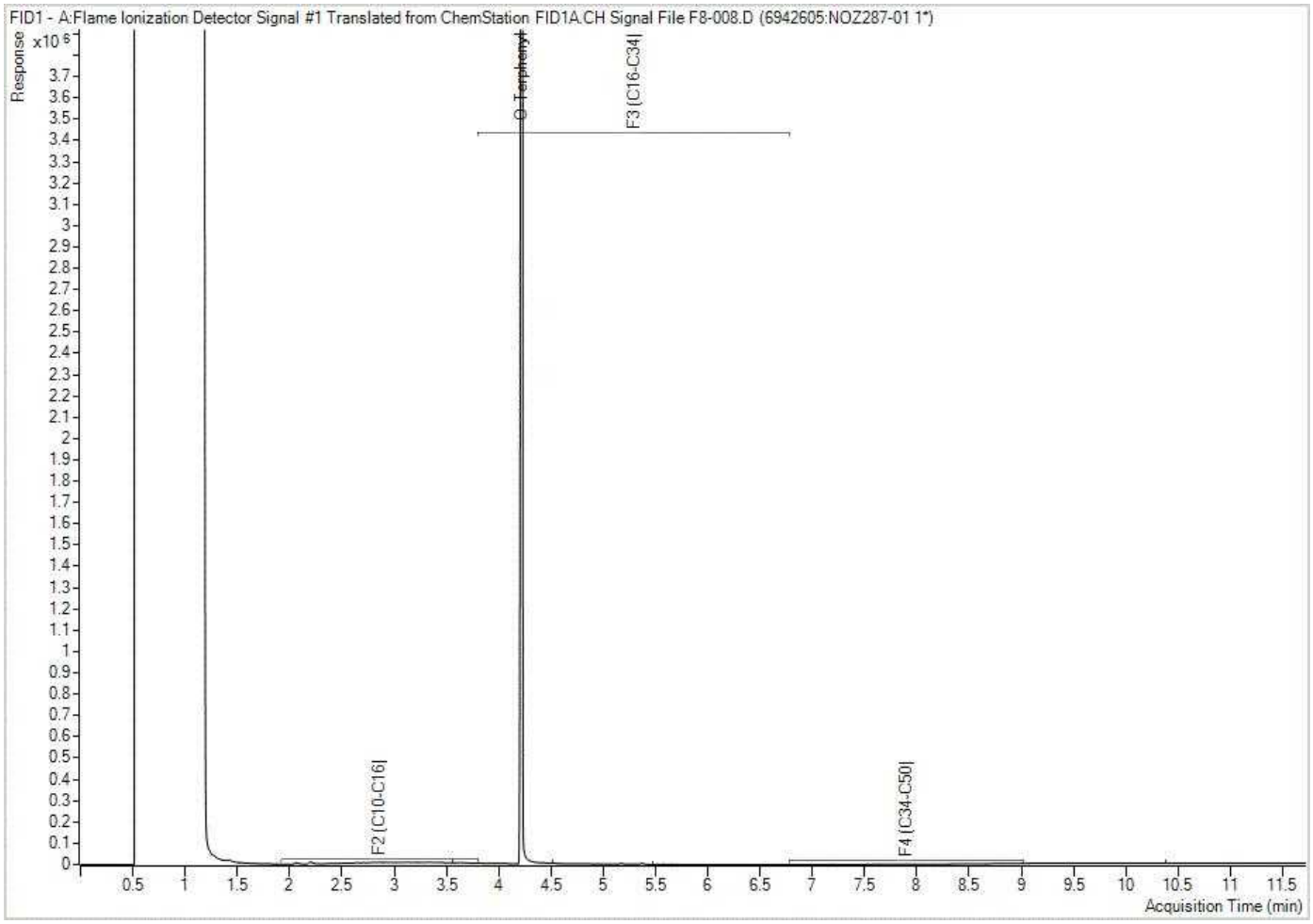


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

BV Labs Job #: C0N3737
Report Date: 2020/09/15
BV Labs Sample: NOZ287

BLUEFROG ENVIRONMENTAL CONSULTING INC.
Client Project #: 0025-001.02
Project name: 441 MAPLE AVENUE, BURLINGTON
Client ID: DUP-2

Petroleum Hydrocarbons F2-F4 in Water Chromatogram



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