PHASE II ENVIRONMENTAL SITE ASSESSMENT

5916 Trafalgar Road North,

Town of Erin, Ontario

Prepared for:

Hillsburgh Heights Inc.
636 Edward Avenue, Suite 14
Richmond Hill, Ontario
L4C 0V4

Prepared by:

HLV2K ENGINEERING LIMITED

Project No. 2100428DE

October 26, 2021

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Hillsburgh Heights Inc.
636 Edward Avenue, Suite 14
Richmond Hill, Ontario, L4C 0V4

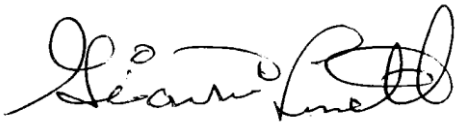
ATTENTION: Mr. Fausto Saponara

Re: Phase II Environmental Site Assessment
5196 Trafalgar Road North, Town of Erin

Please find the enclosed copy of the Phase II Environmental Site Assessment, in accordance with the Canadian Standards Association (CSA) Z769-00 (Reaffirmed 2019) related to the above-noted site.

We trust you will find this report to be complete within our terms of reference. Should you have any questions regarding the information contained in the report, or require further assistance please contact the undersigned at HLV2K's office.

For and behalf of HLV2K Engineering Limited



John (Gianni) Lametti, P.Eng. QPESA
Principal Environmental Engineer

2179 Dunwin Drive, Mississauga, ON L5L 1X2
Tel: (905) 569-9765 Fax: 1 (844) 469-9696 email: info@hlv2k.com

1 EXECUTIVE SUMMARY

HLV2K Engineering Limited (HLV2K) was retained by Hillsburgh Heights Inc. (hereinafter referred to as the Client) to conduct a Phase II Environmental Site Assessment (ESA) report for the property located at 5916 Trafalgar Road North, Town of Erin, Ontario (hereinafter referred to as the site and Phase II Property).

The purpose of the Phase II ESA (Site) was to determine the condition of soil and groundwater on the property for due diligence purposes. The Phase II ESA was completed in accordance with the Scope of Work detailed in HLV2K's Proposal Number 2100428DE dated October 3, 2021.

HLV2K and the clients are aware that the Phase II ESA was carried out in accordance with the Canadian Standards Association (CSA) Z769-00 (Reaffirmed 2008). The report used Ontario Regulation 153/04 as amended (O. Reg. 153/04) as a guideline, however, it was understood that the report would not be completely in accordance with O. Reg. 153/04 and will not be submitted for a Record of Site Condition (RSC) with the Ministry Environment Conservation Parks (MECP).

The findings in this report may be used by the Client for these purposes subject to the Statement of Limitations which forms an integral part of this document.

The Phase II ESA investigation was comprised of the advancement of a total of five (5) boreholes drilled to a maximum depth of approximately 6.2 m to 9.8 m below ground surface (bgs). All boreholes were converted to monitoring wells. MW1 was drilled in the northwestern farm field on the north side, MW2 was drilled in the northwestern farm field on the southern side, MW3 was in the middle of the northwestern farm field, MW4 was drilled in the southern farm field, and MW5 was drilled in the east corner of the property. Additionally, there were 2 hand-sampled soil samples taken from near where fill material was observed on site, one near the barn and one near the center farm field. Selected samples for soil obtained during the course of the Phase II ESA were submitted for chemical laboratory analysis, the scope which was agreed to by the Clients. The groundwater was not analyzed as the wells were dry.

The chemical analysis results were compared to the values stated in the MECP document titled "Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act". The site was compared to Table 2 Standards in a Potable Ground Water Condition for Residential Parkland Institutional (RPI) use site conditions standards for all parameters sampled in the soil.

The site was found to meet the MECP Table 2 Standards RPI in a Potable Ground Water Condition for soil from the boreholes. However, there were exceedances for Petroleum Hydrocarbons (F4) in Hand Sample 2. Hand Sample 1 met the MECP Table 2 RPI standards.

The soil encountered in the area is considered to be loose soil comprising of sand and silty sand, which is conductive for the spread of contaminants in the subsurface soils.

The inferred groundwater flow direction is southward toward the tributary of the Credit River (Erin Branch). Once the groundwater in the monitoring wells has stabilized (i.e., reached static conditions), the actual groundwater direction can be calculated.

Based upon the results of the parameters tested across all boreholes for soil during the Phase II ESA investigation, the soil from the boreholes and hand samples met the applicable MECP Table 2 RPI Standards except for one of the hand samples taken from the site which had an exceedance for Petroleum Hydrocarbons F4 Fraction. The groundwater was not analyzed as the wells were dry. The soil was analyzed for Petroleum Hydrocarbon Fraction F1 to F4 (PHCs), Volatile Organics Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), Polychlorinated Biphenyls (PCBs), Organochlorine Pesticides (OCPs), metals and inorganics (M&I), EC, pH, and SAR.

These findings suggest that the surrounding properties and Phase II Property activities have not adversely impacted the site at the locations sampled except for the soil near the barn. It is recommended that the area where PHC F4 exceedance was encountered be excavated and confirmatory samples analyzed to ensure no contamination is present.

We trust you will find this report complete within our terms of reference. Should you have any further questions regarding this report or require further assistance please contact HLV2K Engineering Limited.

Yours very truly,

John (Gianni) Lametti, P.Eng. QP_{ESA}
Vice President & Principal Engineer

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2 INTRODUCTION

HLV2K Engineering Limited (HLV2K) was retained by Hillsburgh Heights Inc. (hereinafter referred to as the Client) to conduct a Phase II Environmental Site Assessment (ESA) report for the property located at 5916 Trafalgar Road North, Town of Erin, Ontario (hereinafter referred to as the site and Phase II Property).

The purpose of the Phase II ESA (Site) was to determine the condition of soil and groundwater on the property for due diligence purposes. The Phase II ESA was completed in accordance with the Scope of Work detailed in HLV2K's Proposal Number 2100428DE dated October 3, 2021. The drilling was undertaken on September 1, 2021.

HLV2K and the clients are aware that the Phase II ESA was carried out in accordance with the Canadian Standards Association (CSA) Z769-00 (Reaffirmed 2012). The report also relied upon Ontario Regulation 153/04, as amended (O. Reg. 153/04), for Brownfield Sites as a guideline, however, it was understood that the report would not be completely in accordance with O. Reg. 153/04 and will not be submitted for Record of Site Condition (RSC) with the Ministry of Environment, Conservation, and Parks (MECP) since the land use is agricultural and the future land use is residential.

The Client may use the findings in this report for these purposes subject to the *Statement of Limitations*, which forms an integral part of this document. No other third parties are entitled to rely upon this report without the express written consent of HLV2K Engineering Limited. Any use, which a third party makes of this report, is the sole responsibility of the said third party; HLV2K Engineering Limited accepts no responsibility for any damages.

3 SITE DESCRIPTION

The Phase II Property is situated in a mixed rural, residential, and agricultural area. It is on the southwest side of Trafalgar Road, between Sideroad 27 and Upper Canada Drive. The Phase II Property is surrounded by residential housing, agricultural fields, and forested areas. The Phase II Property is irregular in shape and is occupied by a house, three barns, and agricultural fields. The property is used for farming. The site is located at approximately 460 m to 470 m above sea level (ASL) and is generally flat land covering an area of approximately 116.36 acres (47.09 ha). The site location is illustrated in **Drawing 1**.

3.1 Phase II Property Ownership

The Phase II property is currently owned by Briarwood Homes.

3.2 Current and Proposed Future Uses

At the time of the Phase I ESA site reconnaissance, the Phase II Property was operating as a farm. HLV2K inspected the property on three (3) occasions in August 2021 for a site visit and September 2021 for the private locates followed by drilling of the monitoring wells and for the elevation survey. The land use is to become a residential subdivision.

3.3 Applicable Site Condition Standards

The applicable site condition standard for the property is the Ministry of Environment Conservation Parks (MECP) Table 2 RPI standards for coarse sand and potable groundwater. The details of the site are presented in **Table A.**

Table A – Phase II Property Details

Parameters	Information
Land Use	Historically the Phase II Property was used for farming since the 1800s. The current house and barn were built in the 1870s.
Site Location relative to Municipal Potable Water Wells	There is a potable water well on the property and many on the surrounding properties.
Potable or Non-potable Groundwater	Potable groundwater.
Regulation/Guideline used for Phase II ESA	Phase II Environmental Site Assessment (ESA) to the CSA Standard for Due Diligence Report and O. Reg 153/04 as amended.
Proximity to Surface Water	The nearest surface water body is a tributary of Credit River (Erin Branch) that runs 100 m south of the property and discharges into a pond approximately 400 m southeast of the property.
Areas of Natural Significance or Sensitive Area	The site is not located in an area of Natural Significance or Sensitive Area.
Depth to Bedrock	The bedrock surface was estimated at depths of greater than 15 m below ground surface (bgs).

Parameters	Information
Groundwater Flow Direction	The groundwater flow direction was inferred to be towards the south. It could not be calculated as the monitoring wells were dry.
Bedrock Details	The bedrock is of the Guelph Formation and the Armabel Formation consisting of sandstone, shale, dolostone and siltstone.

Given that the purpose of this Phase II ESA is to determine the baseline soil and groundwater conditions in support of the potential purchase of the property, the applicable criteria to be used in this Chemical Analysis Program is the Ontario Regulation 153/04 “Table 2 Standards in a Potable Ground Water Condition for Residential Parkland Institutional (RPI) use site conditions standards, (Table 2 Standards) as per the MECP document titled “Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act: dated April 15, 2011, as amended.

4 BACKGROUND INFORMATION

4.1 Physical Settlings

A summary of the physical settings of the Phase II Property is provided in **Table C**, below.

Table B – Physical Setting Summary

Parameters	Information
Location	Town of Erin, Ontario
Surficial Geology	Fine-textured glaciolacustrine deposits, consisting of sand and gravel with minor till.
Soil	Glaciofluvial ice-contact deposits with gravel, sand, and minor till.
Physiography	Kame Moraine. Fine Textured glaciolacustrine deposits silt, sand, and gravel with minor till.
Depth to Bedrock	Based upon information available from the Ontario Division of Mines, the depth to bedrock can be assumed to be approximately 15 m to 25 m below ground surface (bgs) based upon the number of geotechnical boreholes drilled in the area.
Topography	The site and surrounding areas are typically flat with a gentle slope towards the west. The geodetic elevation of the site is approximately 460 m to 470 m above sea level (asl).
Radon Gas	The site is in an area that emits high levels (Zone 1) of radon gas noted in the Radon Potential Map of Ontario.
Hydrology	A tributary of the Credit River (Erin Branch) is located approximately 100 m to the south of the site.
Hydrogeology	Groundwater was not detected as the monitoring wells were dry. The groundwater is inferred to be moving towards the south due to the proximity to the tributary of the Credit River (Erin Branch) and the topography of the land.

4.2 Past Investigation

No previous reports were available for HLV2K to review.

4.3 New Investigation by HLV2K

- Although HLV2K was not given permission to inspect the internal areas of the house or barns by the current owner a physical inspection was undertaken on the outside of these areas.
- The areas around each barn and through the agricultural areas were inspected.
- No staining was noticed anywhere the property.
- The monitoring well locations were chosen from historical aerial photographs shown on Google Earth and digital maps from Wellington County and physical inspection undertaken during the placement of the boreholes.

Upon further investigation by HLV2K, a Phase II ESA was conducted to address the potential impact on the soil and groundwater due to the agricultural operations of the property and the monitoring wells were installed

based on the site inspection carried out during the clearance of the boreholes and via historical aerial photographs obtained by HLV2K for the Phase II Property. Hand samples were done as close as possible near the location of fill of unknown quality.

HLV2K chose to analyze the soil and groundwater for Petroleum Hydrocarbons (F1 to F4) fractions (PHCs), Volatile Organic Compounds (VOCs), OCPs, PAH, Metals and Inorganics, pH, SAR, EC and PCBs in soil and groundwater. The monitoring wells were chosen to intercept the groundwater table and they were placed downgradient to the inferred groundwater flow direction wherever possible. This selection of analysis was made to cover the areas for all potential chemicals that may have or continues to be used on-site, such as pesticides and fill of unknown quality.

5 SCOPE OF INVESTIGATION

5.1 Overview of the Phase II Investigation

The Phase II ESA field activities were conducted from September 1 through to October 7, 2021, to investigate the environmental conditions of the soil and groundwater at the site. The tasks carried out during the investigation are summarized below:

- Private and public locates completed on the first day of the fieldwork;
- Geodetic elevations for borehole locations or to a local benchmark;
- Advancement of a total of five (5) boreholes to a maximum depth of 6.2 to 9.8 m bgs;
- All five (5) boreholes were completed to monitoring wells designed to intercept the water table;
- Samples were retrieved at intervals of 0.75 m from the split spoon rig; and
- Chemical analyses on the representative soil samples.

The Phase II ESA site investigation included a design for sampling locations, parameters and frequency as summarised in **Table C** below.

Table C – Phase II ESA Sampling Design

Potentially Contaminating Activity	Boreholes	Sampling Frequency	Parameters	Rational
Farming Operations	MW1	1-GW	PHC F2 to F4	The monitoring well was placed where agricultural operations take place.
		1-GW	VOC F1	
		1-GW	PAH	
		1-GW	M & I	
		1-GW	OCP	
		1-S	PHC F2 to F4	
		1-S	VOC F1	
		1-S	PAH	
		1-S	M & I	
		1-S	OCP	
Farming Operations	MW2	1-GW	PHC F2 to F4	The monitoring well was placed where agricultural operations take place.
		1-GW	VOC F1	
		1-GW	PAH	
		1-GW	M & I	
		1-GW	OCP	
		1-S	PHC F2 to F4	
		1-S	VOC F1	
		1-S	PAH	
		1-S	M & I	
		1-S	OCP	
Farming Operations	MW3	1-GW	PHC F2 to F4	The monitoring well was placed where agricultural operations take place.
		1-GW	VOC F1	
		1-GW	PAH	
		1-GW	M & I	
		1-GW	OCP	
		1-S	PHC F2 to F4	
		1-S	VOC F1	
		1-S	PAH	
		1-S	M & I	
		1-S	OCP	
		1-GW	PHC F2 to F4	

Potentially Contaminating Activity	Boreholes	Sampling Frequency	Parameters	Rational
Farming Operations	MW4	1-GW	VOC F1	The monitoring well was placed where agricultural operations take place.
		1-GW	PAH	
		1-GW	M & I	
		1-GW	OCP	
		1-S	PHC F2 to F4	
		1-S	VOC F1	
		1-S	PAH	
		1-S	M & I	
		1-S	OCP	
Fill Material	MW5	1-GW	PHC F2 to F4	The monitoring well was placed where areas of fill were observed.
		1-GW	VOC F1	
		1-GW	PAH	
		1-GW	M & I	
		1-GW	PCB	
		1-S	PHC F2 to F4	
		1-S	VOC F1	
		1-S	PAH	
		1-S	M & I	
		1-S	PCB	
Fill Material	Hand Sample 1	1-S	PHC F2 to F4	The monitoring well was placed where areas of fill were observed.
		1-S	VOC F1	
		1-S	PAH	
		1-S	M & I	
		1-S	PCB	
Fill Material	Hand Sample 2	1-S	PHC F2 to F4	The monitoring well was placed where areas of fill were observed.
		1-S	VOC F1	
		1-S	PAH	
		1-S	M & I	
		1-S	PCB	

S - Soil media
GW - Groundwater media
PHC - Petroleum Hydrocarbons F1 to F4 Fractions
PAH - Polycyclic Aromatic Hydrocarbons
M&I - Metals and Inorganics includes (EC, SAR and pH)
PCB - Poly Chlorinated Biphenyls
VOC - Volatile Organic Compounds

Monitoring wells were installed at an approximate depth of 6.2 m to 9.8 m bgs in an attempt to intercept the shallow water table and meet the requirements of O. Reg. 903 requiring a minimum bentonite seal of 1.5 m bgs. The monitoring wells were dry at the time of groundwater sampling one (1) month after drilling. Therefore, groundwater sampling was not conducted. The locations of the monitoring wells are shown in **Drawing 2**.

5.2 Media Investigated

Soil quality was investigated during the current Phase II ESA work. The investigation of groundwater was not feasible as the monitoring wells were dry. The investigation of sediment was not applicable due to the absence of surface water bodies on the site.

5.3 Phase One Conceptual Site Model

A Phase One ESA has not been conducted for the site and as such, a Phase One Conceptual Site Model was

not generated for a CSA Phase II ESA Property. The Phase One ESA refers to O. Reg 153/04 as amended for which the CSA standard report is not compatible.

5.4 Site Investigation Methodology

HLV2K developed Standard Operating Procedures (SOPs) and field forms that follow O. Reg. 153/04 (as amended) to complete the Phase II ESA. The following is a list of SOPs and forms that were used.

- HLV2Ks Health and Safety manual;
- Soil Sampling for VOCs in Methanol Vials;
- Soil Vapour Head Space Measurement;
- Logging Forms;
- Groundwater Purging and Sampling Procedures; and,
- Sample Packing and Transportation.

HLV2K did not deviate from the SOPs and forms outlined above.

The Phase II ESA included obtaining public (Ontario Dial One Call) and private utility locates (Utility Marx), retaining a certified contractor (Terra Firma) for the drilling of the boreholes and installation of the monitoring wells, supervision and documentation of field activities, soil characterization and soil collection for analysis.

5.4.1 Borehole Drilling

Prior to subsurface activities on the site, HLV2K contacted the Ontario One Call for the public locates. A private utility contractor was retained to verify all borehole positions were remote from buried utilities.

All five (5) boreholes were spaced across the Phase II Property in the northwestern farm field, southeast farm field, and the northeastern area to intersect any potential contaminants on, in or under the Phase II Property.

Five (5) boreholes were drilled on the property to depths of 6.2 m, 6.3 m, 6.5 m, 6.7 m, and 9.8 m bgs with a track-mounted rig. The work was undertaken on September 7, 2021.

5.4.2 Soil Sampling

Soil samples were collected and handled in accordance with generally accepted sampling procedures used by the environmental consulting industry. For guidance, these practices followed the O. Reg. 153/04 as amended.

Soil samples for the Phase II ESA were collected from the 0.75 m split spoon sampler. Quality control measures were used to minimize cross-contamination, such as cleaning of the sample core push device, cleaning of the augers after each use, and using disposal items/equipment for each discrete sample. New disposal gloves were used during each sampling event to remove soil from the sampling device and transfer the soil samples into the appropriate sample containers.

The soil samples were examined in the field for lithology as well as physical evidence of impacts (i.e., debris, staining, colour, and odours). The samples were kept out of direct sunlight during the field storage and cooled with ice, in accordance with the MECP sampling protocols.

No sediment sampling was performed as there were no surface water bodies onsite.

5.4.3 Field Screening Measurements

Soil samples collected were screened for vapours using the RKI-Eagle 2 gas portable vapour monitor, which includes a Photo-Ionization Detector (PID) and was calibrated by Pine Environmental Services prior to use. The RKI Eagle 2 includes a PID sensor for detecting high and low parts per million (ppm) levels (0-50 and 0-2,000) of VOC gases with a maximum accuracy variance of +/- 5 %. The VOC measurements were taken by collecting soil samples into dedicated sampling bags and allowing the sample to reach room temperature. The sampling probe of the RKI Eagle 2 was then placed into the bag while best maintaining a seal. The measurements taken represent the highest value found within the first 30 seconds of field screening. Measurements were then documented into HLV2K field notes.

The soil was characterized based on a qualitative field study to determine colour, odour discolouration, and texture.

5.4.4 Ground Water Monitoring Well Installation

All five (5) boreholes were converted to monitoring wells by Terra Firma Drilling, namely MW1, MW2, MW3, MW4 and MW5. The monitoring wells included the following materials:

- 50 mm diameters Schedule 40 Poly Vinyl Chloride (PVC) risers;
- 50 mm diameter Schedule 40 No. 10-slot PVC Screen with a maximum screen length 3.0 m;
- Sand pack to approximately 0.3 m above the top of the screen;
- Bentonite seal above the sand pack; and,
- Flush mount well casings.

The PVC pipes and screens were wrapped in plastic that was removed just prior to installation to minimize the potential for cross-contamination. The base of the monitoring well was covered with a PVC cap to prevent the influx of sediment from entering from the end of the pipe. Clean silica sand supplied in bags, was placed in the annular space between the pipe wall and the borehole to filter out sediment from entering the well during well development. A bentonite seal was added above the sand pack and was extended to the surface to prevent surface intrusion into the well. The well was capped below the surface and fitted with a flush mount casing.

No groundwater sampling was collected during the drilling process.

5.4.5 Groundwater Monitoring Well Development and Sampling

Prior to well development, a Heron H. Oil/Water Interface Meter (Interface Meter) was used to measure the

depth to the groundwater table and check for any free phase liquids at the groundwater table surface and the bottom of the well.

The groundwater monitoring wells were not developed due to the monitoring wells being dry.

5.4.6 Residue Management Procedures

Most soil samples produced by the drilling process were collected by HLV2K for characterization and submission for analytical purposes. Excess cuttings waste generated from the field activities were placed in drums. The soil will be disposed of at later date.

5.4.7 Elevation Survey

An elevation survey was performed by HLV2K using a Total Station measuring device which produced the coordinates and elevations. The elevations for the monitoring wells were surveyed using the Total Station and a local benchmark. **Appendix A**.

5.4.8 Chemical Analysis

The Client agreed upon the following scope of chemical laboratory analysis of the soil samples collected during the Phase II ESA investigation:

- Metals and inorganics (M&I);
- Polycyclic Aromatic Hydrocarbons (PAHs);
- Petroleum Hydrocarbon fractions Fl to F4 (PHCs);
- Organochlorine Pesticides (OCPs)
- Polychlorinated Biphenyls (PCBs); and,
- Volatile Organic Compounds (VOCs).

Soil samples were submitted to ALS Laboratories (ALS), an analytical laboratory accredited by the Canadian Association for Laboratory Accreditation (CALA) and the International Standard ISO/IEC 17025 certified. The analysis was performed in compliance with the MECP Laboratory Services Branch, "Protocol for Analytical Methods Used in the Assessment of Properties under Past XV.1 of the Environmental Protection Act", as amended.

Samples submitted to the laboratory represent the 'worst-case" sample based on field screening measurements, visual and olfactory observations.

All samples submitted for PHC fractions F2 to F4, PAHs, OCPs, and PCBs were stored in glass jars with Teflon-lined lids provided by ALS. VOC samples were collected in vials including the PHC F1 fraction for soil. Samples submitted for metals and inorganics (M&I) were stored in 250 ml glass jars. All samples requiring laboratory chemical analysis were placed in an ice-filled cooler and transported to the laboratory. The samples were collected and submitted for regular turn-a-round time (TAT) as requested by the client.

5.4.9 Quality Assurance and Quality Control Measures

Soil samples were collected using dedicated 250 ml jars, syringes and methanol vials provided by ALS. Soil samples that required VOC analysis involved placing approximately 5 g of soil into dedicated methanol-filled vials. This method was used to ensure no loss of VOC during transportation.

Soil samples were collected using dedicated nitrile gloves that were disposed of after each sample, to mitigate cross-contamination. Sampling equipment for soil was cleaned with Alconox Powdered Precision Cleaner, as it has biodegradable, interfering-residue free and corrosion inhibited properties. The Alconox was not used for the cleaning of the groundwater sampling devices, because it can interfere with the performance of the interface probe and there was no visible oil sheen noted during the development phase of the work. The QP made the call in the field to use distilled water and cotton cloths to wash and dry the equipment before re-use on the next monitoring well.

The following packaging and transportation procedures were followed:

- Review of proposal and amendments (written and verbal) to verify the parameters for analysis;
- Packing properly labelled samples with ice to maintain temperatures below l0°C for the duration of the trip from the site to the laboratory; and,
- A copy of the Chain-of-Custody was archived by HLV2K.

Duplicate samples for soil were submitted for quality assurance and quality control (QA/QC) and meet the requirements of O.Reg. 153/04, as amended. One (1) duplicate sample was collected every ten (10) sample parameters.

5.5 Impediments

The monitoring wells were dry at the time of well development one (1) month after drilling. Therefore, groundwater sampling was not conducted.

5.6 Deviations from Sampling and Analysis Plan

No deviations were encountered.

6 SUBSURFACE CONDITIONS

6.1 Soil Conditions

6.1.1 Generalized Stratigraphy

Detailed descriptions of the subsurface conditions at the investigated locations are presented in the borehole logs in Appendix A. The following is a summary of the general stratigraphy revealed by the boreholes at the site:

- The topsoil layer extended from 0 to 0.3 m bgs;
- Beneath the topsoil, native soil was encountered and found to be comprised of greyish/brown silty sand, sand with traces of gravel and clay.

The soil was free of odours, debris, and staining in all of the boreholes drilled on-site.

6.1.2 Soil Texture

Under Ontario Regulation 153/04 (as amended), "coarse-textured soil" is soil that contains more than 50 percent by mass of particles that are 75 micrometres (µm) or larger in mean diameter. According to O. Reg. 153/04 (as amended), if one-third (1/3) of the soils at the Phase II Property are coarse-grained, then the more stringent coarse-textured soil standards apply to the site; otherwise, the fine-medium grained soil standards are applicable. The soil at this property was considered mostly fine to medium coarse-grained sand and as such as be classified as fined grained soils, which requires a grain size analysis as proof. A grain size analysis was conducted, and the soil was considered to be coarse-grained soil.

6.2 Groundwater Conditions

Groundwater conditions were not recorded as the monitoring wells were dry at the time.

7 CHEMICAL ANALYSIS

7.1 Sample Screening

7.1.1 Soil Screening

Field screening of the soil involved the use of a portable RKI Eagle 2 monitor, in methane elimination mode, to measure the VOCs in parts per million (ppm) calibrated to Hexane and Isobutylene. The RKI Eagle 2 monitor measurements were performed in conjunction with visual and olfactory observations. This combination of field screening tools was used to determine the "worst-case" sample of the site.

7.1.2 Sample Selection

The selection of soil samples for laboratory analysis was based on the Phase II ESA Preliminary Design (**Table C**), where necessary using the "worst-case" samples as defined by the visual, olfactory, and combustible

vapour screening measurements. In addition, samples were selected to provide representative site coverage. A summary of the soil headspace measurements is presented in **Table D**.

Table D – Head Vapour Analysis on Soil Samples

Location and Date	Sample No.	Sample Depth (m)	Geologic Layer	Aesthetic Evidence of Potential Impact	Headspace Measurements	
					HEX (% LEL)	IBL (ppm)
BH1 September 7, 2021	1	0.0 – 0.2	Topsoil	None Detected	0	0
	1	0.2 – 0.8	Sandy silt	None Detected	0	0
	2	0.8 – 1.5	Sandy silt	None Detected	0	0
	3	1.5 – 2.3	Sandy silt	None Detected	0	0
	4	2.3 – 3.1	Sandy silt	None Detected	0	0
	5	3.1 – 3.9	Sand and gravel	None Detected	0	0
	6	4.6 – 5.4	Sand and gravel	None Detected	0	0
	7	6.2 – 7.0	Sand and gravel	None Detected	0	0
	8	7.8 – 8.3	Sand and gravel	None Detected	0	0
	9	9.0 – 9.8	Sand and gravel	None Detected	0	0
BH2 September 7, 2021	1	0.0 – 0.3	Topsoil	None Detected	0	5
	1	0.3 – 0.8	Silty sand to sandy silt till	None Detected	0	5
	2	0.8 – 1.5	Silty sand to sandy silt till	None Detected	0	0
	3	1.5 – 2.3	Sandy silt till	None Detected	0	6
	4	2.3 – 3.1	Sandy silt till	None Detected	0	4
	5	3.1 – 3.9	Sandy silt till	None Detected	0	2
	6	4.6 – 5.4	Sandy silt till	None Detected	0	10
	7	6.2 – 6.25	Sandy silt till	None Detected	0	0
BH3 September 7, 2021	1	0.0 – 0.3	Topsoil	None Detected	0	0
	1	0.3 – 0.8	Silty sand	None Detected	0	4
	2	0.8 – 1.5	Silty sand			
	3	1.5 – 2.3	Sand and gravel	None Detected	0	1
	4	2.3 – 3.1	Sand and gravel	None Detected	0	1
	5	3.1 – 3.9	Sand and gravel	None Detected	0	0
	6	4.6 – 5.4	Sand and gravel	None Detected	0	3
	7	6.2 – 6.3	Sand and gravel	None Detected	0	0
BH4 September 7, 2021	1	0.0 – 0.25	Topsoil	None Detected	0	2
	1	0.25 – 0.8	Sand and gravel			
	2	0.8 – 1.5	Silty clay	None Detected	0	0
	3	1.5 – 2.3	Sand and gravel	None Detected	0	0
	4	2.3 – 3.1	Sand and gravel	None Detected	0	0
	5	3.1 – 3.9	Sand and gravel	None Detected	0	0
	6	4.6 – 5.4	Sand and gravel	None Detected	0	0
	7	6.2 – 6.7	Sand and gravel	None Detected	0	2
BH5 September 7, 2021	1	0.0 – 0.25	Topsoil	None Detected	0	0
	1	0.25 – 0.8	Silty sand	None Detected	0	0
	2	0.8 – 1.5	Silty sand			
	3	1.5 – 2.3	Silty sand	None Detected	0	0
	4	2.3 – 3.1	Sand	None Detected	0	1

Location and Date	Sample No.	Sample Depth (m)	Geologic Layer	Aesthetic Evidence of Potential Impact	Headspace Measurements	
					HEX (% LEL)	IBL (ppm)
	5	3.1 – 3.9	Sand	None Detected	0	1
	6	4.6 – 5.4	Sand	None Detected	0	0
	7	6.2 – 6.5	Sand	None Detected	0	5

In the absence of any significant screening measurements (visual, olfactory and headspace vapour measurements), the following rationale was applied to sample selection for laboratory chemical analysis:

- Metals were sampled at the surface and in the areas where fill material was encountered.
- PAHs are not very mobile in the natural environment but can be present in soil due to man-made chemicals such as creosote and asphalt tars or can be formed naturally by the breakdown of plant and animal matter. Therefore, PAH analysis was conducted on samples obtained from shallow depths.
- PCBs are not very mobile or soluble and would tend to accumulate at or near to the ground surface.
- VOCs and PHCs F1 to F4 fractions were sampled in the water table.

7.2 Soil Quality

A total of forty (40) soil sample parameters were submitted for chemical analysis of soil including one duplicate sample. The analysis indicates that soil concentration measured met the requirements of the MECP Table 2 Standards RPI for coarse-grained soils in a potable groundwater condition. A summary of the results is provided in **Table E** and the Laboratory Certificates of Analysis are presented in **Appendix B**.

Table E – Summary of Soil Chemical Analysis Results

Sample Location	Parameters Analyzed	Parameters With Exceedances Table 1 Standards RPI
MW1	PHC, VOC, PAH, M&I, OCP	No Exceedances
MW2	PHC, VOC, PAH, M&I, OCP	No Exceedances
MW3	PHC, VOC, PAH, M&I, OCP	No Exceedances
MW4	PHC, VOC, PAH, M&I, OCP	No Exceedances
MW5	PHC, VOC, PAH, M&I, PCB	No Exceedances
DUP1	PHC, VOC, PAH, M&I, OCP	No Exceedances
HS1	PHC, VOC, PAH, M&I, PCB	No Exceedances
HS2	PHC, VOC, PAH, M&I, PCB	**PHC F4 Exceedance**

PHC – Petroleum Hydrocarbons F1 to F4 Fractions
M&I – Metals and Inorganics
VOC – Volatile Organic Compounds
PAH – Polycyclic Aromatic Hydrocarbons
PCB – Polychlorinated biphenyl
Dup – Duplicate Soil Samples for QA/QC

There were exceedances found in hand sample 2 for PHCs F4 fraction.

7.3 Groundwater Quality

Groundwater was not analyzed as the monitoring wells were dry.

8 QUALITY ASSURANCE AND QUALITY CONTROL RESULTS

The Phase II ESA was performed under the supervision and direction of a Qualified Person.

HLV2K collected soil samples in conformance with HLV2K's SOPs, which were developed in accordance with Ontario Regulation 153/04 (as amended).

HLV2K's personnel used appropriate measures (such as disposable gloves, dedicated sampling equipment, laboratory supplied containers, proper cleaning procedures, labelling and Chain of Custody documents) to ensure data quality.

As part of the Quality Assurance and Quality Control Program, duplicate samples for soil and groundwater (including the trip blank for groundwater) were submitted for Quality Assurance and Quality Control (QA/QC) and meet the requirements set for in O. Reg. 153/04 as amended. One (1) duplicate sample was collected for every ten (10) sample parameters and a trip blank was carried to the site during the groundwater sampling of the monitoring wells.

Samples were transported in ice-filled coolers to ensure temperatures were maintained below 10°C, along with a Chain of Custody to ALS. ALS performed the chemical analysis in compliance with the MECP "Laboratory Services Branch, Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act", as amended. No discrepancies were noted as samples were properly handled with regards to the following:

- Holding time;
- Preservation method;
- Storage requirement; and,
- Container type.

The Laboratory Certificates of Analysis are presented in **Appendix B.**

A review of the data collected suggests that there was good agreement between the samples collected and their duplicates in all cases.

The Qualified Person concluded that the data met the data quality objective, and the decision-making was not affected. The Qualified Person has concluded that the overall objectives of the investigation and assessment were met.

9 CONCLUSIONS

On the basis that the Phase II Property is intended to be redeveloped into a residential subdivision, the applicable criteria to use for this Phase II ESA investigation was determined to be the MECP Table 2 Standard RPI for coarse-grained soil in a potable groundwater condition.

The site was found to meet the MECP Table 2 Standard RPI in potable groundwater conditions for coarse-grained soils except for PHCs F4 fraction in hand sample 2 near the barn close to the northeast property boundary.

The groundwater flow direction was towards the south based upon the proximity to a creek and a pond. The monitoring wells were dry at the time of well development and groundwater flow direction could not be calculated.

Based upon the results of the parameters tested across the five (5) monitoring wells and two (2) hand sampling locations during the Phase II ESA investigation, the soil samples collected met the applicable MECP Table 2 RPI Standards, including the duplicates with the exception of Hand Sample 2 for PHC F4 fraction. These findings suggest that the surrounding properties and Phase II Property activities have not adversely impacted the site at the locations sampled except for the soil near the barn. It is recommended that the area where PHC F4 exceedance was encountered be excavated and confirmatory samples analyzed to ensure no contamination is present.

10 RECOMMENDATIONS

Further investigative work may be required to address the exceedance for PHCs F4 fraction in hand sample 2 to determine the source of the impact. Soil Excavation may be required to address the high level of PHCs in the soil at hand sample 2 and confirmatory samples are required to ensure no contamination is present.

We trust you will find this report complete within our terms of reference. Should you have any further questions regarding this report or require further assistance please contact HLV2K Engineering Limited.

11 LIMITATIONS

The findings of the boreholes are believed to be representative of the area of investigation and are based on the facts and information determined by HLV2K. Soil and/or groundwater conditions at locations other than the boreholes may vary from conditions encountered at the drilling locations. The findings in this report are limited to the environmental conditions on the site at the time of the investigation. This report was prepared for the account of Hillsburgh Heights Inc. The material in it reflects HLV2K's judgment in light of the information available to it at the time of preparation. Any use, which a Third Party makes of this report, or any reliance on decisions to be made based on it, is the responsibility of such Third Parties. HLV2K accepts no responsibility for damages, if any, suffered by any Third Party as a result of decisions made or actions based on this report. This report is to the *Statement of Limitations*, which forms an integral part of this document. The Statement of Limitations is not intended to reduce the level of responsibility accepted by HLV2K, but rather to ensure that all parties who have been given reliance for this report are aware of the responsibilities each assumes in so doing.

We trust you will find this report to be complete within our terms of reference. Should you have any questions regarding the information contained in the report, or require further assistance please contact the HLV2K office.

Respectfully Submitted,
HLV2K Engineering Limited

Whitney Goodwin
Junior Environmental Scientist

LICENSED PROFESSIONAL ENGINEER
26 OCT 21
G. LAMETTI
90232703
PROVINCE OF ONTARIO

John G. Lametti, P.Eng. QPESA
Principal and Environmental Manager

REFERENCES

- Barnett, P.J., Cowan, W.R. and Henry, A.P. 1991. Quaternary Geology of Ontario, southern sheet; Ontario Geological Survey, Map 2556, Scale 1:1000 000.
- Chapman, L.J., and Putnam, D.F. 1984: Physiography of Southern Ontario; Ontario Geological Survey, Map P.2715. Scale 1:600 000.
- Ontario Base Map
- Toporama-Topographic Atlas of Canada

HLV2K Engineering Limited

STATEMENT OF LIMITATIONS

Your report has been developed based on your unique project specific requirements as understood by HLV2K Engineering Limited (HLV2K) and applies only to the site investigated. Project criteria typically include the general nature of the project; its size and configuration; the location of any structures on the site; other site improvements; the presence of underground utilities; and the additional risk imposed by scope-of-service limitations imposed by the client. Your report should not be used if there are any changes to the project without first asking HLV2K to assess how factors that changed subsequent to the date of the report affect the report's recommendations. HLV2K cannot accept responsibility for problems that may occur due to changed factors if they are not consulted.

Subsurface conditions are created by natural processes and the activity of man. For example, water levels can vary with time, fill may be placed on a site and pollutants may migrate with time. Because a report is based on conditions, which existed at the time of subsurface exploration, decisions should not be based on a report whose adequacy may have been affected by time. Consult HLV2K to be advised how time may have impacted on the project.

The findings derived from this investigation were based on information collected and/or provided by the Client. It may become apparent that soil and groundwater conditions differ between and beyond the testing locations examined during future investigations or other work that could not be detected or anticipated at the time of this study. As such, HLV2K cannot be held liable for environmental conditions that were not apparent from the available information. The conclusions presented represent the best judgment of the assessors based on limited investigations.

Site assessment identifies actual subsurface conditions only at those points where samples are taken and when they are taken. Data derived from literature, external data source review, sampling, and subsequent laboratory testing are interpreted by geologists, engineers or scientists to provide an opinion about overall site conditions, their likely impact on the proposed development and recommended actions. Actual conditions may differ from those inferred to exist, because no professional, no matter how qualified, can reveal what is hidden by earth, rock and time. The actual interface between materials may be far more gradual or abrupt than assumed based on the facts obtained. Nothing can be done to change the actual site conditions, which exist, but steps can be taken to reduce the impact of unexpected conditions. For this reason, owners should retain the services of HLV2K through the development stage, to identify variances, conduct additional tests if required, and recommend solutions to problems encountered on site.

Your report is based on the assumption that he site conditions as revealed through selective point sampling are indicative of actual conditions throughout an area. This assumption cannot be substantiated until project implementation has commenced and therefore your report recommendations can only be regarded as preliminary. Only HLV2K, who prepared the report, is fully familiar with the background information needed to assess whether or not the report's recommendations are valid and whether or not changes should be considered as the project develops. If another party undertakes the implementation of the recommendations of this report there is a risk that the report will be misinterpreted and HLV2K cannot be held responsible for such misinterpretation.

To avoid misuse of the information contained in your report it is recommended that you confer with HLV2K before passing your report on to another party who may not be familiar with the background and the purpose of the report. Your report should not be applied to any project other than that originally specified at the time the report was issued.

HLV2K Engineering Limited

Costly problems can occur when other design professionals develop their plans based on misinterpretations of a report. To help avoid misinterpretations, retain HLV2K to work with other project design professionals who are affected by the report. Have HLV2K explain the report implications to design professionals affected by them and then review plans and specifications produced to see how they incorporate the report findings.

The report as a whole presents the findings of the site assessment and the report should not be copied in part or altered in any way.

Logs, figures, drawings, etc. are customarily included in our reports and are developed by scientists, engineers or geologists based on their interpretation of field logs (assembled by field personnel) and laboratory evaluation of field samples. These logs etc. should not under any circumstances be redrawn for inclusion in other documents or separated from the report in any way.

Your report is not likely to relate any findings, conclusions, or recommendations about the potential for hazardous materials existing at the site unless specifically required to do so by the client. Specialist equipment, techniques, and personnel are used to perform a geoenvironmental assessment.

Contamination can create major health, safety and environmental risks. If you have no information about the potential for your site to be contaminated or create an environmental hazard, you are advised to contact HLV2K for information relating to geoenvironmental issues.

HLV2K is familiar with a variety of techniques and approaches that can be used to help reduce risks for all parties to a project, from design to construction. It is common that not all approaches will be necessarily dealt with in your site assessment report due to concepts proposed at that time. As the project progresses through design towards construction, speak with HLV2K to develop alternative approaches to problems that may be of genuine benefit both in time and in cost.

Reporting relies on interpretation of factual information based on judgement and opinion and has a level of uncertainty attached to it, which is far less exact than the design disciplines. This has often resulted in claims being lodged against consultants, which are unfounded. To help prevent this problem, a number of clauses have been developed for use in contracts, reports and other documents. Responsibility clauses do not transfer appropriate liabilities from HLV2K to other parties but are included to identify where HLV2K's responsibilities begin and end. Their use is intended to help all parties involved to recognise their individual responsibilities. Read all documents from HLV2K closely and do not hesitate to ask any questions you may have.

Third party information reviewed and used to formulate this report is assumed to be complete and correct. HLV2K used this information in good faith and will not accept any responsibility for deficiencies, misinterpretation or incompleteness of the information contained in documents prepared by third parties.

Nothing in this report is intended to constitute or provide a legal opinion.

Should additional information become available, HLV2K requests that this information be brought to our attention so that we may re-assess the conclusions presented herein.

DRAWINGS

Legend

Phase II Property

Drawn: WG	Title: Phase II Property Location
Approved: JL	Project: PHASE II ENVIRONMENTAL SITE ASSESSMENT 5916 Trafalgar Road North, Town of Erin
Date: OCT 2021	
Project No.: 2100428DE	
	Client: Hillsburgh Heights Inc.
HLV2K ENGINEERING LIMITED	0 87.5 175 350 Meters
	Drawing 1

Legend

- Phase II Property
- Monitoring Wells
- Hand Sample Locations

Drawn: WG	Title: Phase II Monitoring Well and Sample Locations
Approved: JL	Project: PHASE II ENVIRONMENTAL SITE ASSESSMENT 5916 Trafalgar Road North, Town of Erin
Date: OCT 2021	
Project No.: 2100428DE	
	Client: Hillsburgh Heights Inc.
HLV2K ENGINEERING LIMITED	0 50 100 200 Meters
	Drawing 2

Legend

- Phase II Property
- Monitoring Wells
- Hand Sample Locations
- Inferred Groundwater Flow Direction

Drawn: WG	Title: Phase II Groundwater Flow Direction
Approved: JL	Project: PHASE II ENVIRONMENTAL SITE ASSESSMENT 5916 Trafalgar Road North, Town of Erin
Date: OCT 2021	
Project No.: 2100428DE	
	Client: Hillsburgh Heights Inc.
HLV2K ENGINEERING LIMITED	0 50 100 200 Meters
	Drawing 3

APPENDIX A
Borehole Logs

HLV2K ENGINEERING LIMITED

LOG OF BOREHOLE BH1

PROJECT: Briarwood Hillsburgh Development

CLIENT: Briarwood Homes

PROJECT LOCATION: 5916 Trafalgar Road North, Town of Erin, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan N 4849474.973 E 568214.5891

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 150mm

Date: Sep-07-2021

REF. NO.: 2100428AH

DRAWING NO.: 2

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
473.5					
0.0 / 473.3	**Topsoil:** 200mm				
0.2	**Sandy Silt:** trace gravel/cobblees, trace clay, trace rootlets, oxidized, greyish brown, moist, loose to compact	1	SS	4	473
		2	SS	12	
		3	SS	23	Bentonite
		4	SS	23	471
3.1 / 470.4	**Sand and gravel:** trace silt, trace clay, brown, moist, loose to very dense	5	SS	39	470
		6	SS	50/150	469
		7	SS	67	468
					Sand 467

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)

SHEAR STRENGTH (kPa) (20 40 60 80 100)
- ○ UNCONFINED
- ● QUICK TRIAXIAL
- + FIELD VANE & Sensitivity
- × LAB VANE

PLASTIC LIMIT w_P — NATURAL MOISTURE CONTENT w — LIQUID LIMIT w_L

WATER CONTENT (%) (10 20 30)

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR SA SI CL

Continued Next Page

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES

+3, ×3: Numbers refer to Sensitivity

○ ε=3% Strain at Failure

LOG OF BOREHOLE BH1

PROJECT: Briarwood Hillsburgh Development

CLIENT: Briarwood Homes

PROJECT LOCATION: 5916 Trafalgar Road North, Town of Erin, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan N 4849474.973 E 568214.5891

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 150mm

Date: Sep-07-2021

REF. NO.: 2100428AH

DRAWING NO.: 2

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLES "N" BLOWS 0.3 m	GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100) / SHEAR STRENGTH (kPa) ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE (20 40 60 80 100)	PLASTIC LIMIT w_P / NATURAL MOISTURE CONTENT w / LIQUID LIMIT w_L / WATER CONTENT (%) (10 20 30)	POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m³)	REMARKS AND GRAIN SIZE DISTRIBUTION (%) GR SA SI CL
8	**Sand and gravel:** trace silt, trace clay, brown, moist, loose to very dense(Continued)		8	SS	13	Screen	465	○	○			
9			9	SS	6		464		○			
463.7												
9.8	**End of Borehole:** borehole terminated at 9.8m 1) 50 mm diameter monitoring well installed upon completion. Upon completion: open & dry											

GROUNDWATER ELEVATIONS

Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ○ $^{\varepsilon}$=3% Strain at Failure

HLV2K ENGINEERING LIMITED

LOG OF BOREHOLE BH2

PROJECT: Briarwood Hillsburgh Development

CLIENT: Briarwood Homes

PROJECT LOCATION: 5916 Trafalgar Road North, Town of Erin, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan N 4849079.566 E 567864.1193

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 150mm

Date: Sep-07-2021

REF. NO.: 2100428AH

DRAWING NO.: 3

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
469.4					
0.0 / 469.1	**Topsoil:** 300mm	1	SS	6	469
0.3	**Silty sand to sandy silt till:** trace clay, trace gravel/cobble, trace rootlets, brown, moist, loose to compact	2	SS	23	Bentonite
467.9					468
1.5	**Sandy silt till:** trace gravel, brown, moist, dense to very dense	3	SS	52	
		4	SS	44	467
		5	SS	39	466
					Sand
					465
					Screen
		6	SS	50/125mm	
					464
463.2		7	SS	50/75mm	
6.2	**End of Borehole:** borehole terminated at 6.2m 1) 50 mm diameter monitoring well installed upon completion. Upon completion: open & dry				

DYNAMIC CONE PENETRATION RESISTANCE PLOT: 20 40 60 80 100

SHEAR STRENGTH (kPa): ○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE; 20 40 60 80 100

PLASTIC LIMIT w_P — NATURAL MOISTURE CONTENT w — LIQUID LIMIT w_L

WATER CONTENT (%): 10 20 30

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%) — GR SA SI CL

GROUNDWATER ELEVATIONS

Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES: $+^3$, $\times^3$: Numbers refer to Sensitivity; ○ ε_f=3% Strain at Failure

HLV2K ENGINEERING LIMITED

LOG OF BOREHOLE BH3

PROJECT: Briarwood Hillsburgh Development

CLIENT: Briarwood Homes

PROJECT LOCATION: 5916 Trafalgar Road North, Town of Erin, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan N 4849170.944 E 568075.1217

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 150mm

Date: Sep-07-2021

REF. NO.: 2100428AH

DRAWING NO.: 4

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	ELEVATION
471.0					
0.0 / 470.7	**Topsoil:** 300mm	1	SS	8	
0.3	**Silty sand:** trace gravel, trace rootlets, greyish brown, moist, loose	2	SS	9	470
1 / 469.5					
1.5	**Sand and gravel:** trace silt, some cobbles, brown, moist, dense to very dense	3	SS	36	
2		4	SS	37	469
3		5	SS	39	468
4		6	SS	50/130mm	467
5					466
6		7	SS	50/75mm	465
464.7					
6.3	**End of Borehole:** borehole terminated at 6.3m 1) 50 mm diameter monitoring well installed upon completion. Upon completion: open & dry				

Bentonite

Sand

Screen

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)

SHEAR STRENGTH (kPa) (20 40 60 80 100)
○ UNCONFINED + FIELD VANE & Sensitivity
● QUICK TRIAXIAL × LAB VANE

PLASTIC LIMIT w_P — NATURAL MOISTURE CONTENT w — LIQUID LIMIT w_L

WATER CONTENT (%) (10 20 30)

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR SA SI CL

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES

$+^3$, $\times^3$: Numbers refer to Sensitivity

○ $^{\varepsilon_f}$=3% Strain at Failure

HLV2K ENGINEERING LIMITED

LOG OF BOREHOLE BH4

PROJECT: Briarwood Hillsburgh Development

CLIENT: Briarwood Homes

PROJECT LOCATION: 5916 Trafalgar Road North, Town of Erin, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan N 4848881.638 E 568028.4108

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 150mm

Date: Sep-07-2021

REF. NO.: 2100428AH

DRAWING NO.: 5

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS 0.3 m "N"	GROUND WATER CONDITIONS	ELEVATION
458.5						
0.0 / 458.2	**Topsoil:** 250mm					
0.3	**Sand and gravel:** trace silt, trace clay, trace rootlets, some cobbles, brown, moist, loose to compact	1	SS	4		458
		2	SS	17		Bentonite
457.0						457
1.5	**Silty clay:** trace sand, trace gravel, brown, moist, hard	3	SS	50/75mm		
456.2						
2.3	**Sand and gravel:** trace silt, trace clay, some cobbles, brown, moist, compact to very dense	4	SS	50/130mm		456
		5	SS	18		455
		6	SS	30		Sand 454
						Screen
						453
		7	SS	50/100mm		452
451.8						
6.7	**End of Borehole:** borehole terminated at 6.7m 1) 50 mm diameter monitoring well installed upon completion. Upon completion: open & dry					

DYNAMIC CONE PENETRATION RESISTANCE PLOT (20 40 60 80 100)

SHEAR STRENGTH (kPa) (20 40 60 80 100)
- ○ UNCONFINED
- ● QUICK TRIAXIAL
- + FIELD VANE & Sensitivity
- × LAB VANE

PLASTIC LIMIT w_P — NATURAL MOISTURE CONTENT w — LIQUID LIMIT w_L

WATER CONTENT (%) (10 20 30)

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

GR SA SI CL

GROUNDWATER ELEVATIONS

Measurement 1st ▽ 2nd ▼ 3rd ▼ 4th ▼

GRAPH NOTES

+ 3, × 3: Numbers refer to Sensitivity

○ ε=3% Strain at Failure

HLV2K ENGINEERING LIMITED

LOG OF BOREHOLE BH5

PROJECT: Briarwood Hillsburgh Development

CLIENT: Briarwood Homes

PROJECT LOCATION: 5916 Trafalgar Road North, Town of Erin, Ontario

DATUM: Geodetic

BH LOCATION: See Borehole Location Plan N 4849136.503 E 568418.3089

DRILLING DATA

Method: Hollow Stem Auger

Diameter: 150mm

Date: Sep-07-2021

REF. NO.: 2100428AH

DRAWING NO.: 6

(m) ELEV / DEPTH	DESCRIPTION	NUMBER	TYPE	BLOWS "N" 0.3 m	ELEVATION	GR	SA	SI	CL
454.0					454				
0.0 / 453.8	**Topsoil:** 250mm								
0.3	**Silty sand:** trace clay, trace gravel. trace rootlets, brown, moist, loose	1	SS	5					
		2	SS	5	453				
		3	SS	7		7	47	39	7
451.7					452				
2.3	**Sand:** some gravel, some silt, trace clay, brown, moist, compact to very dense	4	SS	12		15	64	17	4
		5	SS	50/130mm	451				
					450				
		6	SS	69	449				
					448				
447.6		7	SS	50/75mm					
6.5	**End of Borehole:** borehole terminated at 6.5m								

Bentonite

Sand

Screen

DYNAMIC CONE PENETRATION RESISTANCE PLOT

SHEAR STRENGTH (kPa)

○ UNCONFINED ● QUICK TRIAXIAL + FIELD VANE & Sensitivity × LAB VANE

PLASTIC LIMIT w_P NATURAL MOISTURE CONTENT w LIQUID LIMIT w_L

WATER CONTENT (%)

POCKET PEN. (Cu) (kPa)

NATURAL UNIT WT (kN/m³)

REMARKS AND GRAIN SIZE DISTRIBUTION (%)

1) 50 mm diameter monitoring well installed upon completion.
2) Water Level Readings:

Date:	Water Level(mbgl):
Sept 07, 2021	4.8

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES

$+^3$, $\times^3$: Numbers refer to Sensitivity

○ $^{\varepsilon_f}$=3% Strain at Failure

APPENDIX B
Laboratory Certificates of Analysis

HLV2K Engineering Limited (Brampton)
ATTN: Mariam Mohammadi
2179 Dunwin Drive
Unit 4
Mississauga ON L5L 1X2

Date Received: 05-OCT-21
Report Date: 14-OCT-21 10:57 (MT)
Version: FINAL

Client Phone: 437-370-0317

Certificate of Analysis

Lab Work Order #: L2647481

Project P.O. #: NOT SUBMITTED
Job Reference: 2100428DE
C of C Numbers:
Legal Site Desc: ERIN

Amanda Overholster
Account Manager

Summary of Guideline Exceedances

Guideline ALS ID	Client ID	Grouping	Analyte	Result	Guideline Limit	Unit

Ontario Regulation 153/04 - April 15, 2011 Standards - T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

(No parameter exceedances)

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Physical Tests - SOIL

				Lab ID	L2647481-1	L2647481-2	L2647481-3	L2647481-4	L2647481-5	L2647481-6
				Sample Date	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21
				Sample ID	MW1	MW2	MW3	MW4	MW5	DUP 1
		Guide Limits								
Analyte	Unit	#1	#2							
Conductivity	mS/cm	0.57	-		0.130	0.144	0.237	0.278	0.194	0.353 FR5
% Moisture	%	-	-		7.69	10.2	9.85	12.3	14.9	7.27
pH	pH units	-	-		7.76	7.95	7.78	7.71	7.35	7.85

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Cyanides - SOIL

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID	Sample Date	Sample ID					
				L2647481-1	L2647481-2	L2647481-3	L2647481-4	L2647481-5	L2647481-6
				05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21
				MW1	MW2	MW3	MW4	MW5	DUP 1
Cyanide, Weak Acid Diss	ug/g	0.051	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Saturated Paste Extractables - SOIL

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID	Sample Date	Sample ID				
				L2647481-1	L2647481-2	L2647481-3	L2647481-4	L2647481-5	L2647481-6
				05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21
				MW1	MW2	MW3	MW4	MW5	DUP 1
SAR	SAR	2.4	-	<0.10	<0.10	<0.10	0.27	<0.10	<0.10 SAR:DL
Calcium (Ca)	mg/L	-	-	16.4	16.0	30.9	29.0	24.2	15.2 FR5
Magnesium (Mg)	mg/L	-	-	0.99	1.63	2.97	6.79	1.50	1.03 FR5
Sodium (Na)	mg/L	-	-	1.18	0.91	1.57	6.26	1.24	<0.50 FR5

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Metals - SOIL

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID	L2647481-1	L2647481-2	L2647481-3	L2647481-4	L2647481-5	L2647481-6
				Sample Date	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21
				Sample ID	MW1	MW2	MW3	MW4	MW5	DUP 1
Antimony (Sb)	ug/g	1.3	-		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic (As)	ug/g	18	-		2.4	2.9	3.9	6.4	2.8	3.4
Barium (Ba)	ug/g	220	-		18.4	33.9	35.1	26.9	43.6	25.7
Beryllium (Be)	ug/g	2.5	-		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Boron (B)	ug/g	36	-		<5.0	6.1	5.1	8.3	<5.0	<5.0
Boron (B), Hot Water Ext.	ug/g	36	-		<0.10	<0.10	<0.10	0.10	0.17	0.11
Cadmium (Cd)	ug/g	1.2	-		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chromium (Cr)	ug/g	70	-		12.2	13.4	14.8	11.2	12.7	14.4
Cobalt (Co)	ug/g	21	-		3.7	5.2	5.2	4.4	4.3	3.9
Copper (Cu)	ug/g	92	-		7.5	13.8	13.6	24.7	7.7	7.7
Lead (Pb)	ug/g	120	-		9.8	39.0	9.2	13.5	10.5	9.0
Mercury (Hg)	ug/g	0.27	-		0.0073	0.0061	0.0146	0.0143	0.0210	0.0162
Molybdenum (Mo)	ug/g	2	-		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nickel (Ni)	ug/g	82	-		7.4	10.6	10.4	8.5	7.5	7.9
Selenium (Se)	ug/g	1.5	-		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Silver (Ag)	ug/g	0.5	-		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Thallium (Tl)	ug/g	1	-		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Uranium (U)	ug/g	2.5	-		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vanadium (V)	ug/g	86	-		32.2	24.9	30.6	21.8	30.2	37.1
Zinc (Zn)	ug/g	290	-		66.7	41.9	41.9	73.1	44.5	40.0

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Speciated Metals - SOIL

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID	Sample Date	Sample ID				
				L2647481-1	L2647481-2	L2647481-3	L2647481-4	L2647481-5	L2647481-6
				05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21
				MW1	MW2	MW3	MW4	MW5	DUP 1
Chromium, Hexavalent	ug/g	0.66	-	<0.20	<0.20	<0.20	<0.20	<0.20	0.33

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

Volatile Organic Compounds - SOIL

				Lab ID	L2647481-1	L2647481-2	L2647481-3	L2647481-4	L2647481-5	L2647481-6
				Sample Date	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21
				Sample ID	MW1	MW2	MW3	MW4	MW5	DUP 1
		Guide Limits								
Analyte	Unit	#1	#2							
Acetone	ug/g	0.5	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	ug/g	0.02	-	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068	<0.0068
Bromodichloromethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromoform	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromomethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbon tetrachloride	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorobenzene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibromochloromethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroform	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dibromoethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dichlorobenzene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,3-Dichlorobenzene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,4-Dichlorobenzene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorodifluoromethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1-Dichloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dichloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1-Dichloroethylene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
cis-1,2-Dichloroethylene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
trans-1,2-Dichloroethylene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methylene Chloride	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,2-Dichloropropane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
cis-1,3-Dichloropropene	ug/g	-	-	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
trans-1,3-Dichloropropene	ug/g	-	-	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
1,3-Dichloropropene (cis & trans)	ug/g	0.05	-	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
Ethylbenzene	ug/g	0.05	-	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018
n-Hexane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl Ethyl Ketone	ug/g	0.5	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	ug/g	0.5	-	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
MTBE	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Styrene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Volatile Organic Compounds - SOIL

				Lab ID	L2647481-1	L2647481-2	L2647481-3	L2647481-4	L2647481-5	L2647481-6
				Sample Date	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21
				Sample ID	MW1	MW2	MW3	MW4	MW5	DUP 1
		Guide Limits								
Analyte	Unit	#1	#2							
1,1,1,2-Tetrachloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1,2,2-Tetrachloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethylene	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	ug/g	0.2	-	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,1,1-Trichloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1,1,2-Trichloroethane	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethylene	ug/g	0.05	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	ug/g	0.25	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Vinyl chloride	ug/g	0.02	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
o-Xylene	ug/g	-	-	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
m+p-Xylenes	ug/g	-	-	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Xylenes (Total)	ug/g	0.05	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Surrogate: 4-Bromofluorobenzene	%	-	-	85.8	82.2	85.6	83.3	74.0	86.7
Surrogate: 1,4-Difluorobenzene	%	-	-	94.0	89.8	90.9	89.5	79.5	94.2

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Hydrocarbons - SOIL

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID	L2647481-1	L2647481-2	L2647481-3	L2647481-4	L2647481-5	L2647481-6
				Sample Date	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21
				Sample ID	MW1	MW2	MW3	MW4	MW5	DUP 1
F1 (C6-C10)	ug/g	25	-		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	ug/g	25	-		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	ug/g	10	-		<10	<10	<10	<10	<10	<10
F2-Naphth	ug/g	-	-		<10	<10	<10	<10	<10	<10
F3 (C16-C34)	ug/g	240	-		<50	72	<50	<50	<50	<50
F3-PAH	ug/g	-	-		<50	72	<50	<50	<50	<50
F4 (C34-C50)	ug/g	120	-		<50	<50	<50	<50	<50	<50
Total Hydrocarbons (C6-C50)	ug/g	-	-		<72	<72	<72	<72	<72	<72
Chrom. to baseline at nC50		-	-		YES	YES	YES	YES	YES	YES
Surrogate: 2-Bromobenzotrifluoride	%	-	-		92.7	89.9	94.5	88.2	92.1	91.5
Surrogate: 3,4-Dichlorotoluene	%	-	-		89.6	83.2	92.8	82.4	72.5	89.2

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Polycyclic Aromatic Hydrocarbons - SOIL

		Guide Limits							
Lab ID				L2647481-1	L2647481-2	L2647481-3	L2647481-4	L2647481-5	L2647481-6
Sample Date				05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21
Sample ID				MW1	MW2	MW3	MW4	MW5	DUP 1
Analyte	**Unit**	**#1**	**#2**						
Acenaphthene	ug/g	0.072	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acenaphthylene	ug/g	0.093	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	ug/g	0.16	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)anthracene	ug/g	0.36	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	ug/g	0.3	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(b&j)fluoranthene	ug/g	0.47	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	ug/g	0.68	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	ug/g	0.48	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chrysene	ug/g	2.8	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	ug/g	0.1	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	ug/g	0.56	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	ug/g	0.12	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	ug/g	0.23	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1+2-Methylnaphthalenes	ug/g	0.59	-	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042
1-Methylnaphthalene	ug/g	0.59	-	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
2-Methylnaphthalene	ug/g	0.59	-	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Naphthalene	ug/g	0.09	-	<0.013	<0.013	<0.013	<0.013	<0.013	<0.013
Phenanthrene	ug/g	0.69	-	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046
Pyrene	ug/g	1	-	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Surrogate: 2-Fluorobiphenyl	%	-	-	77.8	80.8	81.6	78.4	83.3	79.2
Surrogate: d14-Terphenyl	%	-	-	84.6	91.4	90.5	87.8	89.6	85.3

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Polychlorinated Biphenyls - SOIL

			Lab ID	L2647481-5
			Sample Date	05-OCT-21
			Sample ID	MW5
		Guide Limits		
Analyte	Unit	#1	#2	
Aroclor 1242	ug/g	-	-	<0.010
Aroclor 1248	ug/g	-	-	<0.010
Aroclor 1254	ug/g	-	-	<0.010
Aroclor 1260	ug/g	-	-	<0.010
Total PCBs	ug/g	0.3	-	<0.020
Surrogate: d14-Terphenyl	%	-	-	105.7

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Organochlorine Pesticides - SOIL

		Lab ID	L2647481-1	L2647481-2	L2647481-3	L2647481-4	L2647481-6
		Sample Date	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21	05-OCT-21
		Sample ID	MW1	MW2	MW3	MW4	DUP 1
		Guide Limits					
Analyte	Unit	#1	#2				
Aldrin	ug/g	0.05	-	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Lindane	ug/g	0.01	-	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
a-chlordane	ug/g	-	-	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Chlordane (Total)	ug/g	0.05	-	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042
g-chlordane	ug/g	-	-	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
o,p-DDD	ug/g	-	-	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
pp-DDD	ug/g	-	-	<0.00030	0.00068	<0.00030	0.00104	<0.00030
Total DDD	ug/g	0.05	-	<0.00042	0.00068	<0.00042	0.00104	<0.00042
o,p-DDE	ug/g	-	-	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
pp-DDE	ug/g	-	-	0.00044	0.00203	<0.00030	0.00447	0.00042
Total DDE	ug/g	0.05	-	0.00044	0.00203	<0.00042	0.00447	<0.00042
op-DDT	ug/g	-	-	<0.0030 DLM	<0.0030 DLM	<0.0030 DLM	<0.0030 DLM	<0.0030 DLM
pp-DDT	ug/g	-	-	<0.0030 DLM	<0.0030 DLM	<0.0030 DLM	<0.0030 DLM	<0.0030 DLM
Total DDT	ug/g	1.4	-	<0.0042	<0.0042	<0.0042	<0.0042	<0.0042
Dieldrin	ug/g	0.05	-	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
alpha-Endosulfan	ug/g	-	-	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
beta-Endosulfan	ug/g	-	-	<0.00030	<0.00030	<0.00030	<0.00030	<0.00030
Endosulfan (Total)	ug/g	0.04	-	<0.00042	<0.00042	<0.00042	<0.00042	<0.00042
Endrin	ug/g	0.04	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Heptachlor	ug/g	0.05	-	<0.00040 DLM	<0.00040 DLM	<0.00040 DLM	<0.00040 DLM	<0.00040 DLM
Heptachlor Epoxide	ug/g	0.05	-	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Hexachlorobenzene	ug/g	0.01	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Hexachlorobutadiene	ug/g	0.01	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Hexachloroethane	ug/g	0.01	-	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Methoxychlor	ug/g	0.05	-	<0.0050 DLM	<0.0050 DLM	<0.0050 DLM	<0.0050 DLM	<0.0050 DLM
Surrogate: Decachlorobiphenyl	%	-	-	98.6	97.4	102.9	95.1	104.4
Surrogate: Tetrachloro-m-xylene	%	-	-	78.8	80.8	80.9	78.3	85.2

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Reference Information

Qualifiers for Individual Parameters Listed:

Qualifier	Description
SAR:DL	SAR is incalculable due to undetectable Na. Detection Limit represents maximum possible SAR value.
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
FR5	As per applicable reference method(s), soil:water ratio for Fixed Ratio Leach was modified to 1:5 due to high soil organic content.

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
B-HWS-R511-WT	Soil	Boron-HWE-O.Reg 153/04 (July 2011)	HW EXTR, EPA 6010B

A dried solid sample is extracted with calcium chloride, the sample undergoes a heating process. After cooling the sample is filtered and analyzed by ICP/OES.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

CHLORDANE-T-CALC-WT	Soil	Chlordane Total sums	CALCULATION

Aqueous sample is extracted by liquid/liquid extraction with a solvent mix. After extraction, a number of clean up techniques may be applied, depending on the sample matrix and analyzed by GC/MS.

CN-WAD-R511-WT	Soil	Cyanide (WAD)-O.Reg 153/04 (July 2011)	MOE 3015/APHA 4500CN I-WAD

The sample is extracted with a strong base for 16 hours, and then filtered. The filtrate is then distilled where the cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

CR-CR6-IC-WT	Soil	Hexavalent Chromium in Soil	SW846 3060A/7199

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Method 7199, published by the United States Environmental Protection Agency (EPA). The procedure involves analysis for chromium (VI) by ion chromatography using diphenylcarbazide in a sulphuric acid solution.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

DDD-DDE-DDT-CALC-WT	Soil	DDD, DDE, DDT sums	CALCULATION

Aqueous sample is extracted by liquid/liquid extraction with a solvent mix. After extraction, a number of clean up techniques may be applied, depending on the sample matrix and analyzed by GC/MS.

EC-WT	Soil	Conductivity (EC)	MOEE E3138

A representative subsample is tumbled with de-ionized (DI) water. The ratio of water to soil is 2:1 v/w. After tumbling the sample is then analyzed by a conductivity meter.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

ENDOSULFAN-T-CALC-WT	Soil	Endosulfan Total sums	CALCULATION

Aqueous sample is extracted by liquid/liquid extraction with a solvent mix. After extraction, a number of clean up techniques may be applied, depending on the sample matrix and analyzed by GC/MS.

F1-F4-511-CALC-WT	Soil	F1-F4 Hydrocarbon Calculated Parameters	CCME CWS-PHC, Pub #1310, Dec 2001-S

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.
2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F1-HS-511-WT	Soil	F1-O.Reg 153/04 (July 2011)	E3398/CCME TIER 1-HS

Fraction F1 is determined by extracting a soil or sediment sample as received with methanol, then analyzing by headspace-GC/FID.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

F2-F4-511-WT	Soil	F2-F4-O.Reg 153/04 (July 2011)	CCME Tier 1

Petroleum Hydrocarbons (F2-F4 fractions) are extracted from soil with 1:1 hexane:acetone using a rotary extractor. Extracts are treated with silica gel to remove polar organic interferences. F2, F3, & F4 are analyzed by GC-FID. F4G-sg is analyzed gravimetrically.

Notes:
1. F2 (C10-C16): Sum of all hydrocarbons that elute between nC10 and nC16.
2. F3 (C16-C34): Sum of all hydrocarbons that elute between nC16 and nC34.
3. F4 (C34-C50): Sum of all hydrocarbons that elute between nC34 and nC50.
4. F4G: Gravimetric Heavy Hydrocarbons
5. F4G-sg: Gravimetric Heavy Hydrocarbons (F4G) after silica gel treatment.
6. Where both F4 (C34-C50) and F4G-sg are reported for a sample, the larger of the two values is used for comparison against the relevant CCME guideline for F4.
7. F4G-sg cannot be added to the C6 to C50 hydrocarbon results to obtain an estimate of total extractable hydrocarbons.
8. This method is validated for use.
9. Data from analysis of validation and quality control samples is available upon request.
10. Reported results are expressed as milligrams per dry kilogram, unless otherwise indicated.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

HG-200.2-CVAA-WT	Soil	Mercury in Soil by CVAAS	EPA 200.2/1631E (mod)

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAAS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

MET-200.2-CCMS-WT Soil Metals in Soil by CRC ICPMS EPA 200.2/6020B (mod)

Soil/sediment is dried, disaggregated, and sieved (2 mm). For tests intended to support Ontario regulations, the <2mm fraction is ground to pass through a 0.355 mm sieve. Strong Acid Leachable Metals in the <2mm fraction are solubilized by heated digestion with nitric and hydrochloric acids. Instrumental analysis is by Collision / Reaction Cell ICPMS.

Limitations: This method is intended to liberate environmentally available metals. Silicate minerals are not solubilized. Some metals may be only partially recovered (matrix dependent), including Al, Ba, Be, Cr, S, Sr, Ti, Tl, V, W, and Zr. Elemental Sulfur may be poorly recovered by this method. Volatile forms of sulfur (e.g. sulfide, H2S) may be excluded if lost during sampling, storage, or digestion.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

METHYLNAPS-CALC-WT Soil ABN-Calculated Parameters SW846 8270

MOISTURE-WT Soil % Moisture CCME PHC in Soil - Tier 1 (mod)

OCP-TRACE-WT Soil Low level OC Pesticides in Soil/Sediment SW846 8270

A 5g representative sub-sample of the soil sample is mixed with methanol and extracted with toluene. An aliquot is taken and analyzed by GC/MSD.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

PAH-511-WT Soil PAH-O.Reg 153/04 (July 2011) SW846 3510/8270

A representative sub-sample of soil is fortified with deuterium-labelled surrogates and a mechanical shaking techniqueis used to extract the sample with a mixture of methanol and toluene. The extracts are concentrated and analyzed by GC/MS. Results for benzo(b) fluoranthene may include contributions from benzo(j)fluoranthene, if also present in the sample.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

PCB-511-WT Soil PCB-O.Reg 153/04 (July 2011) SW846 3510/8082

An aliquot of a solid sample is extracted with a solvent, extract is cleaned up and analyzed on the GC/MS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

PH-WT Soil pH MOEE E3137A

A minimum 10g portion of the sample is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil and then analyzed using a pH meter and electrode.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

SAR-R511-WT Soil SAR-O.Reg 153/04 (July 2011) SW846 6010C

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**

A dried, disaggregated solid sample is extracted with deionized water, the aqueous extract is separated from the solid, acidified and then analyzed using a ICP/OES. The concentrations of Na, Ca and Mg are reported as per CALA requirements for calculated parameters. These individual parameters are not for comparison to any guideline.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

VOC-1,3-DCP-CALC-WT	Soil	Regulation 153 VOCs	SW8260B/SW8270C
VOC-511-HS-WT	Soil	VOC-O.Reg 153/04 (July 2011)	SW846 8260 (511)

Soil and sediment samples are extracted in methanol and analyzed by headspace-GC/MS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

XYLENES-SUM-CALC-WT	Soil	Sum of Xylene Isomer Concentrations	CALCULATION

Total xylenes represents the sum of o-xylene and m&p-xylene.

**ALS test methods may incorporate modifications from specified reference methods to improve performance.

Chain of Custody Numbers:

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Quality Control Report

Workorder: L2647481 Report Date: 14-OCT-21

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
B-HWS-R511-WT	**Soil**							
Batch R5614610								
WG3633912-4 DUP		**L2647481-1**						
Boron (B), Hot Water Ext.		<0.10	<0.10	RPD-NA	ug/g	N/A	30	08-OCT-21
WG3633912-2 IRM		**WT SAR4**						
Boron (B), Hot Water Ext.			98.4		%		70-130	08-OCT-21
WG3633912-3 LCS								
Boron (B), Hot Water Ext.			102.0		%		70-130	08-OCT-21
WG3633912-1 MB								
Boron (B), Hot Water Ext.			<0.10		ug/g		0.1	08-OCT-21
CN-WAD-R511-WT	**Soil**							
Batch R5614200								
WG3633108-3 DUP		**L2647481-1**						
Cyanide, Weak Acid Diss		<0.050	<0.050	RPD-NA	ug/g	N/A	35	07-OCT-21
WG3633108-2 LCS								
Cyanide, Weak Acid Diss			99.1		%		80-120	07-OCT-21
WG3633108-1 MB								
Cyanide, Weak Acid Diss			<0.050		ug/g		0.05	07-OCT-21
WG3633108-4 MS		**L2647481-1**						
Cyanide, Weak Acid Diss			108.9		%		70-130	07-OCT-21
CR-CR6-IC-WT	**Soil**							
Batch R5615870								
WG3633258-4 CRM		**WT-SQC012**						
Chromium, Hexavalent			84.5		%		70-130	12-OCT-21
WG3633258-3 DUP		**L2647432-4**						
Chromium, Hexavalent		<0.20	<0.20	RPD-NA	ug/g	N/A	35	12-OCT-21
WG3633258-2 LCS								
Chromium, Hexavalent			92.0		%		80-120	12-OCT-21
WG3633258-1 MB								
Chromium, Hexavalent			<0.20		ug/g		0.2	12-OCT-21
EC-WT	**Soil**							
Batch R5617222								
WG3633906-4 DUP		**WG3633906-3**						
Conductivity		0.353	0.399		mS/cm	12	20	14-OCT-21
WG3633906-2 IRM		**WT SAR4**						
Conductivity			116.7		%		70-130	14-OCT-21
WG3637349-1 LCS								
Conductivity			93.4		%		90-110	14-OCT-21
WG3633906-1 MB								

Quality Control Report

Workorder: L2647481 Report Date: 14-OCT-21

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EC-WT	**Soil**							
Batch R5617222								
WG3633906-1 MB								
Conductivity			<0.0040		mS/cm		0.004	14-OCT-21
F1-HS-511-WT	**Soil**							
Batch R5614789								
WG3633826-4 DUP		**WG3633826-3**						
F1 (C6-C10)		<5.0	<5.0	RPD-NA	ug/g	N/A	30	08-OCT-21
WG3633826-2 LCS								
F1 (C6-C10)			101.4		%		80-120	08-OCT-21
WG3633826-1 MB								
F1 (C6-C10)			<5.0		ug/g		5	08-OCT-21
Surrogate: 3,4-Dichlorotoluene			105.2		%		60-140	08-OCT-21
WG3633826-5 MS		**WG3633826-3**						
F1 (C6-C10)			103.7		%		60-140	08-OCT-21
F2-F4-511-WT	**Soil**							
Batch R5613862								
WG3632094-3 DUP		**WG3632094-5**						
F2 (C10-C16)		<10	<10	RPD-NA	ug/g	N/A	30	07-OCT-21
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	30	07-OCT-21
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	30	07-OCT-21
WG3632094-2 LCS								
F2 (C10-C16)			91.8		%		80-120	07-OCT-21
F3 (C16-C34)			93.2		%		80-120	07-OCT-21
F4 (C34-C50)			98.7		%		80-120	07-OCT-21
WG3632094-1 MB								
F2 (C10-C16)			<10		ug/g		10	07-OCT-21
F3 (C16-C34)			<50		ug/g		50	07-OCT-21
F4 (C34-C50)			<50		ug/g		50	07-OCT-21
Surrogate: 2-Bromobenzotrifluoride			94.3		%		60-140	07-OCT-21
WG3632094-4 MS		**WG3632094-5**						
F2 (C10-C16)			87.2		%		60-140	07-OCT-21
F3 (C16-C34)			91.6		%		60-140	07-OCT-21
F4 (C34-C50)			99.6		%		60-140	07-OCT-21
HG-200.2-CVAA-WT	**Soil**							

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
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Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
HG-200.2-CVAA-WT	**Soil**							
Batch R5614405								
WG3633895-2 CRM		**WT-SS-2**						
Mercury (Hg)			99.7		%		70-130	08-OCT-21
WG3633895-6 DUP		**WG3633895-5**						
Mercury (Hg)		0.0061	0.0058		ug/g	5.1	40	08-OCT-21
WG3633895-3 LCS								
Mercury (Hg)			102.0		%		80-120	08-OCT-21
WG3633895-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	08-OCT-21
MET-200.2-CCMS-WT	**Soil**							
Batch R5614612								
WG3633895-2 CRM		**WT-SS-2**						
Antimony (Sb)			101.6		%		70-130	08-OCT-21
Arsenic (As)			111.0		%		70-130	08-OCT-21
Barium (Ba)			110.3		%		70-130	08-OCT-21
Beryllium (Be)			118.3		%		70-130	08-OCT-21
Boron (B)			9.4		mg/kg		3.5-13.5	08-OCT-21
Cadmium (Cd)			109.1		%		70-130	08-OCT-21
Chromium (Cr)			105.5		%		70-130	08-OCT-21
Cobalt (Co)			107.3		%		70-130	08-OCT-21
Copper (Cu)			112.6		%		70-130	08-OCT-21
Lead (Pb)			107.5		%		70-130	08-OCT-21
Molybdenum (Mo)			104.7		%		70-130	08-OCT-21
Nickel (Ni)			108.9		%		70-130	08-OCT-21
Selenium (Se)			0.13		mg/kg		0-0.34	08-OCT-21
Silver (Ag)			102.1		%		70-130	08-OCT-21
Thallium (Tl)			0.072		mg/kg		0.029-0.129	08-OCT-21
Uranium (U)			98.5		%		70-130	08-OCT-21
Vanadium (V)			109.3		%		70-130	08-OCT-21
Zinc (Zn)			99.5		%		70-130	08-OCT-21
WG3633895-6 DUP		**WG3633895-5**						
Antimony (Sb)		<0.10	<0.10	RPD-NA	ug/g	N/A	30	08-OCT-21
Arsenic (As)		2.89	2.70		ug/g	7.0	30	08-OCT-21
Barium (Ba)		33.9	32.4		ug/g	4.4	40	08-OCT-21
Beryllium (Be)		0.35	0.31		ug/g	12	30	08-OCT-21
Boron (B)		6.1	5.8		ug/g	4.8	30	08-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5614612								
WG3633895-6 DUP		**WG3633895-5**						
Cadmium (Cd)		0.125	0.115		ug/g	7.6	30	08-OCT-21
Chromium (Cr)		13.4	12.3		ug/g	8.5	30	08-OCT-21
Cobalt (Co)		5.19	4.67		ug/g	11	30	08-OCT-21
Copper (Cu)		13.8	12.6		ug/g	9.3	30	08-OCT-21
Lead (Pb)		39.0	38.2		ug/g	2.1	40	08-OCT-21
Molybdenum (Mo)		0.23	0.23		ug/g	3.6	40	08-OCT-21
Nickel (Ni)		10.6	9.69		ug/g	9.0	30	08-OCT-21
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	08-OCT-21
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	08-OCT-21
Thallium (Tl)		0.076	0.071		ug/g	7.2	30	08-OCT-21
Uranium (U)		0.382	0.388		ug/g	1.6	30	08-OCT-21
Vanadium (V)		24.9	22.6		ug/g	9.9	30	08-OCT-21
Zinc (Zn)		41.9	38.5		ug/g	8.3	30	08-OCT-21
WG3633895-4 LCS								
Antimony (Sb)			114.8		%		80-120	08-OCT-21
Arsenic (As)			110.9		%		80-120	08-OCT-21
Barium (Ba)			112.8		%		80-120	08-OCT-21
Beryllium (Be)			112.9		%		80-120	08-OCT-21
Boron (B)			106.2		%		80-120	08-OCT-21
Cadmium (Cd)			106.1		%		80-120	08-OCT-21
Chromium (Cr)			109.4		%		80-120	08-OCT-21
Cobalt (Co)			108.4		%		80-120	08-OCT-21
Copper (Cu)			106.3		%		80-120	08-OCT-21
Lead (Pb)			103.7		%		80-120	08-OCT-21
Molybdenum (Mo)			111.6		%		80-120	08-OCT-21
Nickel (Ni)			108.2		%		80-120	08-OCT-21
Selenium (Se)			109.0		%		80-120	08-OCT-21
Silver (Ag)			96.8		%		80-120	08-OCT-21
Thallium (Tl)			104.1		%		80-120	08-OCT-21
Uranium (U)			102.7		%		80-120	08-OCT-21
Vanadium (V)			112.4		%		80-120	08-OCT-21
Zinc (Zn)			101.1		%		80-120	08-OCT-21
WG3633895-1 MB								
							0.1	

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5614612								
WG3633895-1 MB								
Antimony (Sb)			<0.10		mg/kg		0.1	08-OCT-21
Arsenic (As)			<0.10		mg/kg		0.1	08-OCT-21
Barium (Ba)			<0.50		mg/kg		0.5	08-OCT-21
Beryllium (Be)			<0.10		mg/kg		0.1	08-OCT-21
Boron (B)			<5.0		mg/kg		5	08-OCT-21
Cadmium (Cd)			<0.020		mg/kg		0.02	08-OCT-21
Chromium (Cr)			<0.50		mg/kg		0.5	08-OCT-21
Cobalt (Co)			<0.10		mg/kg		0.1	08-OCT-21
Copper (Cu)			<0.50		mg/kg		0.5	08-OCT-21
Lead (Pb)			<0.50		mg/kg		0.5	08-OCT-21
Molybdenum (Mo)			<0.10		mg/kg		0.1	08-OCT-21
Nickel (Ni)			<0.50		mg/kg		0.5	08-OCT-21
Selenium (Se)			<0.20		mg/kg		0.2	08-OCT-21
Silver (Ag)			<0.10		mg/kg		0.1	08-OCT-21
Thallium (Tl)			<0.050		mg/kg		0.05	08-OCT-21
Uranium (U)			<0.050		mg/kg		0.05	08-OCT-21
Vanadium (V)			<0.20		mg/kg		0.2	08-OCT-21
Zinc (Zn)			<2.0		mg/kg		2	08-OCT-21
MOISTURE-WT	**Soil**							
Batch R5610151								
WG3632067-3 DUP		**L2647481-1**						
% Moisture		7.69	7.56		%	1.7	20	05-OCT-21
WG3632067-2 LCS								
% Moisture			99.9		%		90-110	05-OCT-21
WG3632067-1 MB								
% Moisture			<0.25		%		0.25	05-OCT-21
OCP-TRACE-WT	**Soil**							
Batch R5615827								
WG3633059-3 DUP		**WG3633059-5**						
Aldrin		<0.00020	<0.00020	RPD-NA	ug/g	N/A	50	12-OCT-21
a-chlordane		<0.00030	<0.00030	RPD-NA	ug/g	N/A	50	12-OCT-21
g-chlordane		<0.00030	<0.00030	RPD-NA	ug/g	N/A	50	12-OCT-21
o,p-DDD		<0.00030	<0.00030	RPD-NA	ug/g	N/A	50	12-OCT-21
pp-DDD		0.00067	0.00071		ug/g	6.6	50	12-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCP-TRACE-WT	**Soil**							
Batch R5615827								
WG3633059-3 DUP		**WG3633059-5**						
o,p-DDE		<0.00030	<0.00030	RPD-NA	ug/g	N/A	50	12-OCT-21
pp-DDE		0.00155	0.00141		ug/g	9.3	50	12-OCT-21
op-DDT		<0.0030	<0.0030	RPD-NA	ug/g	N/A	50	12-OCT-21
pp-DDT		<0.0030	<0.0030	RPD-NA	ug/g	N/A	50	12-OCT-21
Dieldrin		<0.00020	<0.00020	RPD-NA	ug/g	N/A	50	12-OCT-21
alpha-Endosulfan		0.00045	<0.00030	RPD-NA	ug/g	N/A	50	12-OCT-21
beta-Endosulfan		0.00184	0.00158		ug/g	15	50	12-OCT-21
Endrin		<0.00050	<0.00050	RPD-NA	ug/g	N/A	50	12-OCT-21
Heptachlor		<0.00040	<0.00040	RPD-NA	ug/g	N/A	50	12-OCT-21
Heptachlor Epoxide		<0.00020	<0.00020	RPD-NA	ug/g	N/A	50	12-OCT-21
Hexachlorobenzene		<0.00050	<0.00050	RPD-NA	ug/g	N/A	50	12-OCT-21
Hexachlorobutadiene		<0.00050	<0.00050	RPD-NA	ug/g	N/A	50	12-OCT-21
Hexachloroethane		<0.00050	<0.00050	RPD-NA	ug/g	N/A	50	12-OCT-21
Lindane		<0.00020	<0.00020	RPD-NA	ug/g	N/A	50	12-OCT-21
Methoxychlor		<0.0050	<0.0050	RPD-NA	ug/g	N/A	50	12-OCT-21
WG3633059-2 LCS								
Aldrin			88.2		%		50-150	12-OCT-21
a-chlordane			91.3		%		50-150	12-OCT-21
g-chlordane			95.5		%		50-150	12-OCT-21
o,p-DDD			107.9		%		50-150	12-OCT-21
pp-DDD			112.8		%		50-150	12-OCT-21
o,p-DDE			78.1		%		50-150	12-OCT-21
pp-DDE			88.8		%		50-150	12-OCT-21
op-DDT			31.5	RRQC	%		50-150	12-OCT-21
pp-DDT			19.7	RRQC	%		50-150	12-OCT-21
Dieldrin			85.4		%		50-150	12-OCT-21
alpha-Endosulfan			84.7		%		50-150	12-OCT-21
beta-Endosulfan			85.7		%		50-150	12-OCT-21
Endrin			40.2	LCS-L	%		50-150	12-OCT-21
Heptachlor			56.7		%		50-150	12-OCT-21
Heptachlor Epoxide			92.1		%		50-150	12-OCT-21
Hexachlorobenzene			82.4		%		50-150	12-OCT-21
Hexachlorobutadiene			76.5		%		50-150	12-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCP-TRACE-WT	**Soil**							
Batch R5615827								
WG3633059-2 LCS								
Hexachloroethane			71.4		%		50-150	12-OCT-21
Lindane			70.7		%		50-150	12-OCT-21
Methoxychlor			29.8	RRQC	%		50-150	12-OCT-21
COMMENTS: RRQC: Analyte recovery below ALS DQO. Detection limits have been adjusted.								
WG3633059-1 MB								
Aldrin			<0.00020		ug/g		0.0002	12-OCT-21
a-chlordane			<0.00030		ug/g		0.0003	12-OCT-21
g-chlordane			<0.00030		ug/g		0.0003	12-OCT-21
o,p-DDD			<0.00030		ug/g		0.0003	12-OCT-21
pp-DDD			<0.00030		ug/g		0.0003	12-OCT-21
o,p-DDE			<0.00030		ug/g		0.0003	12-OCT-21
pp-DDE			<0.00030		ug/g		0.0003	12-OCT-21
op-DDT			<0.00030		ug/g		0.0003	12-OCT-21
pp-DDT			<0.00030		ug/g		0.0003	12-OCT-21
Dieldrin			<0.00020		ug/g		0.0002	12-OCT-21
alpha-Endosulfan			<0.00030		ug/g		0.0003	12-OCT-21
beta-Endosulfan			<0.00030		ug/g		0.0003	12-OCT-21
Endrin			<0.00050		ug/g		0.0005	12-OCT-21
Heptachlor			<0.00020		ug/g		0.0002	12-OCT-21
Heptachlor Epoxide			<0.00020		ug/g		0.0002	12-OCT-21
Hexachlorobenzene			<0.00050		ug/g		0.0005	12-OCT-21
Hexachlorobutadiene			<0.00050		ug/g		0.0005	12-OCT-21
Hexachloroethane			<0.00050		ug/g		0.0005	12-OCT-21
Lindane			<0.00020		ug/g		0.0002	12-OCT-21
Methoxychlor			<0.00050		ug/g		0.0005	12-OCT-21
Surrogate: Tetrachloro-m-xylene			90.2		%		50-150	12-OCT-21
Surrogate: Decachlorobiphenyl			119.8		%		50-150	12-OCT-21
WG3633059-4 MS		**WG3633059-5**						
Aldrin			86.0		%		50-150	12-OCT-21
a-chlordane			65.3		%		50-150	12-OCT-21
g-chlordane			67.6		%		50-150	12-OCT-21
o,p-DDD			84.2		%		50-150	12-OCT-21
pp-DDD			94.5		%		50-150	12-OCT-21
o,p-DDE			57.0		%		50-150	12-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
OCP-TRACE-WT	**Soil**							
Batch R5615827								
WG3633059-4 MS		**WG3633059-5**						
pp-DDE			65.5		%		50-150	12-OCT-21
op-DDT			12.2	RRQC	%		50-150	12-OCT-21
pp-DDT			49.0	RRQC	%		50-150	12-OCT-21
Dieldrin			61.4		%		50-150	12-OCT-21
alpha-Endosulfan			60.1		%		50-150	12-OCT-21
beta-Endosulfan			85.7		%		50-150	12-OCT-21
Endrin			54.6		%		50-150	12-OCT-21
Heptachlor			46.0	RRQC	%		50-150	12-OCT-21
Heptachlor Epoxide			62.0		%		50-150	12-OCT-21
Hexachlorobenzene			80.0		%		50-150	12-OCT-21
Hexachlorobutadiene			77.9		%		50-150	12-OCT-21
Hexachloroethane			66.4		%		50-150	12-OCT-21
Lindane			63.4		%		50-150	12-OCT-21
Methoxychlor			10.5	RRQC	%		50-150	12-OCT-21
COMMENTS: RRQC: Analyte recovery below ALS DQO. Detection limits have been adjusted.								
PAH-511-WT	**Soil**							
Batch R5613336								
WG3632088-3 DUP		**WG3632088-5**						
1-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	07-OCT-21
2-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	07-OCT-21
Acenaphthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-OCT-21
Acenaphthylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-OCT-21
Anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-OCT-21
Benzo(a)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-OCT-21
Benzo(a)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-OCT-21
Benzo(b&j)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-OCT-21
Benzo(g,h,i)perylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-OCT-21
Benzo(k)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-OCT-21
Chrysene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-OCT-21
Dibenz(a,h)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-OCT-21
Fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-OCT-21
Fluorene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-OCT-21
Indeno(1,2,3-cd)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	**Soil**							
Batch R5613336								
WG3632088-3 DUP		**WG3632088-5**						
Naphthalene		<0.013	<0.013	RPD-NA	ug/g	N/A	40	07-OCT-21
Phenanthrene		<0.046	<0.046	RPD-NA	ug/g	N/A	40	07-OCT-21
Pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	07-OCT-21
WG3632088-2 LCS								
1-Methylnaphthalene			89.2		%		50-140	07-OCT-21
2-Methylnaphthalene			87.1		%		50-140	07-OCT-21
Acenaphthene			90.3		%		50-140	07-OCT-21
Acenaphthylene			86.7		%		50-140	07-OCT-21
Anthracene			80.8		%		50-140	07-OCT-21
Benzo(a)anthracene			96.2		%		50-140	07-OCT-21
Benzo(a)pyrene			76.5		%		50-140	07-OCT-21
Benzo(b&j)fluoranthene			80.2		%		50-140	07-OCT-21
Benzo(g,h,i)perylene			89.4		%		50-140	07-OCT-21
Benzo(k)fluoranthene			87.1		%		50-140	07-OCT-21
Chrysene			96.0		%		50-140	07-OCT-21
Dibenz(a,h)anthracene			91.5		%		50-140	07-OCT-21
Fluoranthene			92.2		%		50-140	07-OCT-21
Fluorene			86.9		%		50-140	07-OCT-21
Indeno(1,2,3-cd)pyrene			83.7		%		50-140	07-OCT-21
Naphthalene			86.3		%		50-140	07-OCT-21
Phenanthrene			90.8		%		50-140	07-OCT-21
Pyrene			89.8		%		50-140	07-OCT-21
WG3632088-1 MB								
1-Methylnaphthalene			<0.030		ug/g		0.03	07-OCT-21
2-Methylnaphthalene			<0.030		ug/g		0.03	07-OCT-21
Acenaphthene			<0.050		ug/g		0.05	07-OCT-21
Acenaphthylene			<0.050		ug/g		0.05	07-OCT-21
Anthracene			<0.050		ug/g		0.05	07-OCT-21
Benzo(a)anthracene			<0.050		ug/g		0.05	07-OCT-21
Benzo(a)pyrene			<0.050		ug/g		0.05	07-OCT-21
Benzo(b&j)fluoranthene			<0.050		ug/g		0.05	07-OCT-21
Benzo(g,h,i)perylene			<0.050		ug/g		0.05	07-OCT-21
Benzo(k)fluoranthene			<0.050		ug/g		0.05	07-OCT-21
Chrysene			<0.050		ug/g		0.05	07-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	**Soil**							
Batch R5613336								
WG3632088-1 MB								
Dibenz(a,h)anthracene			<0.050		ug/g		0.05	07-OCT-21
Fluoranthene			<0.050		ug/g		0.05	07-OCT-21
Fluorene			<0.050		ug/g		0.05	07-OCT-21
Indeno(1,2,3-cd)pyrene			<0.050		ug/g		0.05	07-OCT-21
Naphthalene			<0.013		ug/g		0.013	07-OCT-21
Phenanthrene			<0.046		ug/g		0.046	07-OCT-21
Pyrene			<0.050		ug/g		0.05	07-OCT-21
Surrogate: 2-Fluorobiphenyl			81.5		%		50-140	07-OCT-21
Surrogate: d14-Terphenyl			86.8		%		50-140	07-OCT-21
WG3632088-4 MS		**WG3632088-5**						
1-Methylnaphthalene			91.2		%		50-140	07-OCT-21
2-Methylnaphthalene			89.1		%		50-140	07-OCT-21
Acenaphthene			91.6		%		50-140	07-OCT-21
Acenaphthylene			88.7		%		50-140	07-OCT-21
Anthracene			80.7		%		50-140	07-OCT-21
Benzo(a)anthracene			97.3		%		50-140	07-OCT-21
Benzo(a)pyrene			77.6		%		50-140	07-OCT-21
Benzo(b&j)fluoranthene			83.2		%		50-140	07-OCT-21
Benzo(g,h,i)perylene			88.6		%		50-140	07-OCT-21
Benzo(k)fluoranthene			88.4		%		50-140	07-OCT-21
Chrysene			96.7		%		50-140	07-OCT-21
Dibenz(a,h)anthracene			91.2		%		50-140	07-OCT-21
Fluoranthene			94.1		%		50-140	07-OCT-21
Fluorene			90.2		%		50-140	07-OCT-21
Indeno(1,2,3-cd)pyrene			89.5		%		50-140	07-OCT-21
Naphthalene			87.5		%		50-140	07-OCT-21
Phenanthrene			91.4		%		50-140	07-OCT-21
Pyrene			92.9		%		50-140	07-OCT-21
PCB-511-WT	**Soil**							
Batch R5614076								
WG3632088-3 DUP		**WG3632088-5**						
Aroclor 1242		<0.010	<0.010	RPD-NA	ug/g	N/A	40	07-OCT-21
Aroclor 1248		<0.010	<0.010	RPD-NA	ug/g	N/A	40	07-OCT-21
Aroclor 1254		<0.010	<0.010	RPD-NA	ug/g	N/A	40	07-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PCB-511-WT	**Soil**							
Batch R5614076								
WG3632088-3 DUP		**WG3632088-5**						
Aroclor 1260		0.074	0.081		ug/g	8.9	40	07-OCT-21
WG3632088-2 LCS								
Aroclor 1242			97.4		%		60-140	07-OCT-21
Aroclor 1248			83.2		%		60-140	07-OCT-21
Aroclor 1254			95.3		%		60-140	07-OCT-21
Aroclor 1260			89.3		%		60-140	07-OCT-21
WG3632088-1 MB								
Aroclor 1242			<0.010		ug/g		0.01	07-OCT-21
Aroclor 1248			<0.010		ug/g		0.01	07-OCT-21
Aroclor 1254			<0.010		ug/g		0.01	07-OCT-21
Aroclor 1260			<0.010		ug/g		0.01	07-OCT-21
Surrogate: d14-Terphenyl			102.1		%		60-140	07-OCT-21
WG3632088-4 MS		**WG3632088-5**						
Aroclor 1242			95.0		%		60-140	07-OCT-21
Aroclor 1254			100.7		%		60-140	07-OCT-21
Aroclor 1260			107.5		%		60-140	07-OCT-21
PH-WT	**Soil**							
Batch R5615789								
WG3632092-1 DUP		**L2647211-1**						
pH		7.63	7.61	J	pH units	0.02	0.3	12-OCT-21
WG3635759-1 LCS								
pH			6.95		pH units		6.9-7.1	12-OCT-21
SAR-R511-WT	**Soil**							
Batch R5614899								
WG3633906-4 DUP		**WG3633906-3**						
Calcium (Ca)		15.2	16.6		mg/L	8.8	30	08-OCT-21
Sodium (Na)		<0.50	0.50	RPD-NA	mg/L	N/A	30	08-OCT-21
Magnesium (Mg)		1.03	1.13		mg/L	9.3	30	08-OCT-21
WG3633906-2 IRM		**WT SAR4**						
Calcium (Ca)			106.3		%		70-130	08-OCT-21
Sodium (Na)			98.4		%		70-130	08-OCT-21
Magnesium (Mg)			109.4		%		70-130	08-OCT-21
WG3633906-5 LCS								
Calcium (Ca)			110.0		%		80-120	08-OCT-21
Sodium (Na)			106.0		%		80-120	08-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
SAR-R511-WT	**Soil**							
Batch R5614899								
WG3633906-5 LCS								
Magnesium (Mg)			108.4		%		80-120	08-OCT-21
WG3633906-1 MB								
Calcium (Ca)			<0.50		mg/L		0.5	08-OCT-21
Sodium (Na)			<0.50		mg/L		0.5	08-OCT-21
Magnesium (Mg)			<0.50		mg/L		0.5	08-OCT-21
VOC-511-HS-WT	**Soil**							
Batch R5614789								
WG3633826-4 DUP		**WG3633826-3**						
1,1,1,2-Tetrachloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
1,1,2,2-Tetrachloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
1,1,1-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
1,1,2-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
1,1-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
1,1-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
1,2-Dibromoethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
1,2-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
1,2-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
1,2-Dichloropropane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
1,3-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
1,4-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	08-OCT-21
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	08-OCT-21
Bromodichloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
Bromoform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
Bromomethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
Carbon tetrachloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
Chlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
cis-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
cis-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	08-OCT-21
Dibromochloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
Dichlorodifluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	08-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5614789								
WG3633826-4 DUP		**WG3633826-3**						
n-Hexane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
Methylene Chloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	12-OCT-21
MTBE		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	08-OCT-21
Methyl Ethyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	08-OCT-21
Methyl Isobutyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	08-OCT-21
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	08-OCT-21
Styrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
Tetrachloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	08-OCT-21
trans-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
trans-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	08-OCT-21
Trichloroethylene		<0.010	<0.010	RPD-NA	ug/g	N/A	40	08-OCT-21
Trichlorofluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	08-OCT-21
Vinyl chloride		<0.020	<0.020	RPD-NA	ug/g	N/A	40	08-OCT-21
WG3633826-2 LCS								
1,1,1,2-Tetrachloroethane			93.4		%		60-130	08-OCT-21
1,1,2,2-Tetrachloroethane			90.4		%		60-130	08-OCT-21
1,1,1-Trichloroethane			95.0		%		60-130	08-OCT-21
1,1,2-Trichloroethane			94.6		%		60-130	08-OCT-21
1,1-Dichloroethane			88.6		%		60-130	08-OCT-21
1,1-Dichloroethylene			94.2		%		60-130	08-OCT-21
1,2-Dibromoethane			89.5		%		70-130	08-OCT-21
1,2-Dichlorobenzene			90.0		%		70-130	08-OCT-21
1,2-Dichloroethane			90.7		%		60-130	08-OCT-21
1,2-Dichloropropane			93.0		%		70-130	08-OCT-21
1,3-Dichlorobenzene			89.5		%		70-130	08-OCT-21
1,4-Dichlorobenzene			88.9		%		70-130	08-OCT-21
Acetone			91.1		%		60-140	08-OCT-21
Benzene			91.0		%		70-130	08-OCT-21
Bromodichloromethane			99.3		%		50-140	08-OCT-21
Bromoform			89.9		%		70-130	08-OCT-21
Bromomethane			90.8		%		50-140	08-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5614789								
WG3633826-2 LCS								
Carbon tetrachloride			95.7		%		70-130	08-OCT-21
Chlorobenzene			92.7		%		70-130	08-OCT-21
Chloroform			94.0		%		70-130	08-OCT-21
cis-1,2-Dichloroethylene			95.0		%		70-130	08-OCT-21
cis-1,3-Dichloropropene			86.9		%		70-130	08-OCT-21
Dibromochloromethane			92.4		%		60-130	08-OCT-21
Dichlorodifluoromethane			73.4		%		50-140	08-OCT-21
Ethylbenzene			90.3		%		70-130	08-OCT-21
n-Hexane			85.2		%		70-130	08-OCT-21
Methylene Chloride			89.6		%		70-130	08-OCT-21
MTBE			86.6		%		70-130	08-OCT-21
m+p-Xylenes			92.4		%		70-130	08-OCT-21
Methyl Ethyl Ketone			83.1		%		60-140	08-OCT-21
Methyl Isobutyl Ketone			75.4		%		60-140	08-OCT-21
o-Xylene			89.1		%		70-130	08-OCT-21
Styrene			89.6		%		70-130	08-OCT-21
Tetrachloroethylene			94.4		%		60-130	08-OCT-21
Toluene			90.5		%		70-130	08-OCT-21
trans-1,2-Dichloroethylene			89.3		%		60-130	08-OCT-21
trans-1,3-Dichloropropene			84.7		%		70-130	08-OCT-21
Trichloroethylene			94.0		%		60-130	08-OCT-21
Trichlorofluoromethane			86.9		%		50-140	08-OCT-21
Vinyl chloride			81.8		%		60-140	08-OCT-21
WG3633826-1 MB								
1,1,1,2-Tetrachloroethane			<0.050		ug/g		0.05	08-OCT-21
1,1,2,2-Tetrachloroethane			<0.050		ug/g		0.05	08-OCT-21
1,1,1-Trichloroethane			<0.050		ug/g		0.05	08-OCT-21
1,1,2-Trichloroethane			<0.050		ug/g		0.05	08-OCT-21
1,1-Dichloroethane			<0.050		ug/g		0.05	08-OCT-21
1,1-Dichloroethylene			<0.050		ug/g		0.05	08-OCT-21
1,2-Dibromoethane			<0.050		ug/g		0.05	08-OCT-21
1,2-Dichlorobenzene			<0.050		ug/g		0.05	08-OCT-21
1,2-Dichloroethane			<0.050		ug/g		0.05	08-OCT-21
1,2-Dichloropropane			<0.050		ug/g		0.05	08-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5614789								
WG3633826-1 MB								
1,3-Dichlorobenzene			<0.050		ug/g		0.05	08-OCT-21
1,4-Dichlorobenzene			<0.050		ug/g		0.05	08-OCT-21
Acetone			<0.50		ug/g		0.5	08-OCT-21
Benzene			<0.0068		ug/g		0.0068	08-OCT-21
Bromodichloromethane			<0.050		ug/g		0.05	08-OCT-21
Bromoform			<0.050		ug/g		0.05	08-OCT-21
Bromomethane			<0.050		ug/g		0.05	08-OCT-21
Carbon tetrachloride			<0.050		ug/g		0.05	08-OCT-21
Chlorobenzene			<0.050		ug/g		0.05	08-OCT-21
Chloroform			<0.050		ug/g		0.05	08-OCT-21
cis-1,2-Dichloroethylene			<0.050		ug/g		0.05	08-OCT-21
cis-1,3-Dichloropropene			<0.030		ug/g		0.03	08-OCT-21
Dibromochloromethane			<0.050		ug/g		0.05	08-OCT-21
Dichlorodifluoromethane			<0.050		ug/g		0.05	08-OCT-21
Ethylbenzene			<0.018		ug/g		0.018	08-OCT-21
n-Hexane			<0.050		ug/g		0.05	08-OCT-21
Methylene Chloride			0.057	B	ug/g		0.05	08-OCT-21
MTBE			<0.050		ug/g		0.05	08-OCT-21
m+p-Xylenes			<0.030		ug/g		0.03	08-OCT-21
Methyl Ethyl Ketone			<0.50		ug/g		0.5	08-OCT-21
Methyl Isobutyl Ketone			<0.50		ug/g		0.5	08-OCT-21
o-Xylene			<0.020		ug/g		0.02	08-OCT-21
Styrene			<0.050		ug/g		0.05	08-OCT-21
Tetrachloroethylene			<0.050		ug/g		0.05	08-OCT-21
Toluene			<0.080		ug/g		0.08	08-OCT-21
trans-1,2-Dichloroethylene			<0.050		ug/g		0.05	08-OCT-21
trans-1,3-Dichloropropene			<0.030		ug/g		0.03	08-OCT-21
Trichloroethylene			<0.010		ug/g		0.01	08-OCT-21
Trichlorofluoromethane			<0.050		ug/g		0.05	08-OCT-21
Vinyl chloride			<0.020		ug/g		0.02	08-OCT-21
Surrogate: 1,4-Difluorobenzene			101.9		%		50-140	08-OCT-21
Surrogate: 4-Bromofluorobenzene			96.6		%		50-140	08-OCT-21
WG3633826-5 MS		**WG3633826-3**						
1,1,1,2-Tetrachloroethane			102.5		%		50-140	08-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5614789								
WG3633826-5 MS		**WG3633826-3**						
1,1,2,2-Tetrachloroethane			100.3		%		50-140	08-OCT-21
1,1,1-Trichloroethane			102.5		%		50-140	08-OCT-21
1,1,2-Trichloroethane			104.6		%		50-140	08-OCT-21
1,1-Dichloroethane			95.8		%		50-140	08-OCT-21
1,1-Dichloroethylene			99.0		%		50-140	08-OCT-21
1,2-Dibromoethane			99.8		%		50-140	08-OCT-21
1,2-Dichlorobenzene			97.7		%		50-140	08-OCT-21
1,2-Dichloroethane			99.98		%		50-140	08-OCT-21
1,2-Dichloropropane			102.2		%		50-140	08-OCT-21
1,3-Dichlorobenzene			97.2		%		50-140	08-OCT-21
1,4-Dichlorobenzene			96.2		%		50-140	08-OCT-21
Acetone			104.7		%		50-140	08-OCT-21
Benzene			98.3		%		50-140	08-OCT-21
Bromodichloromethane			108.8		%		50-140	08-OCT-21
Bromoform			100.2		%		50-140	08-OCT-21
Bromomethane			92.9		%		50-140	08-OCT-21
Carbon tetrachloride			102.5		%		50-140	08-OCT-21
Chlorobenzene			101.3		%		50-140	08-OCT-21
Chloroform			102.6		%		50-140	08-OCT-21
cis-1,2-Dichloroethylene			101.7		%		50-140	08-OCT-21
cis-1,3-Dichloropropene			93.7		%		50-140	08-OCT-21
Dibromochloromethane			101.7		%		50-140	08-OCT-21
Dichlorodifluoromethane			83.6		%		50-140	08-OCT-21
Ethylbenzene			98.4		%		50-140	08-OCT-21
n-Hexane			90.6		%		50-140	08-OCT-21
Methylene Chloride			94.0		%		50-140	08-OCT-21
MTBE			91.3		%		50-140	08-OCT-21
m+p-Xylenes			100.5		%		50-140	08-OCT-21
Methyl Ethyl Ketone			96.2		%		50-140	08-OCT-21
Methyl Isobutyl Ketone			85.7		%		50-140	08-OCT-21
o-Xylene			97.3		%		50-140	08-OCT-21
Styrene			98.5		%		50-140	08-OCT-21
Tetrachloroethylene			101.6		%		50-140	08-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5614789								
WG3633826-5 MS		**WG3633826-3**						
Toluene			98.6		%		50-140	08-OCT-21
trans-1,2-Dichloroethylene			95.0		%		50-140	08-OCT-21
trans-1,3-Dichloropropene			91.7		%		50-140	08-OCT-21
Trichloroethylene			101.2		%		50-140	08-OCT-21
Trichlorofluoromethane			90.9		%		50-140	08-OCT-21
Vinyl chloride			84.1		%		50-140	08-OCT-21

Quality Control Report

Workorder: L2647481 Report Date: 14-OCT-21

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: Mariam Mohammadi

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
B	Method Blank exceeds ALS DQO. Associated sample results which are < Limit of Reporting or > 5 times blank level are considered reliable.
J	Duplicate results and limits are expressed in terms of absolute difference.
LCS-L	Lab Control Sample recovery was below ALS DQO. Reference Material and/or Matrix Spike results were acceptable. Non-detected sample results are considered reliable. Other results, if reported, have been qualified.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.
RRQC	Refer to report remarks for information regarding this QC result.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

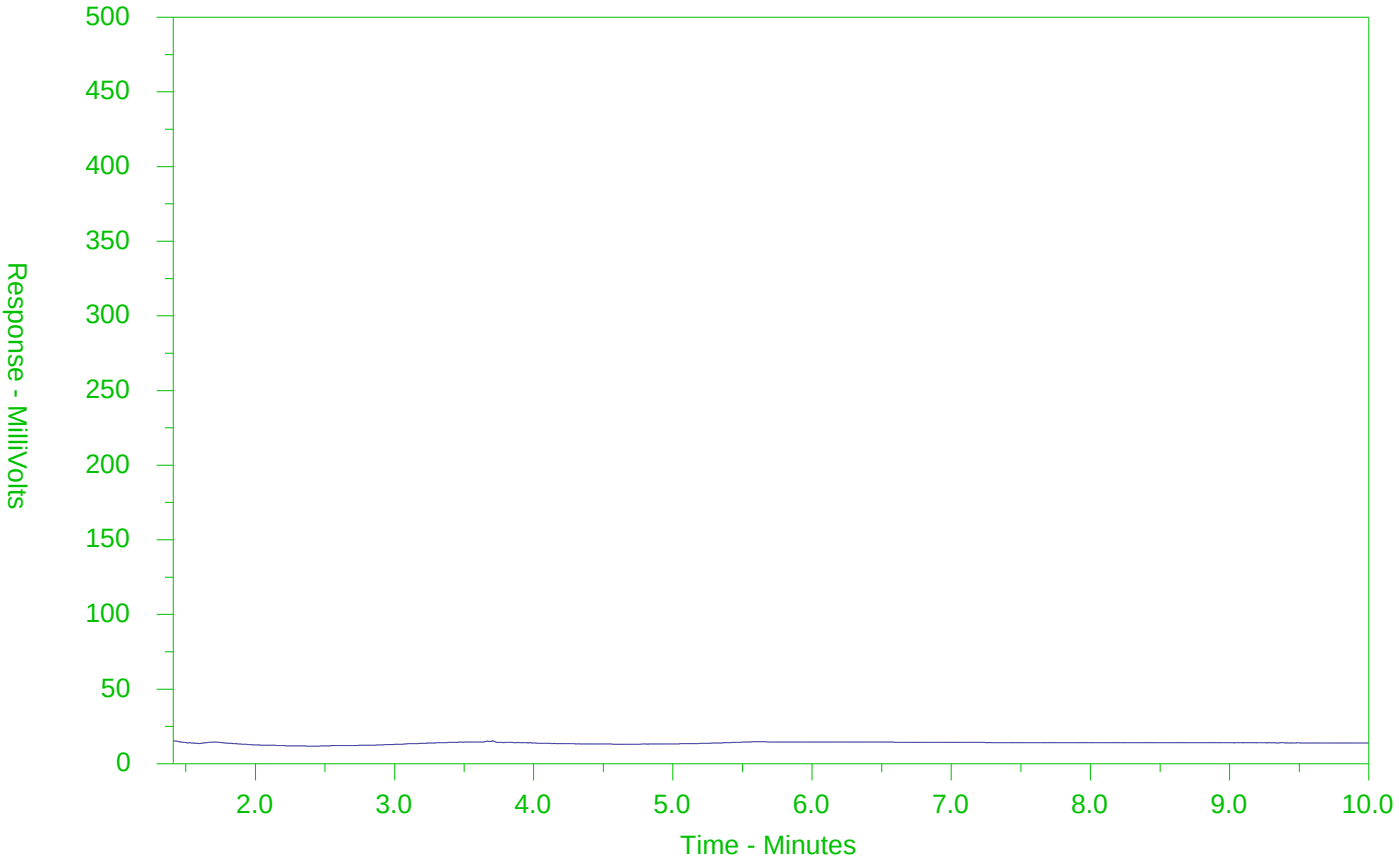
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2647481-1
Client Sample ID: MW1



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →	← Motor Oils/Lube Oils/Grease →		
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

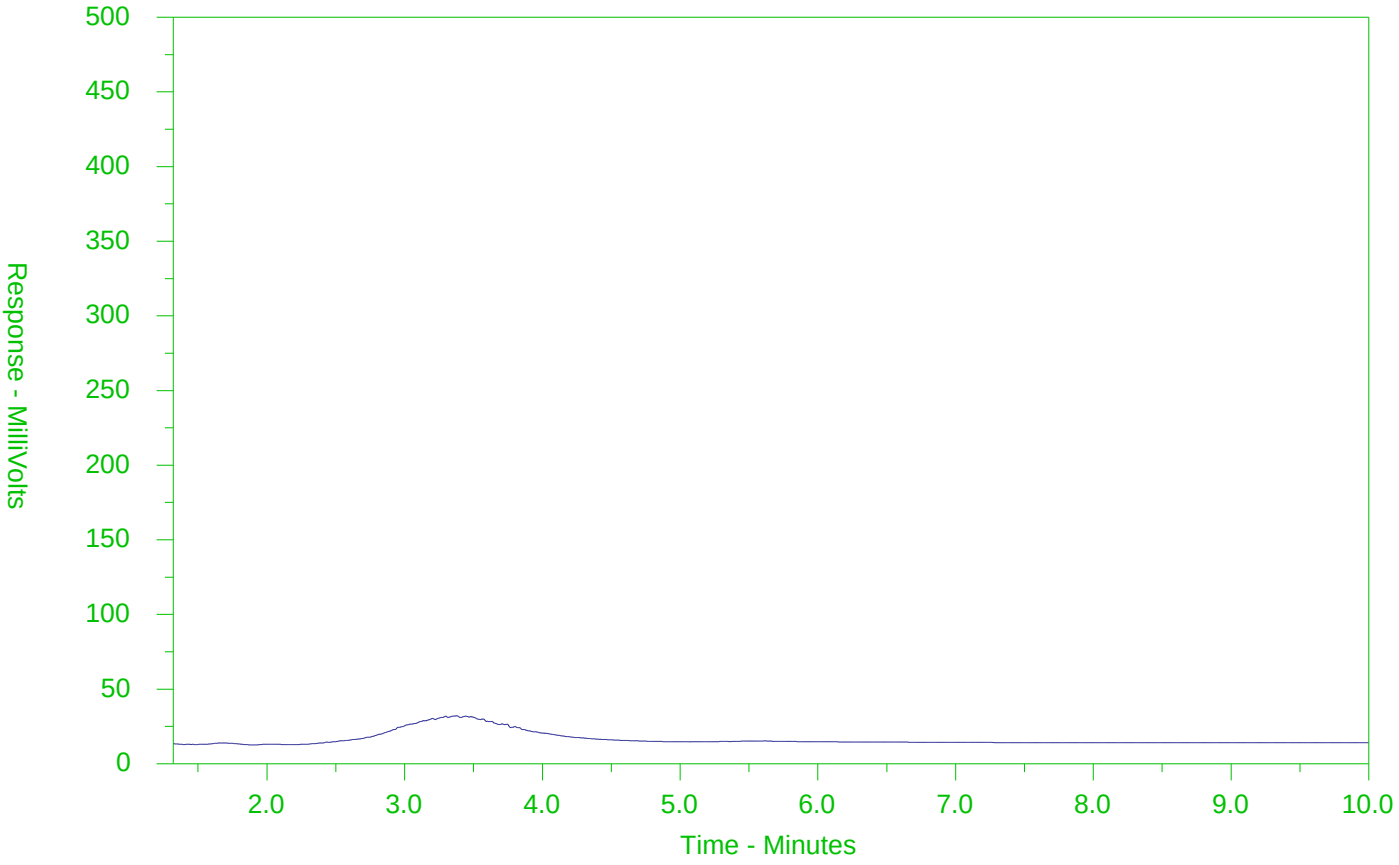
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2647481-2
Client Sample ID: MW2



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

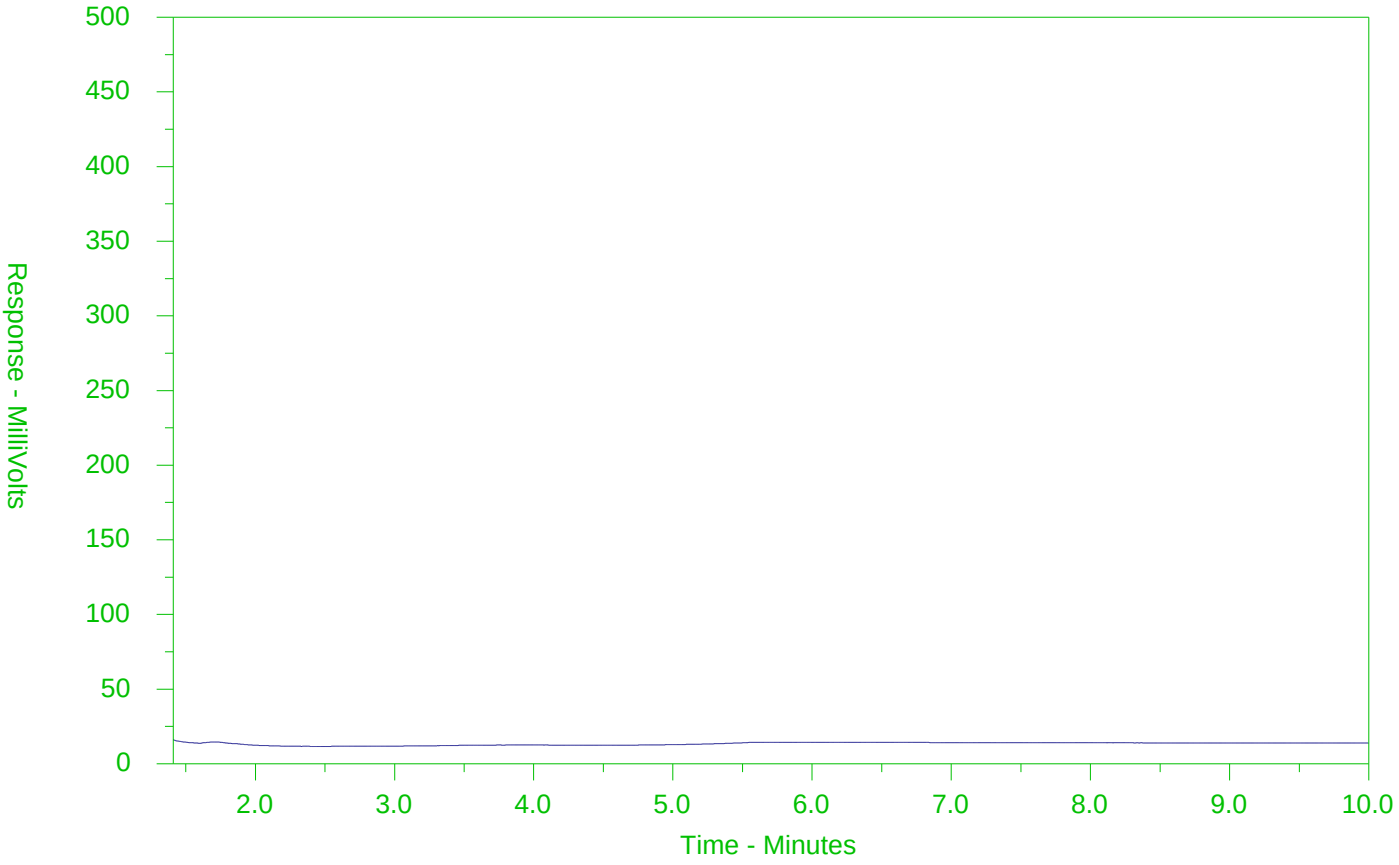
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2647481-3
Client Sample ID: MW3



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

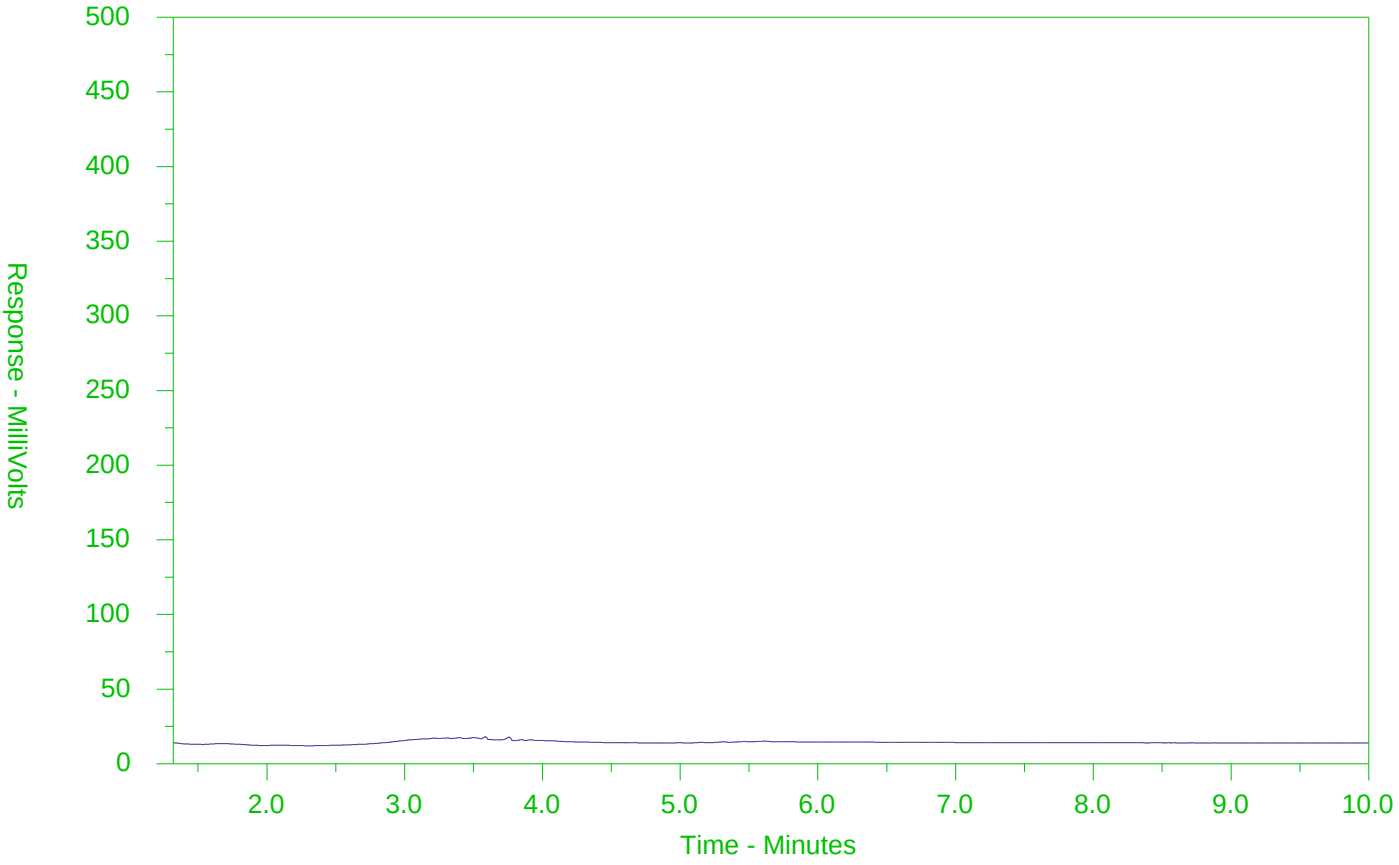
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2647481-4
Client Sample ID: MW4



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →	← Motor Oils/Lube Oils/Grease →		
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

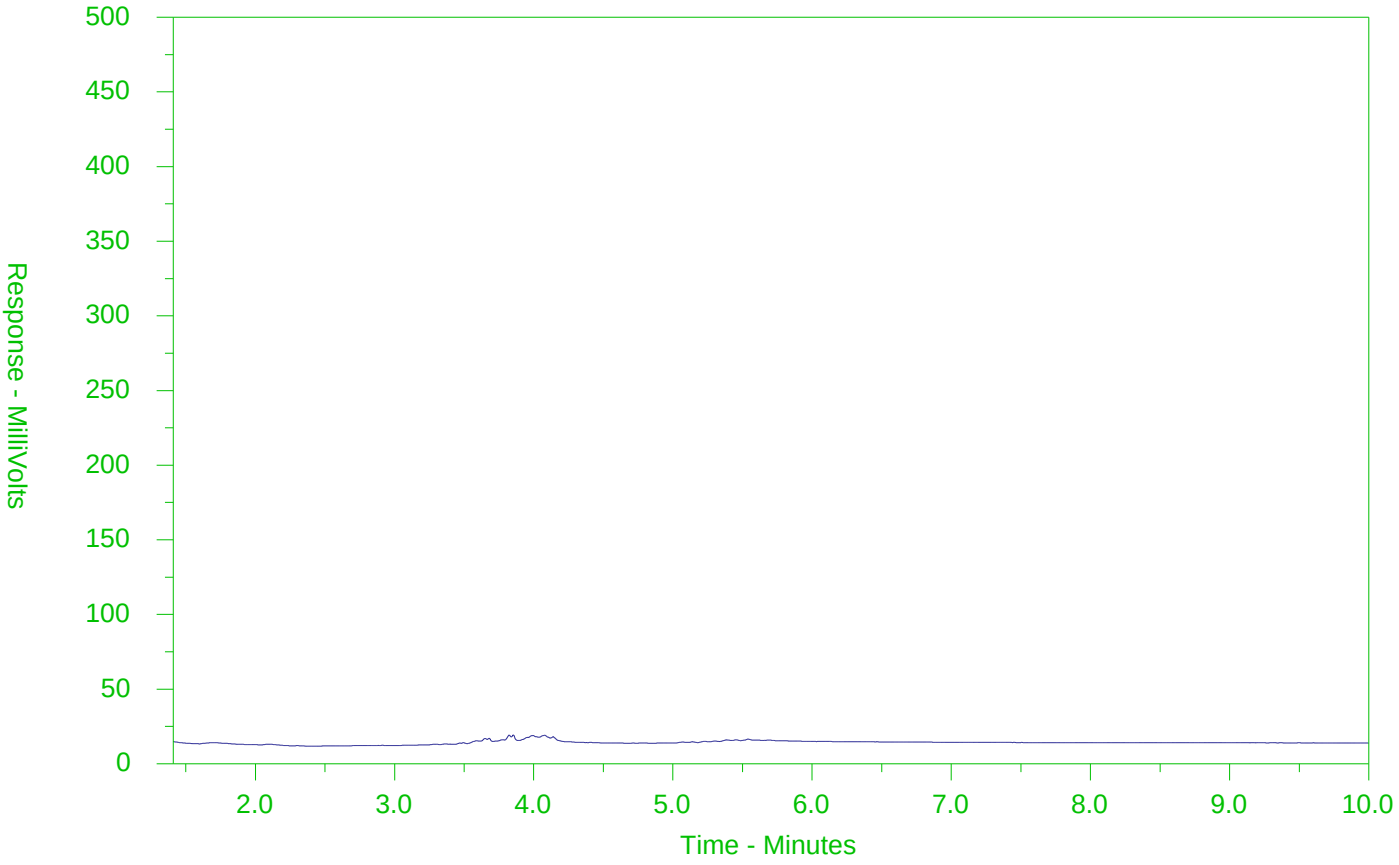
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2647481-5
Client Sample ID: MW5



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
←Diesel/Jet Fuels→			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

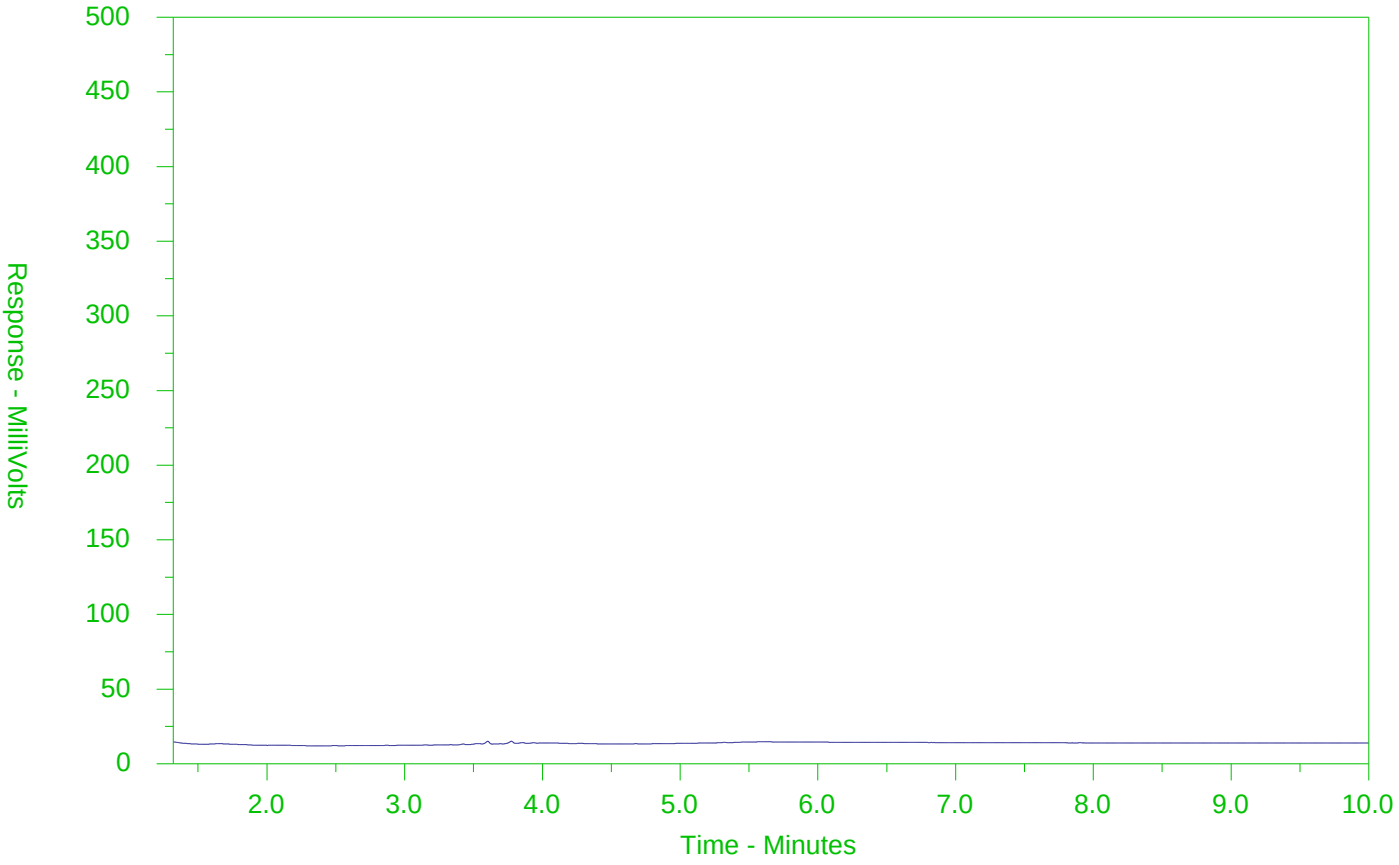
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2647481-6
Client Sample ID: DUP 1



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

www.alsglobal.com

L2647481-COFC

...tical Request Form

668 9878

COC Number: 20 -

Page of

Report To	Contact and company name below will appear on the final report	Select Report Format: PDF EXCEL EDD (DIGITAL)	Turnaround Time (TAT) Requested	AFFIX ALS BARCODE LABEL HERE (ALS use only)
Company:	HLV2K Engineering Limited	Merge QC/QCI Reports with COA YES NO N/A	Routine [R] if received by 3pm M-F - no surcharges apply	
Contact:	Mariam Mohammadi	Compare Results to Criteria on Report - provide details below if box checked	4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum	
Phone:	6479753676	Select Distribution: EMAIL MAIL FAX	3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum	
	Company address below will appear on the final report	Email 1 or Fax mariam.mohammadi@HLV2K.com	2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum	
Street:	4-2179 Dunwin Drive	Email 2 john.lametti@HLV2K.com	1 day [E] if received by 3pm M-F - 100% rush surcharge minimum	
City/Province:	Mississauga, ON	Email 3	Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests	
Postal Code:	L5L 1X2		Date and Time Required for all E&P TATs:	
Invoice To	Same as Report To YES NO	Invoice Recipients	For all tests with rush TATs requested, please contact your AM to confirm availability.	
	Copy of Invoice with Report YES NO	Select Invoice Distribution: EMAIL MAIL FAX		
Company:	HLV2K Engineering Limited	Email 1 or Fax Invoice@HLV2K.com		
Contact:	Manny Virani	Email 2		

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:	84316	AFE/Cost Center:	PO#
Job #:	2100428DE	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:	Erin	Location:	
ALS Lab Work Order # (ALS use only):	L2647481	ALS Contact:	Sampler:

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below	O. Reg. 153/04 - Metals & Inorganics	O. Reg. 153/04 - VOC / F1	O. Reg. 153/04 - PHC F2-F4	O. Reg. 153/04 - PAH	O. Reg. 153/04 - OC Pesticides	O. Reg. 153/04 - PCB	O. Reg. 153/04 - Moisture	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MW1	5-Oct-21	9:00	Soil		R	R	R	R	R		R				
	MW2	5-Oct-21	9:00	Soil		R	R	R	R	R		R				
	MW3	5-Oct-21	9:00	Soil		R	R	R	R	R		R				
	MW4	5-Oct-21	9:00	Soil		R	R	R	R	R		R				
	MW5	5-Oct-21	9:00	Soil		R	R	R	R		R	R				
	Dup1	5-Oct-21	9:00	Soil		R	R	R	R	R		R				

Drinking Water (DW) Samples[1] (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)
Are samples taken from a Regulated DW System? YES NO	Ontario Regulation 153/04 - April 15, 2011 Standards - T1 - Soil - RPI/ICC Property Use
Are samples for human consumption/ use? YES NO	

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: NONE ICE ICE PACKS FROZEN COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: YES NO

Cooler Custody Seals Intact: YES N/A Sample Custody Seals Intact: YES N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
2.2				7.8			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)		FINAL SHIPMENT RECEPTION (ALS use only)		
Released by:	Date:	Time:	Received by: Karan	Date: 10/5/2021	Time: 14:53	Received by: WC	Date: 05/11/21 Time: 17:27

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.

HLV2K Engineering Limited (Brampton)
ATTN: John Lametti
2179 Dunwin Drive
Unit 4
Mississauga ON L5L 1X2

Date Received: 08-OCT-21
Report Date: 21-OCT-21 07:38 (MT)
Version: FINAL

Client Phone: 437-370-0317

Certificate of Analysis

Lab Work Order #: L2649945

Project P.O. #: NOT SUBMITTED
Job Reference: 2100428DE
C of C Numbers:
Legal Site Desc: 5196 TRAFALGAR ROAD N ERIN, ON

Amanda Overholster
Account Manager

ANALYTICAL REPORT

Summary of Guideline Exceedances

Guideline ALS ID	Client ID	Grouping	Analyte	Result	Guideline Limit	Unit
Ontario Regulation 153/04 - April 15, 2011 Standards - T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use						
L2649945-2	HS2	Hydrocarbons	F4 (C34-C50)	946	120	ug/g
			F4G-SG (GHH-Silica)	5290	120	ug/g

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Physical Tests - SOIL

		Guide Limits			
Lab ID				L2649945-1	L2649945-2
Sample Date				08-OCT-21	08-OCT-21
Sample ID				HS1	HS2
Analyte	**Unit**	**#1**	**#2**		
Conductivity	mS/cm	0.57	-	0.125	0.131
% Moisture	%	-	-	13.8	12.5
pH	pH units	-	-	7.46	6.89

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Cyanides - SOIL

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID: L2649945-1 Sample Date: 08-OCT-21 Sample ID: HS1	Lab ID: L2649945-2 Sample Date: 08-OCT-21 Sample ID: HS2
Cyanide, Weak Acid Diss	ug/g	0.051	-	<0.050	<0.050

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

ANALYTICAL REPORT

Saturated Paste Extractables - SOIL

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID: L2649945-1 / Sample Date: 08-OCT-21 / Sample ID: HS1	Lab ID: L2649945-2 / Sample Date: 08-OCT-21 / Sample ID: HS2
SAR	SAR	2.4	-	<0.10	<0.10
Calcium (Ca)	mg/L	-	-	21.5	23.0
Magnesium (Mg)	mg/L	-	-	4.58	3.14
Sodium (Na)	mg/L	-	-	0.85	0.58

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Metals - SOIL

				Lab ID	L2649945-1	L2649945-2
				Sample Date	08-OCT-21	08-OCT-21
				Sample ID	HS1	HS2
		Guide Limits				
Analyte	Unit	#1	#2			
Antimony (Sb)	ug/g	1.3	-		<1.0	<1.0
Arsenic (As)	ug/g	18	-		3.8	4.1
Barium (Ba)	ug/g	220	-		40.6	36.2
Beryllium (Be)	ug/g	2.5	-		<0.50	<0.50
Boron (B)	ug/g	36	-		<5.0	<5.0
Boron (B), Hot Water Ext.	ug/g	36	-		0.14	0.64
Cadmium (Cd)	ug/g	1.2	-		<0.50	<0.50
Chromium (Cr)	ug/g	70	-		13.8	9.2
Cobalt (Co)	ug/g	21	-		4.5	4.8
Copper (Cu)	ug/g	92	-		12.6	18.8
Lead (Pb)	ug/g	120	-		15.1	35.2
Mercury (Hg)	ug/g	0.27	-		0.0294	0.0383
Molybdenum (Mo)	ug/g	2	-		<1.0	<1.0
Nickel (Ni)	ug/g	82	-		9.4	7.8
Selenium (Se)	ug/g	1.5	-		<1.0	<1.0
Silver (Ag)	ug/g	0.5	-		<0.20	<0.20
Thallium (Tl)	ug/g	1	-		<0.50	<0.50
Uranium (U)	ug/g	2.5	-		<1.0	<1.0
Vanadium (V)	ug/g	86	-		31.7	20.0
Zinc (Zn)	ug/g	290	-		58.0	86.2

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Speciated Metals - SOIL

		Guide Limits			
Lab ID				L2649945-1	L2649945-2
Sample Date				08-OCT-21	08-OCT-21
Sample ID				HS1	HS2
Analyte	**Unit**	**#1**	**#2**		
Chromium, Hexavalent	ug/g	0.66	-	0.22	<0.20

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Volatile Organic Compounds - SOIL

				Lab ID	L2649945-1	L2649945-2
				Sample Date	08-OCT-21	08-OCT-21
				Sample ID	HS1	HS2
		Guide Limits				
Analyte	Unit	#1	#2			
Acetone	ug/g	0.5	-		<0.50	<0.50
Benzene	ug/g	0.02	-		<0.0068	<0.0068
Bromodichloromethane	ug/g	0.05	-		<0.050	<0.050
Bromoform	ug/g	0.05	-		<0.050	<0.050
Bromomethane	ug/g	0.05	-		<0.050	<0.050
Carbon tetrachloride	ug/g	0.05	-		<0.050	<0.050
Chlorobenzene	ug/g	0.05	-		<0.050	<0.050
Dibromochloromethane	ug/g	0.05	-		<0.050	<0.050
Chloroform	ug/g	0.05	-		<0.050	<0.050
1,2-Dibromoethane	ug/g	0.05	-		<0.050	<0.050
1,2-Dichlorobenzene	ug/g	0.05	-		<0.050	<0.050
1,3-Dichlorobenzene	ug/g	0.05	-		<0.050	<0.050
1,4-Dichlorobenzene	ug/g	0.05	-		<0.050	<0.050
Dichlorodifluoromethane	ug/g	0.05	-		<0.050	<0.050
1,1-Dichloroethane	ug/g	0.05	-		<0.050	<0.050
1,2-Dichloroethane	ug/g	0.05	-		<0.050	<0.050
1,1-Dichloroethylene	ug/g	0.05	-		<0.050	<0.050
cis-1,2-Dichloroethylene	ug/g	0.05	-		<0.050	<0.050
trans-1,2-Dichloroethylene	ug/g	0.05	-		<0.050	<0.050
Methylene Chloride	ug/g	0.05	-		<0.050	<0.050
1,2-Dichloropropane	ug/g	0.05	-		<0.050	<0.050
cis-1,3-Dichloropropene	ug/g	-	-		<0.030	<0.030
trans-1,3-Dichloropropene	ug/g	-	-		<0.030	<0.030
1,3-Dichloropropene (cis & trans)	ug/g	0.05	-		<0.042	<0.042
Ethylbenzene	ug/g	0.05	-		<0.018	<0.018
n-Hexane	ug/g	0.05	-		<0.050	<0.050
Methyl Ethyl Ketone	ug/g	0.5	-		<0.50	<0.50
Methyl Isobutyl Ketone	ug/g	0.5	-		<0.50	<0.50
MTBE	ug/g	0.05	-		<0.050	<0.050
Styrene	ug/g	0.05	-		<0.050	<0.050

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Volatile Organic Compounds - SOIL

				Lab ID	L2649945-1	L2649945-2
				Sample Date	08-OCT-21	08-OCT-21
				Sample ID	HS1	HS2
		Guide Limits				
Analyte	Unit	#1	#2			
1,1,1,2-Tetrachloroethane	ug/g	0.05	-		<0.050	<0.050
1,1,2,2-Tetrachloroethane	ug/g	0.05	-		<0.050	<0.050
Tetrachloroethylene	ug/g	0.05	-		<0.050	<0.050
Toluene	ug/g	0.2	-		<0.080	<0.080
1,1,1-Trichloroethane	ug/g	0.05	-		<0.050	<0.050
1,1,2-Trichloroethane	ug/g	0.05	-		<0.050	<0.050
Trichloroethylene	ug/g	0.05	-		<0.010	<0.010
Trichlorofluoromethane	ug/g	0.25	-		<0.050	<0.050
Vinyl chloride	ug/g	0.02	-		<0.020	<0.020
o-Xylene	ug/g	-	-		<0.020	<0.020
m+p-Xylenes	ug/g	-	-		<0.030	<0.030
Xylenes (Total)	ug/g	0.05	-		<0.050	<0.050
Surrogate: 4-Bromofluorobenzene	%	-	-		79.9	93.6
Surrogate: 1,4-Difluorobenzene	%	-	-		89.4	104.9

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Hydrocarbons - SOIL

		Guide Limits			
Lab ID				L2649945-1	L2649945-2
Sample Date				08-OCT-21	08-OCT-21
Sample ID				HS1	HS2
Analyte	**Unit**	**#1**	**#2**		
F1 (C6-C10)	ug/g	25	-	<5.0	<5.0
F1-BTEX	ug/g	25	-	<5.0	<5.0
F2 (C10-C16)	ug/g	10	-	<10	<10
F2-Naphth	ug/g	-	-	<10	<10
F3 (C16-C34)	ug/g	240	-	<50	236
F3-PAH	ug/g	-	-	<50	235
F4 (C34-C50)	ug/g	120	-	<50	946
F4G-SG (GHH-Silica)	ug/g	120	-		5290
Total Hydrocarbons (C6-C50)	ug/g	-	-	<72	1180
Chrom. to baseline at nC50		-	-	YES	NO
Surrogate: 2-Bromobenzotrifluoride	%	-	-	83.0	86.8
Surrogate: 3,4-Dichlorotoluene	%	-	-	92.8	92.2

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

ANALYTICAL REPORT

Polycyclic Aromatic Hydrocarbons - SOIL

		Guide Limits			
Lab ID				L2649945-1	L2649945-2
Sample Date				08-OCT-21	08-OCT-21
Sample ID				HS1	HS2
Analyte	**Unit**	**#1**	**#2**		
Acenaphthene	ug/g	0.072	-	<0.050	<0.050
Acenaphthylene	ug/g	0.093	-	<0.050	<0.050
Anthracene	ug/g	0.16	-	<0.050	<0.050
Benzo(a)anthracene	ug/g	0.36	-	<0.050	<0.050
Benzo(a)pyrene	ug/g	0.3	-	<0.050	<0.050
Benzo(b&j)fluoranthene	ug/g	0.47	-	<0.050	0.060
Benzo(g,h,i)perylene	ug/g	0.68	-	<0.050	<0.050
Benzo(k)fluoranthene	ug/g	0.48	-	<0.050	<0.050
Chrysene	ug/g	2.8	-	<0.050	<0.050
Dibenz(a,h)anthracene	ug/g	0.1	-	<0.050	<0.050
Fluoranthene	ug/g	0.56	-	<0.050	0.076
Fluorene	ug/g	0.12	-	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	ug/g	0.23	-	<0.050	<0.050
1+2-Methylnaphthalenes	ug/g	0.59	-	<0.042	<0.042
1-Methylnaphthalene	ug/g	0.59	-	<0.030	<0.030
2-Methylnaphthalene	ug/g	0.59	-	<0.030	<0.030
Naphthalene	ug/g	0.09	-	<0.013	<0.013
Phenanthrene	ug/g	0.69	-	<0.046	<0.046
Pyrene	ug/g	1	-	<0.050	0.065
Surrogate: 2-Fluorobiphenyl	%	-	-	91.5	86.7
Surrogate: d14-Terphenyl	%	-	-	96.6	92.0

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Polychlorinated Biphenyls - SOIL

			Lab ID	L2649945-1	L2649945-2
			Sample Date	08-OCT-21	08-OCT-21
			Sample ID	HS1	HS2
Analyte	Unit	Guide Limits #1	#2		
Aroclor 1242	ug/g	-	-	<0.010	<0.010
Aroclor 1248	ug/g	-	-	<0.010	<0.010
Aroclor 1254	ug/g	-	-	<0.010	<0.010
Aroclor 1260	ug/g	-	-	<0.010	0.026 PRAR
Total PCBs	ug/g	0.3	-	<0.020	0.026
Surrogate: d14-Terphenyl	%	-	-	125.3	112.5

Guide Limit #1: T1-Soil-Res/Park/Inst/Ind/Com/Commu Property Use

Detection Limit for result exceeds Guideline Limit. Assessment against Guideline Limit cannot be made.
Analytical result for this parameter exceeds Guide Limits listed. See Summary of Guideline Exceedances.

* Please refer to the Reference Information section for an explanation of any qualifiers noted.

Reference Information

Qualifiers for Individual Parameters Listed:

Qualifier	Description
PRAR	PCB Pattern Most Closely Resembles Aroclor Reported

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
B-HWS-R511-WT	Soil	Boron-HWE-O.Reg 153/04 (July 2011)	HW EXTR, EPA 6010B

A dried solid sample is extracted with calcium chloride, the sample undergoes a heating process. After cooling the sample is filtered and analyzed by ICP/OES.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

CN-WAD-R511-WT	Soil	Cyanide (WAD)-O.Reg 153/04 (July 2011)	MOE 3015/APHA 4500CN I-WAD

The sample is extracted with a strong base for 16 hours, and then filtered. The filtrate is then distilled where the cyanide is converted to cyanogen chloride by reacting with chloramine-T, the cyanogen chloride then reacts with a combination of barbituric acid and isonicotinic acid to form a highly colored complex.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

CR-CR6-IC-WT	Soil	Hexavalent Chromium in Soil	SW846 3060A/7199

This analysis is carried out using procedures adapted from "Test Methods for Evaluating Solid Waste" SW-846, Method 7199, published by the United States Environmental Protection Agency (EPA). The procedure involves analysis for chromium (VI) by ion chromatography using diphenylcarbazide in a sulphuric acid solution.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

EC-WT	Soil	Conductivity (EC)	MOEE E3138

A representative subsample is tumbled with de-ionized (DI) water. The ratio of water to soil is 2:1 v/w. After tumbling the sample is then analyzed by a conductivity meter.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

F1-F4-511-CALC-WT	Soil	F1-F4 Hydrocarbon Calculated Parameters	CCME CWS-PHC, Pub #1310, Dec 2001-S

Analytical methods used for analysis of CCME Petroleum Hydrocarbons have been validated and comply with the Reference Method for the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

In cases where results for both F4 and F4G are reported, the greater of the two results must be used in any application of the CWS PHC guidelines and the gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.
In samples where BTEX and F1 were analyzed , F1-BTEX represents a value where the sum of Benzene, Toluene, Ethylbenzene and total Xylenes has been subtracted from F1.

In samples where PAHs, F2 and F3 were analyzed, F2-Naphth represents the result where Naphthalene has been subtracted from F2. F3-PAH represents a result where the sum of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Dibenzo(a,h)anthracene, Fluoranthene, Indeno(1,2,3-cd)pyrene, Phenanthrene, and Pyrene has been subtracted from F3.

Unless otherwise qualified, the following quality control criteria have been met for the F1 hydrocarbon range:
1. All extraction and analysis holding times were met.

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**

2. Instrument performance showing response factors for C6 and C10 within 30% of the response factor for toluene.
3. Linearity of gasoline response within 15% throughout the calibration range.

Unless otherwise qualified, the following quality control criteria have been met for the F2-F4 hydrocarbon ranges:
1. All extraction and analysis holding times were met.
2. Instrument performance showing C10, C16 and C34 response factors within 10% of their average.
3. Instrument performance showing the C50 response factor within 30% of the average of the C10, C16 and C34 response factors.
4. Linearity of diesel or motor oil response within 15% throughout the calibration range.

F1-HS-511-WT Soil F1-O.Reg 153/04 (July 2011) E3398/CCME TIER 1-HS

Fraction F1 is determined by extracting a soil or sediment sample as received with methanol, then analyzing by headspace-GC/FID.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

F2-F4-511-WT Soil F2-F4-O.Reg 153/04 (July 2011) CCME Tier 1

Petroleum Hydrocarbons (F2-F4 fractions) are extracted from soil with 1:1 hexane:acetone using a rotary extractor. Extracts are treated with silica gel to remove polar organic interferences. F2, F3, & F4 are analyzed by GC-FID. F4G-sg is analyzed gravimetrically.

Notes:
1. F2 (C10-C16): Sum of all hydrocarbons that elute between nC10 and nC16.
2. F3 (C16-C34): Sum of all hydrocarbons that elute between nC16 and nC34.
3. F4 (C34-C50): Sum of all hydrocarbons that elute between nC34 and nC50.
4. F4G: Gravimetric Heavy Hydrocarbons
5. F4G-sg: Gravimetric Heavy Hydrocarbons (F4G) after silica gel treatment.
6. Where both F4 (C34-C50) and F4G-sg are reported for a sample, the larger of the two values is used for comparison against the relevant CCME guideline for F4.
7. F4G-sg cannot be added to the C6 to C50 hydrocarbon results to obtain an estimate of total extractable hydrocarbons.
8. This method is validated for use.
9. Data from analysis of validation and quality control samples is available upon request.
10. Reported results are expressed as milligrams per dry kilogram, unless otherwise indicated.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

F4G-ADD-511-WT Soil F4G SG-O.Reg 153/04 (July 2011) MOE DECPH-E3398/CCME TIER 1

F4G, gravimetric analysis, is determined if the chromatogram does not return to baseline at or before C50. A soil sample is extracted with a solvent mix, the solvent is evaporated and the weight of the residue is determined.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

HG-200.2-CVAA-WT Soil Mercury in Soil by CVAAS EPA 200.2/1631E (mod)

Soil samples are digested with nitric and hydrochloric acids, followed by analysis by CVAAS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

MET-200.2-CCMS-WT Soil Metals in Soil by CRC ICPMS EPA 200.2/6020B (mod)

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**

Soil/sediment is dried, disaggregated, and sieved (2 mm). For tests intended to support Ontario regulations, the <2mm fraction is ground to pass through a 0.355 mm sieve. Strong Acid Leachable Metals in the <2mm fraction are solubilized by heated digestion with nitric and hydrochloric acids. Instrumental analysis is by Collision / Reaction Cell ICPMS.

Limitations: This method is intended to liberate environmentally available metals. Silicate minerals are not solubilized. Some metals may be only partially recovered (matrix dependent), including Al, Ba, Be, Cr, S, Sr, Ti, Tl, V, W, and Zr. Elemental Sulfur may be poorly recovered by this method. Volatile forms of sulfur (e.g. sulfide, H2S) may be excluded if lost during sampling, storage, or digestion.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

METHYLNAPS-CALC-WT	Soil	ABN-Calculated Parameters	SW846 8270
MOISTURE-WT	Soil	% Moisture	CCME PHC in Soil - Tier 1 (mod)
PAH-511-WT	Soil	PAH-O.Reg 153/04 (July 2011)	SW846 3510/8270

A representative sub-sample of soil is fortified with deuterium-labelled surrogates and a mechanical shaking techniqueis used to extract the sample with a mixture of methanol and toluene. The extracts are concentrated and analyzed by GC/MS. Results for benzo(b) fluoranthene may include contributions from benzo(j)fluoranthene, if also present in the sample.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

PCB-511-WT	Soil	PCB-O.Reg 153/04 (July 2011)	SW846 3510/8082

An aliquot of a solid sample is extracted with a solvent, extract is cleaned up and analyzed on the GC/MS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

PH-WT	Soil	pH	MOEE E3137A

A minimum 10g portion of the sample is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil and then analyzed using a pH meter and electrode.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).

SAR-R511-WT	Soil	SAR-O.Reg 153/04 (July 2011)	SW846 6010C

A dried, disaggregated solid sample is extracted with deionized water, the aqueous extract is separated from the solid, acidified and then analyzed using a ICP/OES. The concentrations of Na, Ca and Mg are reported as per CALA requirements for calculated parameters. These individual parameters are not for comparison to any guideline.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

VOC-1,3-DCP-CALC-WT	Soil	Regulation 153 VOCs	SW8260B/SW8270C
VOC-511-HS-WT	Soil	VOC-O.Reg 153/04 (July 2011)	SW846 8260 (511)

Soil and sediment samples are extracted in methanol and analyzed by headspace-GC/MS.

Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011 and as of November 30, 2020), unless a subset of the Analytical Test Group (ATG) has been requested (the Protocol states that all analytes in an ATG must be reported).

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
XYLENES-SUM-CALC-WT	Soil	Sum of Xylene Isomer Concentrations	CALCULATION

Total xylenes represents the sum of o-xylene and m&p-xylene.

**ALS test methods may incorporate modifications from specified reference methods to improve performance.

Chain of Custody Numbers:

The last two letters of the above test code(s) indicate the laboratory that performed analytical analysis for that test. Refer to the list below:

Laboratory Definition Code	Laboratory Location
WT	ALS ENVIRONMENTAL - WATERLOO, ONTARIO, CANADA

GLOSSARY OF REPORT TERMS

Surrogates are compounds that are similar in behaviour to target analyte(s), but that do not normally occur in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery. In reports that display the D.L. column, laboratory objectives for surrogates are listed there.
mg/kg - milligrams per kilogram based on dry weight of sample
mg/kg wwt - milligrams per kilogram based on wet weight of sample
mg/kg lwt - milligrams per kilogram based on lipid-adjusted weight
mg/L - unit of concentration based on volume, parts per million.
< - Less than.
D.L. - The reporting limit.
N/A - Result not available. Refer to qualifier code and definition for explanation.

Test results reported relate only to the samples as received by the laboratory.
UNLESS OTHERWISE STATED, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.
Analytical results in unsigned test reports with the DRAFT watermark are subject to change, pending final QC review.

Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, fitness for a particular purpose, or non-infringement. ALS assumes no responsibility for errors or omissions in the information. Guideline limits are not adjusted for the hardness, pH or temperature of the sample (the most conservative values are used). Measurement uncertainty is not applied to test results prior to comparison with specified criteria values.

Quality Control Report

Workorder: L2649945 Report Date: 21-OCT-21

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: John Lametti

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
B-HWS-R511-WT	**Soil**							
Batch R5624368								
WG3640252-4 DUP		**L2649928-3**						
Boron (B), Hot Water Ext.		<0.10	<0.10	RPD-NA	ug/g	N/A	30	19-OCT-21
WG3640252-2 IRM		**WT SAR4**						
Boron (B), Hot Water Ext.			101.5		%		70-130	19-OCT-21
WG3640252-3 LCS								
Boron (B), Hot Water Ext.			103.0		%		70-130	19-OCT-21
WG3640252-1 MB								
Boron (B), Hot Water Ext.			<0.10		ug/g		0.1	19-OCT-21
CN-WAD-R511-WT	**Soil**							
Batch R5625199								
WG3639685-3 DUP		**L2649999-5**						
Cyanide, Weak Acid Diss		<0.050	<0.050	RPD-NA	ug/g	N/A	35	20-OCT-21
WG3639685-2 LCS								
Cyanide, Weak Acid Diss			91.1		%		80-120	20-OCT-21
WG3639685-1 MB								
Cyanide, Weak Acid Diss			<0.050		ug/g		0.05	20-OCT-21
WG3639685-4 MS		**L2649999-5**						
Cyanide, Weak Acid Diss			92.1		%		70-130	20-OCT-21
CR-CR6-IC-WT	**Soil**							
Batch R5625319								
WG3639861-4 CRM		**WT-SQC012**						
Chromium, Hexavalent			83.6		%		70-130	20-OCT-21
WG3639861-3 DUP		**L2647649-15**						
Chromium, Hexavalent		<0.20	<0.20	RPD-NA	ug/g	N/A	35	20-OCT-21
WG3639861-2 LCS								
Chromium, Hexavalent			95.1		%		80-120	20-OCT-21
WG3639861-1 MB								
Chromium, Hexavalent			<0.20		ug/g		0.2	20-OCT-21
EC-WT	**Soil**							
Batch R5624291								
WG3640253-4 DUP		**WG3640253-3**						
Conductivity		0.738	0.737		mS/cm	0.1	20	19-OCT-21
WG3640253-2 IRM		**WT SAR4**						
Conductivity			109.9		%		70-130	19-OCT-21
WG3640604-1 LCS								
Conductivity			104.3		%		90-110	19-OCT-21
WG3640253-1 MB								

Quality Control Report

Workorder: L2649945 Report Date: 21-OCT-21

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: John Lametti

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
EC-WT	**Soil**							
Batch R5624291								
WG3640253-1 MB								
Conductivity			<0.0040		mS/cm		0.004	19-OCT-21
F1-HS-511-WT	**Soil**							
Batch R5619859								
WG3636810-4 DUP		**WG3636810-3**						
F1 (C6-C10)		<5.0	<5.0	RPD-NA	ug/g	N/A	30	15-OCT-21
WG3636810-2 LCS								
F1 (C6-C10)			97.9		%		80-120	15-OCT-21
WG3636810-1 MB								
F1 (C6-C10)			<5.0		ug/g		5	15-OCT-21
Surrogate: 3,4-Dichlorotoluene			113.1		%		60-140	15-OCT-21
WG3636810-5 MS		**WG3636810-3**						
F1 (C6-C10)			121.2		%		60-140	15-OCT-21
F2-F4-511-WT	**Soil**							
Batch R5624236								
WG3639432-3 DUP		**WG3639432-5**						
F2 (C10-C16)		<10	<10	RPD-NA	ug/g	N/A	30	19-OCT-21
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	30	19-OCT-21
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	30	19-OCT-21
WG3639432-2 LCS								
F2 (C10-C16)			88.9		%		80-120	19-OCT-21
F3 (C16-C34)			88.9		%		80-120	19-OCT-21
F4 (C34-C50)			86.8		%		80-120	19-OCT-21
WG3639432-1 MB								
F2 (C10-C16)			<10		ug/g		10	19-OCT-21
F3 (C16-C34)			<50		ug/g		50	19-OCT-21
F4 (C34-C50)			<50		ug/g		50	19-OCT-21
Surrogate: 2-Bromobenzotrifluoride			88.7		%		60-140	19-OCT-21
WG3639432-4 MS		**WG3639432-5**						
F2 (C10-C16)			86.6		%		60-140	19-OCT-21
F3 (C16-C34)			85.4		%		60-140	19-OCT-21
F4 (C34-C50)			91.9		%		60-140	19-OCT-21
F4G-ADD-511-WT	**Soil**							

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
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Mississauga ON L5L 1X2
Contact: John Lametti

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F4G-ADD-511-WT	**Soil**							
Batch R5625711								
WG3642273-2 LCS								
F4G-SG (GHH-Silica)			80.2		%		60-140	18-OCT-21
WG3642273-1 MB								
F4G-SG (GHH-Silica)			<250		ug/g		250	18-OCT-21
HG-200.2-CVAA-WT	**Soil**							
Batch R5624401								
WG3640251-2 CRM		**WT-SS-2**						
Mercury (Hg)			96.8		%		70-130	19-OCT-21
WG3640251-6 DUP		**WG3640251-5**						
Mercury (Hg)		0.0143	0.0134		ug/g	6.7	40	19-OCT-21
WG3640251-3 LCS								
Mercury (Hg)			95.0		%		80-120	19-OCT-21
WG3640251-1 MB								
Mercury (Hg)			<0.0050		mg/kg		0.005	19-OCT-21
MET-200.2-CCMS-WT	**Soil**							
Batch R5624564								
WG3640251-2 CRM		**WT-SS-2**						
Antimony (Sb)			93.1		%		70-130	19-OCT-21
Arsenic (As)			105.9		%		70-130	19-OCT-21
Barium (Ba)			117.0		%		70-130	19-OCT-21
Beryllium (Be)			104.8		%		70-130	19-OCT-21
Boron (B)			8.5		mg/kg		3.5-13.5	19-OCT-21
Cadmium (Cd)			101.9		%		70-130	19-OCT-21
Chromium (Cr)			104.1		%		70-130	19-OCT-21
Cobalt (Co)			107.3		%		70-130	19-OCT-21
Copper (Cu)			106.2		%		70-130	19-OCT-21
Lead (Pb)			101.5		%		70-130	19-OCT-21
Molybdenum (Mo)			103.9		%		70-130	19-OCT-21
Nickel (Ni)			112.8		%		70-130	19-OCT-21
Selenium (Se)			0.13		mg/kg		0-0.34	19-OCT-21
Silver (Ag)			97.1		%		70-130	19-OCT-21
Thallium (Tl)			0.074		mg/kg		0.029-0.129	19-OCT-21
Uranium (U)			98.0		%		70-130	19-OCT-21
Vanadium (V)			105.8		%		70-130	19-OCT-21
Zinc (Zn)			101.1		%		70-130	19-OCT-21
WG3640251-6 DUP		**WG3640251-5**						

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
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Mississauga ON L5L 1X2
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Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5624564								
WG3640251-6 DUP		**WG3640251-5**						
Antimony (Sb)		0.11	0.12		ug/g	12	30	19-OCT-21
Arsenic (As)		4.60	4.80		ug/g	4.3	30	19-OCT-21
Barium (Ba)		123	136		ug/g	10	40	19-OCT-21
Beryllium (Be)		0.79	0.90		ug/g	13	30	19-OCT-21
Boron (B)		10.0	12.1		ug/g	19	30	19-OCT-21
Cadmium (Cd)		0.095	0.102		ug/g	6.6	30	19-OCT-21
Chromium (Cr)		27.0	28.3		ug/g	4.9	30	19-OCT-21
Cobalt (Co)		13.0	13.4		ug/g	3.1	30	19-OCT-21
Copper (Cu)		24.4	25.7		ug/g	5.2	30	19-OCT-21
Lead (Pb)		11.2	13.6		ug/g	19	40	19-OCT-21
Molybdenum (Mo)		0.30	0.32		ug/g	5.7	40	19-OCT-21
Nickel (Ni)		28.4	30.0		ug/g	5.4	30	19-OCT-21
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	19-OCT-21
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	19-OCT-21
Thallium (Tl)		0.169	0.198		ug/g	16	30	19-OCT-21
Uranium (U)		0.557	0.662		ug/g	17	30	19-OCT-21
Vanadium (V)		36.8	38.5		ug/g	4.4	30	19-OCT-21
Zinc (Zn)		61.5	63.7		ug/g	3.5	30	19-OCT-21
WG3640251-4 LCS								
Antimony (Sb)			101.3		%		80-120	19-OCT-21
Arsenic (As)			107.0		%		80-120	19-OCT-21
Barium (Ba)			108.9		%		80-120	19-OCT-21
Beryllium (Be)			103.0		%		80-120	19-OCT-21
Boron (B)			99.6		%		80-120	19-OCT-21
Cadmium (Cd)			100.1		%		80-120	19-OCT-21
Chromium (Cr)			105.7		%		80-120	19-OCT-21
Cobalt (Co)			106.3		%		80-120	19-OCT-21
Copper (Cu)			104.0		%		80-120	19-OCT-21
Lead (Pb)			103.0		%		80-120	19-OCT-21
Molybdenum (Mo)			102.4		%		80-120	19-OCT-21
Nickel (Ni)			104.5		%		80-120	19-OCT-21
Selenium (Se)			100.7		%		80-120	19-OCT-21
Silver (Ag)			91.6		%		80-120	19-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: John Lametti

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5624564								
WG3640251-4 LCS								
Thallium (Tl)			103.3		%		80-120	19-OCT-21
Uranium (U)			104.3		%		80-120	19-OCT-21
Vanadium (V)			108.0		%		80-120	19-OCT-21
Zinc (Zn)			99.99		%		80-120	19-OCT-21
WG3640251-1 MB								
Antimony (Sb)			<0.10		mg/kg		0.1	19-OCT-21
Arsenic (As)			<0.10		mg/kg		0.1	19-OCT-21
Barium (Ba)			<0.50		mg/kg		0.5	19-OCT-21
Beryllium (Be)			<0.10		mg/kg		0.1	19-OCT-21
Boron (B)			<5.0		mg/kg		5	19-OCT-21
Cadmium (Cd)			<0.020		mg/kg		0.02	19-OCT-21
Chromium (Cr)			<0.50		mg/kg		0.5	19-OCT-21
Cobalt (Co)			<0.10		mg/kg		0.1	19-OCT-21
Copper (Cu)			<0.50		mg/kg		0.5	19-OCT-21
Lead (Pb)			<0.50		mg/kg		0.5	19-OCT-21
Molybdenum (Mo)			<0.10		mg/kg		0.1	19-OCT-21
Nickel (Ni)			<0.50		mg/kg		0.5	19-OCT-21
Selenium (Se)			<0.20		mg/kg		0.2	19-OCT-21
Silver (Ag)			<0.10		mg/kg		0.1	19-OCT-21
Thallium (Tl)			<0.050		mg/kg		0.05	19-OCT-21
Uranium (U)			<0.050		mg/kg		0.05	19-OCT-21
Vanadium (V)			<0.20		mg/kg		0.2	19-OCT-21
Zinc (Zn)			<2.0		mg/kg		2	19-OCT-21
MOISTURE-WT	**Soil**							
Batch R5624261								
WG3640377-3 DUP		**L2649800-3**						
% Moisture		13.0	12.4		%	5.2	20	20-OCT-21
WG3640377-2 LCS								
% Moisture			99.8		%		90-110	20-OCT-21
WG3640377-1 MB								
% Moisture			<0.25		%		0.25	20-OCT-21
PAH-511-WT	**Soil**							

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
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Mississauga ON L5L 1X2
Contact: John Lametti

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	**Soil**							
Batch R5624005								
WG3639449-3 DUP		**WG3639449-5**						
1-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	18-OCT-21
2-Methylnaphthalene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	18-OCT-21
Acenaphthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	18-OCT-21
Acenaphthylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	18-OCT-21
Anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	18-OCT-21
Benzo(a)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	18-OCT-21
Benzo(a)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	18-OCT-21
Benzo(b&j)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	18-OCT-21
Benzo(g,h,i)perylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	18-OCT-21
Benzo(k)fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	18-OCT-21
Chrysene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	18-OCT-21
Dibenz(a,h)anthracene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	18-OCT-21
Fluoranthene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	18-OCT-21
Fluorene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	18-OCT-21
Indeno(1,2,3-cd)pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	18-OCT-21
Naphthalene		<0.013	<0.013	RPD-NA	ug/g	N/A	40	18-OCT-21
Phenanthrene		<0.046	<0.046	RPD-NA	ug/g	N/A	40	18-OCT-21
Pyrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	18-OCT-21
WG3639449-2 LCS								
1-Methylnaphthalene			90.1		%		50-140	18-OCT-21
2-Methylnaphthalene			86.8		%		50-140	18-OCT-21
Acenaphthene			86.2		%		50-140	18-OCT-21
Acenaphthylene			71.6		%		50-140	18-OCT-21
Anthracene			72.4		%		50-140	18-OCT-21
Benzo(a)anthracene			84.2		%		50-140	18-OCT-21
Benzo(a)pyrene			69.0		%		50-140	18-OCT-21
Benzo(b&j)fluoranthene			83.0		%		50-140	18-OCT-21
Benzo(g,h,i)perylene			92.4		%		50-140	18-OCT-21
Benzo(k)fluoranthene			88.7		%		50-140	18-OCT-21
Chrysene			98.3		%		50-140	18-OCT-21
Dibenz(a,h)anthracene			92.2		%		50-140	18-OCT-21
Fluoranthene			85.0		%		50-140	18-OCT-21
Fluorene			82.9		%		50-140	18-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: John Lametti

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	**Soil**							
Batch R5624005								
WG3639449-2 LCS								
Indeno(1,2,3-cd)pyrene			83.1		%		50-140	18-OCT-21
Naphthalene			86.1		%		50-140	18-OCT-21
Phenanthrene			91.0		%		50-140	18-OCT-21
Pyrene			84.3		%		50-140	18-OCT-21
WG3639449-1 MB								
1-Methylnaphthalene			<0.030		ug/g		0.03	18-OCT-21
2-Methylnaphthalene			<0.030		ug/g		0.03	18-OCT-21
Acenaphthene			<0.050		ug/g		0.05	18-OCT-21
Acenaphthylene			<0.050		ug/g		0.05	18-OCT-21
Anthracene			<0.050		ug/g		0.05	18-OCT-21
Benzo(a)anthracene			<0.050		ug/g		0.05	18-OCT-21
Benzo(a)pyrene			<0.050		ug/g		0.05	18-OCT-21
Benzo(b&j)fluoranthene			<0.050		ug/g		0.05	18-OCT-21
Benzo(g,h,i)perylene			<0.050		ug/g		0.05	18-OCT-21
Benzo(k)fluoranthene			<0.050		ug/g		0.05	18-OCT-21
Chrysene			<0.050		ug/g		0.05	18-OCT-21
Dibenz(a,h)anthracene			<0.050		ug/g		0.05	18-OCT-21
Fluoranthene			<0.050		ug/g		0.05	18-OCT-21
Fluorene			<0.050		ug/g		0.05	18-OCT-21
Indeno(1,2,3-cd)pyrene			<0.050		ug/g		0.05	18-OCT-21
Naphthalene			<0.013		ug/g		0.013	18-OCT-21
Phenanthrene			<0.046		ug/g		0.046	18-OCT-21
Pyrene			<0.050		ug/g		0.05	18-OCT-21
Surrogate: 2-Fluorobiphenyl			82.2		%		50-140	18-OCT-21
Surrogate: d14-Terphenyl			83.5		%		50-140	18-OCT-21
WG3639449-4 MS		**WG3639449-5**						
1-Methylnaphthalene			88.9		%		50-140	18-OCT-21
2-Methylnaphthalene			86.3		%		50-140	18-OCT-21
Acenaphthene			85.5		%		50-140	18-OCT-21
Acenaphthylene			74.8		%		50-140	18-OCT-21
Anthracene			76.9		%		50-140	18-OCT-21
Benzo(a)anthracene			92.3		%		50-140	18-OCT-21
Benzo(a)pyrene			75.8		%		50-140	18-OCT-21
Benzo(b&j)fluoranthene			83.2		%		50-140	18-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: John Lametti

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PAH-511-WT	**Soil**							
Batch R5624005								
WG3639449-4 MS		**WG3639449-5**						
Benzo(g,h,i)perylene			88.4		%		50-140	18-OCT-21
Benzo(k)fluoranthene			87.6		%		50-140	18-OCT-21
Chrysene			95.3		%		50-140	18-OCT-21
Dibenz(a,h)anthracene			89.7		%		50-140	18-OCT-21
Fluoranthene			87.0		%		50-140	18-OCT-21
Fluorene			83.3		%		50-140	18-OCT-21
Indeno(1,2,3-cd)pyrene			87.4		%		50-140	18-OCT-21
Naphthalene			83.9		%		50-140	18-OCT-21
Phenanthrene			87.5		%		50-140	18-OCT-21
Pyrene			85.4		%		50-140	18-OCT-21
PCB-511-WT	**Soil**							
Batch R5624758								
WG3639449-3 DUP		**WG3639449-5**						
Aroclor 1242		<0.010	<0.010	RPD-NA	ug/g	N/A	40	19-OCT-21
Aroclor 1248		<0.010	<0.010	RPD-NA	ug/g	N/A	40	19-OCT-21
Aroclor 1254		<0.010	<0.010	RPD-NA	ug/g	N/A	40	19-OCT-21
Aroclor 1260		<0.010	<0.010	RPD-NA	ug/g	N/A	40	19-OCT-21
WG3639449-2 LCS								
Aroclor 1242			98.9		%		60-140	19-OCT-21
Aroclor 1248			94.2		%		60-140	19-OCT-21
Aroclor 1254			97.9		%		60-140	19-OCT-21
Aroclor 1260			95.1		%		60-140	19-OCT-21
WG3639449-1 MB								
Aroclor 1242			<0.010		ug/g		0.01	19-OCT-21
Aroclor 1248			<0.010		ug/g		0.01	19-OCT-21
Aroclor 1254			<0.010		ug/g		0.01	19-OCT-21
Aroclor 1260			<0.010		ug/g		0.01	19-OCT-21
Surrogate: d14-Terphenyl			102.9		%		60-140	19-OCT-21
WG3639449-4 MS		**WG3639449-5**						
Aroclor 1242			98.1		%		60-140	19-OCT-21
Aroclor 1254			91.0		%		60-140	19-OCT-21
Aroclor 1260			88.7		%		60-140	19-OCT-21
PH-WT	**Soil**							

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: John Lametti

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH-WT	**Soil**							
Batch R5625196								
WG3639512-1 DUP		**L2650118-2**						
pH		8.03	7.91	J	pH units	0.12	0.3	20-OCT-21
WG3641646-1 LCS								
pH			7.01		pH units		6.9-7.1	20-OCT-21
SAR-R511-WT	**Soil**							
Batch R5624445								
WG3640253-4 DUP		**WG3640253-3**						
Calcium (Ca)		0.66	0.59		mg/L	12	30	19-OCT-21
Sodium (Na)		141	141		mg/L	0.0	30	19-OCT-21
Magnesium (Mg)		<0.50	<0.50	RPD-NA	mg/L	N/A	30	19-OCT-21
WG3640253-2 IRM		**WT SAR4**						
Calcium (Ca)			88.8		%		70-130	19-OCT-21
Sodium (Na)			95.4		%		70-130	19-OCT-21
Magnesium (Mg)			95.7		%		70-130	19-OCT-21
WG3640253-5 LCS								
Calcium (Ca)			105.7		%		80-120	19-OCT-21
Sodium (Na)			106.6		%		80-120	19-OCT-21
Magnesium (Mg)			105.0		%		80-120	19-OCT-21
WG3640253-1 MB								
Calcium (Ca)			<0.50		mg/L		0.5	19-OCT-21
Sodium (Na)			<0.50		mg/L		0.5	19-OCT-21
Magnesium (Mg)			<0.50		mg/L		0.5	19-OCT-21
VOC-511-HS-WT	**Soil**							
Batch R5619859								
WG3636810-4 DUP		**WG3636810-3**						
1,1,1,2-Tetrachloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
1,1,2,2-Tetrachloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
1,1,1-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
1,1,2-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
1,1-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
1,1-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
1,2-Dibromoethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
1,2-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
1,2-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
1,2-Dichloropropane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: John Lametti

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5619859								
WG3636810-4 DUP		**WG3636810-3**						
1,3-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
1,4-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	15-OCT-21
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	15-OCT-21
Bromodichloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
Bromoform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
Bromomethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
Carbon tetrachloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
Chlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
cis-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
cis-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	15-OCT-21
Dibromochloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
Dichlorodifluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	15-OCT-21
n-Hexane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
Methylene Chloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
MTBE		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	15-OCT-21
Methyl Ethyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	15-OCT-21
Methyl Isobutyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	15-OCT-21
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	15-OCT-21
Styrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
Tetrachloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	15-OCT-21
trans-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
trans-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	15-OCT-21
Trichloroethylene		<0.010	<0.010	RPD-NA	ug/g	N/A	40	15-OCT-21
Trichlorofluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	15-OCT-21
Vinyl chloride		<0.020	<0.020	RPD-NA	ug/g	N/A	40	15-OCT-21
WG3636810-2 LCS								
1,1,1,2-Tetrachloroethane			88.0		%		60-130	15-OCT-21
1,1,2,2-Tetrachloroethane			83.4		%		60-130	15-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: John Lametti

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5619859								
WG3636810-2 LCS								
1,1,1-Trichloroethane			88.7		%		60-130	15-OCT-21
1,1,2-Trichloroethane			83.6		%		60-130	15-OCT-21
1,1-Dichloroethane			85.2		%		60-130	15-OCT-21
1,1-Dichloroethylene			82.6		%		60-130	15-OCT-21
1,2-Dibromoethane			81.6		%		70-130	15-OCT-21
1,2-Dichlorobenzene			89.9		%		70-130	15-OCT-21
1,2-Dichloroethane			84.6		%		60-130	15-OCT-21
1,2-Dichloropropane			87.2		%		70-130	15-OCT-21
1,3-Dichlorobenzene			90.0		%		70-130	15-OCT-21
1,4-Dichlorobenzene			91.0		%		70-130	15-OCT-21
Acetone			80.2		%		60-140	15-OCT-21
Benzene			88.3		%		70-130	15-OCT-21
Bromodichloromethane			90.2		%		50-140	15-OCT-21
Bromoform			79.7		%		70-130	15-OCT-21
Bromomethane			79.9		%		50-140	15-OCT-21
Carbon tetrachloride			89.7		%		70-130	15-OCT-21
Chlorobenzene			92.2		%		70-130	15-OCT-21
Chloroform			90.4		%		70-130	15-OCT-21
cis-1,2-Dichloroethylene			92.1		%		70-130	15-OCT-21
cis-1,3-Dichloropropene			82.2		%		70-130	15-OCT-21
Dibromochloromethane			82.7		%		60-130	15-OCT-21
Dichlorodifluoromethane			51.2		%		50-140	15-OCT-21
Ethylbenzene			84.0		%		70-130	15-OCT-21
n-Hexane			80.6		%		70-130	15-OCT-21
Methylene Chloride			85.4		%		70-130	15-OCT-21
MTBE			87.9		%		70-130	15-OCT-21
m+p-Xylenes			88.4		%		70-130	15-OCT-21
Methyl Ethyl Ketone			83.8		%		60-140	15-OCT-21
Methyl Isobutyl Ketone			76.7		%		60-140	15-OCT-21
o-Xylene			88.1		%		70-130	15-OCT-21
Styrene			90.7		%		70-130	15-OCT-21
Tetrachloroethylene			92.6		%		60-130	15-OCT-21
Toluene			89.3		%		70-130	15-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: John Lametti

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5619859								
WG3636810-2 LCS								
trans-1,2-Dichloroethylene			84.4		%		60-130	15-OCT-21
trans-1,3-Dichloropropene			76.2		%		70-130	15-OCT-21
Trichloroethylene			93.9		%		60-130	15-OCT-21
Trichlorofluoromethane			80.9		%		50-140	15-OCT-21
Vinyl chloride			65.6		%		60-140	15-OCT-21
WG3636810-1 MB								
1,1,1,2-Tetrachloroethane			<0.050		ug/g		0.05	15-OCT-21
1,1,2,2-Tetrachloroethane			<0.050		ug/g		0.05	15-OCT-21
1,1,1-Trichloroethane			<0.050		ug/g		0.05	15-OCT-21
1,1,2-Trichloroethane			<0.050		ug/g		0.05	15-OCT-21
1,1-Dichloroethane			<0.050		ug/g		0.05	15-OCT-21
1,1-Dichloroethylene			<0.050		ug/g		0.05	15-OCT-21
1,2-Dibromoethane			<0.050		ug/g		0.05	15-OCT-21
1,2-Dichlorobenzene			<0.050		ug/g		0.05	15-OCT-21
1,2-Dichloroethane			<0.050		ug/g		0.05	15-OCT-21
1,2-Dichloropropane			<0.050		ug/g		0.05	15-OCT-21
1,3-Dichlorobenzene			<0.050		ug/g		0.05	15-OCT-21
1,4-Dichlorobenzene			<0.050		ug/g		0.05	15-OCT-21
Acetone			<0.50		ug/g		0.5	15-OCT-21
Benzene			<0.0068		ug/g		0.0068	15-OCT-21
Bromodichloromethane			<0.050		ug/g		0.05	15-OCT-21
Bromoform			<0.050		ug/g		0.05	15-OCT-21
Bromomethane			<0.050		ug/g		0.05	15-OCT-21
Carbon tetrachloride			<0.050		ug/g		0.05	15-OCT-21
Chlorobenzene			<0.050		ug/g		0.05	15-OCT-21
Chloroform			<0.050		ug/g		0.05	15-OCT-21
cis-1,2-Dichloroethylene			<0.050		ug/g		0.05	15-OCT-21
cis-1,3-Dichloropropene			<0.030		ug/g		0.03	15-OCT-21
Dibromochloromethane			<0.050		ug/g		0.05	15-OCT-21
Dichlorodifluoromethane			<0.050		ug/g		0.05	15-OCT-21
Ethylbenzene			<0.018		ug/g		0.018	15-OCT-21
n-Hexane			<0.050		ug/g		0.05	15-OCT-21
Methylene Chloride			<0.050		ug/g		0.05	15-OCT-21
MTBE			<0.050		ug/g		0.05	15-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: John Lametti

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5619859								
WG3636810-1 MB								
m+p-Xylenes			<0.030		ug/g		0.03	15-OCT-21
Methyl Ethyl Ketone			<0.50		ug/g		0.5	15-OCT-21
Methyl Isobutyl Ketone			<0.50		ug/g		0.5	15-OCT-21
o-Xylene			<0.020		ug/g		0.02	15-OCT-21
Styrene			<0.050		ug/g		0.05	15-OCT-21
Tetrachloroethylene			<0.050		ug/g		0.05	15-OCT-21
Toluene			<0.080		ug/g		0.08	15-OCT-21
trans-1,2-Dichloroethylene			<0.050		ug/g		0.05	15-OCT-21
trans-1,3-Dichloropropene			<0.030		ug/g		0.03	15-OCT-21
Trichloroethylene			<0.010		ug/g		0.01	15-OCT-21
Trichlorofluoromethane			<0.050		ug/g		0.05	15-OCT-21
Vinyl chloride			<0.020		ug/g		0.02	15-OCT-21
Surrogate: 1,4-Difluorobenzene			106.8		%		50-140	15-OCT-21
Surrogate: 4-Bromofluorobenzene			95.6		%		50-140	15-OCT-21
WG3636810-5 MS		**WG3636810-3**						
1,1,1,2-Tetrachloroethane			101.9		%		50-140	15-OCT-21
1,1,2,2-Tetrachloroethane			98.9		%		50-140	15-OCT-21
1,1,1-Trichloroethane			104.1		%		50-140	15-OCT-21
1,1,2-Trichloroethane			98.8		%		50-140	15-OCT-21
1,1-Dichloroethane			100.9		%		50-140	15-OCT-21
1,1-Dichloroethylene			104.1		%		50-140	15-OCT-21
1,2-Dibromoethane			96.5		%		50-140	15-OCT-21
1,2-Dichlorobenzene			102.7		%		50-140	15-OCT-21
1,2-Dichloroethane			100.7		%		50-140	15-OCT-21
1,2-Dichloropropane			102.3		%		50-140	15-OCT-21
1,3-Dichlorobenzene			101.7		%		50-140	15-OCT-21
1,4-Dichlorobenzene			103.2		%		50-140	15-OCT-21
Acetone			99.4		%		50-140	15-OCT-21
Benzene			104.3		%		50-140	15-OCT-21
Bromodichloromethane			105.9		%		50-140	15-OCT-21
Bromoform			94.6		%		50-140	15-OCT-21
Bromomethane			110.0		%		50-140	15-OCT-21
Carbon tetrachloride			105.1		%		50-140	15-OCT-21
Chlorobenzene			106.1		%		50-140	15-OCT-21

Quality Control Report

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: John Lametti

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5619859								
WG3636810-5 MS		**WG3636810-3**						
Chloroform			106.2		%		50-140	15-OCT-21
cis-1,2-Dichloroethylene			109.0		%		50-140	15-OCT-21
cis-1,3-Dichloropropene			94.8		%		50-140	15-OCT-21
Dibromochloromethane			97.3		%		50-140	15-OCT-21
Dichlorodifluoromethane			112.0		%		50-140	15-OCT-21
Ethylbenzene			95.5		%		50-140	15-OCT-21
n-Hexane			104.2		%		50-140	15-OCT-21
Methylene Chloride			103.7		%		50-140	15-OCT-21
MTBE			103.8		%		50-140	15-OCT-21
m+p-Xylenes			100.1		%		50-140	15-OCT-21
Methyl Ethyl Ketone			104.2		%		50-140	15-OCT-21
Methyl Isobutyl Ketone			93.8		%		50-140	15-OCT-21
o-Xylene			100.5		%		50-140	15-OCT-21
Styrene			103.6		%		50-140	15-OCT-21
Tetrachloroethylene			105.0		%		50-140	15-OCT-21
Toluene			102.9		%		50-140	15-OCT-21
trans-1,2-Dichloroethylene			101.2		%		50-140	15-OCT-21
trans-1,3-Dichloropropene			87.4		%		50-140	15-OCT-21
Trichloroethylene			108.4		%		50-140	15-OCT-21
Trichlorofluoromethane			107.7		%		50-140	15-OCT-21
Vinyl chloride			98.6		%		50-140	15-OCT-21

Quality Control Report

Workorder: L2649945 Report Date: 21-OCT-21

Client: HLV2K Engineering Limited (Brampton)
2179 Dunwin Drive Unit 4
Mississauga ON L5L 1X2
Contact: John Lametti

Legend:

Limit	ALS Control Limit (Data Quality Objectives)
DUP	Duplicate
RPD	Relative Percent Difference
N/A	Not Available
LCS	Laboratory Control Sample
SRM	Standard Reference Material
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ADE	Average Desorption Efficiency
MB	Method Blank
IRM	Internal Reference Material
CRM	Certified Reference Material
CCV	Continuing Calibration Verification
CVS	Calibration Verification Standard
LCSD	Laboratory Control Sample Duplicate

Sample Parameter Qualifier Definitions:

Qualifier	Description
J	Duplicate results and limits are expressed in terms of absolute difference.
RPD-NA	Relative Percent Difference Not Available due to result(s) being less than detection limit.

Hold Time Exceedances:

All test results reported with this submission were conducted within ALS recommended hold times.

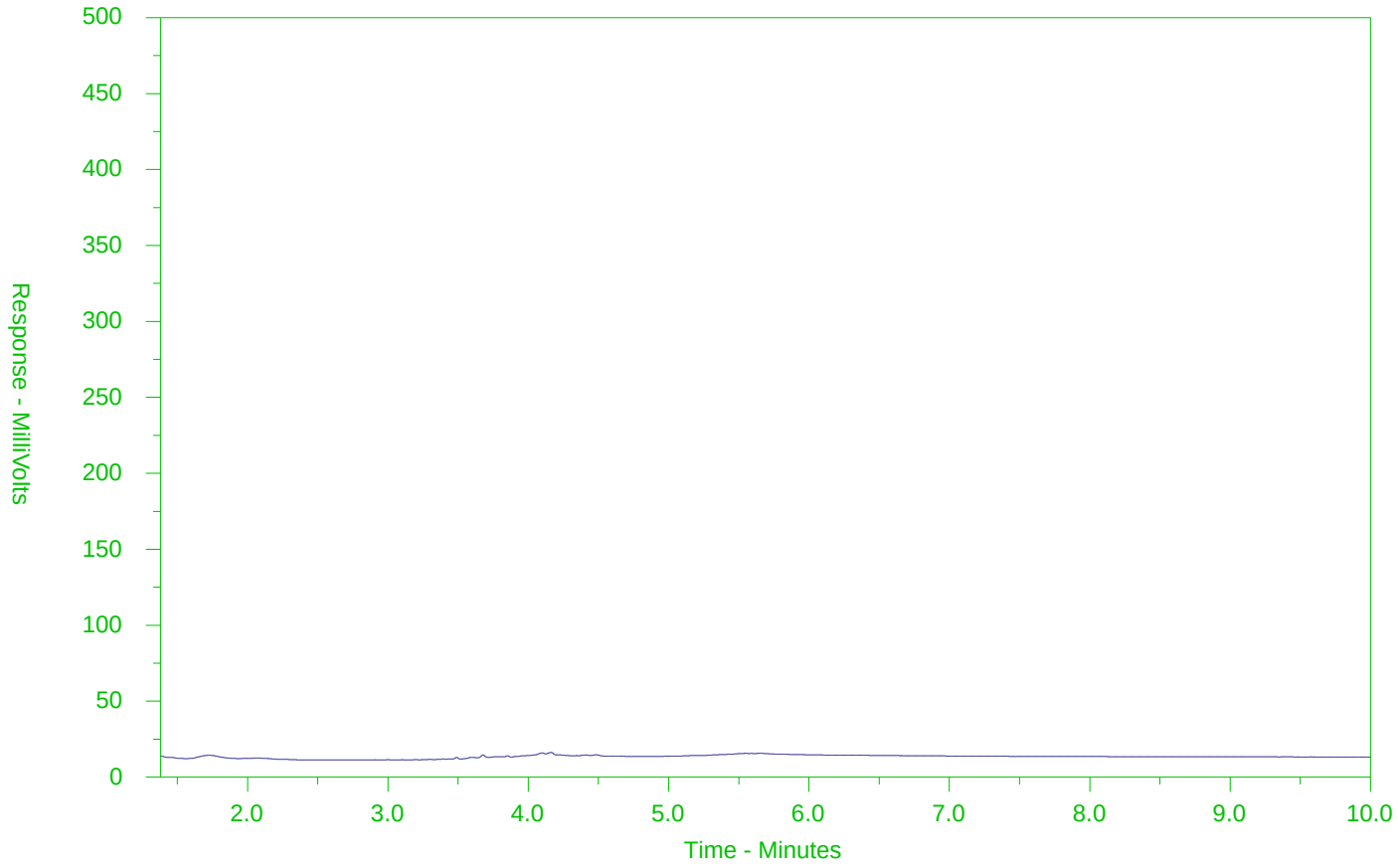
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where available). For more information, please contact ALS.

The ALS Quality Control Report is provided to ALS clients upon request. ALS includes comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against pre-determined data quality objectives to provide confidence in the accuracy of associated test results.

Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2649945-1
Client Sample ID: HS1



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

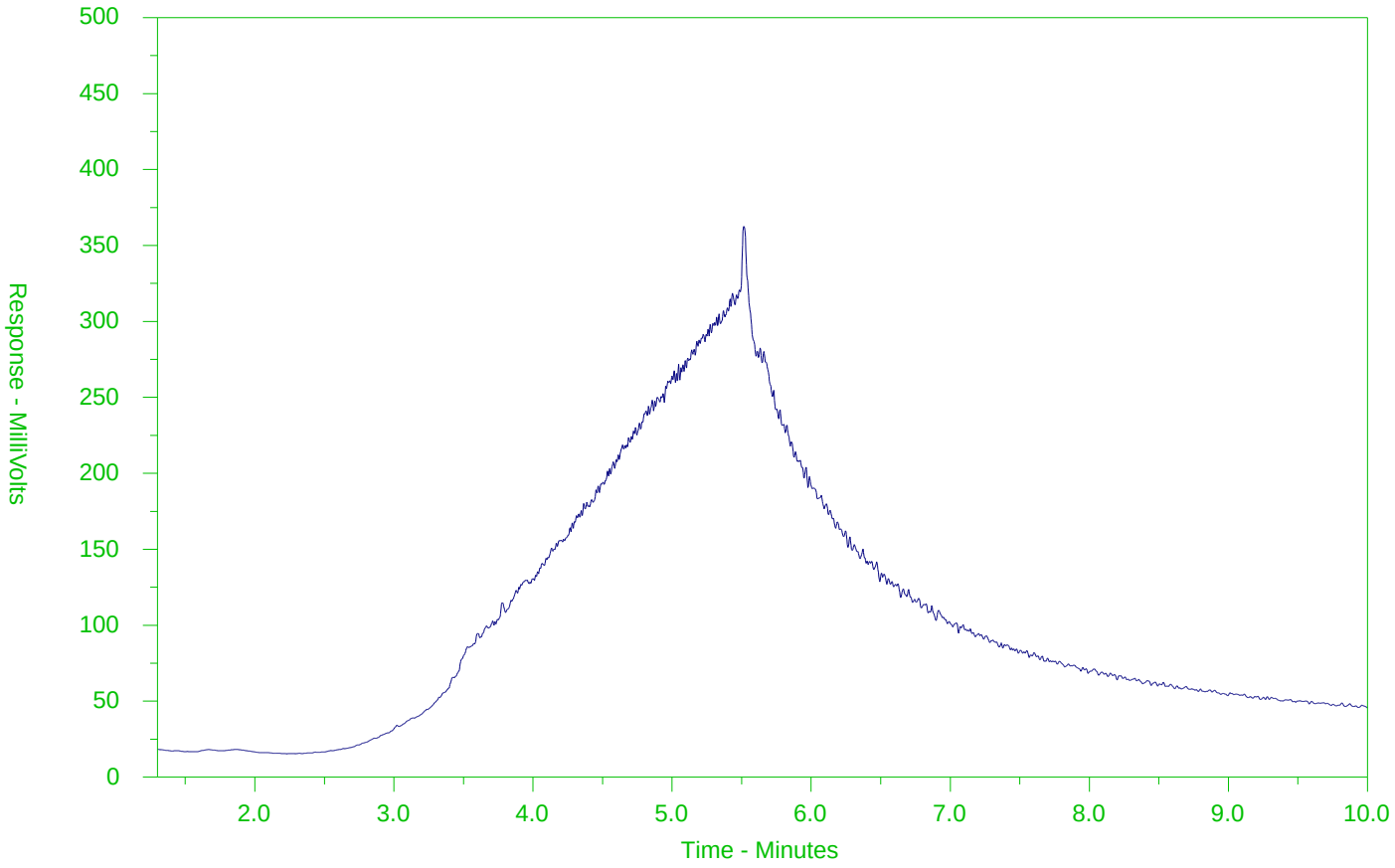
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2649945-2
Client Sample ID: HS2



←F2→	←F3→	←F4→	
nC10	nC16	nC34	nC50
174°C	287°C	481°C	575°C
346°F	549°F	898°F	1067°F
Gasoline →		← Motor Oils/Lube Oils/Grease →	
← Diesel/Jet Fuels →			

The CCME F2-F4 Hydrocarbon Distribution Report (HDR) is intended to assist you in characterizing hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

Peak heights in this report are a function of the sample concentration, the sample amount extracted, the sample dilution factor and the scale at the left.

Note: This chromatogram was produced using GC conditions that are specific to ALS Canada CCME F2-F4 method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms from common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

Chain of Custody (

Canada

L2649945-COFC

COC Number: 20 -

Page of

www.alsglobal.com

Report To	Contact and company name below will appear on the final report
Company:	HLV2K Engineering Limited
Contact:	Mariam Mohammadi
Phone:	6479753676
	Company address below will appear on the final report
Street:	4-2179 Dunwin Drive
City/Province:	Mississauga, ON
Postal Code:	L5L 1X2
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	HLV2K Engineering Limited
Contact:	Manny Virani

Project Information

ALS Account # / Quote #:	84316
Job #:	2100428DE
PO / AFE:	
LSD:	5196 Trafalgar Road N, Erin, ON
ALS Lab Work Order # (ALS use only):	LQ649945

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☐ EDD (DIGITAL)

Merge QC/QCI Reports with COA ☐ YES ☐ NO ☐ N/A

☑ Compare Results to Criteria on Report - provide details below if box checked

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: mariam.mohammadi@HLV2K.com

Email 2: john.lametti@HLV2K.com

Email 3:

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: Invoice@HLV2K.com

Email 2:

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	
ALS Contact: AO	Sampler:

Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply

☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum

☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum

☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum

☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum

☐ Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm am/pm

For all tests with rush TATs requested, please contact your AM to confirm availability.

Analysis Request

Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below

NUMBER OF CONTAINERS

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	O. Reg. 153/04 - Metals & Inorganics	O.Reg. 153/04 - VOC / F1	O.Reg. 153/04 - PHC F2-F4	O.Reg. 153/04 - PAH	O.Reg. 153/04 - PCB	O.Reg. 153/04 - Moisture	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	HS1	8-Oct-21	09:00	Soil	R	R	R	R	R	R			
	HS2	8-Oct-21	09:00	Soil	R	R	R	R	R	R			

Drinking Water (DW) Samples[1] (client use)

Are samples taken from a Regulated DW System? ☐ YES ☐ NO

Are samples for human consumption/ use? ☐ YES ☐ NO

Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)

Ontario Regulation 153/04 - April 15, 2011 Standards - T1 - Soil - RPI/ICC Property Use

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☒ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED

Submission Comments identified on Sample Receipt Notification: ☐ YES ☐ NO

Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
6.2				11.4			

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by: Karan	Date: 10/8/2021	Time: 9:58

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date: Oct 8/21	Time: 18:00

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AUG 2020 FRONT

Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white report copy.

1. If any water samples are taken from a **Regulated Drinking Water (DW) System**, please submit using an **Authorized DW COC form**.