PHASE TWO
ENVIRONMENTAL SITE ASSESSMENT

of

4473-4479 & 4499 Ferguson Street, Niagara Falls, ON

For:
2808378 Ontario Inc. c/o myHome Management Inc.

August 15, 2023
Project: E-23-19-2

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Prepared by **EON Environmental Consulting Ltd**. on behalf of:

2808378 Ontario Inc. c/o myHome Management Inc.

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EXECUTIVE SUMMARY

INTRODUCTION

EON Environmental Consulting Ltd. (Formerly known as Hallex Environmental Ltd.) was retained by 2808378 Ontario Inc. c/o myHome Management Inc. to conduct a Phase Two Environmental Site Assessment (ESA) at 4473-4479 & 4499 Ferguson Street, Niagara Falls, ON following the Phase One ESA completed by Hallex on October 19th, 2022, that identified the following Potentially Contaminating Activities (PCA)/Areas of Potential Environmental Concern (APEC):

- ***PCA-1/APEC-1: #30 Importation of Fill Material of Unknown Quality.*** The distribution of fill material for site grading represents an on-site PCA. Potential contaminants include: Polycyclic Aromatic Hydrocarbons (PAHs), Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Metals and Petroleum Hydrocarbons (PHCs).
- ***PCA-2/APEC-2: Other – Parking Lot.*** Salt used across the parking lot, for the purpose of de-icing during the winter months, represents a PCA. Salt can accumulate in the soil thus resulting in changes to pH, Sodium Absorption Ratio (SAR) and Electrical Conductivity (EC) levels. This on-site PCA represents an on-site APEC, however the activity was determined not to be of concern as per O. Reg. 153/04 below.

  S.49.1 if an applicable site condition standard is exceeded at a property solely because of one of the following reasons, the applicable site condition standard is deemed not to be exceeded for the purpose of Part XV.1 of the Act:

  1. The qualified person has determined, based on a phase one environmental site assessment or a phase two environmental site assessment, that the substance has been applied to surfaces for safety of vehicular or pedestrian traffic under conditions of snow or ice or both.

  As such and according to section 49.1 O. Reg. 153/04 (as amended) above, the standards are deemed to be met.
- ***PCA-3/APEC-3: #10 – Commercial Autobody Shop.*** A commercial autobody shop known as Schultz Auto Parts was identified at 4486 Ferguson Street. Potential contaminants include: PAHs, BTEX, Metals

(by ICP), Volatile Organic Compound (VOCs) and PHCs. This represents a PCA resulting in an APEC to study site soil and groundwater.

The objectives of the Phase Two ESA were to determine the presence/absence of potential contaminants of concern within the soil. The presence of contaminants in the soil, if detected, would determine the need for further sampling and analyses of soil to delineate the extent of impact, and to satisfy the requirements of Ontario Regulation (O. Reg.) 153/04, amended by O. Reg. 511/09.

PHASE 2 ESA METHODS

Soil

Six (6) boreholes, BH-1 to BH-6 were advanced on July 21st, 2023. Soil samples were collected at depth intervals of 0.61 m until they reached a maximum depth of 4.57 m to 6.61 meters below ground surface (mbgs). Twelve (12) samples were submitted to Paracel Laboratories Ltd. for analyses of Metals (by ICP), PAHs, PHCs, BTEX, VOCs, pH, and Grain Size Analysis.

Groundwater

Three (3) monitoring wells MW-1, MW-2, and MW-3 were installed into designated boreholes on July 21st, 2023 to a depth of 6.10mbgs. Groundwater samples were submitted to Paracel Laboratories Ltd. for analyses of Metals (by ICP), PHCs, PAHs, BTEX, and VOCs.

RESULTS

Soil

Soil laboratory analytical data was compared with MECP Site Condition Standards (2011) Table 2: Residential land use in a Potable Groundwater Condition, fine textured soil. The results indicated that all samples **met** the criteria for the target contaminants analyzed.

Groundwater

Groundwater laboratory analytical data was compared with groundwater criteria in the MECP Site Condition Standards (2011) Table 2: Residential, Potable

Groundwater condition, fine textured soil. The results indicated that all samples **met** the criteria for the target contaminants analyzed.

FINDINGS & CONCLUSIONS

The Phase Two Environmental Site Assessment at 4473-4479 & 4499 Ferguson Street, Niagara Falls, ON revealed all soil and groundwater samples **met** Ministry of the Environment, Conservation & Parks (MECP) Site Condition Standards 2011 Table 2 for Residential Land Use in a potable groundwater condition, for fine textured soil for contaminant groups Metals (by ICP), Petroleum Hydrocarbons (PHCs), Polycyclic Aromatic Hydrocarbons (PAHs), Benzene Toluene Ethylbenzene Xylene (BTEX), and ph.

EON considers the site suitable for development for residential purposes and filing a Record of Site Condition with the Ministry of the Environment, Conservation and Parks for a change in land use. No further Environmental Assessment work was considered necessary as of July 27th, 2023.

LIST OF ACRONYMS

APEC	Area of Potential Environmental Concern
AST	Aboveground Storage Tank
BH	Borehole
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
CO	Carbon Monoxide
CO_2	Carbon Dioxide
COC	Contaminant of Concern
CSM	Conceptual Site Model
CSVC	Combustible Soil Vapour Concentration
EC	Electrical Conductivity
EPA	Environmental Protection Act
ESA	Environmental Site Assessment
GPR	Ground Penetrating Radar
i	Hydraulic Gradient
k_h	Hydraulic Conductivity
LEL	Lower Explosive Limit
masl	Metres above sea level
mbgs	Metres below ground surface
MECP	Ministry of the Environment, Conservation and Parks
MW	Monitoring Well
OC/OCP	Organochlorine Pesticides
PAH	Polycyclic Aromatic Hydrocarbons
PCA	Potentially Contaminating Activity
PCB	Polychlorinated Biphenyl
PCE	Perchloroethylene (tetrachloroethylene)
pH	Power of Hydrogen
PHC	Petroleum Hydrocarbons
ppm	Parts per million
QA/QC	Quality Assurance/Quality Control
QP	Qualified Person
RA	Risk Assessment
RSC	Record of Site Condition
SAR	Specific Absorption Rate
SCS	Site Condition Standard
SGWSS	Soil Groundwater and Sediment Standards
SVOC	Semi-Volatile Organic Compounds
TCLP	Toxicity Classification Leachate Procedure
UST	Underground Storage Tank
VOC	Volatile Organic Compounds

Potentially Contaminating Activities (PCAs)
Schedule D Table 2 of O. Reg 511/09

PCA#	Description
1	Acid and Alkali Manufacturing, Processing and Bulk Storage
2	Adhesives and Resins Manufacturing, Processing and Bulk Storage
3	Airstrips and Hangars Operation
4	Antifreeze and De-icing Manufacturing and Bulk Storage
5	Asphalt and Bitumen Manufacturing
6	Battery Manufacturing, Recycling and Bulk Storage
7	Boat Manufacturing
8	Chemical Manufacturing, Processing and Bulk Storage
9	Coal Gasification
10	Commercial Autobody Shops
11	Commercial Trucking and Container Terminals
12	Concrete, Cement and Lime Manufacturing
13	Cosmetics Manufacturing, Processing and Bulk Storage
14	Crude Oil Refining, Processing and Bulk Storage
15	Discharge of Brine related to oil and gas production
16	Drum and Barrel and Tank Reconditioning and Recycling
17	Dye Manufacturing, Processing and Bulk Storage
18	Electricity Generation, Transformation and Power Stations
19	Electronic and Computer Equipment Manufacturing
20	Explosives and Ammunition Manufacturing, Production and Bulk Storage
21	Explosives and Firing Range
22	Fertilizer Manufacturing, Processing and Bulk Storage
23	Fire Retardant Manufacturing, Processing and Bulk Storage
24	Fire Training
25	Flocculants Manufacturing, Processing and Bulk Storage
26	Foam and Expanded Foam Manufacturing and Processing
27	Garages and Maintenance and Repair of Railcars, Marine Vehicles and Aviation Vehicles
28	Gasoline and Associated Products Storage in Fixed Tanks
29	Glass Manufacturing
30	Importation of Fill Material of Unknown Quality

PCA#	Description
31	Ink Manufacturing, Processing and Bulk Storage
32	Iron and Steel Manufacturing and Processing
33	Metal Treatment, Coating, Plating and Finishing
34	Metal Fabrication
35	Mining, Smelting and Refining; Ore Processing; Tailings Storage
36	Oil Production
37	Operation of Dry-Cleaning Equipment (where chemicals are used)
38	Ordnance Use
39	Paints Manufacturing, Processing and Bulk Storage
40	Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications
41	Petroleum-derived Gas Refining, Manufacturing, Processing and Bulk Storage
42	Pharmaceutical Manufacturing and Processing
43	Plastics (including Fibreglass) Manufacturing and Processing
44	Port Activities, including Operation and Maintenance of Wharves and Docks
45	Pulp, Paper and Paperboard Manufacturing and Processing
46	Rail Yards, Tracks and Spurs
47	Rubber Manufacturing and Processing
48	Salt Manufacturing, Processing and Bulk Storage
49	Salvage Yard, including automobile wrecking
50	Soap and Detergent Manufacturing, Processing and Bulk Storage
51	Solvent Manufacturing, Processing and Bulk Storage
52	Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems
53	Tannery
54	Textile Manufacturing and Processing
55	Transformer Manufacturing, Processing and Use
56	Treatment of Sewage equal to or greater than 10,000 litres per day
57	Vehicles and Associated Parts Manufacturing
58	Waste Disposal and Waste Management, including thermal treatment, landfilling and transfer of waste, other than use of biosoils as soil conditioners
59	Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products

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1.0 INTRODUCTION

1.1 Project Objectives

EON Environmental Consulting Ltd. (formerly known as Hallex Environmental Ltd.) was retained by 2808378 Ontario Inc. c/o myHome Management Inc. (hereinafter referred to as the "client") to conduct a Phase Two Environmental Site Assessment (ESA) at 4473-4479 & 4499 Ferguson Street, Niagara Falls, ON (hereinafter referred to as the "study site"). The objectives of the Phase Two ESA were to determine the presence/absence of potential contaminants of concern within the soil and groundwater associated with the historic on-site fill material, and a current off-site automotive garage located south of the study site, these Potentially Contaminating Activities (PCAs) listed in Schedule D, Table 2, of O. Reg. 511/09, thus results in two (2) Areas of Potential Environmental Concerns (APECs) triggering the Phase Two ESA.

The presence of contaminants in the soil and groundwater, if detected, would determine the need for further sampling and analyses to delineate the extent of the impact, and to satisfy the requirements of Ontario Regulation (O. Reg.) 153/04, as amended. The site location is shown on Figure 1, and the PCAs/APECs, identified in the Phase One ESA (EON, 2023), are shown on Figure 2.

1.2 Limitations and Exceptions of Assessment

This report was prepared by EON Environmental Consulting Ltd. (hereinafter referred to as "EON") for the client. The material in it reflects EONs best judgment based on the information discovered at the time of preparation and within the scope of work. The investigative procedures, and format of this report, generally follow the guidelines established in: O. Reg. 511/09 per Part XV.1 of the Environmental Protection Act. Any information presented concerning materials at the site is based on information gathered at the borehole/monitoring well locations only. There may be materials and/or subsurface soil and/or groundwater conditions on-site which are not represented by these investigations. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. EON Environmental Consulting Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

1.3 Site Description

Municipal address:	4473, 4475 & 4479 Ferguson Street, Niagara Falls, ON	4499 Ferguson Street, Niagara Falls, ON
Property Identifier Number (PIN)	64326-0137 (LT)	64326-0125 (LT)
Client(s)	2808378 Ontario Inc. c/o myHome Management Inc.	

UTM coordinates:	Zone: 17T; Northing: 4,775,251.99; Easting: 657,205.88
Elevation:	174.90 masl
Approx. site area:	1,900 m^2

1.4 Current and Proposed Future Uses

As of May 9th, 2023, the study site was mixed commercial and residential land use. There are currently residential tenants occupying units in 4475 and 4479 Ferguson. 4473 Ferguson is currently vacant, with residential tenants previously occupying the units. 4499 Ferguson has a vacant commercial unit located on the main floor, with residential rooms located on the second floor. Future plans include demolition of the buildings, and a residential development is being proposed for the site.

1.5 Applicable Site Condition Standard

The Soil, Ground Water and Sediment Standards (SGWSS) that would be applicable to the subject site as per O. Reg. 153/04, as amended, are based on site sensitivity analyses. Site sensitivity is determined based on conformance or non-conformance with shallow soil conditions (<2 m to bedrock), soil pH, proximity to an "Area of Natural Significance", the presence of a water body on-site or within 30 meters of the subject property, and the site and adjacent lands groundwater conditions being either potable or non-potable. The 'Full Depth Generic' standards would apply to a 'non-sensitive site', with further distinctions made based on potable or non-potable groundwater conditions, and coarse or fine soil texture. A 'Sensitive Site' would require application of generic standards, other than 'Full Depth', based on the specific sensitivity.

4473-4479 & 4499 Ferguson Street, Niagara Falls, ON – Site Sensitivity Analysis

The rationale for the selection of SGWSS criteria for the subject property included:

- Intended Property Use: **Residential**
- Soil Texture: **Medium/Fine (grain size texture by Paracel laboratories Ltd.)**
- Adjacent to a designated area of natural significance: **No**
- Within 30 m of a water body: **No**
- Groundwater condition: **Non-potable**
- Depth to bedrock: **Not encountered at maximum borehole depth of 6.71 metres.** Bedrock is approximately at 7.01 mbgs, as per the well record #7345243, approximately 550 m southeast of the study site.
- Soil pH: **7.73 average**, ranged from 7.49-7.89

Applicable Regulatory Criteria

O. Reg. 153/04 Ministry of the Environment, Conservation and Parks (MECP) Site Condition Standards Table 2 for Residential Land Use in a Potable Ground Water Condition, fine textured soil, was applied to the subject site, based on conditions observed at the time of the site assessment.

1.6 Previous Environmental Reports

A Phase One Environmental Site Assessment report drafted by EON Environmental, October 19th, 2022, was provided to EON Environmental Consulting Ltd. for review pertaining to the study site. Noted conclusions are summarized below:

- Two (2) on-site and one (1) off-site Potential Contaminating Activities (PCAs) resulted in three (3) Area of Potential Environmental Concern (APECs) with the potential to have impacted the study site's soil and groundwater.
    - ***PCA-1/APEC-1: #30 Importation of Fill Material of Unknown Quality*****.** The distribution of fill material for site grading represents an on-site PCA. Potential contaminants include: Polycyclic Aromatic Hydrocarbons (PAHs), Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Metals and Petroleum Hydrocarbons (PHCs).
    - ***PCA-2/APEC-2: Other – Parking Lot.*** Salt used across the parking lot, for the purpose of de-icing during the winter months, represents a PCA. Salt can accumulate in the soil thus resulting in changes to pH, Sodium Absorption Ratio (SAR) and Electrical Conductivity (EC) levels. This on-site PCA represents an on-site APEC, however the activity was determined not to be of concern as per O. Reg. 153/04 below.

        S.49.1 if an applicable site condition standard is exceeded at a property solely because of one of the following reasons, the applicable site condition standard is deemed not to be exceeded for the purpose of Part XV.1 of the Act:

        1. The qualified person has determined, based on a phase one environmental site assessment or a phase two environmental site assessment, that the substance has been applied to surfaces for safety of vehicular or pedestrian traffic under conditions of snow or ice or both.

      As such and according to section 49.1 O. Reg. 153/04 (as amended) above, the standards are deemed to be met.

- ***PCA-3/APEC-3: #10 – Commercial Autobody Shop.*** A commercial autobody shop known as Schultz Auto Parts was identified at 4486 Ferguson Street. Potential contaminants include: PAHs, BTEX, Metals (by ICP), Volatile Organic Compound (VOCs) and PHCs. This represents a PCA resulting in an APEC to study site soil and groundwater.

- Thirteen (13) additional PCAs were noted within 250 m of the Study Site, however it is unlikely that any contaminants migrating off-site would present an on-site APEC at the study site due to the distance to the site and interpreted groundwater flow direction away from the site.

The Phase One ESA recommended a Phase Two ESA.

2.0 INVESTIGATION METHODS

2.1 Borehole Drilling

Davis Drilling utilized a 75 CME – Split Spoon drilling system for borehole sampling and monitoring well installations. Preparation for borehole sampling was initiated via requests for demarcation of underground utilities by Ontario One Call: for Bell, cable, hydro, natural gas, water, sewer and private locates. All services were cleared within the designated work areas.

2.2 Soil Investigation

Six (6) boreholes, BH-1 to BH-6 were advanced across the property (APEC areas) on July 21st, 2023. Borehole locations are shown in Figure 3 and borehole logs are contained in Appendix A. Soil samples were collected at depth intervals of 0.61m to a maximum depth of 4.57 to 6.71 meters below ground surface (mbgs).

2.2.1 Soil: Sampling

Each sample was placed in a 250 ml glass jar with a Teflon lined lid, filled to zero head-space, sealed, and placed in a cooler for transportation. Concurrently, a 12 ml soil sample was collected with a disposable syringe and placed inside a 40 ml vial containing methanol for field preservation of Petroleum Hydrocarbons F1, Benzene, Toluene, Ethylbenzene, Xylene (BTEX) and Volatile Organic Compounds (VOCs). A portion of each sample was placed in a plastic bag and allowed to warm to approximately 20° C for headspace combustible vapour measurement using a PID-MiniRAE 3000. Each sample was logged for colour, texture, structure, moisture, and visual and olfactory evidence of contamination. Additionally, textural identification of soil, through hand soil textural techniques, including the ‘squeeze test’ and ‘ribbon test’ was conducted on soil from each stratum identified.

2.3 Field Screening Combustible Soil Vapour Survey

On-site field screening measurements were conducted utilizing the PID Meter, capable of measuring hydrocarbon Combustible Soil Vapour Concentrations (CSVC’s) from 0.1 part per million (ppm) to 100% Lower Explosive Limit (LEL). The readings from the PID Meter were utilized to indicate the presence or absence of VOC’s within the field samples. The samples with the highest combustible vapour concentration readings were chosen, in addition to other select samples, as determined by the QP, for laboratory analyses. The combustible soil vapour readings are indicated on the borehole logs in Appendix A and tabulated in Section 2.4.

2.4 Combustible Soil Vapour Concentrations

The field combustibility soil vapour concentrations are tabulated below, exhibiting a concentration range of 0 to 2.3 ppm (parts per million). Twelve (12) worst case samples were chosen for laboratory submission to Paracel Laboratories Ltd. under chain of custodies #62129 & 62120 on July 21st, 2023 for analyses of PHCs (F1-F4), BTEX, PAHs, pH, Metals (by ICP) and Grain Size Texture.

Borehole #/ ID		Date Sampled	Depth (mbgs)	CSVC (PPM)	APEC-#	Parameters Analyzed
BH-1	-1	July 21, 2023	0-0.61	2.3	1, 2, 3	PHCs (F1-F4), PAHs, BTEX, Metals (by ICP), pH
	-2		0.76-1.37	0.5		
	-3		1.52-2.13	0.6		
	-4		2.29-2.9	0.1		
	-5		3.05-3.66	0.0		
	-6		3.81-4.41	0.0		PHCs (F1-F4), VOCs, PAHs, pH
	-7		6.1-6.71	0.0		
BH-2	-1		0-0.61	0.0	1, 2	
	-2		0.76-1.37	0.2		PHCs (F1-F4), BTEX, PAHs, Metals (by ICP), pH
	-3		1.52-2.13	0.0		
	-4		2.29-2.9	0.0		
	-5		3.05-3.66	0.0		
	-6		3.81-4.41	0.0		
	-7		6.1-6.71	0.0		PHCs (F1-F4), BTEX, PAHs, pH, VOCs
BH-3	-1		0-0.61	0.0	1, 2, 3	
	-2		0.76-1.37	0.1		PHCs (F1-F4), BTEX, PAHs, pH, Metals (by ICP)
	-3		1.52-2.13	0.0		
	-4		2.29-2.9	0.0		
	-5		3.05-3.66	0.0		
	-6		3.81-4.41	0.0		PHCs (F1-F4), BTEX, PAHs, pH, VOCs
	-7		6.1-6.71	0.0		GSA
BH-4	-1		0-0.61	-	1, 2	
	-2		0.76-1.37	0.6		PHCs (F1-F4), BTEX, PAHs, Metals (by ICP), pH
	-3		1.52-2.13	1.5		
	-4		2.29-2.9	0.4		
	-5		3.05-3.66	0.2		
	-6		3.81-4.41	0.4		
BH-5	-1		0-0.61	0.0	1, 2	
	-2		0.76-1.37	0.0		PHCs (F1-F4), BTEX, PAHs, Metals (by ICP), pH
	-3		1.52-2.13	0.0		GSA
	-4		2.29-2.9	0.0		

Borehole #/ ID		Date Sampled	Depth (mbgs)	CSVC (PPM)	APEC-#	Parameters Analyzed
	-5		3.05-3.66	0.0		
	-6		3.81-4.41	0.0		
BH-6	-1		0-0.61	0.0	1, 2, 3	
	-2		0.76-1.37	0.0		PHCs (F1-F4), BTEX, PAHs, Metals (by ICP), pH
	-3		1.52-2.13	0.0		
	-4		2.29-2.9	0.0		
	-5		3.05-3.66	0.0		
	-6		3.81-4.41	0.0		PHCs (F1-F4), BTEX, PAHs, pH, VOCs

Highlighted sample ID's above depict the samples chosen for submission to the lab.

2.5 Monitoring Wells Installation

Three (3) monitoring wells MW-1, MW-2, and MW-3 were installed into designated boreholes on July 21st, 2023, all to a depth of 6.10 mbgs. The monitoring well locations are shown on Figure 3 and the field logs are in Appendix A. The wells were constructed to MECP recognized industry standards and as required by O. Reg. 903, consisted of a 2-inch diameter slotted PVC screen surrounded by silica sand, attached beneath a solid 2-inch diameter PVC riser, surrounded by bentonite grout to ensure a seal between ground surface and the well screen. Each well was fitted with a metal protective flush-mount casing. A peristaltic pump was used to retrieve groundwater from each well to allow for sample collection.

2.6 Groundwater Sampling

Groundwater samples were collected with a low-flow peristaltic pump with new low-flow tubing, silicone, and metal filters for each monitoring well. Groundwater samples were collected in standard sized amber glass jars, vials and plastic jars as per analytical protocol (O. Reg. 153/04), filled to zero head-space, sealed, and placed in a cooler for transportation.

Sample ID	Dates	Laboratory Analyses
MW-1	Sampled and submitted on July 27th, 2023 chain of custody number #71383	PHCs (F1-F4), VOCs, PAHs, Metals (by ICP)
MW-2		PHCs (F1-F4), VOCs, PAHs, Metals (by ICP)
MW-3		PHCs (F1-F4), VOCs, PAHs, Metals (by ICP)

2.7 Free Product Investigation

Free product was not observed during well development in any of the three (3) wells.

2.8 Residue Management Procedures

Soil cuttings and purge water, as well as all fluids used for equipment cleaning were temporarily stored on-site in sealed 55-gallon steel drums.

2.9 Quality Assurance and Quality Control Measures

EON conducted Quality Assurance/Quality Control (QA/QC) measures throughout all stages of the assessment to verify sampling procedures and results, including blind duplicate samples in groundwater and soil to verify sampling procedures and results. Soil sample duplicates were collected from two (2) samples including the following: DUP-1 was collected from BH3-SS6 and submitted for PHCs, VOCs, & PAHs, and DUP-2 was collected from BH3-SS2 and submitted for Metals (by ICP). A groundwater duplicated sample was collected from MW-2 and submitted for PHCs (F1-F4), VOCs, PAHs, and Metals (by ICP).

Davis Drilling pre-cleaned the set of augers and hollow stem spoons prior to arriving on-site. The split spoon sampler was decontaminated prior to and in between taking samples by scrubbing with a wire brush and washing in a water and alconox solution.

Decontamination of equipment and sampling tools was carried out during field work, as well as appropriate precautions, including new nitrile gloves, to minimize potential cross-contamination between samples and boreholes.

Soil sampling was implemented according to *Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.1 of the Environmental Protection Act* (March 9, 2004 as amended as of July 1, 2011). Chain of Custody reports were completed for all samples submitted for analyses to keep track of samples collected and to ensure that all parties involved were properly informed as to the nature of the samples.

Instruments and all their associated components are checked daily prior to field use, and annual equipment servicing and maintenance is conducted by Enviro Measure Inc. to ensure the equipment remains properly calibrated and functioning.

3.0 REVIEW AND EVALUATION

3.1 Soil Conditions

Soil conditions were determined through field investigative measures including the use of analytical equipment, determination of stratigraphy including analysis of moisture, odours, colour, texture, etc. and combustible soil vapor concentration results.

3.1.1 Overburden Stratigraphy

The general overburden stratigraphy observed in boreholes BH-1 to BH-6 consisted of:

Depth (avg.)	Description
0 - 0.2 mbgs	Asphalt
0.2 – 0.7 mbgs	Brown SILT & SAND FILL with trace Gravel
0.7-1.5 mbgs	Reddish Brown SILT with trace Gravel & Clay
1.5-4.4 mbgs	Reddish Brown SILT with trace Clay
6.2-6.71 mbgs	Grey CLAY & SILT

Notes:

- Bedrock was not encountered at borehole maximum depth of 6.71 mbgs. Bedrock is at 7.01 mbgs, as per the well record #7345243, approximately 550 m southeast of the study site.
- Moisture increased at 2 to 2.5 mbgs.
- Colour changed gradually from brown to grey at 4.4 to 5 mbgs, increasing grey with depth.

3.2 Soil Laboratory Results

Soil laboratory analytical data was compared with MECP Site Condition Standards (2011) Table 2: Residential land use in a Potable Groundwater Condition, fine textured soil. The results indicated that all samples **met** the criteria for PHCs, BTEX, Metals (by ICP), PAHs, and VOCs. No exceedances were noted within any of the submitted soil samples. Complete laboratory analytical reports are provided in Appendix C.

3.3 Groundwater Conditions

Groundwater physical conditions were determined through field data collection, and subsequent calculations, including: hydraulic gradient, hydraulic conductivity/groundwater velocity, and groundwater elevations.

3.3.1 Hydraulic Gradient (i)

The hydraulic gradient was calculated between MW-1, MW-2, and MW-3 with the average across the site being *i* = 0.0427, northeast.

Monitoring Well	*i* (m/m)
MW-2 to MW-1	0.0076
MW-2 to MW-3	0.0774
MW-1 to MW-3	0.0431

3.3.2 Hydraulic Conductivity (k)

A rising-head hydraulic conductivity test was conducted on MW-1, MW-2, & MW-3 after purging, for calculations of hydraulic conductivity using the Bouwer-Rice method with results indicating MW-1 k = 5.657E-07 cm/sec, MW-2 k = 6.240E-07 cm/sec, & MW-3 K = 3.788E-07 cm/sec.

3.3.3 Groundwater Elevation

The groundwater levels in monitoring wells MW-1 to MW-3 were measured and recorded with a Solinst water-level meter before initial purging and monitoring after a recovery period.

Monitoring Well	mbgs	masl
MW-1	2.65	97.15
MW-2	1.92	97.73
MW-3	2.36	97.49

mbgs= metres below ground surface, masl = metres above sea level

Groundwater elevation contours are plotted on Figure 5.

3.4 Groundwater Laboratory Results

Groundwater laboratory analytical data was compared with groundwater criteria in the MECP Site Condition Standards (2011) Table 2: Residential, Potable Groundwater condition, fine textured soil. The results indicated that all samples **met** the criteria for the target contaminants analyzed. The groundwater laboratory analytical report is provided in Appendix C.

3.5 Laboratory Quality Assurance and Quality Control

Laboratory QA/QC measures adhering to the Ministry of the Environment's "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, March 2010" are standard procedure for Paracel Laboratories (accredited to the ISO/IEC 17025 Standard by CALA) in order to ensure that the standards of quality were met within the expected level of confidence.

4.0 CONCLUSIONS

The Phase Two Environmental Site Assessment at 4473-4479 & 4499 Ferguson Street, Niagara Falls, ON revealed all soil and groundwater samples **met** Ministry of the Environment, Conservation & Parks (MECP) Site Condition Standards 2011 Table 2 for Residential Land Use in a potable groundwater condition, for fine textured soil for contaminant groups Metals (by ICP), Petroleum Hydrocarbons (PHCs), Polycyclic Aromatic Hydrocarbons (PAHs), Benzene Toluene Ethylbenzene Xylene (BTEX), Volatile Organic Compounds (VOCs) and ph.

EON considers the site suitable for development for residential purposes and filing a Record of Site Condition with the Ministry of the Environment, Conservation and Parks for a change in land use. No further Environmental Assessment work was considered necessary as of July 27th, 2023.

5.0 AUTHOR

EON Environmental Consulting Ltd. has conducted this Phase Two Environmental Site Assessment as permitted by EON Certificate of Authorization (#90252). The following employees authored the report:

Amber Cottle - Ms. Amber Cottle, BA Environmental Science (Honours), EMA (Honours), was the Environmental Scientist for the project with experience in the environmental consulting field. Related project work includes Phase One & Phase Two Environmental Site Assessments, Designated Substances & Hazardous Material Surveys.

Nicole Metz - Ms. Nicole Metz, ETPD, ERPC, was the Project Coordinator for the project with over eight years of experience in the environmental consulting field. Some projects Mrs. Metz have worked on included: Phase One & Two Environmental Site Assessments, Site Remediation, groundwater and surface water sampling, underground or aboveground storage tank decommissioning, Designated Substance Surveys, Records of Site Condition Filing, Environmental Compliance Approvals, National Pollutant Release Inventory, and Hazardous Waste Information Network training.

Kevin Christian - Mr. Kevin Christian, M.Sc., P.Geo., a Professional Geoscientist (#0387) registered with the Association of Professional Geoscientists of Ontario, and a Qualified Person (Environmental Site Assessment & Risk Assessment) as per Ontario Regulations 153/04 and 511/09, has thirty-five years of experience in the environmental geoscience consulting industry conducting Phase One and Two ESA's, remedial planning, site remediation supervision, and Record of Site Condition (RSC) preparation.

FIGURES

N

EON
ENVIRONMENTAL CONSULTING LTD.

Legend

Phase Two Property

Client
2808378 Ontario Inc.
c/o myHome
Management Inc.

Project
Phase Two ESA 4473, 4475, 4479, & 4499 Ferguson Street, Niagara Falls, ON

Figure Name
Site Location

Project E-23-19-2	**Figure 1**
Date August 2023	
Drafted: AC Reviewed: NM	

PCA-1/APEC-1: #30 - Importation of Fill Material of Unknown Origin
PCA-2/APEC-2: Other - Parking area and driveway, Use of De-icing Salt
PCA-3/APEC-3: #10 - Commercial Autobody Shop

Groundwater Flow Direction

N

EON ENVIRONMENTAL CONSULTING LTD.

Legend

- Phase Two Property
- PCA/APEC - 1
- PCA/APEC - 2
- PCA/APEC - 3
- PCA-#

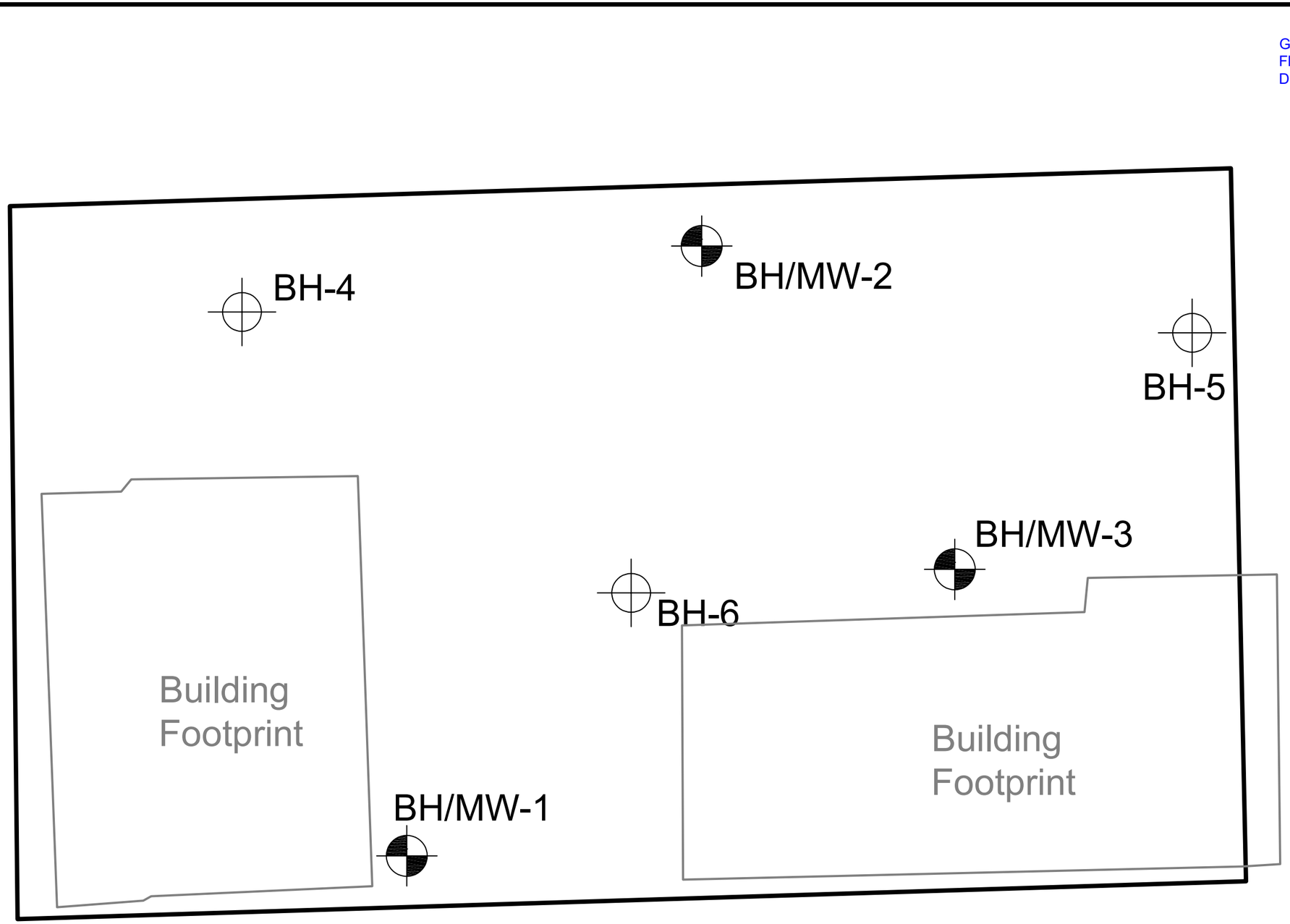
Client
2808378 Ontario Inc. c/o myHome Management Inc.

Project
Phase Two ESA 4473, 4475, 4479, & 4499 Ferguson Street, Niagara Falls, ON

Figure Name
Areas of Potential Environmental Concern

Project	E-23-19-2
Date	July 2023
Drafted: Reviewed:	AC NM

Figure 2



N

ENVIRONMENTAL CONSULTING LTD.

Legend

- Phase Two Property
- Building Footprints
- Borehole Locations
- Monitoring Well Locations

Scale in Metres

0 5 10 15 20

Client
2808378 Ontario Inc.
c/o myHome
Management Inc.

Project
Phase Two ESA 4473, 4475, 4479, & 4499 Ferguson Street, Niagara Falls, ON

Figure Name
Borehole and Monitoring Well Locations

Project	E-23-19-2
Date	July 2023
Drafted:	AC
Reviewed:	NM

Figure 3

BH/MW-2 (0-6.71 mbgs)
SS2 (0.76-1.37 mbgs)
PHCs (F1-F4), BTEX, PAHs, Metals (by ICP), pH
SS7 (6.09-6.71 mbgs)
PHCs (F1-F4), BTEX, PAHs, pH, VOCs

Groundwater Flow Direction

BH-4 (0-4.41 mbgs)
SS2 (0.76-1.37 mbgs)
PHCs (F1-F4, BTEX, PAHs, Metals (by ICP), pH

BH-6 (0-4.41 mbgs)
SS2 (0.76-1.37 mbgs)
PHCs (F1-F4), BTEX, PAHs, Metals (by ICP), pH
SS6 (3.81-4.42 mbgs)
PHCs (F1-F4), BTEX, PAHs, pH, VOCs

BH-5 (0-4.41 mbgs)
SS2 (0.76-1.37 mbgs)
PHCs (F1-F4), BTEX, PAHs, Metals (by ICP) pH
SS3 (1.52-2.13 mbgs)
GSA

Building Footprint

Building Footprint

BH/MW-3 (0-6.71 mbgs)
SS2 (0.76-1.37 mbgs)
PHCs (F1-F4), BTEX, PAHs, pH, Metals (by ICP)
SS6 (3.81-4.42 mbgs)
PHCs (F1-F4), BTEX, PAHs, pH, VOCs
SS7 (6.09-6.71 mbgs)
GSA

BH/MW-1 (0-6.71 mbgs)
SS1 (0-0.76 mbgs)
PHCs (F1-F4), PAHs, BTEX, Metals (by ICP), pH
SS6 (3.81-4.42 mbgs)
PHCs (F1-F4), VOCs, PAHs, pH

Scale in Metres
0 5 10 15 20

N

EON ENVIRONMENTAL CONSULTING LTD.

Legend

- Phase Two Property
- Building Footprints
- Borehole Locations
- Monitoring Well Locations
- Red exceeds Table 2 residential fine criteria
- Green meets Table 2 residential fine criteria

Client
2808378 Ontario Inc. c/o myHome Management Inc.

Project
Phase Two ESA 4473, 4475, 4479, & 4499 Ferguson Street, Niagara Falls, ON

Figure Name
Soil Results

Project	E-23-19-2
Date	July 2023
Drafted:	AC
Reviewed:	NM

Figure 4a

Groundwater Flow Direction

BH-4

BH/MW-2
GW Level: 1.92 mbgs
Screen @ 3-6 mbgs
PHCs (F1-F4), VOCs, PAHs, Metals (by ICP)

BH-5

Building Footprint

BH-6

BH/MW-3
GW Level: 2.36 mbgs
Screen @ 3-6 mbgs
PHCs (F1-F4), VOCs, PAHs, Metals (by ICP)

Building Footprint

BH/MW-1
GW Level: 2.65 mbgs
Screen @ 3-6 mbgs
PHCs (F1-F4), VOCs, PAHs, Metals (by ICP)

Scale in Metres

0 5 10 15 20

EON ENVIRONMENTAL CONSULTING LTD.

Legend

- Phase Two Property
- Building Footprints
- Borehole Locations
- Monitoring Well Locations
- Red exceeds Table 2 residential fine criteria
- Green meets Table 2 residential fine criteria

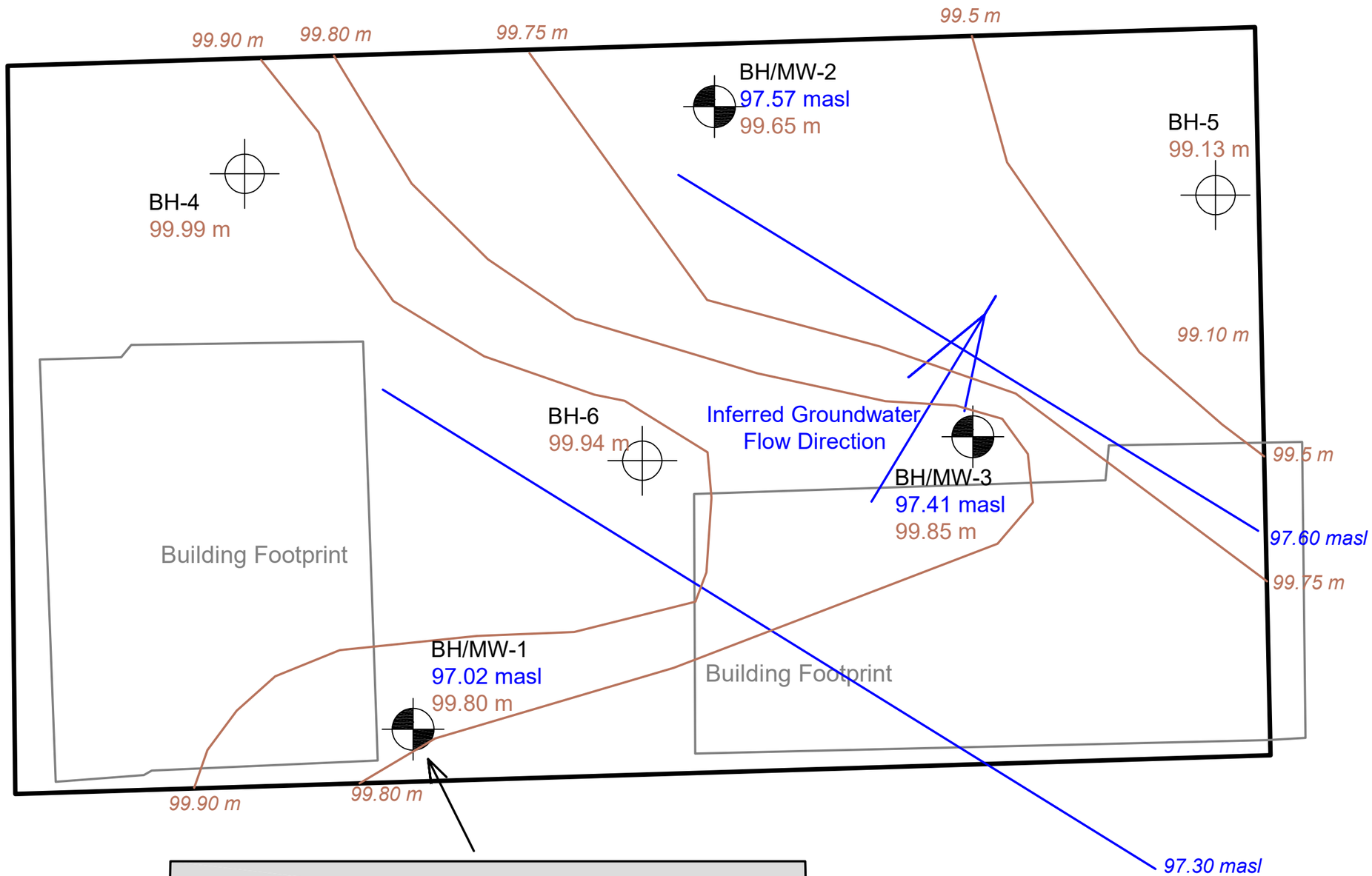
Client
2808378 Ontario Inc. c/o myHome Management Inc.

Project
Phase Two ESA 4473, 4475, 4479, & 4499 Ferguson Street, Niagara Falls, ON

Figure Name
Groundwater Results

Project E-23-19-2
Date July 2023
Drafted: AC
Reviewed: NM

Figure 4b



*MW-1 Groundwater Elevation is considered artificially low due to influence of building sump system.

Scale in Metres

0 5 10 15 20

Legend

- Phase Two Property
- Borehole Locations
- Monitoring Well Locations
- Building Footprints
- Groundwater Contours
- Topographic Contours
- Groundwater Flow Direction
- ## Surface Elevation (Relative)
- ## Groundwater Elevation (Relative)

Client
2808378 Ontario Inc.
c/o myHome Management Inc.

Project
Phase Two ESA 4473, 4475, 4479, & 4499 Ferguson Street, Niagara Falls, ON

Figure Name
Topographic and Groundwater Flow Contours

Project	E-23-19-2
Date	July 2023
Drafted, Reviewed:	AC NM

Figure 5

Appendix A:

Field Logs

BOREHOLE LOG BH/MW-1

Project Number: E-23-19-2
Project: Phase Two ESA
Client: 2808378 Ontario Inc.
Address: 4473-4479 & 4499 Ferguson Street, Niagara Falls, ON

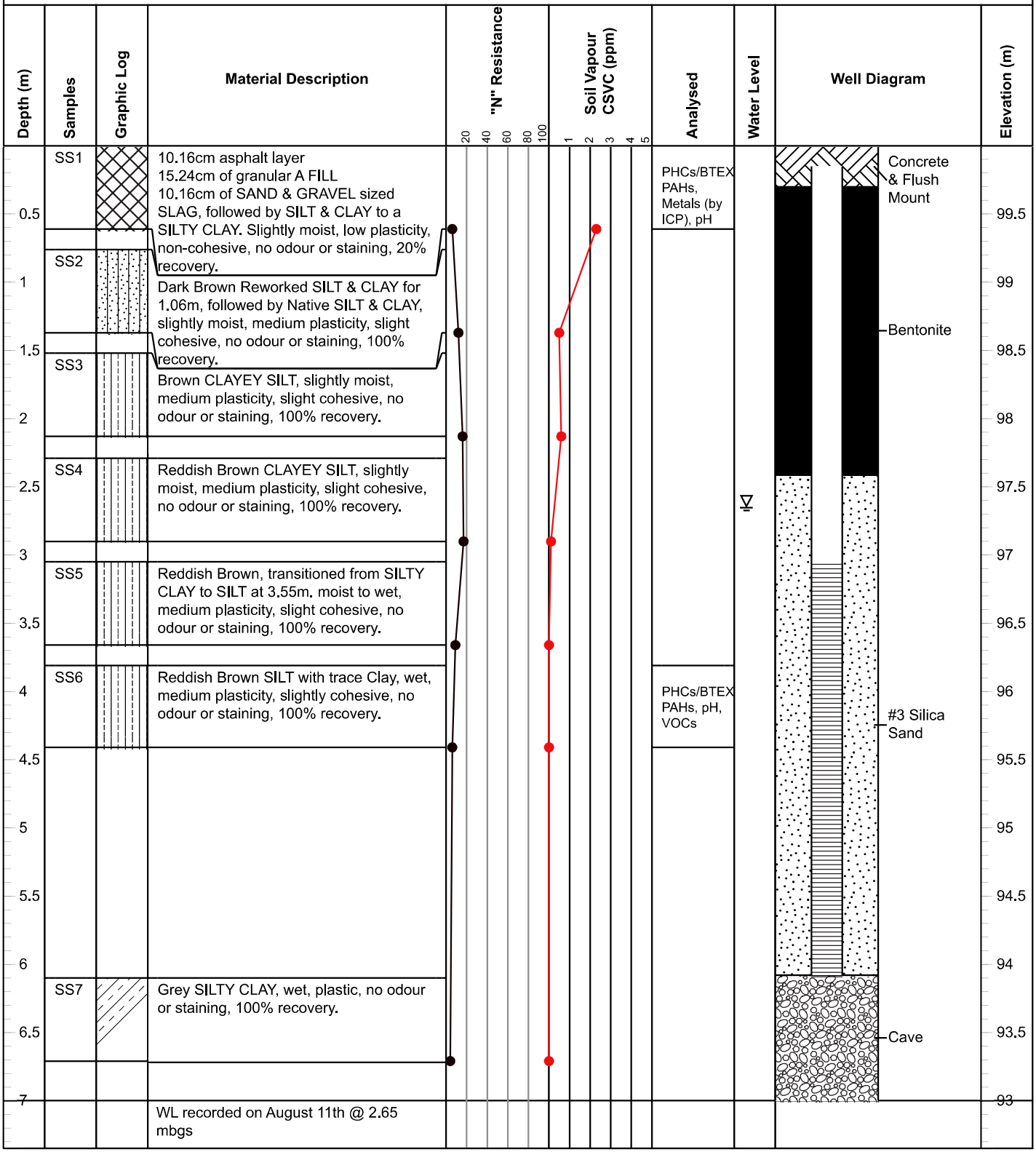
Drill date: July 21, 2023
Total depth: 6.705 mbgs
Drilling contractor: Davis Drilling
Drill rig: 75 CME

Surface Elevation: 99.80m (relative)

Comments:

Logged by: A. Cottle
Reviewed by: K. Christian

Depth (m)	Samples	Material Description	Analysed	Water Level	Elevation (m)
0	SS1	10.16cm asphalt layer 15.24cm of granular A FILL 10.16cm of SAND & GRAVEL sized SLAG, followed by SILT & CLAY to a SILTY CLAY. Slightly moist, low plasticity, non-cohesive, no odour or staining, 20% recovery.	PHCs/BTEX PAHs, Metals (by ICP), pH		99.8
1	SS2	Dark Brown Reworked SILT & CLAY for 1.06m, followed by Native SILT & CLAY, slightly moist, medium plasticity, slight cohesive, no odour or staining, 100% recovery.			99
1.5	SS3	Brown CLAYEY SILT, slightly moist, medium plasticity, slight cohesive, no odour or staining, 100% recovery.			98.5
2					98
2.5	SS4	Reddish Brown CLAYEY SILT, slightly moist, medium plasticity, slight cohesive, no odour or staining, 100% recovery.		▽	97.5
3					97
3.5	SS5	Reddish Brown, transitioned from SILTY CLAY to SILT at 3.55m. moist to wet, medium plasticity, slight cohesive, no odour or staining, 100% recovery.			96.5
4	SS6	Reddish Brown SILT with trace Clay, wet, medium plasticity, slightly cohesive, no odour or staining, 100% recovery.	PHCs/BTEX PAHs, pH, VOCs		96
4.5					95.5
5					95
5.5					94.5
6					94
6.5	SS7	Grey SILTY CLAY, wet, plastic, no odour or staining, 100% recovery.			93.5
7		WL recorded on August 11th @ 2.65 mbgs			93



produced by ESlog.ESdat.net on 15 Aug 2023

BOREHOLE LOG BH/MW-2

Project Number: E-23-19-2
Project: Phase Two ESA
Client: 2808378 Ontario Inc.
Address: 4473-4479 & 4499 Ferguson Street, Niagara Fall, ON

Drill date: July 21, 2023
Total depth: 6.705 mbgs
Drilling contractor: Davis Drilling
Drill rig: 75 CME

Surface Elevation: 99.65m (relative)

Comments:

Logged by: A. Cottle
Reviewed by: K. Christian

Depth (m)	Samples	Material Description	Analysed	Water Level	Elevation (m)
0.5	SS1	Brown Silty Sand FILL with trace Gravel, dry, low plasticity, non-cohesive, no odour or staining, 30% recovery.			99.5
1	SS2	Brown SILT with trace Sand and trace Clay, dry, low plasticity, non-cohesive, no odour or staining, 100% recovery.	PHCs/BTEX PAHs, Metals (by ICP), pH		99
1.5	SS3	Reddish Brown SILT with trace Clay, dry, low plasticity, non-cohesive, no odour or staining, 100% recovery.		▽	98.5
2					98
2.5	SS4	Reddish Brown Clayey SILT, moist, medium plasticity, slightly cohesive, no odour or staining, 100% recovery.			97.5
3	SS5	Reddish Brown SILT with trace Clay, moist, medium plasticity, slightly cohesive, no odour or staining, 100% recovery.			97
3.5					96.5
4	SS6	Reddish Brown SILT with trace Clay, moist, medium plasticity, slightly cohesive, no odour or staining, 100% recovery.			96
4.5					95.5
5					95
5.5					94.5
6					94
6.5	SS7	Grey CLAY AND SILT, wet, high plasticity, cohesive, no odour or staining, 100% recovery.	PHCs/BTEX PAHs, pH, VOCs		93.5
7		WL measured on August 11th @ 1.92 mbgs			93

"N" Resistance: 20, 40, 60, 80, 100

Soil Vapour CSVC (ppm): 1, 2, 3, 4, 5

Well Diagram: Concrete and Flush Mount; Bentonite; #3 Silica Sand; Cave

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BOREHOLE LOG BH/MW-3-23

Project Number: E-23-19-2
Project: Phase Two ESA
Client: 2808378 Ontario Inc.
Address: 4473-4479 & 4499 Ferguson Street, Niagara Falls, ON

Drill date: July 21, 2023
Total depth: 6.705 mbgs
Drilling contractor: Davis Drilling
Drill rig: 75 CME

Surface Elevation: 99.85m (relative)

Comments:

Logged by: A. Cottle
Reviewed by: K. Christian

Depth (m)	Samples	Material Description	Analysed	Water Level	Elevation (m)
0.5	SS1	Blackish Brown SAND & GRAVEL for 6", followed by Brown SILT with trace Sand & Gravel, trace asphalt, dry, low plasticity, non-cohesive, no odour or staining, 40% recovery.			99.5
1	SS2	Brown SILT with trace Sand, Clay, & Gravel, slightly moist, low plasticity, no odour or staining, 30% recovery.	PHCs/BTEX PAHs, Metals (by ICP), pH		99
1.5	SS3	Light Brown SILT with trace Clay, Dry, low plasticity, slightly cohesive, no odour or staining, 100% recovery.			98.5
2				▽	98
2.5	SS4	Reddish Brown SILT with trace Clay, slightly moist, low plasticity, slightly cohesive, no odour or staining, 100% recovery.			97.5
3	SS5	Reddish Brown SILT with trace Clay, slightly moist, medium plasticity, slightly cohesive, no odour or staining, 100% recovery.			97
3.5					96.5
4	SS6	Reddish Brown SILT with trace Clay, wet, medium plasticity, slightly cohesive, no odour or staining, 100% recovery.	PHCs/BTEX PAHs, pH, VOCs		96
4.5					95.5
5					95
5.5					94.5
6					94
6.5	SS7	Grey CLAY AND SILT, trace gravel, wet, high plasticity, cohesive, no odour or staining, 100% recovery.			93.5
7		WL measured on August 11th @ 2.36mbgs			93

"N" Resistance: 20, 40, 60, 80, 100

Soil Vapour CSVC (ppm): 1, 2, 3, 4, 5

Well Diagram: Concrete and Flush Mount; Bentonite; #3 Silica Sand; Cave

BOREHOLE LOG BH-4

Project Number: E-23-19-2
Project: Phase Two ESA
Client: 2808378 Ontario Inc.
Address: 4473-4479 & 4499 Ferguson Street, Niagara Falls, ON

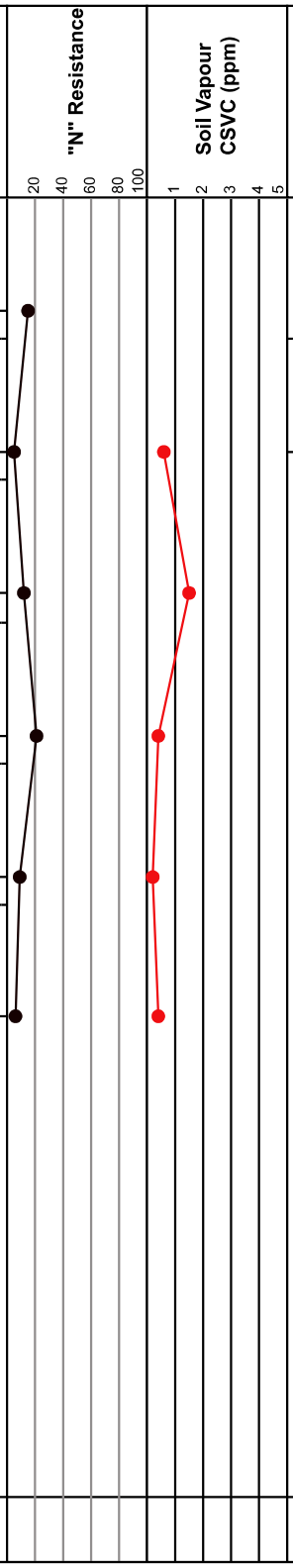
Drill date: July 21, 2023
Total depth: 4.572 mbgs
Drilling contractor: Davis Drilling
Drill rig: 75 CME

Surface Elevation: 99.99m (relative)

Comments:

Logged by: A. Cottle
Reviewed by: K. Christian

Depth (m)	Samples	Material Description	Analysed	Elevation (m)
0.5	SS1	Black sand and gravel sized SLAG, dry, non-plastic, non-cohesive, no odours, 10% recovery		99.5
1	SS2	Dark Grey SILT AND CLAY FILL with trace Gravel, dry, low plasticity, non-cohesive, slight organics odour, 70% recovery.	PHCs/BTEX PAHs, Metals (by ICP), pH	99
1.5	SS3	FILL stops a 1.71m. followed by reworked Brown SILT AND CLAY, dry, low plasticity, non-cohesive, no odours, 90% recovery.		98.5
2				98
2.5	SS4	Reworked SILT AND CLAY to 9.6 ft, followed by Reddish Brown SILT, dry, low-plasticity, non-cohesive, no odour, 100% recovery.		97.5
3	SS5	Brown CLAYEY SILT, slightly moist, medium plasticity, slightly cohesive, no odour, 100% recovery.		97
3.5				96.5
4	SS6	Brown CLAY AND SILT to CLAYEY SILT, moist, high plasticity, cohesive, no odours, 100% recovery.		96
4.5				95.5
5				95
5.5				94.5
6				94
6.5				93.5
7				93



Water Level

Well Diagram

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BOREHOLE LOG BH-5

Project Number: E-23-19-2
Project: Phase Two ESA
Client: 2808378 Ontario Inc.
Address: 4473-4479 & 4499 Ferguson Street, Niagara Falls, ON

Drill date: July 21, 2023
Total depth: 4.572 mbgs
Drilling contractor: Davis Drilling
Drill rig: 75 CME

Surface Elevation: 99.13m (relative)

Comments:

Logged by: A. Cottle
Reviewed by: K. Christian

Depth (m)	Samples	Graphic Log	Material Description	"N" Resistance (20, 40, 60, 80, 100)	Soil Vapour CSVC (ppm) (1, 2, 3, 4, 5)	Analysed	Water Level	Well Diagram	Elevation (m)
0	SS1		5cm asphalt followed by reworked Brown SILT AND SAND with some GRAVEL, dry, low plasticity, non-cohesive, no odours, 50% recovery.						99.5
0.5									
1	SS2		Brown SILT with some SAND AND GRAVEL, dry, low plasticity, non-cohesive, no odours, trace spotting, 80% recovery.			PHCs/BTEX PAHs, Metals (by ICP), pH			99
1.5	SS3		Reddish Brown SILT with trace CLAY, trace gravel at top of spoon, slightly moist, medium plasticity, slight cohesive. Some clay spotting, no odours, 100% recovery.						98.5
2									98
2.5	SS4		Reddish Brown SILT with trace CLAY, trace gravel at top of spoon, slightly moist, medium plasticity, slight cohesive, no odours, 100% recovery.						97.5
3	SS5		Reddish Brown SILT AND CLAY, slightly moist, medium plasticity, slightly cohesive, no odours, 100% recovery.						97
3.5									96.5
4	SS6		Reddish Brown and Grey SILT AND CLAY, moist, medium plasticity, cohesive, no odours, 100% recovery.						96
4.5									95.5
5									95
5.5									94.5
6									94
6.5									93.5
7									93

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BOREHOLE LOG BH-6

Project Number: E-23-19-2
Project: Phase Two ESA
Client: 2808378 Ontario Inc.
Address: 4473-4479 & 4499 Ferguson Street, Niagara Falls, ON

Drill date: July 21, 2023
Total depth: 4.572 mbgs
Drilling contractor: Davis Drilling
Drill rig: 75 CME

Surface Elevation: 99.94m (relative)

Comments:

Logged by: A. Cottle
Reviewed by: K. Christian

Depth (m)	Samples	Graphic Log	Material Description	"N" Resistance (20, 40, 60, 80, 100)	Soil Vapour CSVC (ppm) (1, 2, 3, 4, 5)	Analysed	Water Level	Well Diagram	Elevation (m)
0.5	SS1		15.24cm GRAVEL, followed by Light Brown SILT with trace GRAVEL AND SAND, dry , low plasticity, non-cohesive, no odours or staining, 40% recovery.						99.5
1	SS2		Light Brown SILT with some Black SAND AND GRAVEL, dry, low plasticity, non-cohesive, no odours or staining, 40% recovery.			PHCs/BTEX PAHs, Metals (by ICP), pH			99
1.5	SS3		Light Brown to Reddish Brown SILT with trace GRAVEL AND CLAY, dry, low plasticity, non-cohesive, no odours, grey seam throughout spoon, 100% recovery.						98.5
2	SS4		Reddish Brown SILT with some CLAY, slightly moist, medium plasticity, non-cohesive, no odours or staining, 100% recovery.						98
2.5	SS5		Light Brown SILT with some CLAY, slightly moist, medium plasticity, non-cohesive, no odours or staining, 100% recovery.						97.5
3	SS6		Greyish Brown SILT with some CLAY, moist, medium plasticity, slightly cohesive, no odours or staining, 100% recovery.			PHCs/BTEX PAHs, pH, VOCs			97
3.5									96.5
4									96
4.5									95.5
5									95
5.5									94.5
6									94
6.5									93.5

produced by ESlog.ESdat.net on 15 Aug 2023

Appendix B:

Groundwater Calculations

Well:	MW-1		
Bottom (mbgs)	6.2		
Ground Elevation (masl)	99.8		
Date and Time	Water Level (mbgs)	Water Level (masl)	Volume Purged
July 26, 2023	2.74	97.06	24
July 27, 2023	2.31	97.49	Sampled
August 11, 2023	2.65	97.15	n/a

Well:	MW-2		
Bottom (mbgs)	5.95		
Ground Elevation (masl)	99.65		
Date and Time	Water Level (mbgs)	Water Level (masl)	Volume Purged
July 26, 2023	2.11	97.54	25
July 27, 2023	1.59	98.06	Sampled
August 11, 2023	1.92	97.73	n/a

Well:	MW-3		
Bottom (mbgs)	6.1		
Ground Elevation (masl)	99.85		
Date and Time	Water Level (mbgs)	Water Level (masl)	Volume Purged
July 26, 2023	2.40	97.45	23
July 27, 2023	3.61	96.24	Sampled
August 11, 2023	2.36	97.49	n/a

Hydraulic Conductivity:

	Rise	Run	*i* (m/m)
MW-1 to MW-2	0.24	31.75	0.0076
MW-2 to MW-3	1.49	19.24	0.0774
MW-3 to MW-1	1.25	28.99	0.0431
		i (m/m) Average	0.0427

Hydraulic Conductivity (K) Calculation **MW-1**
Project: E-23-19-2

Well radius	r =	0.025	m
Borehole radius	R =	0.05	
Length of screen	L =	3.05	
Initial depth to gw	H =	2.625	
Pumped depth, t=0	Ho =	5.68	
Final depth to gw	h =	2.31	
Time (min)	dt=	1705	

Time (min)	Water level
0	5.68
1	5.61
2	5.54
3	5.5
4	5.45
5	5.41
6	5.39
7	5.37
8	5.35
9	5.34
10	5.33
15	5.23
20	5.03
25	4.53
30	4.35
40	4.23
50	4.05
60	3.87
130	3.27
415	3.15
1705	2.31

r, radius of well =	2.500E-02	
dh =	3.370E+00	
dt =	1.705E+03	
q(t), rate of inflow =	3.881E-06	
V, volume removed =	2.938E-03	0.003
To, time lag =	7.570E+02	
L, length of screen	3.000E+00	
r2 =	6.250E-04	
L/R =	6.100E+01	
ln l/r =	4.111E+00	
r2 x ln l/r =	2.569E-03	
K =	**5.657E-07**	**cm/s**
K =	4.888E-02	cm/day
K =	4.888E-04	m/day
K =	1.784E-01	m/yr

Hvorslev method	$To=(pi)r^2/FK$			
	$K=(r^2\ln(L/R))/2LTo$			
v=ki/n				
v=	1.69708E-08	cm/s	1.46628E-05	m/d
k=	5.65694E-07		4.88759E-04	
n=	2.00000E-01			
I=	6.00000E-03			
		v=	**5.35192E-03**	**m/yr**

Hydraulic Conductivity (K) Calculation **MW-2**
Project: E-23-19-2

Well radius	r =	0.025	m
Borehole radius	R =	0.05	
Length of screen	L =	3.05	
Initial depth to gw	H =	2.11	
Pumped depth, t=0	Ho =	5.67	
Final depth to gw	h =	1.59	
Time (min)	dt=	1606	

Time (min)	Water level
0	5.67
1	5.42
2	5.34
3	5.25
4	5.14
5	5.08
6	5.07
7	5.06
8	5.02
9	5
10	4.96
15	4.79
20	4.65
25	4.52
30	4.45
40	4.32
50	4.25
60	4.16
343	3.27
628	3.15
1606	1.59

r, radius of well =	2.500E-02	
dh =	4.080E+00	
dt =	1.606E+03	
q(t), rate of inflow =	4.988E-06	
V, volume removed =	3.423E-03	0.003
To, time lag =	6.863E+02	
L, length of screen	3.000E+00	
r2 =	6.250E-04	
L/R =	6.100E+01	
ln l/r =	4.111E+00	
r2 x ln l/r =	2.569E-03	
K =	**6.240E-07**	**cm/s**
K =	5.391E-02	cm/day
K =	5.391E-04	m/day
K =	1.968E-01	m/yr

Hvorslev method	To=(pi)r^2/FK			
	K=(r^2ln(L/R))/2LTo			
v=ki/n				
v=	1.87186E-08	cm/s	1.61729E-05	m/d
k=	6.23953E-07		5.39095E-04	
n=	2.00000E-01			
I=	6.00000E-03			
		v=	**5.90309E-03**	**m/yr**

Hydraulic Conductivity (K) Calculation **MW-3**
Project: E-23-19-2

Well radius	r =	0.025	m
Borehole radius	R =	0.05	
Length of screen	L =	3.05	
Initial depth to gw	H =	2.4	
Pumped depth, t=0	Ho =	5.98	
Final depth to gw	h =	3.61	
Time (min)	dt=	1528	

Time (min)	Water level
0	5.98
1	5.93
2	5.91
3	5.89
4	5.87
5	5.85
6	5.82
7	5.81
8	5.78
9	5.77
10	5.76
15	5.67
20	5.59
25	5.49
30	5.46
307	4.15
1528	3.61

r, radius of well =	2.500E-02	
dh =	2.370E+00	
dt =	1.528E+03	
q(t), rate of inflow =	3.045E-06	
V, volume removed =	3.443E-03	0.003
To, time lag =	1.130E+03	
L, length of screen	3.000E+00	
r2 =	6.250E-04	
L/R =	6.100E+01	
ln l/r =	4.111E+00	
r2 x ln l/r =	2.569E-03	
K =	**3.788E-07**	**cm/s**
K =	3.273E-02	cm/day
K =	3.273E-04	m/day
K =	1.195E-01	m/yr

Hvorslev method	To=(pi)r^2/FK			
	K=(r^2ln(L/R))/2LTo			
v=ki/n				
v=	1.13645E-08	cm/s	9.81893E-06	m/d
k=	3.78817E-07		3.27298E-04	
n=	2.00000E-01			
I=	6.00000E-03			
		v=	**3.58391E-03**	**m/yr**

Appendix C:

Laboratory Analytical Reports

PARACEL LABORATORIES LTD.
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Certificate of Analysis

EON Environmental Consulting Ltd.
4999 Victoria Ave
Niagara Falls, ON L2E 4C9
Attn: Kevin Christian

Client PO:
Project: E-23-19-2
Custody: 62129, 62120

Report Date: 27-Jul-2023
Order Date: 24-Jul-2023

Order #: 2330024

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID	Paracel ID	Client ID
2330024-01	BH1-SS1		
2330024-02	BH1-SS6		
2330024-03	BH6-SS2		
2330024-04	BH6-SS6		
2330024-05	BH3-SS2		
2330024-06	BH3-SS6		
2330024-07	BH2-SS2		
2330024-08	BH2-SS7		
2330024-09	BH4-SS2		
2330024-10	BH5-SS2		
2330024-15	Dup-1		
2330024-16	Dup-2		
2330024-19	BH3-SS7		
2330024-20	BH5-SS3		

Approved By:

Alex Enfield, MSc
Lab Manager

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
BTEX by P&T GC-MS	EPA 8260 - P&T GC-MS	26-Jul-23	27-Jul-23
PHC F1	CWS Tier 1 - P&T GC-FID	26-Jul-23	27-Jul-23
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	25-Jul-23	27-Jul-23
REG 153: Metals by ICP/MS, soil	EPA 6020 - Digestion - ICP-MS	26-Jul-23	26-Jul-23
REG 153: PAHs by GC-MS	EPA 8270 - GC-MS, extraction	24-Jul-23	26-Jul-23
REG 153: pH, soil	EPA 150.1 - pH probe @ 25 °C, CaCl buffered ext.	26-Jul-23	27-Jul-23
REG 153: VOCs by P&T GC-MS	EPA 8260 - P&T GC-MS	26-Jul-23	27-Jul-23
Solids, %	CWS Tier 1 - Gravimetric	26-Jul-23	27-Jul-23
Texture - Coarse Med/Fine	Based on ASTM D2487	25-Jul-23	27-Jul-23

Summary of Criteria Exceedances

(If this page is blank then there are no exceedances)

Only those criteria that a sample exceeds will be highlighted in red

Regulatory Comparison:

Paracel Laboratories has provided regulatory guidelines on this report for informational purposes only and makes no representations or warranties that the data is accurate or reflects the current regulatory values. The user is advised to consult with the appropriate official regulations to evaluate compliance. Sample results that are highlighted have exceeded the selected regulatory limit. Calculated uncertainty estimations have not been applied for determining regulatory exceedances.

Sample	Analyte	MDL / Units	Result	Reg 153/04 -T2 Res/Park, fine	-

Certificate of Analysis

Report Date: 27-Jul-2023

Client: **EON Environmental Consulting Ltd.**

Order Date: 24-Jul-2023

Client PO:

Project Description: E-23-19-2

	Client ID:	BH1-SS1	BH1-SS6	BH6-SS2	BH6-SS6	**Criteria:**	
	Sample Date:	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	**Reg 153/04 -T2 Res/Park, fine**	-
	Sample ID:	2330024-01	2330024-02	2330024-03	2330024-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	82.0	81.5	78.2	75.0	-	-
General Inorganics							
pH	0.05 pH Units	7.49	7.79	7.82	7.89	5.00 - 9.00 pH Units	-
Metals							
Antimony	1 ug/g	<1.0	-	<1.0	-	7.5 ug/g	-
Arsenic	1 ug/g	5.5	-	5.4	-	18 ug/g	-
Barium	1 ug/g	117	-	148	-	390 ug/g	-
Beryllium	0.5 ug/g	0.9	-	0.8	-	5 ug/g	-
Boron	5 ug/g	10.2	-	15.7	-	120 ug/g	-
Cadmium	0.5 ug/g	<0.5	-	<0.5	-	1.2 ug/g	-
Chromium	5 ug/g	26.4	-	27.0	-	160 ug/g	-
Cobalt	1 ug/g	13.4	-	8.7	-	22 ug/g	-
Copper	5 ug/g	22.9	-	42.9	-	180 ug/g	-
Lead	1 ug/g	14.4	-	50.9	-	120 ug/g	-
Molybdenum	1 ug/g	<1.0	-	<1.0	-	6.9 ug/g	-
Nickel	5 ug/g	26.8	-	19.8	-	130 ug/g	-
Selenium	1 ug/g	<1.0	-	<1.0	-	2.4 ug/g	-
Silver	0.3 ug/g	<0.3	-	<0.3	-	25 ug/g	-
Thallium	1 ug/g	<1.0	-	<1.0	-	1 ug/g	-
Uranium	1 ug/g	<1.0	-	<1.0	-	23 ug/g	-
Vanadium	10 ug/g	39.5	-	28.0	-	86 ug/g	-
Zinc	20 ug/g	75.9	-	105	-	340 ug/g	-
Volatiles							
Acetone	0.5 ug/g	-	<0.50	-	<0.50	28 ug/g	-
Benzene	0.02 ug/g	-	<0.02	-	<0.02	0.17 ug/g	-

	Client ID:	BH1-SS1	BH1-SS6	BH6-SS2	BH6-SS6	Criteria:	
	Sample Date:	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	Reg 153/04 -T2 Res/Park, fine	-
	Sample ID:	2330024-01	2330024-02	2330024-03	2330024-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Volatiles							
Bromodichloromethane	0.05 ug/g	-	<0.05	-	<0.05	1.9 ug/g	-
Bromoform	0.05 ug/g	-	<0.05	-	<0.05	0.26 ug/g	-
Bromomethane	0.05 ug/g	-	<0.05	-	<0.05	0.05 ug/g	-
Carbon Tetrachloride	0.05 ug/g	-	<0.05	-	<0.05	0.12 ug/g	-
Chlorobenzene	0.05 ug/g	-	<0.05	-	<0.05	2.7 ug/g	-
Chloroform	0.05 ug/g	-	<0.05	-	<0.05	0.18 ug/g	-
Dibromochloromethane	0.05 ug/g	-	<0.05	-	<0.05	2.9 ug/g	-
Dichlorodifluoromethane	0.05 ug/g	-	<0.05	-	<0.05	25 ug/g	-
1,2-Dichlorobenzene	0.05 ug/g	-	<0.05	-	<0.05	1.7 ug/g	-
1,3-Dichlorobenzene	0.05 ug/g	-	<0.05	-	<0.05	6 ug/g	-
1,4-Dichlorobenzene	0.05 ug/g	-	<0.05	-	<0.05	0.097 ug/g	-
1,1-Dichloroethane	0.05 ug/g	-	<0.05	-	<0.05	0.6 ug/g	-
1,2-Dichloroethane	0.05 ug/g	-	<0.05	-	<0.05	0.05 ug/g	-
1,1-Dichloroethylene	0.05 ug/g	-	<0.05	-	<0.05	0.05 ug/g	-
cis-1,2-Dichloroethylene	0.05 ug/g	-	<0.05	-	<0.05	2.5 ug/g	-
trans-1,2-Dichloroethylene	0.05 ug/g	-	<0.05	-	<0.05	0.75 ug/g	-
1,2-Dichloropropane	0.05 ug/g	-	<0.05	-	<0.05	0.085 ug/g	-
cis-1,3-Dichloropropylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
trans-1,3-Dichloropropylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,3-Dichloropropene, total	0.05 ug/g	-	<0.05	-	<0.05	0.081 ug/g	-
Ethylbenzene	0.05 ug/g	-	<0.05	-	<0.05	1.6 ug/g	-
Ethylene dibromide (dibromoethane,	0.05 ug/g	-	<0.05	-	<0.05	0.05 ug/g	-
Hexane	0.05 ug/g	-	<0.05	-	<0.05	34 ug/g	-
Methyl Ethyl Ketone (2-Butanone)	0.5 ug/g	-	<0.50	-	<0.50	44 ug/g	-
Methyl Isobutyl Ketone	0.5 ug/g	-	<0.50	-	<0.50	4.3 ug/g	-

Certificate of Analysis

Report Date: 27-Jul-2023

Client: **EON Environmental Consulting Ltd.**

Order Date: 24-Jul-2023

Client PO:

Project Description: E-23-19-2

	Client ID:	BH1-SS1	BH1-SS6	BH6-SS2	BH6-SS6	Criteria:	
	Sample Date:	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	Reg 153/04 -T2 Res/Park, fine	-
	Sample ID:	2330024-01	2330024-02	2330024-03	2330024-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Volatiles							
Methyl tert-butyl ether	0.05 ug/g	-	<0.05	-	<0.05	1.4 ug/g	-
Methylene Chloride	0.05 ug/g	-	<0.05	-	<0.05	0.96 ug/g	-
Styrene	0.05 ug/g	-	<0.05	-	<0.05	2.2 ug/g	-
1,1,1,2-Tetrachloroethane	0.05 ug/g	-	<0.05	-	<0.05	0.05 ug/g	-
1,1,2,2-Tetrachloroethane	0.05 ug/g	-	<0.05	-	<0.05	0.05 ug/g	-
Tetrachloroethylene	0.05 ug/g	-	<0.05	-	<0.05	2.3 ug/g	-
Toluene	0.05 ug/g	-	<0.05	-	<0.05	6 ug/g	-
1,1,1-Trichloroethane	0.05 ug/g	-	<0.05	-	<0.05	3.4 ug/g	-
1,1,2-Trichloroethane	0.05 ug/g	-	<0.05	-	<0.05	0.05 ug/g	-
Trichloroethylene	0.05 ug/g	-	<0.05	-	<0.05	0.52 ug/g	-
Trichlorofluoromethane	0.05 ug/g	-	<0.05	-	<0.05	5.8 ug/g	-
Vinyl chloride	0.02 ug/g	-	<0.02	-	<0.02	0.022 ug/g	-
m,p-Xylenes	0.05 ug/g	-	<0.05	-	<0.05	-	-
o-Xylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
Xylenes, total	0.05 ug/g	-	<0.05	-	<0.05	25 ug/g	-
Toluene-d8	Surrogate	-	105%	-	104%	-	-
4-Bromofluorobenzene	Surrogate	-	89.6%	-	88.7%	-	-
Dibromofluoromethane	Surrogate	-	65.1%	-	65.1%	-	-
Benzene	0.02 ug/g	<0.02	-	<0.02	-	0.17 ug/g	-
Ethylbenzene	0.05 ug/g	<0.05	-	<0.05	-	1.6 ug/g	-
Toluene	0.05 ug/g	<0.05	-	<0.05	-	6 ug/g	-
m,p-Xylenes	0.05 ug/g	<0.05	-	0.11	-	-	-
o-Xylene	0.05 ug/g	<0.05	-	0.08	-	-	-
Xylenes, total	0.05 ug/g	<0.05	-	0.19	-	25 ug/g	-
Toluene-d8	Surrogate	103%	-	105%	-	-	-

Certificate of Analysis

Report Date: 27-Jul-2023

Client: **EON Environmental Consulting Ltd.**

Order Date: 24-Jul-2023

Client PO:

Project Description: E-23-19-2

	Client ID:	BH1-SS1	BH1-SS6	BH6-SS2	BH6-SS6	Criteria:	
	Sample Date:	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	Reg 153/04 -T2 Res/Park, fine	-
	Sample ID:	2330024-01	2330024-02	2330024-03	2330024-04		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Hydrocarbons							
F1 PHCs (C6-C10)	7 ug/g	<7	<7	<7	<7	65 ug/g	-
F2 PHCs (C10-C16)	4 ug/g	<4	<4	<4	<4	150 ug/g	-
F3 PHCs (C16-C34)	8 ug/g	<8	<8	84	<8	1300 ug/g	-
F4 PHCs (C34-C50)	6 ug/g	<6	<6	163	<6	5600 ug/g	-
Semi-Volatiles							
Acenaphthene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	29 ug/g	-
Acenaphthylene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	0.17 ug/g	-
Anthracene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	0.74 ug/g	-
Benzo [a] anthracene	0.02 ug/g	0.03	<0.02	0.04	<0.02	0.63 ug/g	-
Benzo [a] pyrene	0.02 ug/g	0.04	<0.02	0.04	<0.02	0.3 ug/g	-
Benzo [b] fluoranthene	0.02 ug/g	0.06	<0.02	0.05	<0.02	0.78 ug/g	-
Benzo [g,h,i] perylene	0.02 ug/g	0.04	<0.02	0.03	<0.02	7.8 ug/g	-
Benzo [k] fluoranthene	0.02 ug/g	0.02	<0.02	<0.02	<0.02	0.78 ug/g	-
Chrysene	0.02 ug/g	0.04	<0.02	0.05	<0.02	7.8 ug/g	-
Dibenzo [a,h] anthracene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	0.1 ug/g	-
Fluoranthene	0.02 ug/g	0.06	<0.02	0.10	<0.02	0.69 ug/g	-
Fluorene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	69 ug/g	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g	0.03	<0.02	0.02	<0.02	0.48 ug/g	-
1-Methylnaphthalene	0.02 ug/g	0.02	<0.02	0.08	<0.02	3.4 ug/g	-
2-Methylnaphthalene	0.02 ug/g	0.03	<0.02	0.08	<0.02	3.4 ug/g	-
Methylnaphthalene (1&2)	0.03 ug/g	0.06	<0.03	0.16	<0.03	3.4 ug/g	-
Naphthalene	0.01 ug/g	0.03	<0.01	0.05	<0.01	0.75 ug/g	-
Phenanthrene	0.02 ug/g	0.03	<0.02	0.10	<0.02	7.8 ug/g	-
Pyrene	0.02 ug/g	0.04	<0.02	0.06	<0.02	78 ug/g	-
2-Fluorobiphenyl	Surrogate	56.1%	20.5% [4]	67.5%	23.8% [4]	-	-

	Client ID:	BH1-SS1	BH1-SS6	BH6-SS2	BH6-SS6	**Criteria:**	
	Sample Date:	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	**Reg 153/04 -T2**	-
	Sample ID:	2330024-01	2330024-02	2330024-03	2330024-04	**Res/Park, fine**	
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Semi-Volatiles							
Terphenyl-d14	Surrogate	83.9%	90.6%	98.1%	88.1%	-	-

Certificate of Analysis

Report Date: 27-Jul-2023

Client: **EON Environmental Consulting Ltd.**

Order Date: 24-Jul-2023

Client PO:

Project Description: E-23-19-2

	Client ID:	BH3-SS2	BH3-SS6	BH2-SS2	BH2-SS7	**Criteria:**	
	Sample Date:	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	**Reg 153/04 -T2 Res/Park, fine**	-
	Sample ID:	2330024-05	2330024-06	2330024-07	2330024-08		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	78.5	81.8	79.2	73.8	-	-
General Inorganics							
pH	0.05 pH Units	7.83	7.84	7.69	8.01	5.00 - 9.00 pH Units	-
Metals							
Antimony	1 ug/g	<1.0	-	<1.0	-	7.5 ug/g	-
Arsenic	1 ug/g	5.3	-	3.7	-	18 ug/g	-
Barium	1 ug/g	121	-	144	-	390 ug/g	-
Beryllium	0.5 ug/g	1.0	-	0.9	-	5 ug/g	-
Boron	5 ug/g	10.1	-	10.4	-	120 ug/g	-
Cadmium	0.5 ug/g	<0.5	-	<0.5	-	1.2 ug/g	-
Chromium	5 ug/g	27.0	-	26.8	-	160 ug/g	-
Cobalt	1 ug/g	12.4	-	12.7	-	22 ug/g	-
Copper	5 ug/g	26.1	-	17.4	-	180 ug/g	-
Lead	1 ug/g	23.0	-	8.2	-	120 ug/g	-
Molybdenum	1 ug/g	<1.0	-	<1.0	-	6.9 ug/g	-
Nickel	5 ug/g	27.8	-	27.0	-	130 ug/g	-
Selenium	1 ug/g	<1.0	-	<1.0	-	2.4 ug/g	-
Silver	0.3 ug/g	<0.3	-	<0.3	-	25 ug/g	-
Thallium	1 ug/g	<1.0	-	<1.0	-	1 ug/g	-
Uranium	1 ug/g	<1.0	-	<1.0	-	23 ug/g	-
Vanadium	10 ug/g	38.3	-	37.3	-	86 ug/g	-
Zinc	20 ug/g	84.7	-	53.3	-	340 ug/g	-
Volatiles							
Acetone	0.5 ug/g	-	<0.50	-	<0.50	28 ug/g	-
Benzene	0.02 ug/g	-	<0.02	-	<0.02	0.17 ug/g	-

	Client ID:	BH3-SS2	BH3-SS6	BH2-SS2	BH2-SS7	Criteria:	
	Sample Date:	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	Reg 153/04 -T2 Res/Park, fine	-
	Sample ID:	2330024-05	2330024-06	2330024-07	2330024-08		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Volatiles							
Bromodichloromethane	0.05 ug/g	-	<0.05	-	<0.05	1.9 ug/g	-
Bromoform	0.05 ug/g	-	<0.05	-	<0.05	0.26 ug/g	-
Bromomethane	0.05 ug/g	-	<0.05	-	<0.05	0.05 ug/g	-
Carbon Tetrachloride	0.05 ug/g	-	<0.05	-	<0.05	0.12 ug/g	-
Chlorobenzene	0.05 ug/g	-	<0.05	-	<0.05	2.7 ug/g	-
Chloroform	0.05 ug/g	-	<0.05	-	<0.05	0.18 ug/g	-
Dibromochloromethane	0.05 ug/g	-	<0.05	-	<0.05	2.9 ug/g	-
Dichlorodifluoromethane	0.05 ug/g	-	<0.05	-	<0.05	25 ug/g	-
1,2-Dichlorobenzene	0.05 ug/g	-	<0.05	-	<0.05	1.7 ug/g	-
1,3-Dichlorobenzene	0.05 ug/g	-	<0.05	-	<0.05	6 ug/g	-
1,4-Dichlorobenzene	0.05 ug/g	-	<0.05	-	<0.05	0.097 ug/g	-
1,1-Dichloroethane	0.05 ug/g	-	<0.05	-	<0.05	0.6 ug/g	-
1,2-Dichloroethane	0.05 ug/g	-	<0.05	-	<0.05	0.05 ug/g	-
1,1-Dichloroethylene	0.05 ug/g	-	<0.05	-	<0.05	0.05 ug/g	-
cis-1,2-Dichloroethylene	0.05 ug/g	-	<0.05	-	<0.05	2.5 ug/g	-
trans-1,2-Dichloroethylene	0.05 ug/g	-	<0.05	-	<0.05	0.75 ug/g	-
1,2-Dichloropropane	0.05 ug/g	-	<0.05	-	<0.05	0.085 ug/g	-
cis-1,3-Dichloropropylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
trans-1,3-Dichloropropylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
1,3-Dichloropropene, total	0.05 ug/g	-	<0.05	-	<0.05	0.081 ug/g	-
Ethylbenzene	0.05 ug/g	-	<0.05	-	<0.05	1.6 ug/g	-
Ethylene dibromide (dibromoethane,	0.05 ug/g	-	<0.05	-	<0.05	0.05 ug/g	-
Hexane	0.05 ug/g	-	<0.05	-	<0.05	34 ug/g	-
Methyl Ethyl Ketone (2-Butanone)	0.5 ug/g	-	<0.50	-	<0.50	44 ug/g	-
Methyl Isobutyl Ketone	0.5 ug/g	-	<0.50	-	<0.50	4.3 ug/g	-

Certificate of Analysis

Report Date: 27-Jul-2023

Client: **EON Environmental Consulting Ltd.**

Order Date: 24-Jul-2023

Client PO:

Project Description: E-23-19-2

	Client ID:	BH3-SS2	BH3-SS6	BH2-SS2	BH2-SS7	Criteria:	
	Sample Date:	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	Reg 153/04 -T2 Res/Park, fine	-
	Sample ID:	2330024-05	2330024-06	2330024-07	2330024-08		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Volatiles							
Methyl tert-butyl ether	0.05 ug/g	-	<0.05	-	<0.05	1.4 ug/g	-
Methylene Chloride	0.05 ug/g	-	<0.05	-	<0.05	0.96 ug/g	-
Styrene	0.05 ug/g	-	<0.05	-	<0.05	2.2 ug/g	-
1,1,1,2-Tetrachloroethane	0.05 ug/g	-	<0.05	-	<0.05	0.05 ug/g	-
1,1,2,2-Tetrachloroethane	0.05 ug/g	-	<0.05	-	<0.05	0.05 ug/g	-
Tetrachloroethylene	0.05 ug/g	-	<0.05	-	<0.05	2.3 ug/g	-
Toluene	0.05 ug/g	-	<0.05	-	<0.05	6 ug/g	-
1,1,1-Trichloroethane	0.05 ug/g	-	<0.05	-	<0.05	3.4 ug/g	-
1,1,2-Trichloroethane	0.05 ug/g	-	<0.05	-	<0.05	0.05 ug/g	-
Trichloroethylene	0.05 ug/g	-	<0.05	-	<0.05	0.52 ug/g	-
Trichlorofluoromethane	0.05 ug/g	-	<0.05	-	<0.05	5.8 ug/g	-
Vinyl chloride	0.02 ug/g	-	<0.02	-	<0.02	0.022 ug/g	-
m,p-Xylenes	0.05 ug/g	-	<0.05	-	<0.05	-	-
o-Xylene	0.05 ug/g	-	<0.05	-	<0.05	-	-
Xylenes, total	0.05 ug/g	-	<0.05	-	<0.05	25 ug/g	-
4-Bromofluorobenzene	Surrogate	-	88.2%	-	87.7%	-	-
Dibromofluoromethane	Surrogate	-	63.9%	-	64.8%	-	-
Toluene-d8	Surrogate	-	105%	-	105%	-	-
Benzene	0.02 ug/g	<0.02	-	<0.02	-	0.17 ug/g	-
Ethylbenzene	0.05 ug/g	<0.05	-	<0.05	-	1.6 ug/g	-
Toluene	0.05 ug/g	<0.05	-	<0.05	-	6 ug/g	-
m,p-Xylenes	0.05 ug/g	<0.05	-	<0.05	-	-	-
o-Xylene	0.05 ug/g	<0.05	-	<0.05	-	-	-
Xylenes, total	0.05 ug/g	<0.05	-	<0.05	-	25 ug/g	-
Toluene-d8	Surrogate	105%	-	105%	-	-	-

Certificate of Analysis

Report Date: 27-Jul-2023

Client: **EON Environmental Consulting Ltd.**

Order Date: 24-Jul-2023

Client PO:

Project Description: E-23-19-2

	Client ID:	BH3-SS2	BH3-SS6	BH2-SS2	BH2-SS7	Criteria:	
	Sample Date:	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	Reg 153/04 -T2	-
	Sample ID:	2330024-05	2330024-06	2330024-07	2330024-08	Res/Park, fine	
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Hydrocarbons							
F1 PHCs (C6-C10)	7 ug/g	<7	<7	<7	<7	65 ug/g	-
F2 PHCs (C10-C16)	4 ug/g	<4	<4	<4	<4	150 ug/g	-
F3 PHCs (C16-C34)	8 ug/g	<8	<8	<8	<8	1300 ug/g	-
F4 PHCs (C34-C50)	6 ug/g	<6	<6	<6	<6	5600 ug/g	-
Semi-Volatiles							
Acenaphthene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	29 ug/g	-
Acenaphthylene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	0.17 ug/g	-
Anthracene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	0.74 ug/g	-
Benzo [a] anthracene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	0.63 ug/g	-
Benzo [a] pyrene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	0.3 ug/g	-
Benzo [b] fluoranthene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	0.78 ug/g	-
Benzo [g,h,i] perylene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	7.8 ug/g	-
Benzo [k] fluoranthene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	0.78 ug/g	-
Chrysene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	7.8 ug/g	-
Dibenzo [a,h] anthracene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	0.1 ug/g	-
Fluoranthene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	0.69 ug/g	-
Fluorene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	69 ug/g	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	0.48 ug/g	-
1-Methylnaphthalene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	3.4 ug/g	-
2-Methylnaphthalene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	3.4 ug/g	-
Methylnaphthalene (1&2)	0.03 ug/g	<0.03	<0.03	<0.03	<0.03	3.4 ug/g	-
Naphthalene	0.01 ug/g	<0.01	<0.01	<0.01	<0.01	0.75 ug/g	-
Phenanthrene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	7.8 ug/g	-
Pyrene	0.02 ug/g	<0.02	<0.02	<0.02	<0.02	78 ug/g	-
2-Fluorobiphenyl	Surrogate	66.6%	20.0% [4]	64.4%	50.5%	-	-

	Client ID:	BH3-SS2	BH3-SS6	BH2-SS2	BH2-SS7	**Criteria:**	
	Sample Date:	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	**Reg 153/04 -T2**	**-**
	Sample ID:	2330024-05	2330024-06	2330024-07	2330024-08	**Res/Park, fine**	
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Semi-Volatiles							
Terphenyl-d14	Surrogate	97.2%	81.4%	93.4%	88.0%	-	-

Certificate of Analysis

Report Date: 27-Jul-2023

Client: **EON Environmental Consulting Ltd.**

Order Date: 24-Jul-2023

Client PO:

Project Description: E-23-19-2

	Client ID:	BH4-SS2	BH5-SS2	Dup-1	Dup-2	Criteria:	
	Sample Date:	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	Reg 153/04 -T2 Res/Park, fine	-
	Sample ID:	2330024-09	2330024-10	2330024-15	2330024-16		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	78.8	82.9	82.0	78.4	-	-
General Inorganics							
pH	0.05 pH Units	7.64	7.76	-	-	5.00 - 9.00 pH Units	-
Metals							
Antimony	1 ug/g	<1.0	<1.0	-	<1.0	7.5 ug/g	-
Arsenic	1 ug/g	5.1	4.4	-	6.6	18 ug/g	-
Barium	1 ug/g	142	132	-	146	390 ug/g	-
Beryllium	0.5 ug/g	1.1	0.9	-	1.2	5 ug/g	-
Boron	5 ug/g	8.2	12.3	-	11.9	120 ug/g	-
Cadmium	0.5 ug/g	<0.5	<0.5	-	<0.5	1.2 ug/g	-
Chromium	5 ug/g	32.1	23.7	-	31.5	160 ug/g	-
Cobalt	1 ug/g	16.7	13.0	-	16.9	22 ug/g	-
Copper	5 ug/g	22.1	25.7	-	30.5	180 ug/g	-
Lead	1 ug/g	15.6	7.3	-	25.3	120 ug/g	-
Molybdenum	1 ug/g	<1.0	<1.0	-	<1.0	6.9 ug/g	-
Nickel	5 ug/g	27.9	26.6	-	32.7	130 ug/g	-
Selenium	1 ug/g	<1.0	<1.0	-	<1.0	2.4 ug/g	-
Silver	0.3 ug/g	<0.3	<0.3	-	<0.3	25 ug/g	-
Thallium	1 ug/g	<1.0	<1.0	-	<1.0	1 ug/g	-
Uranium	1 ug/g	<1.0	<1.0	-	<1.0	23 ug/g	-
Vanadium	10 ug/g	48.9	34.2	-	45.2	86 ug/g	-
Zinc	20 ug/g	73.4	58.5	-	119	340 ug/g	-
Volatiles							
Acetone	0.5 ug/g	-	-	<0.50	-	28 ug/g	-
Benzene	0.02 ug/g	-	-	<0.02	-	0.17 ug/g	-

	Client ID:	BH4-SS2	BH5-SS2	Dup-1	Dup-2	Criteria:	
	Sample Date:	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	Reg 153/04 -T2 Res/Park, fine	-
	Sample ID:	2330024-09	2330024-10	2330024-15	2330024-16		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Volatiles							
Bromodichloromethane	0.05 ug/g	-	-	<0.05	-	1.9 ug/g	-
Bromoform	0.05 ug/g	-	-	<0.05	-	0.26 ug/g	-
Bromomethane	0.05 ug/g	-	-	<0.05	-	0.05 ug/g	-
Carbon Tetrachloride	0.05 ug/g	-	-	<0.05	-	0.12 ug/g	-
Chlorobenzene	0.05 ug/g	-	-	<0.05	-	2.7 ug/g	-
Chloroform	0.05 ug/g	-	-	<0.05	-	0.18 ug/g	-
Dibromochloromethane	0.05 ug/g	-	-	<0.05	-	2.9 ug/g	-
Dichlorodifluoromethane	0.05 ug/g	-	-	<0.05	-	25 ug/g	-
1,2-Dichlorobenzene	0.05 ug/g	-	-	<0.05	-	1.7 ug/g	-
1,3-Dichlorobenzene	0.05 ug/g	-	-	<0.05	-	6 ug/g	-
1,4-Dichlorobenzene	0.05 ug/g	-	-	<0.05	-	0.097 ug/g	-
1,1-Dichloroethane	0.05 ug/g	-	-	<0.05	-	0.6 ug/g	-
1,2-Dichloroethane	0.05 ug/g	-	-	<0.05	-	0.05 ug/g	-
1,1-Dichloroethylene	0.05 ug/g	-	-	<0.05	-	0.05 ug/g	-
cis-1,2-Dichloroethylene	0.05 ug/g	-	-	<0.05	-	2.5 ug/g	-
trans-1,2-Dichloroethylene	0.05 ug/g	-	-	<0.05	-	0.75 ug/g	-
1,2-Dichloropropane	0.05 ug/g	-	-	<0.05	-	0.085 ug/g	-
cis-1,3-Dichloropropylene	0.05 ug/g	-	-	<0.05	-	-	-
trans-1,3-Dichloropropylene	0.05 ug/g	-	-	<0.05	-	-	-
1,3-Dichloropropene, total	0.05 ug/g	-	-	<0.05	-	0.081 ug/g	-
Ethylene dibromide (dibromoethane,	0.05 ug/g	-	-	<0.05	-	0.05 ug/g	-
Ethylbenzene	0.05 ug/g	-	-	<0.05	-	1.6 ug/g	-
Hexane	0.05 ug/g	-	-	<0.05	-	34 ug/g	-
Methyl Ethyl Ketone (2-Butanone)	0.5 ug/g	-	-	<0.50	-	44 ug/g	-
Methyl Isobutyl Ketone	0.5 ug/g	-	-	<0.50	-	4.3 ug/g	-

	Client ID:	BH4-SS2	BH5-SS2	Dup-1	Dup-2	Criteria:	
	Sample Date:	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	Reg 153/04 -T2 Res/Park, fine	-
	Sample ID:	2330024-09	2330024-10	2330024-15	2330024-16		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Volatiles							
Methyl tert-butyl ether	0.05 ug/g	-	-	<0.05	-	1.4 ug/g	-
Methylene Chloride	0.05 ug/g	-	-	<0.05	-	0.96 ug/g	-
Styrene	0.05 ug/g	-	-	<0.05	-	2.2 ug/g	-
1,1,1,2-Tetrachloroethane	0.05 ug/g	-	-	<0.05	-	0.05 ug/g	-
1,1,2,2-Tetrachloroethane	0.05 ug/g	-	-	<0.05	-	0.05 ug/g	-
Tetrachloroethylene	0.05 ug/g	-	-	<0.05	-	2.3 ug/g	-
Toluene	0.05 ug/g	-	-	<0.05	-	6 ug/g	-
1,1,1-Trichloroethane	0.05 ug/g	-	-	<0.05	-	3.4 ug/g	-
1,1,2-Trichloroethane	0.05 ug/g	-	-	<0.05	-	0.05 ug/g	-
Trichloroethylene	0.05 ug/g	-	-	<0.05	-	0.52 ug/g	-
Trichlorofluoromethane	0.05 ug/g	-	-	<0.05	-	5.8 ug/g	-
Vinyl chloride	0.02 ug/g	-	-	<0.02	-	0.022 ug/g	-
m,p-Xylenes	0.05 ug/g	-	-	<0.05	-	-	-
o-Xylene	0.05 ug/g	-	-	<0.05	-	-	-
Xylenes, total	0.05 ug/g	-	-	<0.05	-	25 ug/g	-
Toluene-d8	Surrogate	-	-	105%	-	-	-
4-Bromofluorobenzene	Surrogate	-	-	88.4%	-	-	-
Dibromofluoromethane	Surrogate	-	-	64.3%	-	-	-
Benzene	0.02 ug/g	<0.02	<0.02	-	-	0.17 ug/g	-
Ethylbenzene	0.05 ug/g	<0.05	<0.05	-	-	1.6 ug/g	-
Toluene	0.05 ug/g	<0.05	<0.05	-	-	6 ug/g	-
m,p-Xylenes	0.05 ug/g	<0.05	<0.05	-	-	-	-
o-Xylene	0.05 ug/g	<0.05	<0.05	-	-	-	-
Xylenes, total	0.05 ug/g	<0.05	<0.05	-	-	25 ug/g	-
Toluene-d8	Surrogate	105%	105%	-	-	-	-

Certificate of Analysis

Report Date: 27-Jul-2023

Client: **EON Environmental Consulting Ltd.**

Order Date: 24-Jul-2023

Client PO:

Project Description: E-23-19-2

	Client ID:	BH4-SS2	BH5-SS2	Dup-1	Dup-2	Criteria:	
	Sample Date:	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	Reg 153/04 -T2 Res/Park, fine	-
	Sample ID:	2330024-09	2330024-10	2330024-15	2330024-16		
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Hydrocarbons							
F1 PHCs (C6-C10)	7 ug/g	<7	<7	<7	-	65 ug/g	-
F2 PHCs (C10-C16)	4 ug/g	<4	<4	<4	-	150 ug/g	-
F3 PHCs (C16-C34)	8 ug/g	<8	<8	<8	-	1300 ug/g	-
F4 PHCs (C34-C50)	6 ug/g	<6	<6	<6	-	5600 ug/g	-
Semi-Volatiles							
Acenaphthene	0.02 ug/g	<0.02	<0.02	<0.02	-	29 ug/g	-
Acenaphthylene	0.02 ug/g	<0.02	<0.02	<0.02	-	0.17 ug/g	-
Anthracene	0.02 ug/g	<0.02	<0.02	<0.02	-	0.74 ug/g	-
Benzo [a] anthracene	0.02 ug/g	<0.02	<0.02	<0.02	-	0.63 ug/g	-
Benzo [a] pyrene	0.02 ug/g	<0.02	<0.02	<0.02	-	0.3 ug/g	-
Benzo [b] fluoranthene	0.02 ug/g	<0.02	<0.02	<0.02	-	0.78 ug/g	-
Benzo [g,h,i] perylene	0.02 ug/g	<0.02	<0.02	<0.02	-	7.8 ug/g	-
Benzo [k] fluoranthene	0.02 ug/g	<0.02	<0.02	<0.02	-	0.78 ug/g	-
Chrysene	0.02 ug/g	<0.02	<0.02	<0.02	-	7.8 ug/g	-
Dibenzo [a,h] anthracene	0.02 ug/g	<0.02	<0.02	<0.02	-	0.1 ug/g	-
Fluoranthene	0.02 ug/g	<0.02	<0.02	<0.02	-	0.69 ug/g	-
Fluorene	0.02 ug/g	<0.02	<0.02	<0.02	-	69 ug/g	-
Indeno [1,2,3-cd] pyrene	0.02 ug/g	<0.02	<0.02	<0.02	-	0.48 ug/g	-
1-Methylnaphthalene	0.02 ug/g	<0.02	<0.02	<0.02	-	3.4 ug/g	-
2-Methylnaphthalene	0.02 ug/g	<0.02	<0.02	<0.02	-	3.4 ug/g	-
Methylnaphthalene (1&2)	0.03 ug/g	0.03	<0.03	<0.03	-	3.4 ug/g	-
Naphthalene	0.01 ug/g	0.02	<0.01	<0.01	-	0.75 ug/g	-
Phenanthrene	0.02 ug/g	<0.02	<0.02	<0.02	-	7.8 ug/g	-
Pyrene	0.02 ug/g	<0.02	<0.02	<0.02	-	78 ug/g	-
2-Fluorobiphenyl	Surrogate	61.3%	53.4%	22.1% [4]	-	-	-

	Client ID:	BH4-SS2	BH5-SS2	Dup-1	Dup-2	**Criteria:**	
	Sample Date:	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	21-Jul-23 09:00	**Reg 153/04 -T2**	**-**
	Sample ID:	2330024-09	2330024-10	2330024-15	2330024-16	**Res/Park, fine**	
	Matrix:	Soil	Soil	Soil	Soil		
	MDL/Units						
Semi-Volatiles							
Terphenyl-d14	Surrogate	88.9%	91.9%	81.0%	-	-	-

	Client ID:	BH3-SS7	BH5-SS3			Criteria:	
	Sample Date:	21-Jul-23 09:00	21-Jul-23 09:00			Reg 153/04 -T2 Res/Park, fine	-
	Sample ID:	2330024-19	2330024-20				
	Matrix:	Soil	Soil				
	MDL/Units						
Physical Characteristics							
% Solids	0.1 % by Wt.	72.3	80.4	-	-	-	-
>75 um	0.1 %	1.2	<=0.1	-	-	-	-
<75 um	0.1 %	98.8	99.9	-	-	-	-
Texture	0.1 %	Med/Fine	Med/Fine	-	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons								
F1 PHCs (C6-C10)	ND	7	ug/g					
F2 PHCs (C10-C16)	ND	4	ug/g					
F3 PHCs (C16-C34)	ND	8	ug/g					
F4 PHCs (C34-C50)	ND	6	ug/g					
Metals								
Antimony	ND	1.0	ug/g					
Arsenic	ND	1.0	ug/g					
Barium	ND	1.0	ug/g					
Beryllium	ND	0.5	ug/g					
Boron	ND	5.0	ug/g					
Cadmium	ND	0.5	ug/g					
Chromium	ND	5.0	ug/g					
Cobalt	ND	1.0	ug/g					
Copper	ND	5.0	ug/g					
Lead	ND	1.0	ug/g					
Molybdenum	ND	1.0	ug/g					
Nickel	ND	5.0	ug/g					
Selenium	ND	1.0	ug/g					
Silver	ND	0.3	ug/g					
Thallium	ND	1.0	ug/g					
Uranium	ND	1.0	ug/g					
Vanadium	ND	10.0	ug/g					
Zinc	ND	20.0	ug/g					
Semi-Volatiles								
Acenaphthene	ND	0.02	ug/g					
Acenaphthylene	ND	0.02	ug/g					
Anthracene	ND	0.02	ug/g					
Benzo [a] anthracene	ND	0.02	ug/g					
Benzo [a] pyrene	ND	0.02	ug/g					
Benzo [b] fluoranthene	ND	0.02	ug/g					
Benzo [g,h,i] perylene	ND	0.02	ug/g					
Benzo [k] fluoranthene	ND	0.02	ug/g					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Chrysene	ND	0.02	ug/g					
Dibenzo [a,h] anthracene	ND	0.02	ug/g					
Fluoranthene	ND	0.02	ug/g					
Fluorene	ND	0.02	ug/g					
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g					
1-Methylnaphthalene	ND	0.02	ug/g					
2-Methylnaphthalene	ND	0.02	ug/g					
Methylnaphthalene (1&2)	ND	0.03	ug/g					
Naphthalene	ND	0.01	ug/g					
Phenanthrene	ND	0.02	ug/g					
Pyrene	ND	0.02	ug/g					
Surrogate: 2-Fluorobiphenyl	*0.347*		*%*	*69.4*	*50-140*			
Surrogate: Terphenyl-d14	*0.523*		*%*	*105*	*50-140*			
Volatiles								
Acetone	ND	0.50	ug/g					
Benzene	ND	0.02	ug/g					
Bromodichloromethane	ND	0.05	ug/g					
Bromoform	ND	0.05	ug/g					
Bromomethane	ND	0.05	ug/g					
Carbon Tetrachloride	ND	0.05	ug/g					
Chlorobenzene	ND	0.05	ug/g					
Chloroform	ND	0.05	ug/g					
Dibromochloromethane	ND	0.05	ug/g					
Dichlorodifluoromethane	ND	0.05	ug/g					
1,2-Dichlorobenzene	ND	0.05	ug/g					
1,3-Dichlorobenzene	ND	0.05	ug/g					
1,4-Dichlorobenzene	ND	0.05	ug/g					
1,1-Dichloroethane	ND	0.05	ug/g					
1,2-Dichloroethane	ND	0.05	ug/g					
1,1-Dichloroethylene	ND	0.05	ug/g					
cis-1,2-Dichloroethylene	ND	0.05	ug/g					
trans-1,2-Dichloroethylene	ND	0.05	ug/g					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
1,2-Dichloropropane	ND	0.05	ug/g					
cis-1,3-Dichloropropylene	ND	0.05	ug/g					
trans-1,3-Dichloropropylene	ND	0.05	ug/g					
1,3-Dichloropropene, total	ND	0.05	ug/g					
Ethylbenzene	ND	0.05	ug/g					
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.05	ug/g					
Hexane	ND	0.05	ug/g					
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g					
Methyl Isobutyl Ketone	ND	0.50	ug/g					
Methyl tert-butyl ether	ND	0.05	ug/g					
Methylene Chloride	ND	0.05	ug/g					
Styrene	ND	0.05	ug/g					
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g					
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g					
Tetrachloroethylene	ND	0.05	ug/g					
Toluene	ND	0.05	ug/g					
1,1,1-Trichloroethane	ND	0.05	ug/g					
1,1,2-Trichloroethane	ND	0.05	ug/g					
Trichloroethylene	ND	0.05	ug/g					
Trichlorofluoromethane	ND	0.05	ug/g					
Vinyl chloride	ND	0.02	ug/g					
m,p-Xylenes	ND	0.05	ug/g					
o-Xylene	ND	0.05	ug/g					
Xylenes, total	ND	0.05	ug/g					
Surrogate: 4-Bromofluorobenzene	*7.46*		*%*	*92.6*	*50-140*			
Surrogate: Dibromofluoromethane	*5.94*		*%*	*73.7*	*50-140*			
Surrogate: Toluene-d8	*8.21*		*%*	*102*	*50-140*			
Benzene	ND	0.02	ug/g					
Ethylbenzene	ND	0.05	ug/g					
Toluene	ND	0.05	ug/g					
m,p-Xylenes	ND	0.05	ug/g					
o-Xylene	ND	0.05	ug/g					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Xylenes, total	ND	0.05	ug/g					
Surrogate: Toluene-d8	*8.21*		*%*	*102*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
pH	7.53	0.05	pH Units	7.72			2.5	10	
Hydrocarbons									
F1 PHCs (C6-C10)	ND	7	ug/g	ND			NC	40	
F2 PHCs (C10-C16)	ND	4	ug/g	ND			NC	30	
F3 PHCs (C16-C34)	ND	8	ug/g	ND			NC	30	
F4 PHCs (C34-C50)	ND	6	ug/g	ND			NC	30	
Metals									
Antimony	ND	1.0	ug/g	ND			NC	30	
Arsenic	2.6	1.0	ug/g	2.2			15.8	30	
Barium	24.6	1.0	ug/g	25.2			2.5	30	
Beryllium	ND	0.5	ug/g	ND			NC	30	
Boron	7.9	5.0	ug/g	ND			NC	30	
Cadmium	ND	0.5	ug/g	ND			NC	30	
Chromium	8.5	5.0	ug/g	9.0			5.9	30	
Cobalt	3.1	1.0	ug/g	3.2			2.2	30	
Copper	9.4	5.0	ug/g	21.2			NC	30	
Lead	20.1	1.0	ug/g	22.9			13.2	30	
Molybdenum	ND	1.0	ug/g	ND			NC	30	
Nickel	5.8	5.0	ug/g	6.7			13.6	30	
Selenium	ND	1.0	ug/g	ND			NC	30	
Silver	ND	0.3	ug/g	ND			NC	30	
Thallium	ND	1.0	ug/g	ND			NC	30	
Uranium	ND	1.0	ug/g	ND			NC	30	
Vanadium	16.5	10.0	ug/g	18.2			9.8	30	
Zinc	36.3	20.0	ug/g	48.2			28.1	30	
Physical Characteristics									
% Solids	87.0	0.1	% by Wt.	86.4			0.6	25	
Semi-Volatiles									
Acenaphthene	ND	0.02	ug/g	ND			NC	40	
Acenaphthylene	ND	0.02	ug/g	ND			NC	40	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anthracene	ND	0.02	ug/g	ND			NC	40	
Benzo [a] anthracene	ND	0.02	ug/g	ND			NC	40	
Benzo [a] pyrene	ND	0.02	ug/g	ND			NC	40	
Benzo [b] fluoranthene	ND	0.02	ug/g	ND			NC	40	
Benzo [g,h,i] perylene	ND	0.02	ug/g	ND			NC	40	
Benzo [k] fluoranthene	ND	0.02	ug/g	ND			NC	40	
Chrysene	ND	0.02	ug/g	ND			NC	40	
Dibenzo [a,h] anthracene	ND	0.02	ug/g	ND			NC	40	
Fluoranthene	ND	0.02	ug/g	ND			NC	40	
Fluorene	ND	0.02	ug/g	ND			NC	40	
Indeno [1,2,3-cd] pyrene	ND	0.02	ug/g	ND			NC	40	
1-Methylnaphthalene	ND	0.02	ug/g	ND			NC	40	
2-Methylnaphthalene	ND	0.02	ug/g	ND			NC	40	
Naphthalene	ND	0.01	ug/g	ND			NC	40	
Phenanthrene	ND	0.02	ug/g	ND			NC	40	
Pyrene	ND	0.02	ug/g	ND			NC	40	
Surrogate: 2-Fluorobiphenyl	*0.372*		*%*		*69.2*	*50-140*			
Surrogate: Terphenyl-d14	*0.489*		*%*		*90.9*	*50-140*			
Volatiles									
Acetone	ND	0.50	ug/g	ND			NC	50	
Benzene	ND	0.02	ug/g	ND			NC	50	
Bromodichloromethane	ND	0.05	ug/g	ND			NC	50	
Bromoform	ND	0.05	ug/g	ND			NC	50	
Bromomethane	ND	0.05	ug/g	ND			NC	50	
Carbon Tetrachloride	ND	0.05	ug/g	ND			NC	50	
Chlorobenzene	ND	0.05	ug/g	ND			NC	50	
Chloroform	ND	0.05	ug/g	ND			NC	50	
Dibromochloromethane	ND	0.05	ug/g	ND			NC	50	
Dichlorodifluoromethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,3-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,4-Dichlorobenzene	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
cis-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
trans-1,2-Dichloroethylene	ND	0.05	ug/g	ND			NC	50	
1,2-Dichloropropane	ND	0.05	ug/g	ND			NC	50	
cis-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
trans-1,3-Dichloropropylene	ND	0.05	ug/g	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g	ND			NC	50	
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.05	ug/g	ND			NC	50	
Hexane	ND	0.05	ug/g	ND			NC	50	
Methyl Ethyl Ketone (2-Butanone)	ND	0.50	ug/g	ND			NC	50	
Methyl Isobutyl Ketone	ND	0.50	ug/g	ND			NC	50	
Methyl tert-butyl ether	ND	0.05	ug/g	ND			NC	50	
Methylene Chloride	ND	0.05	ug/g	ND			NC	50	
Styrene	ND	0.05	ug/g	ND			NC	50	
1,1,1,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2,2-Tetrachloroethane	ND	0.05	ug/g	ND			NC	50	
Tetrachloroethylene	ND	0.05	ug/g	ND			NC	50	
Toluene	ND	0.05	ug/g	ND			NC	50	
1,1,1-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
1,1,2-Trichloroethane	ND	0.05	ug/g	ND			NC	50	
Trichloroethylene	ND	0.05	ug/g	ND			NC	50	
Trichlorofluoromethane	ND	0.05	ug/g	ND			NC	50	
Vinyl chloride	ND	0.02	ug/g	ND			NC	50	
m,p-Xylenes	ND	0.05	ug/g	ND			NC	50	
o-Xylene	ND	0.05	ug/g	ND			NC	50	
Surrogate: 4-Bromofluorobenzene	*8.26*		*%*		*90.9*	*50-140*			
Surrogate: Dibromofluoromethane	*6.25*		*%*		*68.8*	*50-140*			
Surrogate: Toluene-d8	*9.45*		*%*		*104*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzene	ND	0.02	ug/g	ND			NC	50	
Ethylbenzene	ND	0.05	ug/g	ND			NC	50	
Toluene	ND	0.05	ug/g	ND			NC	50	
m,p-Xylenes	ND	0.05	ug/g	ND			NC	50	
o-Xylene	ND	0.05	ug/g	ND			NC	50	
Surrogate: Toluene-d8	*9.45*		*%*		*104*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	58	7	ug/g	ND	82.3	80-120			
F2 PHCs (C10-C16)	86	4	ug/g	ND	97.0	60-140			
F3 PHCs (C16-C34)	182	8	ug/g	ND	91.0	60-140			
F4 PHCs (C34-C50)	125	6	ug/g	ND	86.9	60-140			
Metals									
Antimony	126	1.0	ug/g	ND	100	70-130			
Arsenic	148	1.0	ug/g	2.2	117	70-130			
Barium	181	1.0	ug/g	25.2	124	70-130			
Beryllium	120	0.5	ug/g	ND	96.0	70-130			
Boron	118	5.0	ug/g	ND	94.3	70-130			
Cadmium	146	0.5	ug/g	ND	117	70-130			
Chromium	164	5.0	ug/g	9.0	124	70-130			
Cobalt	152	1.0	ug/g	3.2	119	70-130			
Copper	153	5.0	ug/g	21.2	105	70-130			
Lead	153	1.0	ug/g	22.9	104	70-130			
Molybdenum	148	1.0	ug/g	ND	119	70-130			
Nickel	150	5.0	ug/g	6.7	114	70-130			
Selenium	110	1.0	ug/g	ND	87.8	70-130			
Silver	122	0.3	ug/g	ND	97.5	70-130			
Thallium	130	1.0	ug/g	ND	104	70-130			
Uranium	150	1.0	ug/g	ND	120	70-130			
Vanadium	176	10.0	ug/g	18.2	126	70-130			
Zinc	189	20.0	ug/g	48.2	113	70-130			
Semi-Volatiles									
Acenaphthene	0.651	0.02	ug/g	ND	121	50-140			
Acenaphthylene	0.642	0.02	ug/g	ND	119	50-140			
Anthracene	0.641	0.02	ug/g	ND	119	50-140			
Benzo [a] anthracene	0.626	0.02	ug/g	ND	116	50-140			
Benzo [a] pyrene	0.612	0.02	ug/g	ND	114	50-140			
Benzo [b] fluoranthene	0.651	0.02	ug/g	ND	121	50-140			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzo [g,h,i] perylene	0.647	0.02	ug/g	ND	120	50-140			
Benzo [k] fluoranthene	0.653	0.02	ug/g	ND	121	50-140			
Chrysene	0.671	0.02	ug/g	ND	125	50-140			
Dibenzo [a,h] anthracene	0.667	0.02	ug/g	ND	124	50-140			
Fluoranthene	0.803	0.02	ug/g	ND	149	50-140			QM-07
Fluorene	0.727	0.02	ug/g	ND	135	50-140			
Indeno [1,2,3-cd] pyrene	0.662	0.02	ug/g	ND	123	50-140			
1-Methylnaphthalene	0.628	0.02	ug/g	ND	117	50-140			
2-Methylnaphthalene	0.567	0.02	ug/g	ND	105	50-140			
Naphthalene	0.572	0.01	ug/g	ND	106	50-140			
Phenanthrene	0.662	0.02	ug/g	ND	123	50-140			
Pyrene	0.586	0.02	ug/g	ND	109	50-140			
Surrogate: 2-Fluorobiphenyl	*0.455*		*%*		*84.5*	*50-140*			
Surrogate: Terphenyl-d14	*0.473*		*%*		*87.9*	*50-140*			
Volatiles									
Acetone	9.52	0.50	ug/g	ND	95.2	50-140			
Benzene	4.02	0.02	ug/g	ND	100	60-130			
Bromodichloromethane	3.99	0.05	ug/g	ND	99.4	60-130			
Bromoform	3.62	0.05	ug/g	ND	89.6	60-130			
Bromomethane	4.34	0.05	ug/g	ND	108	50-140			
Carbon Tetrachloride	3.91	0.05	ug/g	ND	97.2	60-130			
Chlorobenzene	3.97	0.05	ug/g	ND	98.3	60-130			
Chloroform	4.16	0.05	ug/g	ND	103	60-130			
Dibromochloromethane	3.75	0.05	ug/g	ND	92.7	60-130			
Dichlorodifluoromethane	4.52	0.05	ug/g	ND	112	50-140			
1,2-Dichlorobenzene	3.76	0.05	ug/g	ND	93.4	60-130			
1,3-Dichlorobenzene	3.85	0.05	ug/g	ND	95.2	60-130			
1,4-Dichlorobenzene	3.59	0.05	ug/g	ND	88.9	60-130			
1,1-Dichloroethane	4.09	0.05	ug/g	ND	102	60-130			
1,2-Dichloroethane	4.00	0.05	ug/g	ND	98.9	60-130			
1,1-Dichloroethylene	4.03	0.05	ug/g	ND	100	60-130			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
cis-1,2-Dichloroethylene	4.20	0.05	ug/g	ND	105	60-130			
trans-1,2-Dichloroethylene	3.72	0.05	ug/g	ND	92.6	60-130			
1,2-Dichloropropane	4.02	0.05	ug/g	ND	99.5	60-130			
cis-1,3-Dichloropropylene	3.76	0.05	ug/g	ND	93.5	60-130			
trans-1,3-Dichloropropylene	3.92	0.05	ug/g	ND	97.6	60-130			
Ethylbenzene	4.00	0.05	ug/g	ND	99.5	60-130			
Ethylene dibromide (dibromoethane, 1,2-)	3.55	0.05	ug/g	ND	88.2	60-130			
Hexane	5.46	0.05	ug/g	ND	136	60-130			
Methyl Ethyl Ketone (2-Butanone)	8.59	0.50	ug/g	ND	85.9	50-140			
Methyl Isobutyl Ketone	8.64	0.50	ug/g	ND	86.4	50-140			
Methyl tert-butyl ether	9.13	0.05	ug/g	ND	91.3	50-140			
Methylene Chloride	4.19	0.05	ug/g	ND	104	60-130			
Styrene	4.01	0.05	ug/g	ND	99.9	60-130			
1,1,1,2-Tetrachloroethane	3.70	0.05	ug/g	ND	92.1	60-130			
1,1,2,2-Tetrachloroethane	3.49	0.05	ug/g	ND	86.7	60-130			
Tetrachloroethylene	3.89	0.05	ug/g	ND	96.9	60-130			
Toluene	4.03	0.05	ug/g	ND	101	60-130			
1,1,1-Trichloroethane	3.95	0.05	ug/g	ND	98.3	60-130			
1,1,2-Trichloroethane	3.78	0.05	ug/g	ND	93.9	60-130			
Trichloroethylene	3.90	0.05	ug/g	ND	97.0	60-130			
Trichlorofluoromethane	4.40	0.05	ug/g	ND	109	50-140			
Vinyl chloride	4.20	0.02	ug/g	ND	105	50-140			
m,p-Xylenes	8.05	0.05	ug/g	ND	100	60-130			
o-Xylene	4.03	0.05	ug/g	ND	100	60-130			
Surrogate: 4-Bromofluorobenzene	*8.23*		*%*		*102*	*50-140*			
Surrogate: Dibromofluoromethane	*7.86*		*%*		*97.6*	*50-140*			
Surrogate: Toluene-d8	*7.89*		*%*		*98.2*	*50-140*			
Benzene	4.02	0.02	ug/g	ND	100	60-130			
Ethylbenzene	4.00	0.05	ug/g	ND	99.5	60-130			
Toluene	4.03	0.05	ug/g	ND	101	60-130			
m,p-Xylenes	8.05	0.05	ug/g	ND	100	60-130			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
o-Xylene	4.03	0.05	ug/g	ND	100	60-130			
Surrogate: Toluene-d8	*7.89*		*%*		*98.2*	*50-140*			

Qualifier Notes:

Sample Qualifiers :

4: Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.

QC Qualifiers:

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on other acceptable QC.

Sample Data Revisions:

None

Certificate of Analysis

Report Date: 27-Jul-2023

Client: **EON Environmental Consulting Ltd.**

Order Date: 24-Jul-2023

Client PO:

Project Description: E-23-19-2

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

Soil results are reported on a dry weight basis unlesss otherwise noted.

Where %Solids is reported, moisture loss includes the loss of volatile hydrocarbons.

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.

- F1 range corrected for BTEX.

- F2 to F3 ranges corrected for appropriate PAHs where available.

- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.

- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.

- When reported, data for F4G has been processed using a silica gel cleanup.

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Chain Of Custody
(Lab Use Only)
№ 62129

Client Name:	Project Ref: E-23-19-2	Page 1 of 2
Contact Name:	Quote #:	Turnaround Time: ☐ 1 day ☐ 3 day ☐ 2 day ☒ Regular
Address:	PO #:	
Telephone:	E-mail: ~~[illegible]~~ Nmetz Kchristian)@Hallex.ca.	Date Required:

Regulation	Other Regulation	Matrix Type
☒ REG 153/04 ☐ REG 406/19	☐ REG,558 ☐ PWQO ☐ CCME ☐ MISA ☐ SU - Sani ☐ SU - Storm Mun: ☐ Other:	S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)
☐ Table 1 ☒ Res/Park ☒ Med/Fine ☒ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ Table ___ For RSC: ☒ Yes ☐ No		

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken Date	Sample Taken Time	PHC 1&6TEX	PAHs	metals(by ICP)	pH	VOC								
1	BH1-SS1	S		2			X	X	X	X									
2	BH1-~~SS5~~ SS6	↓		↓			X	X		X	X								
3	✓ BH6-SS 2						X	X	X	X									
4	✓ BH6-SS 6.						X	X		X	X								
5	✓ BH3-SS 2						X	X	X	X									
6	✓ BH3-SS6						X	X		X	X								
7	BH2-SS2						X	X	X	X									
8	BH2-SS~~7~~						X	X		X	X								
9	✓ BH4-SS2	↓		↓			X	X	X	X									
10	BH5-SS2						X	X	X	X									

Comments:

Method of Delivery: Drop box

Relinquished By (Sign):	Received By Driver/Depot:	Received at Lab: C-Ply	Verified By: C-Ply
Relinquished By (Print):	Date/Time: July 21/23 - 8:45	Date/Time: 07/24/23 9:45	Date/Time: 07/24/23 10:48
Date/Time:	Temperature: 5.4 °C	Temperature: 7.3 °C	pH Verified: ☐ By:

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Paracel ID: 2330024

Chain Of Custody
(Lab Use Only)
№ 62120

Page 2 of 2

Client Name:	Project Ref: E-23-19-2
Contact Name:	Quote #:
Address:	PO #:
Telephone:	E-mail: nmeta / kchristan @ hallex.ca.

Turnaround Time
☐ 1 day ☐ 3 day
☐ 2 day ☑ Regular
Date Required:

☐ REG 153/04 ☐ REG 406/19	Other Regulation: ☐ REG 558 ☐ PWQO ☐ CCME ☐ MISA ☐ SU - Sani ☐ SU - Storm ☐ Mun: ☐ Other:
☐ Table 1 ☐ Res/Park ☐ Med/Fine	
☐ Table 2 ☐ Ind/Comm ☐ Coarse	
☐ Table 3 ☐ Agri/Other	
☐ Table ___	
For RSC: ☐ Yes ☐ No	

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken: Date	Sample Taken: Time	PHC (BTEX)	PAH	Metals (by ICP)	VOC	Grain Size (Lime vs Gravel)	Holds.	GTSA					
1	BH5-SS5	S		3	July 21							X						
2	BH4-SS3	S		3								X						
3	BH3-SS3	S		3								X						
4	BH3-SS7	S		3								X						
5	Dup-1	S		2			X	X		X								
6	Dup-2	S		2					X									
7	BH1-SS3											X						
8	BH1-SS7											X						
9	BH3-SS7												X					
10	BH5-SS3												X					

Comments:

Method of Delivery: Drop box

Relinquished By (Sign):	Received By Driver/Depot:	Received at Lab: C-Ply	Verified By: C-Ply
Relinquished By (Print):	Date/Time: July 24/23 8:45	Date/Time: 07/24/23 9:45	Date/Time: 07/24/23 10:48
Date/Time:	Temperature: 5.4 °C	Temperature: 7.3 °C	pH Verified: ☐ By:

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Hamilton, ON L8H 7P4
1-800-749-1947
www.paracellabs.com

Certificate of Analysis

EON Environmental Consulting Ltd.
4999 Victoria Ave
Niagara Falls, ON L2E 4C9
Attn: Kevin Christian

Client PO:
Project: E-23-19-2
Custody: 71383

Report Date: 3-Aug-2023
Order Date: 28-Jul-2023

Order #: 2330393

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
2330393-01	MW-1
2330393-02	MW-2
2330393-03	MW-3
2330393-04	Dup-1
2330393-05	Lab Blank
2330393-06	Field Blank

Approved By:

Milan Ralitsch, PhD
Senior Technical Manager

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
PHC F1	CWS Tier 1 - P&T GC-FID	28-Jul-23	31-Jul-23
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	1-Aug-23	3-Aug-23
REG 153: Metals by ICP/MS, water	EPA 200.8, ICP-MS	28-Jul-23	29-Jul-23
REG 153: PAHs by GC-MS	EPA 625 - GC-MS, extraction	2-Aug-23	3-Aug-23
REG 153: VOCs by P&T GC-MS	EPA 624 - P&T GC-MS	31-Jul-23	31-Jul-23

Summary of Criteria Exceedances

(If this page is blank then there are no exceedances)

Only those criteria that a sample exceeds will be highlighted in red

Regulatory Comparison:

Paracel Laboratories has provided regulatory guidelines on this report for informational purposes only and makes no representations or warranties that the data is accurate or reflects the current regulatory values. The user is advised to consult with the appropriate official regulations to evaluate compliance. Sample results that are highlighted have exceeded the selected regulatory limit. Calculated uncertainty estimations have not been applied for determining regulatory exceedances.

Sample	Analyte	MDL / Units	Result	Reg 153/04 -T2 Potable Groundwater, coarse	Reg 153/04 -T2 Potable Groundwater, fine

Certificate of Analysis

Report Date: 03-Aug-2023

Client: **EON Environmental Consulting Ltd.**

Order Date: 28-Jul-2023

Client PO:

Project Description: E-23-19-2

	Client ID:	MW-1	MW-2	MW-3	Dup-1	Criteria:	
	Sample Date:	27-Jul-23 09:00	27-Jul-23 09:00	27-Jul-23 09:00	27-Jul-23 09:00	Reg 153/04 -T2 Potable Groundwater, coarse	Reg 153/04 -T2 Potable Groundwater, fine
	Sample ID:	2330393-01	2330393-02	2330393-03	2330393-04		
	Matrix:	Ground Water	Ground Water	Ground Water	Ground Water		
	MDL/Units						
Metals							
Antimony	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	6 ug/L	6 ug/L
Arsenic	1 ug/L	<1.0	<1.0	<1.0	<1.0	25 ug/L	25 ug/L
Barium	1 ug/L	70.2	92.5	65.1	105	1000 ug/L	1000 ug/L
Beryllium	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	4 ug/L	4 ug/L
Boron	10 ug/L	91.0	98.3	166	107	5000 ug/L	5000 ug/L
Cadmium	0.2 ug/L	<0.2	<0.2	<0.2	<0.2	2.7 ug/L	2.7 ug/L
Chromium	1 ug/L	<1.0	<1.0	<1.0	<1.0	50 ug/L	50 ug/L
Cobalt	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	3.8 ug/L	3.8 ug/L
Copper	0.5 ug/L	0.9	2.3	2.0	1.4	87 ug/L	87 ug/L
Lead	0.2 ug/L	<0.2	<0.2	<0.2	<0.2	10 ug/L	10 ug/L
Molybdenum	0.5 ug/L	1.8	1.5	1.5	1.7	70 ug/L	70 ug/L
Nickel	1 ug/L	<1.0	1.4	1.0	1.6	100 ug/L	100 ug/L
Selenium	1 ug/L	<1.0	<1.0	<1.0	<1.0	10 ug/L	10 ug/L
Silver	0.2 ug/L	<0.2	<0.2	<0.2	<0.2	1.5 ug/L	1.5 ug/L
Sodium	200 ug/L	128000	143000	60900	151000	490000 ug/L	490000 ug/L
Thallium	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	2 ug/L	2 ug/L
Uranium	0.2 ug/L	7.8	5.6	11.1	6.2	20 ug/L	20 ug/L
Vanadium	0.5 ug/L	0.8	0.6	1.0	0.6	6.2 ug/L	6.2 ug/L
Zinc	5 ug/L	7.5	<5.0	<5.0	<5.0	1100 ug/L	1100 ug/L
Volatiles							
Acetone	5 ug/L	<5.0	<5.0	<5.0	<5.0	2700 ug/L	2700 ug/L
Benzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	5 ug/L	5 ug/L
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	16 ug/L	16 ug/L
Bromoform	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	25 ug/L	25 ug/L
Bromomethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	0.89 ug/L	0.89 ug/L

	Client ID:	MW-1	MW-2	MW-3	Dup-1	Criteria:	
	Sample Date:	27-Jul-23 09:00	27-Jul-23 09:00	27-Jul-23 09:00	27-Jul-23 09:00	Reg 153/04 -T2 Potable Groundwater, coarse	Reg 153/04 -T2 Potable Groundwater, fine
	Sample ID:	2330393-01	2330393-02	2330393-03	2330393-04		
	Matrix:	Ground Water	Ground Water	Ground Water	Ground Water		
	MDL/Units						
Volatiles							
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	<0.2	<0.2	0.79 ug/L	5 ug/L
Chlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	30 ug/L	30 ug/L
Chloroform	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	2.4 ug/L	22 ug/L
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	25 ug/L	25 ug/L
Dichlorodifluoromethane	1 ug/L	<1.0	<1.0	<1.0	<1.0	590 ug/L	590 ug/L
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	3 ug/L	3 ug/L
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	59 ug/L	59 ug/L
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	1 ug/L	1 ug/L
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	5 ug/L	5 ug/L
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	1.6 ug/L	5 ug/L
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	1.6 ug/L	14 ug/L
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	1.6 ug/L	17 ug/L
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	1.6 ug/L	17 ug/L
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	5 ug/L	5 ug/L
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	0.5 ug/L	0.5 ug/L
Ethylene dibromide (dibromoethane,	0.2 ug/L	<0.2	<0.2	<0.2	<0.2	0.2 ug/L	0.2 ug/L
Ethylbenzene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	2.4 ug/L	2.4 ug/L
Hexane	1 ug/L	<1.0	<1.0	<1.0	<1.0	51 ug/L	520 ug/L
Methyl Ethyl Ketone (2-Butanone)	5 ug/L	<5.0	<5.0	<5.0	<5.0	1800 ug/L	1800 ug/L
Methyl Isobutyl Ketone	5 ug/L	<5.0	<5.0	<5.0	<5.0	640 ug/L	640 ug/L
Methyl tert-butyl ether	2 ug/L	<2.0	<2.0	<2.0	<2.0	15 ug/L	15 ug/L
Methylene Chloride	5 ug/L	<5.0	<5.0	<5.0	<5.0	50 ug/L	50 ug/L
Styrene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	5.4 ug/L	5.4 ug/L

Certificate of Analysis

Report Date: 03-Aug-2023

Client: **EON Environmental Consulting Ltd.**

Order Date: 28-Jul-2023

Client PO:

Project Description: E-23-19-2

	Client ID:	MW-1	MW-2	MW-3	Dup-1	Criteria:	
	Sample Date:	27-Jul-23 09:00	27-Jul-23 09:00	27-Jul-23 09:00	27-Jul-23 09:00	**Reg 153/04 -T2 Potable Groundwater, coarse**	**Reg 153/04 -T2 Potable Groundwater, fine**
	Sample ID:	2330393-01	2330393-02	2330393-03	2330393-04		
	Matrix:	Ground Water	Ground Water	Ground Water	Ground Water		
	MDL/Units						
Volatiles							
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	1.1 ug/L	1.1 ug/L
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	1 ug/L	1 ug/L
Tetrachloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	1.6 ug/L	17 ug/L
Toluene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	24 ug/L	24 ug/L
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	200 ug/L	200 ug/L
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	4.7 ug/L	5 ug/L
Trichloroethylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	1.6 ug/L	5 ug/L
Trichlorofluoromethane	1 ug/L	<1.0	<1.0	<1.0	<1.0	150 ug/L	150 ug/L
Vinyl chloride	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	0.5 ug/L	1.7 ug/L
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	-	-
o-Xylene	0.5 ug/L	<0.5	<0.5	<0.5	<0.5	-	-
Xylenes, total	0.05 ug/L	<0.05	<0.05	<0.05	<0.05	300 ug/L	300 ug/L
Toluene-d8	Surrogate	109%	108%	108%	108%	-	-
Dibromofluoromethane	Surrogate	89.9%	88.9%	89.2%	87.9%	-	-
4-Bromofluorobenzene	Surrogate	107%	106%	108%	107%	-	-
Hydrocarbons							
F1 PHCs (C6-C10)	25 ug/L	<25	<25	<25	<25	750 ug/L	750 ug/L
F2 PHCs (C10-C16)	100 ug/L	<100	<100	<100	<100	150 ug/L	150 ug/L
F3 PHCs (C16-C34)	100 ug/L	<100	<100	<100	<100	500 ug/L	500 ug/L
F4 PHCs (C34-C50)	100 ug/L	<100	<100	<100	<100	500 ug/L	500 ug/L
Semi-Volatiles							
Acenaphthene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05	4.1 ug/L	4.1 ug/L
Acenaphthylene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05	1 ug/L	1 ug/L
Anthracene	0.01 ug/L	<0.01	<0.01	<0.01	<0.01	2.4 ug/L	2.4 ug/L
Benzo [a] anthracene	0.01 ug/L	<0.01	<0.01	<0.01	<0.01	1 ug/L	1 ug/L

	Client ID:	MW-1	MW-2	MW-3	Dup-1	Criteria:	
	Sample Date:	27-Jul-23 09:00	27-Jul-23 09:00	27-Jul-23 09:00	27-Jul-23 09:00	Reg 153/04 -T2 Potable Groundwater, coarse	Reg 153/04 -T2 Potable Groundwater, fine
	Sample ID:	2330393-01	2330393-02	2330393-03	2330393-04		
	Matrix:	Ground Water	Ground Water	Ground Water	Ground Water		
	MDL/Units						
Semi-Volatiles							
Benzo [a] pyrene	0.01 ug/L	<0.01	<0.01	<0.01	<0.01	0.01 ug/L	0.01 ug/L
Benzo [b] fluoranthene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05	0.1 ug/L	0.1 ug/L
Benzo [g,h,i] perylene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05	0.2 ug/L	0.2 ug/L
Benzo [k] fluoranthene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05	0.1 ug/L	0.1 ug/L
Chrysene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05	0.1 ug/L	0.1 ug/L
Dibenzo [a,h] anthracene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05	0.2 ug/L	0.2 ug/L
Fluoranthene	0.01 ug/L	<0.01	<0.01	<0.01	<0.01	0.41 ug/L	0.41 ug/L
Fluorene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05	120 ug/L	120 ug/L
Indeno [1,2,3-cd] pyrene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05	0.2 ug/L	0.2 ug/L
1-Methylnaphthalene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05	3.2 ug/L	3.2 ug/L
2-Methylnaphthalene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05	3.2 ug/L	3.2 ug/L
Methylnaphthalene (1&2)	0.1 ug/L	<0.10	<0.10	<0.10	<0.10	3.2 ug/L	3.2 ug/L
Naphthalene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05	11 ug/L	11 ug/L
Phenanthrene	0.05 ug/L	<0.05	<0.05	<0.05	<0.05	1 ug/L	1 ug/L
Pyrene	0.01 ug/L	<0.01	<0.01	<0.01	<0.01	4.1 ug/L	4.1 ug/L
2-Fluorobiphenyl	Surrogate	89.2%	95.5%	99.4%	95.0%	-	-
Terphenyl-d14	Surrogate	125%	126%	124%	119%	-	-

Certificate of Analysis

Report Date: 03-Aug-2023

Client: **EON Environmental Consulting Ltd.**

Order Date: 28-Jul-2023

Client PO:

Project Description: E-23-19-2

	Client ID:	Lab Blank	Field Blank			Criteria:	
	Sample Date:	27-Jul-23 09:00	27-Jul-23 09:00			Reg 153/04 -T2 Potable Groundwater, coarse	Reg 153/04 -T2 Potable Groundwater, fine
	Sample ID:	2330393-05	2330393-06				
	Matrix:	Water	Ground Water				
	MDL/Units						
Volatiles							
Acetone	5 ug/L	<5.0	<5.0	-	-	2700 ug/L	2700 ug/L
Benzene	0.5 ug/L	<0.5	<0.5	-	-	5 ug/L	5 ug/L
Bromodichloromethane	0.5 ug/L	<0.5	<0.5	-	-	16 ug/L	16 ug/L
Bromoform	0.5 ug/L	<0.5	<0.5	-	-	25 ug/L	25 ug/L
Bromomethane	0.5 ug/L	<0.5	<0.5	-	-	0.89 ug/L	0.89 ug/L
Carbon Tetrachloride	0.2 ug/L	<0.2	<0.2	-	-	0.79 ug/L	5 ug/L
Chlorobenzene	0.5 ug/L	<0.5	<0.5	-	-	30 ug/L	30 ug/L
Chloroform	0.5 ug/L	<0.5	<0.5	-	-	2.4 ug/L	22 ug/L
Dibromochloromethane	0.5 ug/L	<0.5	<0.5	-	-	25 ug/L	25 ug/L
Dichlorodifluoromethane	1 ug/L	<1.0	<1.0	-	-	590 ug/L	590 ug/L
1,2-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-	3 ug/L	3 ug/L
1,3-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-	59 ug/L	59 ug/L
1,4-Dichlorobenzene	0.5 ug/L	<0.5	<0.5	-	-	1 ug/L	1 ug/L
1,1-Dichloroethane	0.5 ug/L	<0.5	<0.5	-	-	5 ug/L	5 ug/L
1,2-Dichloroethane	0.5 ug/L	<0.5	<0.5	-	-	1.6 ug/L	5 ug/L
1,1-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-	1.6 ug/L	14 ug/L
cis-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-	1.6 ug/L	17 ug/L
trans-1,2-Dichloroethylene	0.5 ug/L	<0.5	<0.5	-	-	1.6 ug/L	17 ug/L
1,2-Dichloropropane	0.5 ug/L	<0.5	<0.5	-	-	5 ug/L	5 ug/L
cis-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	-	-	-	-
trans-1,3-Dichloropropylene	0.5 ug/L	<0.5	<0.5	-	-	-	-
1,3-Dichloropropene, total	0.5 ug/L	<0.5	<0.5	-	-	0.5 ug/L	0.5 ug/L
Ethylbenzene	0.5 ug/L	<0.5	<0.5	-	-	2.4 ug/L	2.4 ug/L
Ethylene dibromide (dibromoethane,	0.2 ug/L	<0.2	<0.2	-	-	0.2 ug/L	0.2 ug/L
Hexane	1 ug/L	<1.0	<1.0	-	-	51 ug/L	520 ug/L

	Client ID:	Lab Blank	Field Blank			Criteria:	
	Sample Date:	27-Jul-23 09:00	27-Jul-23 09:00			Reg 153/04 -T2 Potable Groundwater, coarse	Reg 153/04 -T2 Potable Groundwater, fine
	Sample ID:	2330393-05	2330393-06				
	Matrix:	Water	Ground Water				
	MDL/Units						
Volatiles							
Methyl Ethyl Ketone (2-Butanone)	5 ug/L	<5.0	<5.0	-	-	1800 ug/L	1800 ug/L
Methyl Isobutyl Ketone	5 ug/L	<5.0	<5.0	-	-	640 ug/L	640 ug/L
Methyl tert-butyl ether	2 ug/L	<2.0	<2.0	-	-	15 ug/L	15 ug/L
Methylene Chloride	5 ug/L	<5.0	<5.0	-	-	50 ug/L	50 ug/L
Styrene	0.5 ug/L	<0.5	<0.5	-	-	5.4 ug/L	5.4 ug/L
1,1,1,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	-	-	1.1 ug/L	1.1 ug/L
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	<0.5	-	-	1 ug/L	1 ug/L
Tetrachloroethylene	0.5 ug/L	<0.5	<0.5	-	-	1.6 ug/L	17 ug/L
Toluene	0.5 ug/L	<0.5	<0.5	-	-	24 ug/L	24 ug/L
1,1,1-Trichloroethane	0.5 ug/L	<0.5	<0.5	-	-	200 ug/L	200 ug/L
1,1,2-Trichloroethane	0.5 ug/L	<0.5	<0.5	-	-	4.7 ug/L	5 ug/L
Trichloroethylene	0.5 ug/L	<0.5	<0.5	-	-	1.6 ug/L	5 ug/L
Trichlorofluoromethane	1 ug/L	<1.0	<1.0	-	-	150 ug/L	150 ug/L
Vinyl chloride	0.5 ug/L	<0.5	<0.5	-	-	0.5 ug/L	1.7 ug/L
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	-	-	-	-
o-Xylene	0.5 ug/L	<0.5	<0.5	-	-	-	-
Xylenes, total	0.05 ug/L	<0.05	<0.05	-	-	300 ug/L	300 ug/L
4-Bromofluorobenzene	Surrogate	108%	109%	-	-	-	-
Toluene-d8	Surrogate	107%	108%	-	-	-	-
Dibromofluoromethane	Surrogate	99.9%	96.9%	-	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons								
F1 PHCs (C6-C10)	ND	25	ug/L					
F2 PHCs (C10-C16)	ND	100	ug/L					
F3 PHCs (C16-C34)	ND	100	ug/L					
F4 PHCs (C34-C50)	ND	100	ug/L					
Metals								
Antimony	ND	0.5	ug/L					
Arsenic	ND	1.0	ug/L					
Barium	ND	1.0	ug/L					
Beryllium	ND	0.5	ug/L					
Boron	ND	10.0	ug/L					
Cadmium	ND	0.2	ug/L					
Chromium	ND	1.0	ug/L					
Cobalt	ND	0.5	ug/L					
Copper	ND	0.5	ug/L					
Lead	ND	0.2	ug/L					
Molybdenum	ND	0.5	ug/L					
Nickel	ND	1.0	ug/L					
Selenium	ND	1.0	ug/L					
Silver	ND	0.2	ug/L					
Sodium	ND	200	ug/L					
Thallium	ND	0.5	ug/L					
Uranium	ND	0.2	ug/L					
Vanadium	ND	0.5	ug/L					
Zinc	ND	5.0	ug/L					
Semi-Volatiles								
Acenaphthene	ND	0.05	ug/L					
Acenaphthylene	ND	0.05	ug/L					
Anthracene	ND	0.01	ug/L					
Benzo [a] anthracene	ND	0.01	ug/L					
Benzo [a] pyrene	ND	0.01	ug/L					
Benzo [b] fluoranthene	ND	0.05	ug/L					
Benzo [g,h,i] perylene	ND	0.05	ug/L					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzo [k] fluoranthene	ND	0.05	ug/L					
Chrysene	ND	0.05	ug/L					
Dibenzo [a,h] anthracene	ND	0.05	ug/L					
Fluoranthene	ND	0.01	ug/L					
Fluorene	ND	0.05	ug/L					
Indeno [1,2,3-cd] pyrene	ND	0.05	ug/L					
1-Methylnaphthalene	ND	0.05	ug/L					
2-Methylnaphthalene	ND	0.05	ug/L					
Methylnaphthalene (1&2)	ND	0.10	ug/L					
Naphthalene	ND	0.05	ug/L					
Phenanthrene	ND	0.05	ug/L					
Pyrene	ND	0.01	ug/L					
Surrogate: 2-Fluorobiphenyl	*9.37*		*%*	*93.7*	*50-140*			
Surrogate: Terphenyl-d14	*11.9*		*%*	*119*	*50-140*			
Volatiles								
Acetone	ND	5.0	ug/L					
Benzene	ND	0.5	ug/L					
Bromodichloromethane	ND	0.5	ug/L					
Bromoform	ND	0.5	ug/L					
Bromomethane	ND	0.5	ug/L					
Carbon Tetrachloride	ND	0.2	ug/L					
Chlorobenzene	ND	0.5	ug/L					
Chloroform	ND	0.5	ug/L					
Dibromochloromethane	ND	0.5	ug/L					
Dichlorodifluoromethane	ND	1.0	ug/L					
1,2-Dichlorobenzene	ND	0.5	ug/L					
1,3-Dichlorobenzene	ND	0.5	ug/L					
1,4-Dichlorobenzene	ND	0.5	ug/L					
1,1-Dichloroethane	ND	0.5	ug/L					
1,2-Dichloroethane	ND	0.5	ug/L					
1,1-Dichloroethylene	ND	0.5	ug/L					
cis-1,2-Dichloroethylene	ND	0.5	ug/L					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
trans-1,2-Dichloroethylene	ND	0.5	ug/L					
1,2-Dichloropropane	ND	0.5	ug/L					
cis-1,3-Dichloropropylene	ND	0.5	ug/L					
trans-1,3-Dichloropropylene	ND	0.5	ug/L					
1,3-Dichloropropene, total	ND	0.5	ug/L					
Ethylbenzene	ND	0.5	ug/L					
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.2	ug/L					
Hexane	ND	1.0	ug/L					
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L					
Methyl Isobutyl Ketone	ND	5.0	ug/L					
Methyl tert-butyl ether	ND	2.0	ug/L					
Methylene Chloride	ND	5.0	ug/L					
Styrene	ND	0.5	ug/L					
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L					
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L					
Tetrachloroethylene	ND	0.5	ug/L					
Toluene	ND	0.5	ug/L					
1,1,1-Trichloroethane	ND	0.5	ug/L					
1,1,2-Trichloroethane	ND	0.5	ug/L					
Trichloroethylene	ND	0.5	ug/L					
Trichlorofluoromethane	ND	1.0	ug/L					
Vinyl chloride	ND	0.5	ug/L					
m,p-Xylenes	ND	0.5	ug/L					
o-Xylene	ND	0.5	ug/L					
Xylenes, total	ND	0.05	ug/L					
Surrogate: 4-Bromofluorobenzene	*87.5*		*%*	*109*	*50-140*			
Surrogate: Dibromofluoromethane	*80.5*		*%*	*99.8*	*50-140*			
Surrogate: Toluene-d8	*86.0*		*%*	*107*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	25	ug/L	ND			NC	30	
Metals									
Antimony	ND	0.5	ug/L	ND			NC	20	
Arsenic	2.8	1.0	ug/L	2.9			4.0	20	
Barium	128	1.0	ug/L	136			6.1	20	
Beryllium	ND	0.5	ug/L	ND			NC	20	
Boron	216	10.0	ug/L	235			8.7	20	
Cadmium	ND	0.2	ug/L	ND			NC	20	
Chromium	ND	1.0	ug/L	ND			NC	20	
Cobalt	0.7	0.5	ug/L	0.7			3.2	20	
Copper	4.5	0.5	ug/L	4.4			2.0	20	
Lead	ND	0.2	ug/L	0.2			NC	20	
Molybdenum	5.5	0.5	ug/L	5.4			1.8	20	
Nickel	2.2	1.0	ug/L	2.1			3.3	20	
Selenium	ND	1.0	ug/L	ND			NC	20	
Silver	ND	0.2	ug/L	ND			NC	20	
Sodium	65200	200	ug/L	58200			11.4	20	
Thallium	ND	0.5	ug/L	ND			NC	20	
Uranium	2.5	0.2	ug/L	3.0			17.5	20	
Vanadium	0.9	0.5	ug/L	0.9			1.1	20	
Zinc	ND	5.0	ug/L	ND			NC	20	
Volatiles									
Acetone	9.84	5.0	ug/L	9.67			1.8	30	
Benzene	ND	0.5	ug/L	ND			NC	30	
Bromodichloromethane	ND	0.5	ug/L	ND			NC	30	
Bromoform	ND	0.5	ug/L	ND			NC	30	
Bromomethane	ND	0.5	ug/L	ND			NC	30	
Carbon Tetrachloride	ND	0.2	ug/L	ND			NC	30	
Chlorobenzene	ND	0.5	ug/L	ND			NC	30	
Chloroform	ND	0.5	ug/L	ND			NC	30	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Dibromochloromethane	ND	0.5	ug/L	ND			NC	30	
Dichlorodifluoromethane	ND	1.0	ug/L	ND			NC	30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,3-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
cis-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
trans-1,2-Dichloroethylene	ND	0.5	ug/L	ND			NC	30	
1,2-Dichloropropane	ND	0.5	ug/L	ND			NC	30	
cis-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
trans-1,3-Dichloropropylene	ND	0.5	ug/L	ND			NC	30	
Ethylbenzene	ND	0.5	ug/L	ND			NC	30	
Ethylene dibromide (dibromoethane, 1,2-)	ND	0.2	ug/L	ND			NC	30	
Hexane	ND	1.0	ug/L	ND			NC	30	
Methyl Ethyl Ketone (2-Butanone)	ND	5.0	ug/L	ND			NC	30	
Methyl Isobutyl Ketone	ND	5.0	ug/L	ND			NC	30	
Methyl tert-butyl ether	ND	2.0	ug/L	ND			NC	30	
Methylene Chloride	ND	5.0	ug/L	ND			NC	30	
Styrene	ND	0.5	ug/L	ND			NC	30	
1,1,1,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
Tetrachloroethylene	ND	0.5	ug/L	ND			NC	30	
Toluene	ND	0.5	ug/L	ND			NC	30	
1,1,1-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
1,1,2-Trichloroethane	ND	0.5	ug/L	ND			NC	30	
Trichloroethylene	21.6	0.5	ug/L	23.1			6.8	30	
Trichlorofluoromethane	ND	1.0	ug/L	ND			NC	30	
Vinyl chloride	ND	0.5	ug/L	ND			NC	30	
m,p-Xylenes	ND	0.5	ug/L	ND			NC	30	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
o-Xylene	ND	0.5	ug/L	ND			NC	30	
Surrogate: 4-Bromofluorobenzene	*87.0*		*%*		*108*	*50-140*			
Surrogate: Dibromofluoromethane	*77.4*		*%*		*96.0*	*50-140*			
Surrogate: Toluene-d8	*86.9*		*%*		*108*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	571	25	ug/L	ND	80.7	68-117			
F2 PHCs (C10-C16)	1820	100	ug/L	ND	110	60-140			
F3 PHCs (C16-C34)	4180	100	ug/L	ND	113	60-140			
F4 PHCs (C34-C50)	3130	100	ug/L	ND	117	60-140			
Metals									
Antimony	51.1	0.5	ug/L	ND	102	70-130			
Arsenic	54.2	1.0	ug/L	2.9	102	70-130			
Barium	50.9	1.0	ug/L	ND	102	80-120			
Beryllium	49.9	0.5	ug/L	ND	99.9	70-130			
Boron	49.7	10.0	ug/L	ND	99.3	80-120			
Cadmium	47.5	0.2	ug/L	ND	95.1	70-130			
Chromium	51.6	1.0	ug/L	ND	103	70-130			
Cobalt	50.7	0.5	ug/L	0.7	100	70-130			
Copper	52.0	0.5	ug/L	4.4	95.2	70-130			
Lead	43.5	0.2	ug/L	0.2	86.6	70-130			
Molybdenum	56.5	0.5	ug/L	5.4	102	70-130			
Nickel	49.4	1.0	ug/L	2.1	94.5	70-130			
Selenium	53.9	1.0	ug/L	ND	108	70-130			
Silver	43.6	0.2	ug/L	ND	87.3	70-130			
Sodium	945	200	ug/L	ND	94.5	80-120			
Thallium	49.2	0.5	ug/L	ND	98.3	70-130			
Uranium	52.1	0.2	ug/L	3.0	98.2	70-130			
Vanadium	54.2	0.5	ug/L	0.9	107	70-130			
Zinc	49.8	5.0	ug/L	ND	99.7	70-130			
Semi-Volatiles									
Acenaphthene	10.3	0.05	ug/L	ND	103	50-140			
Acenaphthylene	11.3	0.05	ug/L	ND	113	50-140			
Anthracene	11.0	0.01	ug/L	ND	110	50-140			
Benzo [a] anthracene	10.5	0.01	ug/L	ND	105	50-140			
Benzo [a] pyrene	11.2	0.01	ug/L	ND	112	50-140			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzo [b] fluoranthene	10.8	0.05	ug/L	ND	108	50-140			
Benzo [g,h,i] perylene	10.9	0.05	ug/L	ND	109	50-140			
Benzo [k] fluoranthene	11.0	0.05	ug/L	ND	110	50-140			
Chrysene	11.3	0.05	ug/L	ND	113	50-140			
Dibenzo [a,h] anthracene	11.0	0.05	ug/L	ND	110	50-140			
Fluoranthene	11.4	0.01	ug/L	ND	114	50-140			
Fluorene	10.9	0.05	ug/L	ND	109	50-140			
Indeno [1,2,3-cd] pyrene	11.2	0.05	ug/L	ND	112	50-140			
1-Methylnaphthalene	9.74	0.05	ug/L	ND	97.4	50-140			
2-Methylnaphthalene	9.12	0.05	ug/L	ND	91.2	50-140			
Naphthalene	8.88	0.05	ug/L	ND	88.8	50-140			
Phenanthrene	11.2	0.05	ug/L	ND	112	50-140			
Pyrene	11.2	0.01	ug/L	ND	112	50-140			
Surrogate: 2-Fluorobiphenyl	*10.3*		*%*		*103*	*50-140*			
Surrogate: Terphenyl-d14	*11.0*		*%*		*110*	*50-140*			
Volatiles									
Acetone	129	5.0	ug/L	ND	129	50-140			
Benzene	43.5	0.5	ug/L	ND	108	60-130			
Bromodichloromethane	42.4	0.5	ug/L	ND	105	60-130			
Bromoform	42.3	0.5	ug/L	ND	105	60-130			
Bromomethane	50.6	0.5	ug/L	ND	126	50-140			
Carbon Tetrachloride	41.3	0.2	ug/L	ND	103	60-130			
Chlorobenzene	43.2	0.5	ug/L	ND	107	60-130			
Chloroform	40.1	0.5	ug/L	ND	99.7	60-130			
Dibromochloromethane	42.1	0.5	ug/L	ND	104	60-130			
Dichlorodifluoromethane	44.5	1.0	ug/L	ND	111	50-140			
1,2-Dichlorobenzene	43.2	0.5	ug/L	ND	107	60-130			
1,3-Dichlorobenzene	42.5	0.5	ug/L	ND	105	60-130			
1,4-Dichlorobenzene	41.7	0.5	ug/L	ND	103	60-130			
1,1-Dichloroethane	45.1	0.5	ug/L	ND	112	60-130			
1,2-Dichloroethane	42.3	0.5	ug/L	ND	105	60-130			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,1-Dichloroethylene	40.9	0.5	ug/L	ND	102	60-130			
cis-1,2-Dichloroethylene	41.2	0.5	ug/L	ND	103	60-130			
trans-1,2-Dichloroethylene	44.1	0.5	ug/L	ND	110	60-130			
1,2-Dichloropropane	41.8	0.5	ug/L	ND	103	60-130			
cis-1,3-Dichloropropylene	41.8	0.5	ug/L	ND	104	60-130			
trans-1,3-Dichloropropylene	45.0	0.5	ug/L	ND	112	60-130			
Ethylbenzene	44.2	0.5	ug/L	ND	110	60-130			
Ethylene dibromide (dibromoethane, 1,2-)	44.8	0.2	ug/L	ND	111	60-130			
Hexane	53.6	1.0	ug/L	ND	134	60-130			QS-02
Methyl Ethyl Ketone (2-Butanone)	118	5.0	ug/L	ND	118	50-140			
Methyl Isobutyl Ketone	112	5.0	ug/L	ND	112	50-140			
Methyl tert-butyl ether	122	2.0	ug/L	ND	122	50-140			
Methylene Chloride	51.6	5.0	ug/L	ND	128	60-130			
Styrene	46.6	0.5	ug/L	ND	116	60-130			
1,1,1,2-Tetrachloroethane	40.6	0.5	ug/L	ND	101	60-130			
1,1,2,2-Tetrachloroethane	41.9	0.5	ug/L	ND	104	60-130			
Tetrachloroethylene	39.9	0.5	ug/L	ND	99.2	60-130			
Toluene	43.0	0.5	ug/L	ND	107	60-130			
1,1,1-Trichloroethane	41.1	0.5	ug/L	ND	102	60-130			
1,1,2-Trichloroethane	42.5	0.5	ug/L	ND	106	60-130			
Trichloroethylene	41.8	0.5	ug/L	ND	104	60-130			
Trichlorofluoromethane	44.3	1.0	ug/L	ND	110	60-130			
Vinyl chloride	47.3	0.5	ug/L	ND	118	50-140			
m,p-Xylenes	92.4	0.5	ug/L	ND	115	60-130			
o-Xylene	47.1	0.5	ug/L	ND	117	60-130			
Surrogate: 4-Bromofluorobenzene	*75.0*		*%*		*93.1*	*50-140*			
Surrogate: Dibromofluoromethane	*78.6*		*%*		*97.6*	*50-140*			
Surrogate: Toluene-d8	*79.6*		*%*		*99.2*	*50-140*			

Qualifier Notes:

QC Qualifiers:

QS-02 Spike level outside of control limits. Analysis batch accepted based on other QC included in the batch.

Sample Data Revisions:

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.

- F1 range corrected for BTEX.

- F2 to F3 ranges corrected for appropriate PAHs where available.

- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.

- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.

- When reported, data for F4G has been processed using a silica gel cleanup.

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Paracel ID: 2330393

Chain Of Custody
(Lab Use Only)
№ 71383

Client Name: Hallex Environmental.	Project Ref: E-23-19-2
Contact Name: Kevin Christian.	Quote #:
Address: 4999 victria Ave. Niagara Falls Ontario	PO #:
Telephone: 905 958 8030	E-mail: acottle / kmetz / kchristian @hallex.ca

Page 1 of 1

Turnaround Time
☐ 1 day ☐ 3 day
☐ 2 day ☒ Regular
Date Required:

☒ REG 153/04 ☐ REG 406/19

Other Regulation
☐ Table 1 ☐ Res/Park ☐ Med/Fine
☒ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/Other
☐ Table
For RSC: ☒ Yes ☐ No
☐ REG 558 ☐ PWQO
☐ CCME ☐ MISA
☐ SU - Sani ☐ SU - Storm
Mun:
☐ Other:

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken Date	Sample Taken Time	Required Analysis: PHCs (F1-F4)	VOCs	PAHs	Metals (by ICP)
1	MW-1	GW		5	July 27		X	X	X	X
2	MW-2	↓		↓			X	X	X	X
3	MW-3						X	X	X	X
4	Dup-1						X	X	X	X
5	Lab blank			1				X		
6	Feld blank	↓		2	↓			X		
7										
8										
9										
10										

Comments:

Method of Delivery: Drop box

Relinquished By (Sign): A Cottle	Received By Driver/Depot:	Received at Lab: C-Ply	Verified By: C-Ply
Relinquished By (Print): Amber Cottle	Date/Time:	Date/Time: 07/28/23 8:10	Date/Time: 07/28/23 8:44
Date/Time: July 27, 3:46pm.	Temperature: °C	Temperature: 6.7 °C	pH Verified: ☑ By: CP

Chain of Custody (Blank).docx

Revision 4.0