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Phase Two Environmental Site Assessment (ESA)

49 South Service Road, Mississauga, ON

Project #
2204701

Prepared For
Edenshaw SSR Developments Limited

October 13, 2022

74 Berkeley Street, Toronto, ON M5A 2W7
Tel: 647-795-8153 | www.pecg.ca

October 13, 2022

Oscar Piovesan
Edenshaw SSR Developments Limited
201-129 Lakeshore Rd E
Mississauga, ON L5G 1E5

Dear Oscar Piovesan:

Re: Phase Two Environmental Site Assessment (ESA), 49 South Service Road, Mississauga, ON
Project #: 2204701

We are pleased to present our Phase Two Environmental Site Assessment (ESA) report for the above-noted property. The scope of this Phase Two ESA conforms to the requirements outlined in Ontario Regulation 153/04 and 407/19. The purpose of this Phase Two ESA was to support development approval applications with the City of Mississauga and is required to support filing of a Record of Site Condition (RSC) with the Ministry of the Environment, Conservation and Parks (MECP).

The report provides information from Palmer's site reconnaissance, drilling activities, soil and ground water sampling, review of laboratory certificate of analysis, and our conclusions for your consideration.

We trust that this report will be satisfactory for your current needs. If you have any questions or require further information, please contact our office at your convenience.

Yours truly,

Sarah Sipak, B.Sc., P.Geo (limited), QP$_{ESA}$
Environmental Geoscience Team Lead

Executive Summary

Palmer is pleased to provide this Phase Two Environmental Site Assessment (ESA) report to Edenshaw SSR Developments Limited. The Phase Two ESA was prepared for the parcel of land located at 49 South Service Road, Mississauga, ON (hereafter collectively referred to as the “Phase Two Property”).

It is Palmer’s understanding that the purpose of this Phase Two ESA is to support development approval applications with the City of Mississauga and is required to support filing of a Record of Site Condition (RSC) with the Ministry of the Environment, Conservation and Parks (MECP). The Phase Two Property (also referred to as the "Subject Property" or "Site") is contemplated for residential redevelopment with a 22-storey tower, 4-storey podium, and an underground parking garage following demolition of the existing buildings. This Phase Two ESA Report has been prepared in accordance with Schedule E of Ontario Regulation 407/19 (amending Ontario Regulation 153/04) under the Environmental Protection Act (EPA).

The Phase Two Property is a 1.09-acre, irregular shaped, parcel of land located on the south side of Queen Elizabeth Way, north of the intersection with Hurontario Street in Mississauga, Ontario. Building structures on the Site include a 334-m^2 two-storey former Ontario Provincial Police (OPP) office building (with a partial basement) with a 111-m^2 single-storey attached detention area, a 143-m^2 garage, and two (2) canopy structures. The Phase Two Property has been vacant since August 2020. The remaining parts of the Site comprise an asphalt-paved parking lot and landscaped grassed areas.

Based on the findings of our recently completed Phase One ESA, the Phase One Study Area (“surrounding area”) covers land uses within a 250 metre (m) radius of the Phase One Property. The Phase One Study Area is developed with commercial, residential, and institutional land uses.

There are no water bodies or areas of natural significance on the Phase Two Property. However, Mary Fix Creek exists approximately 230 m south of the Phase Two Property in the Phase One Study Area, which flows southeastward to Lake Ontario.

Historically, the Site was first developed prior to 1952 with a single building on the southern portion of the Phase Two Property. The Phase Two Property was subsequently redeveloped in the early 1960s with the current buildings. Tenants of the building have included the OPP.

Based on the findings of the historical records review, Site reconnaissance, and personal interviews, it was concluded that five (5) potentially contaminating activities (PCAs) were identified either on the Phase Two Property or within the Phase One Study Area. These PCAs were deemed to be contributing to five (5) areas of potential environmental concern (APECs) on the Phase Two Property. The identified PCAs and APECs are as follows:

Table A. Summary of APECs and PCAs

APEC	Location of APEC on the Phase One Property	PCA	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern (COPC)	Media Potentially Impacted (Ground water, Soil and/or Sediment)
APEC #1 Automotive Repair Operations	Southern Portion of Phase One Property	#52: Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems	*On-Site* – Historical automotive repair operations within the Garage building since the early 1960s.	Petroleum Hydrocarbons (PHCs), Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX), Volatile Organic Compounds (VOCs), Metals, Arsenic (As), Antimony (Sb), Selenium (Se)	Soil and Ground water
APEC #2 Historical Fuel Aboveground Storage Tank (AST)	Southern Portion of Phase One Property	#28: Gasoline and Associated Products Storage in Fixed Tanks	*On-Site* – Former diesel backup generator with 50 gallon diesel AST within the Garage building	PHCs, BTEX	Soil and Ground water
APEC #3 Existing Fuel AST	Southern Portion of Phase One Property	#28: Gasoline and Associated Products Storage in Fixed Tanks	*On-Site* – Presence of diesel-fired backup generator with 50-gallon diesel AST at exterior of the Garage building	PHCs, BTEX	Soil and Ground water
APEC #4 Historical Heating Oil Underground Storage Tank (UST)	Eastern Portion of Phase One Property	#28: Gasoline and Associated Products Storage in Fixed Tanks	*On-Site* – Former 1,000 gallon heating oil UST located along the east exterior wall of the Main building	PHCs, BTEX	Soil and Ground water
APEC #5 Historical Spill	Northeastern Portion of Phase One Property	N/A. Spill	*On-Site* – Historical oily water spill to a storm drain located on the northeastern portion of the Site in 2009	PHCs, BTEX	Soil and Ground water

A Phase Two ESA was recommended to assess potential subsurface impacts as a result of the aforementioned PCAs and APECs.

The Phase Two ESA entailed the drilling of a total of six (6) sampled boreholes (BH22-5 to BH22-10) to depths ranging between 4.57 to 5.33 metres below ground surface (mbgs) at strategically selected and accessible locations on the Phase Two Property. Ground water monitoring wells were installed in all boreholes. In addition, six (6) previously installed monitoring wells (BH1, BH4, BH6, MW2-20, MW3-20 and MW4-20) were used during this investigation for ground water monitoring and sampling purposes.

The observed soil stratigraphy generally comprised surficial asphalt pavement or concrete underlain by sand and gravel, silty sand, silty clay, and sandy silt. The soil across the property is considered to be medium-fine textured for the purpose of this assessment.

Fieldwork for this investigation began on May 26, 2022 by drilling four (4) exterior and two (2) interior boreholes to depths of 4.57 to 5.33 m below existing grade with the installation of six (6) monitoring wells. The stabilized ground water levels were measured at depths of 1.60 to 3.34 m below grade. No free-product was observed in any of the monitoring wells.

Based on the site topography and ground water level measurements, the ground water flow is interpreted to flow across the Site in a southerly direction. The results of the ground water monitoring indicate that the primary near surface water table resides within the silty sand layer.

Fourteen (14) soil samples (representative of fill and native soils) and twenty (20) ground water samples were collected and submitted for laboratory analyses.

In comparison with the new (2011) Ontario *Soil, Ground Water, and Sediment Standards for Use Under Part XV.1 of the* EPA criteria, the results of laboratory analyses revealed the following contaminant concentrations in comparison to the Table 3 Site Condition Standards (SCS) for residential/parkland/institutional (RPI) property uses with medium-fine grained soils in a non-potable ground water condition:

- Sodium Adsorption Ratio (SAR) and Electrical Conductivity (EC) in soil on the southern portion (MW1-20, BH9-20, and BH10-20) of the Phase Two Property between depths of 0.61 and 1.83 mbgs; and,
- Chloride in ground water on the southern portion (MW1-20) of the Phase Two Property.

The aforementioned soil and ground water exceedances are related to the application of road salt for de-icing purposes as a safety measure for vehicular and pedestrian traffic on the Phase Two Property and are considered to be exempt from further investigation and/or remediation, as per O. Reg. 153/04, s. 49(1). Therefore, the standards for EC and SAR in soil and chloride in ground water are “deemed to be met” and no further investigations are warranted.

The statements made in this Executive Summary are subject to the same limitations as contained in the report and should be read in conjunction with the entire report.

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1. Introduction

Palmer was retained by Edenshaw SSR Developments Limited (the 'Client') to conduct a Phase Two Environmental Site Assessment (ESA) for the parcel of land located at 49 South Service Road, Mississauga, ON (hereinafter referred to as the 'Phase Two Property'), as shown in **Drawing 1**.

It is Palmer's understanding that the purpose of this Phase Two ESA is to support development approval applications with the City of Mississauga and is required to support filing of a Record of Site Condition (RSC) with the Ministry of the Environment, Conservation and Parks (MECP). The Phase Two Property (also referred to as the "Subject Property" or "Site") is contemplated for residential redevelopment with a 22-storey tower, 4-storey podium, and an underground parking garage following demolition of the existing building. The Phase Two ESA Report has been prepared in accordance with Schedule E of Ontario Regulation 407/19 (amending Ontario Regulation 153/04) under the Environmental Protection Act (EPA).

The assessment consisted of a program of drilling, sampling, laboratory analysis and evaluation of results which characterized the subsurface conditions beneath the Site to establish any environmental contamination affecting the Site.

Conditions noted in this report are general in nature. This report presents the results of the investigation and the conclusions we have drawn regarding the possible impact of the conditions observed.

1.1 Phase Two Property Description

The Phase Two Property is a 1.09-acre, irregular shaped, parcel of land located on the south side of Queen Elizabeth Way, north of the intersection with Hurontario Street in Mississauga, Ontario. Building structures on the Site include a 334-m^2 two-storey former Ontario Provincial Police (OPP) office building (with a partial basement) with a 111-m^2 single-storey attached detention area, a 143-m^2 garage, and two (2) canopy structures. The Phase Two Property has been vacant since August 2020. The remaining parts of the Site comprise an asphalt-paved parking lot and landscaped grassed areas.

The subject property is southeast of Queen Elizabeth Way, north of Hurontario Street, and west of South Service Road, as shown in **Drawing 1** and the photograph appendix. The municipal address is 49 South Service Road, Mississauga with Property Identification Number (PIN) 13504-0978 (LT).

The legal description of the Phase Two Property is Part of Lot 1, Range 2 Credit Indian Reserve, Part 3 43R37754, Subject to an Easement in Gross Over Parts 1 and 2, 43R40056 as in PR3941590, in the City of Mississauga, Province of Ontario.

The center of the Phase Two Property is located in UTM Zone 17, with approximate coordinates of Easting 613193 m and Northing 4824875 m.

1.2 Property Ownership

At the time of the investigation, the Phase Two Property was unoccupied. The property is currently owned by Edenshaw SSR Developments Limited. The authorization for Palmer to proceed with the Phase Two ESA was given by Mr. Oscar Piovesan (Executive Director) of Edenshaw SSR Developments Limited. The contact information for the proponent is provided below:

Company Name:	Edenshaw SSR Developments Limited
Company Address:	201-129 Lakeshore Rd E, Mississauga, ON L5G 1E5
Contact Name:	Oscar Piovesan
Contact email:	oscar.piovesan@edenshaw.com

1.3 Current and Proposed Future Uses

Historically, the Site was first developed prior to 1952 with a single building on the southern portion of the Phase Two Property. The Phase Two Property was subsequently redeveloped in the early 1960s with the current buildings. Tenants of the building have included the OPP.

The current and proposed land uses are as follows:

Current or Proposed	Description of Property Use
Current	Commercial – Former commercial Ontario Provincial Police (OPP) detachment building and garage that are no longer operational.
Proposed	Residential – 22-storey tower, 4-storey podium, and underground parking.

1.4 Applicable Site Condition Standards

Ontario Regulation 153/04 - Records of Site Condition, Part XV.1 of the Environmental Protection Act as amended - “O.Reg. 153/04, as amended” - establishes the legislative and regulatory requirements for contaminated sites in Ontario. The Ministry of Environment, Conservation and Parks (MECP) document “Soil, Ground Water and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act,” dated April 15, 2011 sets out the prescribed contaminants and applicable Site Condition Standards (SCS) for those contaminants for the purposes of O. Reg. 153/04, as amended. The MECP SCS are set out in Tables 1 to 9 criteria applicable for various site conditions.

The selection of the appropriate MECP SCS for a Phase Two ESA is dependent upon several site-specific conditions, such as the existing/proposed property use, the existing/potential ground water use, the depth of clean-up, soil texture, depth to bedrock and proximity to the nearest body of water.

The MECP SCS applicable to the Site have been evaluated on the basis of the following rationale:

Site Sensitivity:

- The site does not include, nor is there evidence to suggest it could have an adverse effect on a sensitive environment.

- The borehole drilling program revealed that the bedrock is at depths greater than 5.33 metres (m) below existing grade across the Site;
- The glacially-derived native silty sand materials are of moderate permeability to depths up to at least 5.33 m below ground surface; and
- The subsurface soil pH values are between 7.67 and 7.75. Two (2) soil samples (and one duplicate soil sample) were collected on June 1, 2022 at each borehole (BH22-6 and BH22-10) between the surface and 1.52 m below existing grade, to determine the soil pH for the Phase Two Property.

Land Use:

- The subject site is currently developed with a building to support commercial land uses. Proposed residential redevelopment is anticipated.

Ground Water Use:

- The site is and will continue to be serviced by a municipal drinking water supply derived from Lake Ontario.

Depth and Soil Texture:

- For the purpose of the report, the assessment criteria corresponding to the full depth option will be used for comparison to the laboratory analytical results.
- One soil sample was collected on June 1, 2022 at the location of BH22-10 between 2.29 and 3.05 m below existing grade, to determine the soil grain size for the Phase Two Property.
- Based upon field observations and soil grain size analyses conducted by ALS Environmental, the site stratigraphy generally comprises medium-fine loam (a mixture of sand, silt, and clay). Therefore, for the purpose of this report, the assessment criteria corresponding to medium-fine textured soils were selected for comparison in laboratory analytical results.
- The selected soil texture is applicable to at least one-third of the Site being assessed. Therefore, the medium-fine textured soil SCS can be used, as per Ontario Regulation 153/04, s.42 (1).

Based on the above information, the applicable EPA site assessment criteria selected for use at this Site is the Full Depth Generic SCS in a Non-Potable Ground Water Condition (Table 3) criteria for residential/parkland/institutional land uses with medium-fine-textured soils.

2. Background Information

The environmental investigation conducted at the Site and the details of our findings are outlined in **Section 3**. The Phase Two ESA was conducted at the Site to address the APECs identified by the Palmer 2022 Phase One ESA for the Site.

2.1 Physical Setting

The Phase Two Property is located at a topographic elevation of approximately 101 m above mean sea level. Topography at and in the general vicinity of the Site is relatively flat with a drop in elevation to the southeast as shown in **Figure 8.2.1**.

The Phase Two Property is located within the broad physiographic region known as the Iroquois Plain (Chapman and Putnam, 1984). This region is a slightly sloping plain that is covered with stratified sands of various depths in some areas and soil formed directly on the wave-eroded surface of red and gray shale in others. This region borders Lake Ontario and extends around the western part of Lake Ontario from the Niagara River to the Trent River.

Local surficial geologic mapping (The Ontario Geological Survey, 2003) of the Mississauga area indicates that coarse-textured glaciolacustrine deposits of sand, gravel, and minor silt and clay underlie the Phase Two Property.

Bedrock geologic mapping of Ontario (The Ontario Geological Survey, 1990) indicates that the glacially derived overburden soil at the Phase Two Property is underlain by Upper Ordovician Age shale, limestone, dolostone, and siltstone of the Georgian Bay Formation.

No water bodies or areas of natural significance were observed on the subject property. Mary Fix Creek exists approximately 230 m south of the Site in the Phase One Study Area. The local hydrogeology is controlled by this waterbody, the underlying geology and the topography and is surmised to be directed southeastward.

Regional ground water flow is expected to be southeastward towards Lake Ontario. The static ground water level in the vicinity of the Phase Two Property is noted to be around 3.4 m below existing grade based on well records in the vicinity of the Phase One Property.

Local source water protection mapping (Source Protection Information Atlas, 2020) of the Mississauga area indicates there are no well-head protection areas in the vicinity of the Phase Two Property; however, the northern portion of the Phase Two Property falls within intake protection Zone 2. There are significant ground water recharge areas present in the vicinity of the Phase Two Property located at the west and south portions of the Study Area. In addition, a highly vulnerable aquifer was noted to be present within the Phase Two Property and Phase One Study Area.

The Phase Two Property is serviced by a municipal drinking water system with potable water derived from Lake Ontario. However, there are two (2) well records for the Phase Two Property and three (3) well records within a 250 m search radius. These records relate to test holes and monitoring wells in the Phase One Study Area.

2.2 Past Investigations

Seven (7) reports relating to the environmental conditions at the Phase Two Property were provided by the Client and reviewed by Palmer. A summary of the description of relevant report data, analysis and findings relevant to the Phase Two ESA, including the presence of a contaminant on, in or under the Phase Two Property or the existence of an area of potential environmental concern, is as follows:

Report Title: Phase One Environmental Site Assessment, 49 South Service Road, Mississauga, Ontario
Date: October 13, 2022
Prepared by: Palmer
Prepared for: Edenshaw SSR Developments Limited

Based on the findings of the historical records review, site reconnaissance, and interviews; PCAs and APECs were identified in association with the Phase One Property and/or Phase One Study Area. Refer to Table A in the Executive Summary.

A Phase Two ESA was recommended to assess potential subsurface impacts as a result of the PCAs and APECs identified in the Phase One ESA.

Report Title: Phase One Environmental Site Assessment, Mississauga OPP Detachment, 49 South Service Road, Mississauga, Ontario
Date: December 21, 2020
Prepared by: GHD Limited
Prepared for: Infrastructure Ontario

A Phase One Environmental Site Assessment (ESA) was conducted at 49 South Service Road, Mississauga on December 21, 2020 by GHD Limited (GHD). It was required that the site be assessed to document environmental conditions for the potential disposition of the Property. The site consisted of a former Ontario Provincial Police (OPP) detachment building, an associated garage and two canopy structures. Historic site operations were identified as potential agricultural use up to the 1940s and commercial use (Ontario Provincial Police) since at least the early 1950s to 2020. Surface water along the site drains overland towards catchbasins on the property and potable water is supplied by the Region of Peel. No potable well or onsite septic tank systems were observed during the site reconnaissance performed by GHD. The wastewater discharges were identified to consist of domestic wastewater, wastewater from kitchen sinks and floor drain systems generated within the main building and discharged to the municipal sanitary system, as well as any wash water or runoff associated with vehicle maintenance generated within the garage building and collected in the trench drain system and a catch basin in the garage which are connected to the municipal sewer system. The ground water flow direction was anticipated to be in a southerly direction, towards Lake Ontario. In the related Phase One Environmental Site Assessment, GHD identified five (5) Potentially Contaminating Activities which lead to five (5) Areas of Potential Environmental Concern. The APECs included on-site historical pesticide use, unknown fill material quality, vehicle servicing garage, potential historical UST, and fuel storage tank integrated within a diesel fuel backup generator.

A copy of the Executive Summary from the GHD Report is presented in **Appendix B1.**

Report Title: **Phase Two Environmental Site Assessment, Mississauga OPP Detachment, 49 South Service Road, Mississauga, Ontario**
Date: **April 1, 2021**
Prepared by: **GHD Limited**
Prepared for: **Infrastructure Ontario**

A Phase Two ESA was conducted at 49 South Service Road by GHD Limited (GHD) to address the areas of potential environmental concern (APECs) identified during the 2020 Phase One ESA. The investigation occurred between December 3 and 21, 2020. A total of ten (10) boreholes (BHs) were drilled to a maximum depth of 4.47 metres below ground surface (mbgs) and four (4) monitoring wells (MW1-20 to MW4-20) were installed. Groundwater flow direction was identified in the southeastern direction and depth to groundwater ranged from 2.64 to 3.50 mbgs.

Table 3, Full Depth Generic Site Condition Standards in a Non-Potable Groundwater Condition, for Industrial/Commercial/Community Property Use, coarse-textured soil, were chosen for the subject site. Based on the results of the Phase Two ESA, no specific impacts were identified to be related to the APECs revealed in the Phase One ESA. Inorganic parameters including Sodium Adsorption Ration (SAR) and/or electrical conductivity (EC) were found to exceed Table 3 standards in the southern portion of the site. Additionally, groundwater in the southern portion of the site was found to exceed Table 3 standards for chloride. It was reported that these exceedances were most likely due to the use of road salt for de-icing purposes.

GHD concluded that amendments made to O. Reg. 153/04, related to the use of road de-icing salt to keep a property safe under conditions of snow and ice, indicate that the exemption outlined under Section 49.1 would apply to the Site. Therefore, if an RSC is required in the future, the Qualified Person could conclude that Standards for EC and SAR in soil and chloride in groundwater are “deemed to be met”.

A copy of the borehole logs from the GHD Report is presented in **Appendix B2.**

Report Title: **Ontario Government Building – Critical Environment Audit Report**
Date: **September 20, 2016**
Prepared by: **CBRE Limited**
Prepared for: **Infrastructure Ontario**

A Critical Site Audit was conducted at 49 South Service Road by CBRE Limited. The Site was visually inspected, and data was collected to provide best practices, areas of improvement, and recommendations for the Site. Recommendations for the Site included implementing a fire suppression system in all rooms, upgrading the backup generator, fuel tank, and ATS, and installing a battery backup light, fire extinguisher and space heater for the generator enclosure.

Report Titles: **Base Building Assessment Report (B12278 and B12279)**
Dates: **July 12 & 15, 2019**
Prepared by: **Infrastructure Ontario**
Prepared for: **Infrastructure Ontario**

A Base Building Assessment Report was conducted at 49 South Service Road by Infrastructure Ontario for the OPP detachment building (B12278) and the garage (B12279). Sections of the buildings were described and requirements for repairs and renewals were provided. Some of these recommendations included structural repairs to the foundations, renewal of exterior doors, wheelchair lift renewal, domestic water distribution renewal, piping repair, standpipes renewal, roadway renewal, unit heaters renewal, etc.

Report Title: **Asbestos Building Materials Reassessment Survey Report**
Date: **November 15, 2013**
Prepared by: **Environmental Consulting Occupational Health (ECOH)**
Prepared for: **CBRE Limited**

An Asbestos Building Materials Reassessment Survey Report was conducted at 49 South Service Road by ECOH Inc. and exp. Services Inc. (ECOH-exp.). This report was carried out for the purposes of long-term management of the asbestos-containing building materials for both the OPP detachment building and garage on the Site. The assessment found that asbestos materials were detected within pipe insultation in the pump room of the OPP detachment building. Asbestos was also identified within the roof hopper drain and all piping insulation within the garage building. No visible damage or deterioration was noted on the identified asbestos containing materials; therefore, no immediate remedial action was required.

3. Scope of the Investigation

The Phase Two ESA Report has been prepared in accordance with Schedule E of Ontario Regulation 407/19 (amending Ontario Regulation 153/04) under the Environmental Protection Act (EPA). It is Palmer's understanding that the purpose of this Phase Two ESA is to support development approval applications with the City of Mississauga and is required to support filing of a Record of Site Condition (RSC) with the Ministry of the Environment, Conservation and Parks (MECP). The Phase Two Property is contemplated for residential redevelopments with a 22-storey tower, 4-storey podium, and underground parking following demolition of the existing buildings.

3.1 Overview of Site Investigation

To address the APECs identified in the Palmer 2022 Phase One ESA, Palmer conducted a Phase Two ESA consisting of drilling boreholes, installing monitoring wells, and sampling and chemical testing of soil and ground water samples during the Phase Two ESA investigation.

Six (6) boreholes (BH22-5, BH22-6, BH22-7, BH22-8, BH22-9, and BH22-10) were advanced across the Site. All six (6) of the boreholes were completed as monitoring wells. In addition, six (6) previously installed ground water monitoring wells were sampled (BH1, BH4, BH6, MW2-20, MW3-20 and MW4-20).

The rationale for the selection of borehole/monitoring well locations is shown on **Table 1** below:

Table 1. APEC Locations and Associated Boreholes and Monitoring Wells

Areas of Potential Environmental Concern	Location on Site	Sample Location / Sample ID
APEC 1 (Associated with auto service garage)	Southern Portion of Phase One Property	BH22-8, BH22-9, BH22-10, and MW2-20
APEC 2 (Associated with historic AST in service garage)	Southern Portion of Phase One Property	BH22-8, BH22-9, and BH22-10
APEC 3 (Associated with current diesel fuel back-up generator with AST near garage)	Southern Portion of Phase One Property	BH22-10 and MW2-20
APEC 4 (Associated with historic UST)	Northern Portion of Phase One Property	BH22-5, BH22-6, BH22-7, BH1, BH4, BH6, MW3-20, MW4-20
APEC 5 (Associated with historic oily water spill)	Entirety of Phase One Property	BH22-5, BH22-6, BH22-7, BH1, BH4, MW3-20, MW4-20

The scope of work for this Phase Two ESA included the following tasks:

- Planned a site investigation through the preparation of a Sampling and Analysis Plan (refer to **Appendix A1**).

- Acquired utility locates: Prior to the advancement of the boreholes, arranging for the location of underground and overhead utilities including electrical (hydro), natural gas, water supply, sanitary and storm sewer, telephone, cable and communication. Underground utilities were marked by utility locates company representatives, and a private locator, All Clear Locates, was retained to clear the borehole locations prior to drilling of the boreholes.
- Mobilized, drilled, and logged six (6) sampled boreholes to depths of 4.57 to 5.33 metres below ground surface (mbgs).
- Installed 50-mm diameter perforated polyvinyl chloride (PVC) ground water monitoring wells in six (6) of the boreholes. All ground water monitoring wells were installed with 3 m of slotted PVC intake screen.
- Screened soil sample head-space for soil vapours using a portable photo ionization detector (PID) *RKI Eagle 2*.
- Measured the static ground water levels in the twelve (12) monitoring wells.
- Completed an elevation survey of the twelve (12) monitoring wells to obtain a ground water elevation measurement to confirm ground water flow direction at the Site at the time of the field investigation.
- Purged three (3) well casing volumes from each monitoring well or until each well was dry and collected ground water samples from the twelve (12) monitoring wells.
- Submitted soil and ground water samples under Chain of Custody protocol to an accredited laboratory to carry out chemical analysis for contaminants of potential concern in accordance with O.Reg. 153/04 - "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the *Environmental Protection Act*" published by the MECP and dated March 9, 2004, as amended by O. Reg. 511/09, s. 22 ("Analytical Protocol").
- Reviewed and interpreted laboratory results of chemical analysis data and observations made during the site investigation.
- Completed an evaluation of the information from the above and preparing a Phase Two Conceptual Site Model (CSM) to identify locations and concentrations of contaminants (if any) above the applicable SCS at the Site.
- Prepared a Phase Two ESA report of the investigation findings, conclusions, and recommendations.

3.2 Media Investigated

The Phase Two ESA included the investigation of soil and ground water at the Site.

Soil and ground water samples were selected for chemical analysis to determine whether any contaminants of potential concern (COPCs) were present in the soil and ground water in the locations of the APECs, outlined in the Palmer July 2022 Phase One ESA.

A total of fourteen (14) soil samples, including three (3) duplicate soil samples, and twenty (20) ground water samples, including three (3) duplicate ground water samples and one (1) trip blank sample, were submitted to ALS Environmental, for analysis of various COPCs to investigate the soil and ground water quality related to the aforementioned APECs. These COPC included PHCs, VOCs, BTEX, and metals and inorganic parameters (As, Sb, Se, Na, low or high pH). Borehole and monitoring well locations are presented in **Drawing 2**.

As there is no surface water body on the Site, no sediment sampling is required.

3.3 Phase One Conceptual Site Model

Site Description

The Phase One Property is a 1.09-acre, irregular shaped, parcel of land located on the south side of Queen Elizabeth Way, north of the intersection with Hurontario Street in Mississauga, Ontario. Building structures on the Site include a 334-m^2 two-storey former Ontario Provincial Police (OPP) office building (with a partial basement) with a 111-m^2 single-storey attached detention area, a 143-m^2 garage, and two (2) canopy structures. The Phase One Property has been vacant since August 2020.

Historically, the Site was first developed prior to 1952 with a single building on the southern portion of the Phase One Property. The Phase One Property was subsequently redeveloped in the early 1960s with the current buildings. Tenants of the building have included the OPP.

The remaining parts of the Site comprise an asphalt-paved parking lot and landscaped grassed areas.

Water Bodies / Areas of Natural Significance

There are no water bodies or areas of natural significance on the Phase One Property. However, Mary Fix Creek exists approximately 230 m south of the Phase One Property in the Phase One Study Area, which flows southeastward to Lake Ontario.

Drinking Water Wells

There are no drinking water well records for the Phase One Property; however there are two (2) well records for the Phase One Property and three (3) well records within a 250 m search radius. These records relate to test holes or observation wells in the vicinity of the Phase One Property.

Neighboring Land Use

The Phase One Study Area is developed with commercial, residential, and institutional land uses, as presented in **Drawing 2 and 3**.

Areas of Potential Environmental Concerns (APECs)

Based on the findings of the historical records review, Site reconnaissance, and personal interviews, five (5) potentially contaminating activities (PCAs) were identified either on the Phase One Property or within the Phase One Study Area. These PCAs were deemed to be contributing to five (5) areas of potential environmental concern (APECs) on the Phase One Property, as shown in **Drawing 3**.

The following Potentially Contaminating Activities (PCAs) were found to be associated with the current or historical land uses of the Phase One Property and/or Phase One Study Area:

APEC	Location of APEC on the Phase One Property	PCA	Location of PCA (On-Site or Off-Site)	Contaminants of Potential Concern (COPC)	Media Potentially Impacted (Ground water, Soil and/or Sediment)
APEC #1 Automotive Repair Operations	Southern Portion of Phase One Property	#52: Storage, maintenance, fueling and repair of equipment, vehicles, and material used to maintain transportation systems	*On-Site* – Historical automotive repair operations within the Garage building since the early 1960s.	PHCs, BTEX, VOCs, Metals, As, Sb, Se	Soil and Ground water
APEC #2 Historical Fuel Aboveground Storage Tank (AST)	Southern Portion of Phase One Property	#28: Gasoline and Associated Products Storage in Fixed Tanks	*On-Site* – Former diesel backup generator with 50 gallon diesel AST within the Garage building	PHCs, BTEX	Soil and Ground water
APEC #3 Existing Fuel AST	Southern Portion of Phase One Property	#28: Gasoline and Associated Products Storage in Fixed Tanks	*On-Site* – Presence of diesel-fired backup generator with 50-gallon diesel AST at the exterior of the Garage building	PHCs, BTEX	Soil and Ground water
APEC #4 Historical Heating Oil Underground Storage Tank (UST)	Eastern Portion of Phase One Property	#28: Gasoline and Associated Products Storage in Fixed Tanks	*On-Site* – Former 1,000 gallon heating oil UST located along the east exterior wall of the Main building	PHCs, BTEX	Soil and Ground water
APEC #5 Historical Spill	Northeastern Portion of Phase One Property	N/A. Spill	*On-Site* – Historical oily water spill to a storm drain located on the northeastern portion of the Site in 2009	PHCs, BTEX	Soil and Ground water

Description of Assessment

PCAs with known or potential to affect the Phase One Property are as follows:

PCA Location	Location of APEC on the Phase One Property	Contaminants of Concern	Impact to Phase One Property (Known or Potential)
49 South Service Road	Southern Portion of Phase One Property	PHCs, BTEX, VOCs, Metals, As, Sb, Se	Potential
	Southern Portion of Phase One Property	PHCs, BTEX	Potential
	Southern Portion of Phase One Property	PHCs, BTEX	Potential
	Eastern Portion of Phase One Property	PHCs, BTEX	Potential
	Northeastern Portion of Phase One Property	PHCs, BTEX	Potential

Underground utilities are expected to be present on the subject property (sanitary sewer, storm sewer, city water, natural gas, telephone, electricity) and could potentially act as preferential pathways.

Local surficial geologic mapping of the Mississauga area indicates that sand, gravel, and minor silt and clay of glaciolacustrine deposits, underlie the Phase One Property.

The Phase One Property is located approximately 230 m north of Mary Fix Creek, which flows southeastward to Lake Ontario. The local hydrogeology is controlled by this waterbody, the underlying geology, and the topography, and local ground water flow is expected to be southeastward. The regional ground water flow is also expected to be southeastward towards Lake Ontario.

It is not expected that any uncertainty or absence of information would affect the validity of the Conceptual Site Model (CSM).

3.4 Deviations from Sampling and Analysis Plan

The field investigation and sampling program was carried out following the requirements of the Sampling and Analysis Plan (SAP) (shown in **Appendix A1**) with the following exceptions.

- Due to prior damage to monitoring wells MW1-20, BH5, and BH2 being observed and monitoring wells deemed inaccessible, ground water sampling did not occur and was instead carried out in BH4 and BH1.
- Due to monitoring well BH7 being dry, BH6 was sampled as an alternative.

3.5 Impediments

There were no impediments at the Site during the Phase Two ESA on-site investigation.

4. Investigation Method

Fieldwork for this investigation began on May 26, 2022 by purging ground water from six (6) previously installed monitoring wells. Soil sampling was carried out from a total of four (4) exterior and two (2) interior boreholes drilled to depths of 4.57 to 5.33 m below existing grade with the installation of six (6) monitoring wells at the locations shown in **Figure 8.2.2**. The boreholes on the Phase Two Property were strategically placed to address the PCAs and APECs identified in Table A.

4.1 General

This section of the report describes the various investigation methods used in the Phase Two ESA, including drilling, soil sampling, monitoring well installation, ground water sampling and analytical testing.

The Phase Two ESA was carried out in accordance with Palmer's SAP (**Appendix A1**).

The borehole locations were established in the field by Palmer staff prior to drilling. *Ontario One-Call* was contracted to locate and clear buried utility lines including telephone cables, natural gas mains, and hydro power lines. All the detected underground lines were identified on the ground by marking paints of various colours, as shown in **Drawing 2**.

Soil

Representative soil samples were recovered at each of the borehole locations. The soil stratigraphy was logged during drilling as soil samples were collected with dedicated dual tubes. Visual observations of any foreign materials or odours were also logged. The Finalized Field Logs are presented in **Appendix A2**.

Soil samples were split into portions that were collected into a plastic bag and a sample jar. Head space vapour concentrations were determined by allowing the bags to warm up to ambient temperature, probing into partially opened bags using a monitoring probe, and measuring the sample head space with a PID. Selected samples were placed in laboratory-supplied glass jars or vials and stored in a cooler during transport to the laboratory.

Ground Water

Upon completion of drilling, a 50-mm diameter PVC monitoring well was installed in six boreholes for ground water monitoring. Initial ground water levels were measured and a dedicated length of low-density polyethylene (LDPE) tubing was inserted into the wells.

The wells were purged to waste in sealed drums and fresh ground water samples were drawn for chemical analyses using a low-flow peristaltic pump. Samples were also placed in laboratory-supplied glass bottles or vials and stored in a cooler on ice during transport to the laboratory.

4.2 Drilling and Excavating

Boreholes were advanced by using a *CME-75 Truck Mounted Drill* equipped with augers and dual tubes, supplied and operated by Davis Drilling Ltd. under the direction of Palmer staff. Boreholes carried out in the garage were advanced using a *Ram Sounder*, supplied and operated by Sonic Soil Sampling Inc.

Disposable nitrile gloves were used and replaced between the handling of samples and all soil sampling equipment (stainless steel trowels, spatulas, etc.) was thoroughly decontaminated between soil sample locations to prevent potential cross-contamination. Decontamination activities included physical removal of any adhered debris, wash/scrub in "Alconox" soap solution, distilled water rinse, methanol rinse, and air dry.

Samples were collected continuously from the dual tubes. Samples submitted to the laboratory were based on visual observations, results of headspace screening, and identified APECs and associated parameters of concern.

4.3 Soil: Sampling

All soil samples were collected in accordance with strict environmental sampling protocols to ensure reliable results. The equipment used to collect the soil samples was previously discussed in Section 4.0, 4.1, and 4.2.

The observed soil stratigraphy generally comprised surficial asphalt pavement or concrete underlain by sand and gravel, silty sand, silty clay, and sandy silt, as described in **Table 2** below. The Finalized Field Logs are provided in **Appendix A2**.

Table 2. Soil Stratigraphy Summary

Borehole/ Monitoring Well ID	Soil Stratigraphy	Depth (m)	Observations
BH22-5	Asphalt Pavement	0 to 0.15	No staining observed on the surface
	Silty Sand Fill – Brown; trace gravel	0.15 to 3.81	Black asphalt fragments noted at 3.05 m
	Silty Sand Till – Greyish brown	3.81 to 5.33	No staining or odour observed in this layer
BH22-6	Asphalt Pavement; with some grey sandy gravel fill	0 to 0.03	No staining observed on the surface
	Silty Sand Fill – Brown; trace gravel	0.02 to 0.76	No staining or odour observed in this layer
	Silty Sand Fill – Brown; trace gravel and trace clay	0.76 to 1.52	No staining or odour observed in this layer
	Silty Sand Fill – Brown; trace gravel	1.52 to 2.29	No staining or odour observed in this layer
	Silty Sand Fill – Brown	2.29 to 2.59	No staining or odour observed in this layer

	Silty Sand Till – Greyish brown	2.59 to 5.33	No staining or odour observed in this layer
BH22-7	Asphalt Pavement	0 to 0.15	No staining observed on the surface
	Silty Sand Fill – Brown; trace gravel	0.15 to 1.83	No staining or odour observed in this layer
	Silty Sand Fill - Black	1.83 to 2.29	No staining or odour observed in this layer
	Silty Sand Fill – Grey; trace clay	2.29 to 2.74	No staining or odour observed in this layer
	Silty Clay Fill – Black; trace roots	2.74 to 3.05	No staining or odour observed in this layer
	Silty Clay Fill – Grey	3.05 to 3.43	No staining or odour observed in this layer
	Sandy Silt Fill – Black	3.43 to 3.81	Black staining and slight odour noted at 3.43 m
	Sandy Silt Till – Greyish brown; trace clay	3.81 to 5.33	No staining or odour observed in this layer
BH22-8	Concrete	0 to 0.15	No staining observed on the surface
	Silty Sand Fill – Brown; trace gravel	0.15 to 2.29	No staining or odour observed in this layer
	Silty Sand Fill – Brown; trace gravel and boulder fragments	2.29 to 3.05	No staining or odour observed in this layer
	Silty Sand Fill – Brown; trace gravel	3.05 to 3.81	No staining or odour observed in this layer
	Silty Sand Till – Brown	3.81 to 4.57	No staining or odour observed in this layer
BH22-9	Concrete	0 to 0.15	No staining observed on the surface
	Silty Sand Fill – Brown; trace gravel	0.15 to 0.76	No staining or odour observed in this layer
	Silty Sand Fill – Brown; trace gravel and boulder fragments	0.76 to 1.52	No staining or odour observed in this layer
	Silty Sand Fill – Brown; trace gravel	1.52 to 2.29	No staining or odour observed in this layer
	Silty Sand Till – Brown	2.29 to 4.57	No staining or odour observed in this layer
BH22-10	Asphalt Pavement	0 to 0.02	No staining observed on the surface
	Silty Sand Fill – Brown; trace gravel	0.02 to 0.76	No staining or odour observed in this layer
	Silty Sand Fill – Brown; trace gravel and trace clay	0.76 to 1.52	No staining or odour observed in this layer
	Silty Sand Fill – Golden brown; trace gravel	1.52 to 2.29	No staining or odour observed in this layer

	Silty Sand Fill – Brown; trace clay	2.29 to 3.05	No staining or odour observed in this layer
	Silty Sand Till – Greyish brown	3.05 to 5.33	No staining or odour observed in this layer

4.4 Soil: Field Screening Methods

All soil samples were screened in the field for evidence of staining and odours. Soil sample headspace screening was also performed to facilitate sample selections for laboratory analysis and to provide an assessment of the vertical contaminant distributions at each borehole location.

The soil sample headspace screening was conducted with a RKI Eagle 2 calibrated to a known isobutylene gas. The PID readings were recorded in parts per million (ppm), as shown in the Finalized Field Logs in **Appendix A2**.

4.5 Ground Water: Monitoring Well Installations

Upon completion of drilling, a 50-mm diameter, flush-joint threaded PVC monitoring well was installed in six (6) of the boreholes for ground water monitoring by Davis Drilling Ltd. and Sonic Soil Sampling Inc. under the direction of Palmer staff.

The monitoring wells included a 3 m length of slotted PVC intake screen. The wells were then extended from the top of the intake screen to the ground surface using solid PVC riser pipe. A silica sand filter pack was placed between the intake screen and the wall of the borehole. The filter pack was extended approximately 0.6 m above the top of the well screen to allow for settlement of the sand packs and to accommodate expansion of the overlying well seals. A bentonite seal was placed above the sand pack and extended to approximately 0.3 mbgs. Concrete and a flushmount well casing were installed between 0.3 mbgs and the ground surface. No glue was used in the construction of the monitoring well.

Elevations and associated monitoring well construction details are shown in **Table 8.1.1**. The location of the monitoring wells are shown in **Figure 8.2.3**, and the well completion diagrams are also shown on the Finalized Field Logs in **Appendix A2**.

All ground water monitoring wells installed at the Phase Two Property were instrumented with sufficient lengths of LDPE tubing to facilitate well development and purging requirements. Following the initial installation, depths to the static water level were measured and each monitoring well was developed by purging either three (3) well casing volumes or until the well went dry at least once. The well development occurred in order to remove any fluids that may have been introduced into the well during drilling, to remove particulates that may have become entrained in the well and filter pack, to stabilize and grade the filter pack, to improve connectivity between the well and the formation, and to restore ground water that may have been disturbed or altered during the drilling process to ensure the samples to be representative of true formation waters. The purging activities were carried out using the dedicated LDPE tubing and a low-flow peristaltic pump.

Purging of the six installed monitoring wells was completed on June 1, 2022 and was as follows:

Table 3. Monitoring Well Development Details

Monitoring Well ID	Date of Development/Purging	Time of Development/Purging	Volume of Fluid Removed from Well (L)
BH22-5	June 1, 2022	12:00 pm	11.98
BH22-6		12:30 pm	8.39
BH22-7		1:00 pm	10.58
BH22-8		2:30 pm	4.56
BH22-9		3:00pm	5.11
BH22-10		11:00 am	3.95

The development was completed on the aforementioned date as all six (6) monitoring wells were purged for three well casing volumes.

Additional purging of six (6) previously installed monitoring wells was completed on May 26, 2022 and was as follows:

Table 4. Additional Monitoring Well Development Details

Monitoring Well ID	Date of Development/Purging	Time of Development/Purging	Volume of Fluid Removed from Well (L)
BH1	May 26, 2022	2:30pm	12.58
BH4		3:30pm	11.55
BH6		10:30am	0.43
MW2-20		11:30am	6.51
MW3-20		12:30pm	3.10
MW4-20		2:00pm	10.45

The development was also completed on the aforementioned date as all six (6) monitoring wells were purged until dry or for three well casing volumes.

4.6 Ground Water: Field Measurement of Ground water Quality Parameters

On June 2, 2022, after the monitoring wells were purged for three well casing volumes, the following water quality field parameters were measured using a Quanta multi-probe prior to sampling:

Table 5. Ground Water Quality Parameters

Monitoring Well ID	pH (pH units)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Temperature (°C)
BH22-5	6.59	8.389	5.21	14.5
BH22-6	6.48	9.806	2.84	14.0
BH22-7	6.96	6.697	6.07	13.3
BH22-8	6.82	5.709	4.12	16.8

Monitoring Well ID	pH (pH units)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Temperature (°C)
BH22-9	6.78	7.050	5.10	15.2
BH22-10	7.00	7.404	6.15	16.5

On May 27, 2022, after six (6) previously installed monitoring wells were purged until dry or for three well casing volumes, the following water quality field parameters were measured using a Quanta multi-probe prior to sampling:

Table 6. Additional Ground Water Quality Parameters

Monitoring Well ID	pH (pH units)	Specific Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Temperature (°C)
BH1	6.72	7.045	1.49	12.2
BH4	6.73	2.357	3.07	11.7
BH6	7.43	2.719	6.36	20.3
MW2-20	7.04	7.120	6.07	13.5
MW3-20	6.80	6.990	5.01	14.7
MW4-20	7.11	3.344	4.16	14.4

4.7 Ground Water: Sampling

All ground water samples were collected in accordance with strict environmental sampling protocols to ensure reliable results. Any equipment used to collect the ground water samples are previously discussed in *Section 4.0, 4.1,* and *4.2*.

The wells were purged to waste in sealed drums and fresh ground water samples were drawn for chemical analyses. During the sampling round, ground water samples were collected using a low-flow peristaltic pump, with dedicated tubing installed in each of the monitoring wells. This method minimizes the velocity of the formation water entering the well screen, as the drawdown is kept to a minimum (i.e., less than 10 cm) by adjusting the pumping rate. The samples were placed in laboratory-supplied glass bottles or vials and stored in a cooler on ice during transport to the laboratory.

Ground water monitoring, including measuring the depth to the stabilized water level, was conducted on May 26, 27, June 1 and June 2, 2022. Measurements of ground water depth were made using an electronic oil water interface probe. Ground water level measurements are shown in **Table 8.1.2**.

In addition, the ground water was screened in the field during all monitoring events for evidence of free product including presence of liquid petroleum hydrocarbons (LPH), sheen (iridescence), odour and colour, as summarized in **Table 8.1.3**.

4.8 Sediment: Sampling

As no water bodies are present on the Site, sediment sampling was not within the scope of this Phase Two ESA.

4.9 Analytical Testing

ALS Environmental (ALS) performed chemical analysis on soil and ground water samples collected from boreholes/monitoring wells at the Site. ALS is an accredited laboratory under the Standards Council of Canada (SCC) and the Canadian Association for Laboratory Accreditation (CALA), in accordance with the international standard ISO/IE 17025:2005 – General Requirements for the Competence of Testing and Calibration. ALS is accredited for all parameters required under Ontario Regulation 153/04 – Record of Site Condition, as outlined in MECP Technical Update entitled "Laboratory Accreditation Requirements under the New Records of Site Condition Regulation (O. Reg. 153/04).

Based on visual observations, results of headspace screening, and identified APECs and associated parameters of concern, fourteen (14) selected soil samples (representative of fill materials and native soils), and twenty (20) ground water samples were submitted to ALS Environmental, for the following analyses:

- PHCs on eight (8) soil and fourteen (14) ground water samples (including two (2) QA/QC samples for soil and two (2) QA/QC samples for ground water);
- BTEX on four (4) soil samples and nine (9) ground water samples (including one (1) QA/QC sample for soil and one (1) QA/QC sample for ground water);
- Metals on four (4) soil samples (including one (1) QA/QC sample) and five (5) ground water samples (including one (1) QA/QC sample);
- VOCs on four (4) soil samples (including one (1) QA/QC samples) and six (6) ground water samples (including one (1) QA/QC samples).

The Laboratory Certificate of Analyses and Analytical Reports are reproduced in **Appendix A3**.

4.10 Residue Management Procedures

All soil cuttings from the borehole drilling activities, water from the well development and purging, and all fluids from equipment cleaning are stored in secure containers on the Phase Two Property.

The secure containers were collected from the Site for off-Site disposal on June 30, 2022 by Conscade Engineering Service.

4.11 Elevation Surveying

The ground surface elevation of borehole and monitoring wells was surveyed by Palmer personnel. The elevations were surveyed based on a marked local benchmark. The benchmark is at Station 20220110017, located on the roof of 1050 Stacey Court, Mississauga, ON. The elevation at this point is understood to be at Ellipsoidal Elev. 120.138 metres.

A legal survey of the Phase Two Property can be seen in **Appendix A4**.

4.12 Quality Assurance and Quality Control Measures

A Quality Assurance and Quality Control (QA/QC) program, developed as part of the SAP, was followed by Palmer to ensure the integrity of all soil and ground water samples was maintained and that they were representative of the Site conditions. The QA/QC program was developed in accordance with the Analytical Protocol.

The jars and preservatives (where applicable) used in the collection of soil and ground water samples were supplied by ALS Environmental. The soil samples intended to be submitted for analysis of VOCs and PHC F1 were immediately preserved in laboratory provided methanol vials to sequester the volatile compounds.

The soil samples from the boreholes which were advanced using solid stem augers were collected with split spoon samplers which were decontaminated after the extraction of each sample.

The soil and ground water samples were labelled as they were collected. Samples were stored in ice-packed coolers, until the samples were transported to the laboratory for chemical analysis.

The soil and ground water samples were handed over to the laboratory by Palmer staff. Chains of Custody of the samples were logged with Chain of Custody Forms.

As discussed in Section 4.4 above, the monitoring wells were installed by direct drilling with solid stem augers and direct push with a split spoon. All drilling equipment arrived at the Site in a pre-cleaned condition. The augers were cleaned with a brush and washed between monitoring well locations.

The stainless-steel sampling tool (trowel) was decontaminated between sampling locations in the following sequence: cleaned with a brush to remove adhered soil and/or debris, rinsed with distilled water and allowed to air dry.

Field duplicate samples for both soil and ground water were submitted to ALS for chemical analysis for QA/QC purposes.

For soil samples, three (3) duplicate samples (22-5-6D, duplicate of soil sample BH2-5 SS6, 22-9-3D, duplicate of soil sample BH22-9 SS3, and 22-8-6D, duplicate of soil sample BH22-8 SS6) were submitted to ALS for analysis.

For ground water samples, two (2) duplicate ground water samples (BH4D and MW2-20D, duplicates of ground water sample BH4 and MW2-20) and one (1) trip blank were submitted to ALS for analysis.

The laboratory quality assurance program included the analysis of laboratory duplicate samples, methods blanks, matrix spikes and samples of reference materials, in accordance with the Analytical Protocol.

5. Review and Evaluation

5.1 Geology

The subsurface soil profiles and associated below grade elevations encountered at the Phase Two Property are described in the Finalized Field Logs in **Appendix A2**.

The estimated thickness range of each geologic unit is as follows:

Table 7. Summary of Geology

	Geologic Unit	Range Depth (m)
Surface	Asphalt Pavement	0.00 to 0.15
	Concrete	0.00 to 0.15
Fill Strata	Silty Sand Fill	0.15 to 3.81
	Silty Clay Fill	2.74 to 3.43
	Sandy Silt Fill	3.43 to 3.81
Till Strata	Silty Sand Till	2.29 to 5.33
	Sandy Silt Till	3.81 to 5.33
Bedrock	Not encountered	

The soil across the property is considered to be medium-fine-textured for the purpose of this ESA.

5.2 Ground Water: Elevations and Flow Direction

Ground water levels were measured in the monitoring wells on May 26, June 1 and 2, 2022, using a Heron Interface Probe. Ground water levels and measured elevations from June 2, 2022 are presented on the borehole logs and are summarized below:

Table 8. Summary of Ground Water Conditions

Monitoring Well ID	Date	Ground Surface Elevation (mAMSL)	Depth to GW (mbgs)	GW Elevation (mAMSL)	Observations
BH1 (Old)	06/02/22	99.538	2.56	96.98	Casing was not sealed properly, and purged water was orange
BH2 (Old)	06/02/22	-	-	-	MW was damaged & not used in this investigation
BH4 (Old)	06/02/22	99.65	2.58	97.07	None
BH5 (Old)	06/02/22	-	-	-	MW was damaged & not used in this investigation
BH6 (Old)	06/02/22	-	1.60	-	None
BH7 (Old)	06/02/22	-	-	-	MW was dry

Monitoring Well ID	Date	Ground Surface Elevation (mAMSL)	Depth to GW (mbgs)	GW Elevation (mAMSL)	Observations
MW1-20 (Old)	06/02/22	-	-	-	MW was damaged & not used in this investigation
MW2-20 (Old)	06/02/22	99.459	3.04	96.42	None
MW3-20 (Old)	06/02/22	99.709	2.76	96.95	None
MW4-20 (Old)	06/02/22	99.728	2.90	96.83	None
BH22-5	06/02/22	99.66	2.66	97.00	None
BH22-6	06/02/22	99.56	2.71	96.85	None
BH22-7	06/02/22	99.552	2.59	96.96	None
BH22-8	06/02/22	99.765	3.27	96.50	None
BH22-9	06/02/22	99.8	3.32	96.48	None
BH22-10	06/02/22	99.724	3.34	96.38	None

The results of the ground water monitoring indicated that the primary near surface water table resides within the silty sand native and fill layer.

As summarized in **Table 8.1.3**, no free-product was observed in any of the monitoring wells monitored on the Phase Two Property.

Based on the overburden ground water elevations, the ground water is interpreted to flow across the Site in a southerly direction. The ground water elevations and interpreted flow direction is presented in **Figure 8.2.3**.

5.3 Ground water Hydraulic Gradients

The horizontal hydraulic gradient was estimated for the water table based on the June 2, 2022 ground water elevations.

The horizontal hydraulic gradient is calculated using the following equation:

$i = \Delta h/\Delta s$

Where,

i = horizontal hydraulic gradient
Δh (m) = Ground water elevation difference; and,
Δs (m) = separation distance.

The following table shows the horizontal hydraulic gradient values calculated (as shown in **Figure 8.2.3**) using ground water monitoring data for the monitoring wells on the Phase Two Property:

		Horizontal Hydraulic Gradient in Native Unit (m/m)
Horizontal	Average	0.03869
	Maximum	0.06685
	Minimum	0.01053

It should be noted that vertical hydraulic gradients were not evaluated for the Site and ground water impacts were not vertically distributed at the depths investigated at the Phase Two Property.

The hydraulic conductivity of the silty sand unit was derived by using Puckett's formula, which uses the percentage of clay or percentage of the sample finer than 0.002 mm by weight (refer to laboratory grain size analyses provided in **Appendix A3**). Based on grain size analysis testing, the hydraulic conductivity of the native unit is on the order of $1.33x10^{-5}$ m/s. Therefore, the soil's ability to transmit water across the site (in the native till materials) is slow and verifies that the potential for vertical migration of contamination is limited on the Phase Two Property. Furthermore, a hydraulic conductivity of $1.33x10^{-5}$ m/s is consistent with an unconsolidated deposit of clean sand, silty sand, and silt loess (Freeze and Cherry, 1979) and represents a moderately permeable aquitard unit.

5.4 Fine-Medium Soil Texture

Fine-medium soil texture was used for this investigation, as soil grain size analyses conducted by ALS Environmental on one (1) soil sample collected from the native unit (BH22-10), revealed 71.60% silt and 6.03% clay, which resembles medium-fine textured soils, as previously discussed in *Section 1.4*.

5.5 Soil: Field Screening

Sample headspace screening with the PID yielded readings from non-detect to 380 ppm, as shown in the Finalized Field Logs in **Appendix A2**.

These readings and any field observations (staining, odours, etc.) were considered when selecting soil samples for laboratory analyses.

5.6 Soil Quality

In accordance with the scope of work, chemical analyses were performed on selected soil samples recovered from the boreholes. The selection of representative "worst case" soil samples was based on visual and/or olfactory evidence of impacts, known historical contamination and the presence of potential water bearing zones. The results of the soil sample analyses, and their respective Table 3 SCS, are summarized in **Table Series 8.1.4**. Measured (previous) contaminant concentration exceedances in soil can be seen in **Figure 8.2.4a.**

A total of fourteen (14) soil samples including three (3) duplicate soil samples were submitted to ALS for analysis of various COPC to investigate the soil quality related to the APECs. These COPC included PHCs, VOCs, BTEX, and metals (As, Sb, Se, Na, and low or high pH).

Table 9 lists the exceedances in the analysed soil samples collected during the 2020 GHD Phase II ESA.

Table 9. Soil Exceedances of MECP Table 3 Criteria

Sample ID	Borehole ID	Depth (mbgs)	Exceeding Parameters	Concentration	Unit	MECP Table 3 RPI SCS
GHD (2020)						
MW1-4-6	MW1-20 (Old)	1.22 – 1.83	EC	**0.799**	mS/cm	0.7
			SAR	**19.1**	µg/g	5
BH9-2-4	BH9-20 (Old)	0.61 – 1.22	EC	**1.573**	mS/cm	0.7
			SAR	**14.4**	µg/g	5
BH10-2-4	BH10-20 (Old)	0.61 – 1.22	EC	**0.965**	mS/cm	0.7
			SAR	**22.3**	µg/g	5
DUP3			EC	**0.943**	mS/cm	0.7
			SAR	**22.8**	µg/g	5

Based on historic soil sampling results, Inorganic (SAR and EC) exceedances in soil have been identified in three locations on the Phase Two Property, as shown in **Figures 8.2.4a**. The locations of these areas of exceedances were found to be consistent with the use of road salt for de-icing purposes in the prior study, which is no longer an environmental concern on the Phase Two Property, according to O. Reg. 153/04 s. 49(1), which states an exemption is put in place for this exceedance due to road salt application for the purpose of keeping the roadway safe for traffic under conditions of snow, ice, or both.

The current soil sampling results demonstrated no exceedances above the Table 3 SCS on the Phase Two Property.

Furthermore, soil maximum concentration data can be seen in **Table Series 8.1.7**. In addition, the horizontal and vertical distribution of the aforementioned contaminants within the impacted area can be seen in **Figure Series 8.2.6**.

5.7 Ground Water Quality

From May 27 to June 3, 2022, twenty (20) ground water samples, including three (3) duplicates and one (1) trip blank were collected from monitoring wells BH1 (Old), BH4 (Old), BH6 (Old), MW2-20 (Old), MW3-20 (Old), MW4-20 (Old), BH22-5, BH22-6, BH22-7, BH22-8, BH22-9, and BH22-10 to assess ground water quality at the Site. Ground water samples were not collected from monitoring well BH7 due to the well being dry, and from MW1-20, BH5, and BH2 due to the wells being damaged. The results of the ground water sample analyses, and their respective Table 3 SCS, are summarized in **Table Series 8.1.5**. Existing (previous) contaminant concentration exceedances in soil can be seen in **Figures 8.2.5a**.

No evidence of free product (i.e. visible film or sheen), or odour was observed during well purging and ground water sampling from the newly installed wells and existing wells. Ground water samples that were analyzed for metal parameters were field filtered at the time of collection.

The samples collected were analysed for one or more of the COPCs, including PHCs, VOCs, BTEX, and metals (As, Sb, Se, Na, low or high pH).

The concentrations of the COPCs in the tested ground water samples were in compliance with the MECP Table 3 SCS.

Exceedances in ground water samples from the previous GHD Phase II ESA included an exceedance in chloride of 2,750,000 µg/L in MW1-20. This exceedance was also found to be consistent with the use of road salt for de-icing purposes in the prior study, which is no longer an environmental concern on the Phase Two Property, according to O. Reg. 153/04 s. 49(1), which states an exemption is put in place for this exceedance due to road salt application for the purpose of keeping the roadway safe for traffic under conditions of snow, ice, or both.

Ground water maximum concentration data can also be seen in **Table Series 8.1.7**.

5.8 Sediment Quality

Sediment sampling was not part of this investigation, as previously discussed in *Section 4.8* and **Table 8.1.6**.

5.9 Quality Assurance and Quality Control Results

The QA/QC samples for this Phase Two ESA investigation included field duplicates for soil and ground water, and a trip blank for QA/QC purposes. The trip blank was submitted with ground water samples for analysis of VOCs.

The purpose of the duplicate samples is to measure the precision or reproducibility of the field and laboratory methodology used in the collection and analysis of the samples. The precision is evaluated in terms of the relative percent difference (RPD). The RPDs of the primary and duplicate samples were not calculated in situations where the concentrations of both primary and duplicate samples were at least 5 times less than the laboratory Reporting Detection Limits (RDLs) for the parameters analyzed.

Laboratory quality control limits for duplicate and method blank, method blank spike, matrix spike and surrogate recoveries were within the acceptable limits.

No tested parameters were detected in the trip blank.

All of the samples were handled in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (Analytical Protocol) with respect to preservation methods, storage requirements, or container type without any exception. Holding times were met for all samples.

The RPDs for all remaining reported concentrations were not calculated considering that the results were below the laboratory minimum detection limits or less than 5 times of the method detection limit in both soil and ground water samples. No other QA/QC concerns were noted.

Based on the review of QA/QC sample results of soil and ground water, it is certified that:

- All Certificates of Analysis or analytical reports received pursuant to clause 47 (2) (b) of the regulation comply with subsection 47 (3);

- A Certificate of Analysis report has been received for each sample submitted for analysis; and
- All Certificates of Analysis or analytical reports received have been included in full in **Appendix A3** of this Phase Two ESA report.

ALS has certified that the analytical methods and data meet the requirements of the Analytical Protocol and that holding times were met for all samples.

Laboratory quality control limits for duplicate, method blank, method blank spike, matrix spike and surrogate recoveries were within the acceptable limits.

The sampling program was carried out in accordance with the SAP. All requirements of the Analytical Protocol were met.

In summary, decision making was not affected by the quality of the data obtained and the overall objectives of the assessment were met.

5.10 Phase Two Conceptual Site Model

Section i. A description and assessment of the Phase Two Property:

The Phase Two Property is a commercial property that currently comprises a 334-m^2 two-storey former Ontario Provincial Police (OPP) office building (with a partial basement) with a 111-m^2 single-storey attached detention area, a 143-m^2 garage, and two (2) canopy structures. The Phase Two Property has been unoccupied since August 2020.

A. Potentially Contaminating Activities (PCAs)	There are five (5) PCAs (1-5) on the Phase Two Property and no PCAs within the Phase One Study Area. Refer to **Drawing 3.**		
	PCA 1 (Item #52)	On-Site	Former Automobile Maintenance Garage
	PCA 2 (Item #28)	On-Site	Former diesel backup generator with a50-gallon diesel AST located inside the garage.
	PCA 3 (Item #28)	On-Site	Current diesel-fired backup generator with integrated 50-gallon diesel AST located at the exterior of the garage.
	PCA 4 (Item #28)	On-Site	Former 1,000-gallon heating oil UST located at the east exterior area of the Phase Two Property.
	PCA 5 (N/A. Spill)	On-Site	Historic Oily Water Spill to a storm drain at the northeast portion of the Phase Two Property.

B. Areas of Potential Environmental Concerns (APECs)

There are five (5) APECs on the Phase Two Property where PCAs (on-Site) may have affected the soil and/or ground water at the Phase Two Property:

APEC 1	Historical use of automobile service repair garage located on the southern portion of the Phase One Property which has existed since at least 1966. Wash water or runoff associated with vehicle maintenance generated within the garage building was collected in a trench drain system and a catch basin in the garage.
APEC 2	Former diesel backup generator with tank in garage located on the southern portion of the Phase One Property. One (1) former 50-gallon AST which was connected to a former diesel fuel backup generator located inside the garage building was reported to have been located inside the southern portion of the garage.
APEC 3	Presence of diesel backup generator with integrated 50-gallon diesel AST located on the southern portion of the Phase One Property adjacent to the exterior wall of the garage building.
APEC 4	A former 1,000-gallon heating oil tank located on the eastern portion of the Phase One Property. A historic 1,000-gallon heating oil UST outside of the boiler room
APEC 5	Historical oily water spill to storm drain located on the northeastern portion of the Phase One Property.

Refer to **Drawing 2, 3 and 4**.

COPC associated with the abovementioned APECs include the following:

APEC	COPC	Media Potentially Impacted	Borehole/ Monitoring Well Location Sampled for COPC
1	Petroleum Hydrocarbons (PHCs), Benzene, Toluene, Ethylbenzene,	Soil and Ground Water	BH22-8 (3.81-4.57 mgbs) BH22-9 (1.52-2.29 mbgs) BH22-10 (4.57-5.33 mbgs) MW2-20

	and Xylenes (BTEX), Volatile Organic Compounds (VOCs) Metals, As, Sb, Se		
2	PHCs, BTEX	Soil and Ground Water	BH22-8 (3.81-4.57 mbgs) BH22-9 (1.52-2.29 mgbs) BH22-10 (4.57-5.33 mbgs)
3	PHCs, BTEX	Soil and Ground Water	BH22-10 (4.57-5.33 mbgs) MW2-20
4	PHCs, BTEX	Soil and Ground Water	BH22-5 (3.81-4.57 mgbs) BH22-6 (1.22-1.52 mbgs) BH22-7 (3.43-3.81 mbgs) BH1 BH4 BH6 MW3-20 MW4-20
5	PHCs, BTEX	Soil and Ground Water	BH22-5 (3.81-4.57 mbgs) BH22-6 (1.22-1.52 mbgs) BH22-7 (3.43-3.81 mbgs) BH1 BH4 MW3-20 MW4-20

Prior to Palmer's investigations, all available previous environmental reports provided were reviewed to determine the presence of PCAs and APECs at the Phase One Property.

A Phase One Environmental Site Assessment (ESA) was completed for 49 South Service Road by GHD Limited (herein referred to as GHD) on December 21, 2020 to document environmental conditions for the potential disposition of the Property. The Phase One ESA identified APECs including historical pesticide use, unknown fill material quality, vehicle servicing garage, potential historical UST, and fuel storage tank related to the diesel backup generator on the Property.

A Phase Two ESA was subsequently completed for 49 South

	Service Road by GHD on April 1, 2021 in order to assess concerns identified within the previous Phase I ESA. During the Phase Two ESA ten (10) boreholes were advanced to depths of 4.57 mbgs and the installation of four (4) ground water monitoring wells (MW1-20 to MW4-20) were carried out. Depth to groundwater ranged from 2.64 to 3.50 mbgs. The subsurface stratigraphy on the Phase One Property generally consisted of asphalt, topsoil, sand, gravel, trace silt, and trace gravel to a maximum of 4.57 mbgs, overlying native silt. Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition and those for industrial/commercial/community (ICC) property use with coarse textured soils (Table 3 SCSs), were chosen for the Subject Site. Road salt related exceedances (SAR and EC) concentrations in soil samples from MW1-20, BH9-20 and BH10-20 were above the applicable Table 3 SCSs) in the soils was identified along the southern, eastern, and western portions of the Subject Site. The Phase Two ESA concluded that the exemption for road salt de-icing purposes would consider the standards to be met for the purposes of RSC filing. Palmer's investigation consisted of the following: Upon review of Palmer's grain size analytical results, Palmer compared the previous laboratory results of the GHD Phase Two ESA against the MECP Table 3 SCS for residential/parkland/institutional (RPI) property uses in a non-potable ground water condition. Palmer noted that the previously identified contaminant concentrations of SAR and EC that exceeded the Table 3 SCS for RPI property uses with coarse-textured soils also exceeded the Table 3 SCS for RPI property uses with fine/medium-textured soils, as shown in **Drawing 4**. The locations of these areas of exceedances were found to be consistent with the use of road salt for de-icing purposes in the prior study, which is no longer an environmental concern on the Phase Two Property, according to O. Reg. 153/04 s. 49(1), which states an exemption is put in place for this exceedance due to road salt application for the purpose of keeping the roadway safe for traffic under conditions of snow, ice, or both. Exceedances in ground water samples from the previous GHD Phase II ESA included an exceedance in chloride of 2,750,000 µg/L in MW1-20 , as shown in **Drawing 5**. This exceedance was also found to be consistent with the use of road salt for de-icing purposes in the prior study, which is no longer an environmental concern on the Phase Two Property, according to O. Reg. 153/04 s. 49(1), which states an exemption is put in place for this

	exceedance due to road salt application for the purpose of keeping the roadway safe for traffic under conditions of snow, ice, or both. The monitoring wells located in the vicinity of the historic automobile repair garage, the former diesel backup generator with former AST and the current diesel backup generator with integrated 50-gallon AST (MW2-20, BH22-8, BH22-9, and BH22-10) were analyzed for the identified COPC associated with these APECs. Monitoring wells located in the vicinity of the former heating oil tank and historic oily water spill (BH1, BH4, BH6, MW3-20, MW4-20, BH22-5, BH22-6, and BH22-7) were analyzed for the identified COPC associated with these APECs. Soil samples associated with APEC 1 were collected at depths between 1.52 and 5.3 mbgs in relation to potential impacts from the former use of the auto service repair garage on the Phase Two Property. Soil samples associated with APEC 2 were collected at depths between 1.52 and 5.33 mbgs in relation to potential impacts from the former diesel backup generator and tank on the Phase Two Property. Soil samples associated with APEC 3 were collected at depths between 4.57 and 5.3 mbgs in relation to potential impacts from the current diesel backup generator on the Phase Two Property. Soil samples associated with APEC 4 were collected at depths between 1.22 and 4.57 mbgs in relation to potential impacts from the former heating oil UST on the Phase Two Property. Soil samples associated with APEC 5 were collected at depths between 1.22 and 4.57 mbgs in relation to a former oily water spill on the Phase Two Property. Refer to **Cross-Section A-A', B-B'**, and **C-C'**.
C. Any subsurface structures and utilities on, in, or under the Phase Two Property	Subsurface structures identified on, in, or under the Phase Two Property include a partial basement associated with the main building located on the northern portion of the Site. Subsurface utilities identified on, in, or under the Phase Two Property include:

	• Sanitary sewer, potable water, storm sewer, hydro, natural gas services, private irrigation system, as well as a potential concrete septic tank; and • Alectra Mississauga, Enbridge Gas, Peel Sanitary, Bell Canada, and Peel Water. Refer to **Drawing 2**. Site-wide, subsurface structures and utilities are generally installed above the ground water table at the site.

Section ii. A description of the physical setting of the Phase Two Property:

The Phase Two Property is a 1.09-acre, irregular shaped, parcel of land located on the south side of Queen Elizabeth Way, north of the intersection with Hurontario Street in Mississauga, Ontario. Refer to **Drawing 2.**

A. Stratigraphy from ground surface to the deepest aquifer or aquitard investigated

The observed soil stratigraphy comprised:

	Geologic Unit	Depth Range (m)
Surface	Asphalt Pavement/Concrete	0.00 to 0.15
Fill Strata	Silty Sand Fill	0.15 to 3.81
	Silty Clay Fill	2.74 to 3.43
	Sandy Silt Fill	3.43 to 3.81
Till Strata	Silty Sand Till	2.29 to 5.33
	Sandy Silt Till (trace gravel)	3.81 to 5.33
Bedrock	Not Encountered.	

Fill strata was identified between 0.15 and 3.81 m below existing grade. Evidence of man-made materials (i.e., waste, debris, concrete, etc.) was not observed in the strata. Therefore, the observed fill material is considered to be re-worked native materials.

Refer to **Cross-Sections A-A', B-B', and C-C'**.

One (1) soil sample was collected in the native strata between 2.29 and 3.05 mbg to determine the soil grain size for the Phase Two Property. Soil grain size analyses conducted by the laboratory classified the soil as silty sand and clay comprising approximately 77.6% silt and clay. Since more than 50% of the particles were smaller than 75 micrometres in diameter, the assessment criteria corresponding to medium-fine textured soils were selected for comparison in laboratory analytical results.

<table>
<tr>
<td>B. Hydrogeological characteristics</td>
<td>The results of the ground water monitoring indicated that the primary near surface water table resides within the silty sand native and fill layer.

No evidence of free product was observed in the ground water in the monitoring wells on the Phase Two Property, no visible PHC film or sheen was present in the ground water during well development or in any ground water samples collected.

Ground water flow is interpreted to flow across the Site in a southerly direction. Refer to Figure 8.2.3.

The following horizontal hydraulic gradient calculations using ground water monitoring data across the site revealed on the Phase Two Property:

<table>
<tr><th></th><th></th><th>Native (Till) Unit</th></tr>
<tr><td rowspan="3">Horizontal</td><td>Average</td><td>0.03869 m/m</td></tr>
<tr><td>Maximum</td><td>0.06685 m/m</td></tr>
<tr><td>Minimum</td><td>0.01053 m/m</td></tr>
</table>

Based on grain size analysis testing, the hydraulic conductivity of the native till is 1.33x10-5 m/s. Therefore, the soil’s ability to transmit water across the site (in the native till materials) is slow and verifies that the potential for migration of contamination is limited on the Phase Two Property.</td>
</tr>
<tr>
<td>C. Approximate depth of bedrock</td>
<td>Bedrock was not revealed at the final drilling depth of 5.33 m below existing grade across the Site during this investigation.

Well records within the Phase One Study Area did not indicate where bedrock exists in the vicinity of the Phase Two Property.</td>
</tr>
<tr>
<td>D. Approximate depth to water table</td>
<td>Ground water was observed between 1.60 to 3.34 mbgs generally in the lower native unit.</td>
</tr>
<tr>
<td>E. Any respect in which Section 35, 41, or 43.1 of the regulation applies to the property</td>
<td>Section 35, non-potable site condition standards, applies to the Phase Two Property based on the following:

• The property and all properties located within a 250 m radius of the property are supplied by a municipal drinking water system, as defined in the Safe Drinking Water Act, 2002 (shown in Drawing 3);
• The proposed use of the Phase Two Property is residential use;
• The property is not located in an area designated in the municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of groundwater, and there are no wells on the property or within</td>
</tr>
</table>

	the Phase One Study Area used for human consumption or agriculture; and, • The local and regional municipality have consented in writing to the application of the non-potable site condition standards. Section 41 and 43.1 do not apply to the Phase Two Property.
F. Areas on, in, or under the Phase Two Property where excess soil is finally placed	Excess soil has not been imported to the Phase Two Property for backfilling and/or regrading purposes.
G. Approximate locations, if known, of any proposed buildings and other structures	The proposed redevelopment will be residential. Residential redevelopment will comprise a 22-storey tower and 4-storey podium (with an underground parking garage) on the central portion of the Site. The proposed building locations are shown in **Drawing 4**.

Section iii. Where a contaminant is present on, in, or under the Phase Two Property at a concentration greater than the applicable site condition standard, identification of:

A. Each area where a contaminant is present on, in or under the Phase Two Property	The following limited areas of soil contamination were identified: 1s. Southern portion of the Phase Two Property Refer to **Drawing 4**.
B. The contaminants associated with each of the areas referred to in subparagraph A	Contaminants associated with the aforementioned areas are as follows: 1s. EC, SAR, and Chloride (**Drawings 4 and 5**) As per O.Reg. 153/04 s. 49(1), the exceedance of EC, SAR, and chloride is exempt as part of this Phase Two ESA due to the use of road salt being applied for the purpose of keeping an asphalt-paved area free of snow or ice or both.
C. Each medium in which a contaminant associated with an area referred to in subparagraph is present	The aforementioned exceedances occurred in soil, at depths between 0.61 and 1.83 mgbs, and ground water, and are road salt related, as noted above.
D. A description and assessment of what is known about each of the areas referred to in subparagraph A	Soil impacts on the southern portion of the Phase Two Property and ground water impacts on the southern portion of the Phase Two Property have been noted and are related to the application of road salt.
E. The distribution, in each of the areas referred to in subparagraph A	**Drawing 4** shows the profile locations for **Cross-Sections A-A', B-B', and C-C'** and depict the horizontal and vertical distribution of the contaminants associated with road salt application. The aforementioned exceedances occurred at depths between 0.61 and 1.83 mgbs within three (3) localized areas on the southern portion of the Phase Two Property.

F.	Anything known about the reason for the discharge of the contaminants present on, in or under the Phase Two Property at a concentration greater than the applicable site condition standard into the natural environment	See Item D.
G.	Anything known about migration of the contaminants present on, in or under the Phase Two Property at a concentration greater than the applicable site condition standard away from any area of potential environmental concern, including the identification of any preferential pathways	Delineation boreholes were not required as part of this investigation, as exceedances identified were road salt related and are exempt as per O. Reg. 153/04, s. 49(1). Refer to **Drawing 4**.
H.	Climatic or meteorological conditions that may have influenced distribution and migration of the contaminants	Meteorological conditions may have influenced the distribution and migration of the contaminants by raising the ground water table. However, the calculated hydraulic conductivity revealed the soil's ability to transmit water across the site (in the native materials) is slow and verifies that the potential for migration of contamination is limited on the Phase Two Property. Ground water data for the Site does not suggest considerable influence on seasonal ground water levels due to climatic or meteorological conditions.
I.	If applicable, information concerning soil vapour intrusion of the contaminants into building including, (1) relevant construction features of a building, such as a basement or crawl space, (2) building heating, ventilation and air conditioning design and operation, (3) subsurface utilities	Soil vapor samples were not collected as part of this Phase Two ESA.

Section iv. Where contamination is present on, in, or under the Phase Two Property at a concentration greater than the applicable site condition standard, one or more cross-sections:

Refer to **Cross-Section A-A', B-B' and Cross-Section C-C'.**

Section v. For each area where a contaminant is present on, in or under the property at a concentration greater than the applicable site condition standard for the contaminant, a diagram identifying the release mechanisms, contaminant transport pathway, the human and ecological receptors located on, in, or under the Phase Two Property, receptor exposure points, and routes of exposure:

Primary sources of concern on the Phase Two Property are related to EC and SAR impacted soil and Chloride impacted ground water due to the application of road salt for de-icing activities. Exposure pathways related to the impacted soil, include ingestion, immersion, and/or dermal contact of soil, which may impact potential receptors including residents, indoor and/or outdoor workers, subsurface workers, mammals, birds, terrestrial invertebrates, and plants.

Receptor pathways related to EC and SAR impacted soils and ground water due to the application of de-icing activities are incomplete as the exemption set out in Section 49.1 of Ontario Regulation 153/04 (as amended) is being relied upon.

Refer to **Drawing 6.**

Section vi. If a non-standard delineation was conducted in accordance with Section 7.1 of Schedule E as part of preparing the Phase Two ESA:

A non-standard delineation was not conducted as part of this Phase Two ESA.

Section vii. If the exemption set out in paragraph 1 or 2 of Section 49.1 is being relied upon:

The exemption set out in paragraph 1 of Section 49.1 of Ontario Regulation 153/04 is being relied upon for soil exceedances (SAR and EC) identified in shallow soils on the southern portion of the Phase Two Property and Chloride in ground water on the southern portion of the Phase Two Property beneath the asphalt-paved parking areas, relating to the use of road salt for de-icing operations for vehicular and pedestrian traffic safety during the winter months. Therefore, the exemption applies to the Phase Two Property and the identified soil exceedances of SAR and EC and ground water exceedances of Chloride are not considered to be an environmental concern that requires further investigation and/or remediation.

The exemption set out in paragraph 2 of Section 49.1 of Ontario Regulation 153/04 is not being relied upon as part of this Phase Two ESA.

Section viii. If the exemption set out in paragraph 3 of Section 49.1 is being relied upon:

The exemption set out in paragraph 3 of Section 49.1 of Ontario Regulation 153/04 is not being relied upon as part of this Phase Two ESA.

Summary of Remedial Activities:

Results of the Phase Two ESA revealed that all soil and ground water samples collected and analyzed for the COPCs were below the applicable Table 3 SCS for RPI property uses with medium-fine textured soils in a non-potable ground water condition with the exception of soil and ground water exceedances as a result of road salt application. As the road salt related exceedances are exempt as per O. Reg. 153/04, remedial activities are not required at the Phase Two Property.

6. Conclusions

In comparison with the new (2011) Ontario *Soil, Ground Water, and Sediment Standards for Use Under Part XV.1 of the* EPA criteria, the results of laboratory analyses revealed the following contaminant concentrations in comparison to the Table 3 Site Condition Standards (SCS) for residential/parkland/institutional (RPI) property uses with medium-fine grained soils in a non-potable ground water condition:

- Sodium Adsorption Ratio (SAR) and Electrical Conductivity (EC) in soil on the southern portion (MW1-20, BH9-20, and BH10-20) of the Phase Two Property between depths of 0.61 and 1.83 mbgs; and,
- Chloride in ground water on the southern portion (MW1-20) of the Phase Two Property.

The aforementioned soil and ground water exceedances are related to the application of road salt for de-icing purposes as a safety measure for vehicular and pedestrian traffic on the Phase Two Property and are considered to be exempt from further investigation and/or remediation, as per O. Reg. 153/04, s. 49(1). Therefore, the standards for EC and SAR in soil and chloride in ground water are “deemed to be met” and no further investigations are warranted.

6.1 Limitations

This report was prepared by Palmer for the account of Edenshaw SSR Developments Limited in accordance with the professional services agreement.

The conclusions and recommendations detailed in this report are based upon the information available at the time of preparation of the report. No investigative method eliminates the possibility of obtaining imprecise or incomplete information. Professional judgement was exercised in gathering and analyzing the information obtained and in the formulation of our conclusions and recommendations.

The nature of the sampling works makes it possible that contrary conditions may be identified in locations which were not sampled. However, it does suggest that the conditions will be localized and not extensive. The soil boundaries indicated on the borehole logs are inferred from non-continuous sampling and observations made during drilling and therefore should not be interpreted as exact planes of geological change.

The disclosure of any information contained in this report is the sole responsibility of the intended recipient. The material in it reflects Palmer’s best judgement 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 or decisions to be made based on it, are the responsibility of such third parties. Palmer 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 limitations statement is considered part of this report.

Unless stated otherwise in this report, provided that the report is still reliable, and less than 18 months old, Palmer may issue a third-party reliance letter to parties, client identifies in writing, upon payment of the then current fee for such letters. All third parties relying on Palmer's report, by such reliance agree to be bound by our proposal and Palmer's standard reliance letter. Palmer's standard reliance letter indicates that in no event shall Palmer be liable for any damages, howsoever arising, relating to third-party reliance on Palmer's report. No reliance by any party is permitted without such agreement. This report is not to be given over to any third party for any purpose whatsoever without the written permission of Palmer.

The original of the technology-based document sent herewith has been authenticated and will be retained by Palmer for a minimum of five years. Since the file transmitted is now out of Palmer's control and its integrity can no longer be ensured, no guarantee may be given with regards to any modifications made to this document.

6.2 Signatures and Certification

This report was prepared by Bailey Fleet, B.Sc.(Env.) who is currently an Environmental Scientist with Palmer in the Toronto Office. She has experience in conducting Phase One ESAs at various land use types, in accordance with Ontario Regulation 153/04 and 511/09 and the CSA Z768-01 environmental protocols.

This report was prepared by Sylvia Babiarz, M.Env.Sc., who is currently an Environmental Scientist with Palmer in the Toronto Office. She has experience in conducting Phase One and Two ESAs at various land use types, in accordance with Ontario Regulation 153/04 and 511/09 and the CSA Z768-01 environmental protocols.

This report was reviewed by Kalina Naydenova, M.Sc. who is an Environmental Scientist with Palmer in the Toronto Office. She has over twelve years' experience conducting numerous Phase One and Two ESAs at various land use types, conducting soil and ground water sampling procedures in accordance with ASTM 1527-13 and ASTM E1903-19, as well as experience with Ontario Regulation 153/04 and 511/09 and the CSA Z768-01 and Z769-00 environmental protocols.

This report was reviewed by Sarah Sipak, B.Sc., P.Geo (limited), an Environmental Geoscience Team Lead in the Toronto office of Palmer. She has over twelve years' experience conducting Phase One and Two ESAs, soil and ground water sampling, and site remediation in accordance with Ontario Regulation 153/04 and 511/09, the CSA Z768-01 and Z769-00 environmental protocols, the Consulting Engineers of Ontario's Generally Accepted Standards for Environmental Investigations, and the Canadian Mortgage and Housing Corporation (CMHC) environmental site investigation procedures for mortgage loan insurance. The aforementioned ESAs have covered all land use types across Canada. Sarah also has numerous years of experience in preparing and filing Record of Site Conditions (RSCs) with the Ministry of the Environment, Conservation and Parks (MECP). Sarah also has experience conducting Excess Soil Reuse Planning assessments in accordance with Ontario Regulation 406/19.

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8. Tables and Figures

8.1 Tables

8.1.1 Monitoring Well Installation

Monitoring Well ID	Ground Surface Elevation (mAMSL)	Monitoring Well Construction Details	Associated Elevations Below Grade (mAMSL)
BH22-5	99.66	50-mm PVC solid riser pipe	99.66 – 98.07
		50-mm PVC slotted intake screen	98.07 – 95.02
BH22-6	99.56	50-mm PVC solid riser pipe	99.56 – 98.54
		50-mm PVC slotted intake screen	98.54 – 95.49
BH22-7	99.552	50-mm PVC solid riser pipe	99.552 – 98.282
		50-mm PVC slotted intake screen	98.282 – 95.232
BH22-8	99.765	50-mm PVC solid riser pipe	99.765 – 98.775
		50-mm PVC slotted intake screen	98.775 – 95.725
BH22-9	99.8	50-mm PVC solid riser pipe	99.8 – 98.68
		50-mm PVC slotted intake screen	98.68 – 95.63
BH22-10	99.724	50-mm PVC solid riser pipe	99.724 – 98.764
		50-mm PVC slotted intake screen	98.764 – 95.714
BH1 (Old)	99.538	50-mm PVC solid riser pipe	99.538 – 97.988
		50-mm PVC slotted intake screen	97.988 – 94.938
BH2 (Old)	99.508	50-mm PVC solid riser pipe	99.508 – 98.728
		50-mm PVC slotted intake screen	98.728 – 95.678
BH4 (Old)	99.65	50-mm PVC solid riser pipe	99.65 – 98.35
		50-mm PVC slotted intake screen	98.35 – 95.3
MW2-20 (GHD 2020)	99.459	50-mm PVC solid riser pipe	99.459 – 98.409
		50-mm PVC slotted intake screen	98.409 – 95.359
MW3-20 (GHD 2020)	99.709	50-mm PVC solid riser pipe	99.709 – 98.509
		50-mm PVC slotted intake screen	98.509 – 95.459
MW4-20 (GHD 2020)	99.728	50-mm PVC solid riser pipe	99.728 – 98.178
		50-mm PVC slotted intake screen	98.178 – 95.128

8.1.2 Water Levels

Monitoring Well ID	Date	Ground Surface Elevation (mAMSL)	Depth to GW (mbgs)	GW Elevation (mAMSL)
BH1 (Old)	06/02/22	99.538	2.56	96.98

BH2 (Old)	06/02/22	-	-	-
BH4 (Old)	06/02/22	99.65	2.58	97.07
BH6 (Old)	06/02/22	-	1.60	-
BH7 (Old)	06/02/22	-	-	-
MW1-20 (Old)	06/02/22	-	-	-
MW2-20 (Old)	06/02/22	99.459	3.04	96.42
MW3-20 (Old)	06/02/22	99.709	2.76	96.95
MW4-20 (Old)	06/02/22	99.728	2.90	96.83
BH22-5	06/02/22	99.66	2.66	97.00
BH22-6	06/02/22	99.56	2.71	96.85
BH22-7	06/02/22	99.552	2.59	96.96
BH22-8	06/02/22	99.765	3.27	96.50
BH22-9	06/02/22	99.8	3.32	96.48
BH22-10	06/02/22	99.724	3.34	96.38

8.1.3 LNAPLs and DNAPLs

No light or dense non-aqueous phase liquid measurements were detected at the Phase Two Property, as discussed in *Sections 4.7, 5.2*, and *5.7*.

8.1.4 Soil Data

PHCs with BTEX

Soil Analytical Results: Petroleum Hydrocarbons (PHCs) and Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)

				PHCs					BTEX			
				F1 (C6-C10)	F1 (C6-C10) - BTEX*	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)	Benzene	Toluene	Ethylbenzene	Xylenes, Total (Xylene Mixture)
				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011), Res/Park/Inst Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition				65	65	150	1300	5600	0.17	6	15	25
Sample Location	Sample ID	Sample Interval (mbgs)	Sample Date									
BH22-5.	22-5-6.	3.81-4.57	01-Jun-22	<5.0	<5.0	<10	<50	<50	<0.0068	<0.080	<0.018	<0.050
BH22-5.	22-5-6D	3.81-4.57	01-Jun-22	<5.0	<5.0	<10	<50	<50	<0.0068	<0.080	<0.018	<0.050
BH22-6.	22-6-2B	1.22-1.52	01-Jun-22	<5.0	<5.0	<10	<50	<50	<0.0068	<0.080	<0.018	<0.050
BH22-7.	22-7-5B	3.43-3.81	01-Jun-22	<5.0	<5.0	<10	62	75	0.0194	<0.080	<0.018	<0.050
BH22-8.	22-8-6.	3.81-4.57	01-Jun-22	<5.0	<5.0	<10	<50	<50	<0.0068	<0.080	<0.018	<0.050
BH22-9.	22-9-3.	1.52-2.29	01-Jun-22	<5.0	<5.0	<10	<50	<50	<0.0068	<0.080	<0.018	<0.050
BH22-9.	22-9-3D	1.52-2.29	01-Jun-22	<5.0	<5.0	<10	<50	<50	<0.0068	<0.080	<0.018	<0.050
BH22-10.	22-10-7.	4.57-5.33	01-Jun-22	<5.0	<5.0	<10	<50	<50	<0.0068	<0.080	<0.018	<0.050
MW1-20	MW1-8-10	2.44-3.05	07-Dec-20	<5.0	<5.0	<10	<50	84	<0.02	<0.05	<0.05	<0.05
MW2-20	MW2-4-6	1.22-1.83	07-Dec-20	<5.0	<5.0	<10	<50	<50	<0.02	<0.05	<0.05	<0.05
MW3-20	MW3-6-8	1.83-2.44	07-Dec-20	<5.0	<5.0	<10	<50	<50	<0.02	<0.05	<0.05	<0.05
MW4-20	MW4-6-8	1.83-2.44	07-Dec-20	<5.0	<5.0	<10	120	110	<0.02	<0.05	<0.05	<0.05
BH5-20	BH5-6-8	1.83-2.44	07-Dec-20	<5.0	<5.0	<10	93	110	<0.02	<0.05	<0.05	<0.05
BH6-20	BH6-8-10	2.44-3.05	07-Dec-20	<5.0	<5.0	<10	<50	83	<0.02	<0.05	<0.05	<0.05
BH7-20	BH7-4-6	1.22-1.83	07-Dec-20	<5.0	<5.0	<10	<50	<50	<0.02	<0.05	<0.05	<0.05
BH8-20	BH8-4-6	1.22-1.83	07-Dec-20	<5.0	<5.0	<10	57	<50	<0.02	<0.05	<0.05	<0.05
BH9-20	BH9-4-6	1.22-1.83	07-Dec-20	<5.0	<5.0	<10	<50	<50	<0.02	<0.05	<0.05	<0.05
BH10-20	BH10-6-8	1.83-2.44	07-Dec-20	<5.0	<5.0	<10	<50	<50	<0.02	<0.05	<0.05	<0.05
BH9-20	DUP2	1.22-1.83	07-Dec-20	<5.0	<5.0	<10	<50	<50	<0.02	<0.05	<0.05	<0.05

Notes:

1. --- *In guideline row(s) denotes no criteria for that parameter*
2. --- *In data row(s) denotes parameter not analyzed*
3. mbgs *Denotes metres below ground surface*
4. **BOLD** *Denotes entries exceed the criteria*
5. *Criteria is Ontario Regulation 153/04, Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Insitutional Property Use with Medium-Fine Textured Soils*
6. * *F1 fraction does not include BTEX; however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result*

Metals and Inorganics

Soil Analytical Results: Metals and Inorganics

				Metals																					Inorganics						
				Antimony	Arsenic	Barium	Beryllium	Boron (total)	Boron (Hot Water Soluble)*	Cadmium	Chromium Total	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc	Chloride	Chromium VI	Electrical Conductivity (mS/cm)	Cyanide, Weak Acid Dissociable	Mercury	Methyl Mercury**	Sodium Adsorption Ratio
				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	mS/cm	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011), Res/Park/Inst Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition				7.5	18	390	5	120	1.5	1.2	160	22	180	120	6.9	130	2.4	25	---	1	23	86	340	---	10	0.7	0.051	1.8	0.009	5
Sample Location	Sample ID	Sample Interval (mbgs)	Sample Date																											
BH22-8.	22-8-6.	3.81-4.57	01-Jun-22	<1.0	1.5	10.2	<0.50	<5.0	-	<0.50	7.2	7.6	8.1	3.1	<1.0	6.7	<1.0	<0.20	-	<0.50	<1.0	15.8	15.2	-	-	-	-	-	-	-
BH22-8.	22-8-6D	3.81-4.57	01-Jun-22	<1.0	1.4	10	<0.50	<5.0	-	<0.50	7	9.3	7.8	2.9	<1.0	6.6	<1.0	<0.20	-	<0.50	<1.0	15.6	14.6	-	-	-	-	-	-	-
BH22-9.	22-9-3.	1.52-2.29	01-Jun-22	<1.0	1.3	13.4	<0.50	<5.0	-	<0.50	6.9	2.4	5.9	4.2	<1.0	4.6	<1.0	<0.20	-	<0.50	<1.0	14.1	18.9	-	-	-	-	-	-	-
BH22-10.	22-10-7.	4.57-5.33	01-Jun-22	<1.0	1.7	14.6	<0.50	<5.0	-	<0.50	8.2	3.4	9.7	3.1	<1.0	6.4	<1.0	<0.20	-	<0.50	<1.0	16.6	15.7	-	-	-	-	-	-	-
MW1-20	MW1-4-6	1.22-1.83	07-Dec-20	<0.8	2	18	<0.5	<5	0.19	<0.5	7	2.6	7	7	<0.5	5	<0.4	<0.2	-	<0.4	<0.5	13	18	-	<0.2	**0.799**	<0.040	<0.10	-	**19.1**
MW3-20	MW3-2-4	0.61-1.22	07-Dec-20	<0.8	<1	12	<0.5	<5	<0.10	<0.5	5	2	4	2	<0.5	2	<0.4	<0.2	-	<0.4	<0.5	12	11	-	<0.2	0.127	<0.040	<0.10	-	0.711
BH8-20	BH8-4-6	1.22-1.83	07-Dec-20	<0.8	3	17	<0.5	<5	0.14	<0.5	10	2.9	8	10	<0.5	5	<0.4	<0.2	-	<0.4	<0.5	19	25	-	<0.2	0.157	<0.040	<0.10	-	0.332
BH9-20	BH9-2-4	0.61-1.22	07-Dec-20	<0.8	3	18	<0.5	<5	0.25	<0.5	8	2.3	4	4	<0.5	5	<0.4	<0.2	-	<0.4	<0.5	16	17	-	<0.2	**1.573**	<0.040	<0.10	-	**14.4**
BH10-20	BH10-2-4	0.61-1.22	07-Dec-20	<0.8	2	19	<0.5	<5	<0.10	<0.5	8	4.1	11	5	<0.5	7	<0.4	<0.2	-	<0.4	<0.5	15	21	-	<0.2	**0.965**	<0.040	<0.10	-	**22.3**
BH10-20	DUP3	0.61-1.22	07-Dec-20	<0.8	2	22	<0.5	<5	<0.10	<0.5	9	4.3	11	5	<0.5	7	<0.4	<0.2	-	<0.4	<0.5	16	23	-	<0.2	**0.943**	<0.040	<0.10	-	**22.8**

Notes:

1. --- *In guideline row(s) denotes no criteria for that parameter*
2. --- *In data row(s) denotes parameter not analyzed*
3. mbgs *Denotes metres below ground surface*
4. **BOLD** *Denotes entries exceed the criteria*
5. *Criteria is Ontario Regulation 153/04, Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Insitutional Property Use with Medium-Fine Textured Soils*
6. * *Denotes the boron standards are for hot water soluble extract for all surface soils. For subsurface soils the standards are for total boron (mixed strong acid digest), as ecological criteria are not considered*
7. ** *Denotes analysis for methyl mercury only applies when mercury (total) standard is exceeded*

VOCs

Soil Analytical Results: Volatile Organic Compounds (VOCs)

Sample Location	Sample ID	Sample Interval (mbgs)	Sample Date	Acetone	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroform	Dibromochloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethylene	cis-1,2-Dichloroethylene	trans-1,2-Dichloroethylene	1,2-Dichloropropane	1,3-Dichloropropene (cis) + (trans)	Ethylbenzene	Ethylene Dibromide	Hexane (n)	Methyl Ethyl Ketone	Methyl Isobutyl Ketone	Methyl tert-Butyl Ether (MTBE)	Methylene Chloride	Styrene	1,1,1,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	Tetrachloroethylene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethylene	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total (Xylene Mixture)
				VOCs																																					
				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011), Res/Park/Inst Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition				28	0.17	13	0.26	0.05	0.12	2.7	0.17	9.4	4.3	6	0.097	25	11	0.05	0.05	30	0.75	0.085	0.083	15	0.05	34	44	4.3	1.4	0.96	2.2	0.05	0.05	2.3	6	3.4	0.05	0.52	5.8	0.022	25
BH22-8.	22-8-6.	3.81-4.57	01-Jun-22	<0.50	<0.0068	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.042	<0.018	-	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.010	<0.050	<0.020	<0.050
BH22-9.	22-9-3.	1.52-2.29	01-Jun-22	<0.50	<0.0068	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.042	<0.018	-	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.010	<0.050	<0.020	<0.050
BH22-9.	22-9-3D	1.52-2.29	01-Jun-22	<0.50	<0.0068	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.042	<0.018	-	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.010	<0.050	<0.020	<0.050
BH22-10.	22-10-7.	4.57-5.33	01-Jun-22	<0.50	<0.0068	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.042	<0.018	-	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.010	<0.050	<0.020	<0.050
MW1-20	MW1-8-10	2.44-3.05	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05
MW2-20	MW2-4-6	1.22-1.83	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05
MW3-20	MW3-6-8	1.83-2.44	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05
MW4-20	MW4-6-8	1.83-2.44	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05
BH5-20	BH5-6-8	1.83-2.44	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05
BH6-20	BH6-8-10	2.44-3.05	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05
BH7-20	BH7-4-6	1.22-1.83	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05
BH8-20	BH8-4-6	1.22-1.83	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05
BH9-20	BH9-4-6	1.22-1.83	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05
BH10-20	BH10-6-8	1.83-2.44	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05
BH9-20	DUP2	1.22-1.83	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05

Notes:

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2. --- *In data row(s) denotes parameter not analyzed*
3. mbgs *Denotes metres below ground surface*
4. **BOLD** *Denotes entries exceed the criteria*
5. *Criteria is Ontario Regulation 153/04, Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Insitutional Property Use with Medium-Fine Textured Soils*

PAHs

Soil Analytical Results: Polycyclic Aromatic Hydrocarbons (PAHs)

				PAHs																
				Methylnaphthalenes, 2-(1-)***	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011), Res/Park/Inst Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition				3.4	58	0.17	0.74	0.63	0.3	0.78	7.8	0.78	7.6	0.1	0.69	69	0.48	0.75	7.8	78
Sample Location	Sample ID	Sample Interval (mbgs)	Sample Date																	
MW1-20	MW1-4-6	1.22-1.83	07-Dec-20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW3-20	MW3-2-4	0.61-1.22	07-Dec-20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
BH9-20	BH9-2-4	0.61-1.22	07-Dec-20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
MW1-20	DUP4	1.22-1.83	07-Dec-20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Notes:

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2. --- *In data row(s) denotes parameter not analyzed*
3. mbgs *Denotes metres below ground surface*
4. **BOLD** *Denotes entries exceed the criteria*
5. *Criteria is Ontario Regulation 153/04, Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Insitutional Property Use with Medium-Fine Textured Soils*
6. *** *The methyl naphthalenes standards are applicable to both 1-methyl naphthalene and 2-methyl naphthalene with the provision that if both are detected the sum of the two must not exceed the standard*

OC Pesticides

Soil Analytical Results: Organochlorine (OC) Pesticides

				OC Pesticides														
				DDD (Total)	DDE (Total)	DDT (Total)	Aldrin	Chlordane	Dieldrin	Endosulfan (Total)	Endrin	Heptachlor	Heptachlor Epoxide	Hexachlorobenzene	Hexachlorobutadiene	Hexachloroethane	Hexachlorocyclohexane Gamma (Lindane or Gamma BHC)	Methoxychlor
				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011), Res/Park/Inst Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition				3.3	0.33	1.4	0.05	0.05	0.05	0.04	0.04	0.15	0.05	0.52	0.014	0.07	0.063	0.13
Sample Location	Sample ID	Sample Interval (mbgs)	Sample Date															
MW2-20	MW2-2-4	0.61-1.22	07-Dec-20	<0.007	<0.007	<0.007	<0.005	<0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005
BH8-20	BH8-0-2	0.00-0.61	07-Dec-20	<0.007	<0.007	<0.007	<0.005	<0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005
BH9-20	BH9-2-4	0.61-1.22	07-Dec-20	<0.007	<0.007	<0.007	<0.005	<0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005
BH10-20	BH10-2-4	0.61-1.22	07-Dec-20	<0.007	<0.007	<0.007	<0.005	<0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005
BH8-20	DUP1	0.00-0.61	07-Dec-20	<0.007	<0.007	<0.007	<0.005	<0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005

Notes:

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3. mbgs *Denotes metres below ground surface*
4. **BOLD** *Denotes entries exceed the criteria*
5. *Criteria is Ontario Regulation 153/04, Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Insitutional Property Use with Medium-Fine Textured Soils*

8.1.5 Ground Water Data

PHCs with BTEX

Ground Water Analytical Results: Petroleum Hydrocarbons (PHCs) and Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)

			PHCs					BTEX			
			F1 (C6-C10)	F1-BTEX	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)	Benzene	Toluene	Ethylbenzene	Xylenes (Total)
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
O.Reg. 153/04 MECP Guideline (2011), All Types of Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition			750	750	150	500	500	430	18000	2300	4200
Sample Location	Sample ID	Sample Date									
BH1	BH1	27-May-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
BH4	BH4	27-May-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
BH4	BH4D	27-May-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
BH6	BH6	03-Jun-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
MW2-20	MW2-20	27-May-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
MW3-20	MW3-20	27-May-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
MW4-20	MW4-20	27-May-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
TRIP BLANK	TRIP BLANK	27-May-22	-	-	-	-	-	<0.50	<0.50	<0.50	<0.50
BH22-6.	22-6.	03-Jun-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
BH22-5.	22-5.	02-Jun-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
BH22-7.	22-7.	02-Jun-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
BH22-8.	22-8.	02-Jun-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
BH22-9.	22-9.	02-Jun-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
BH22-10.	22-10.	02-Jun-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
BH22-10.	22-10D	02-Jun-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
TRIP BLANK	TRIP BLANK	10-Dec-20	<25	<25	-	-	-	<0.20	<0.20	<0.10	<0.20
MW1-20	MW1	10-Dec-20	<25	<25	<100	<100	<100	<0.20	3.8	<0.10	<0.20
MW2-20	MW2	10-Dec-20	<25	<25	<100	<100	<100	<0.20	0.32	<0.10	<0.20
MW3-20	MW3	10-Dec-20	<25	<25	<100	<100	<100	<0.20	0.54	<0.10	<0.20
MW4-20	MW4	10-Dec-20	<25	<25	<100	<100	<100	<0.20	0.78	<0.10	<0.20
BH1	BH1	10-Dec-20	<25	<25	<100	<100	<100	<0.20	<0.20	<0.10	<0.20
BH2	BH2	10-Dec-20	<25	<25	<100	<100	<100	<0.20	0.34	<0.10	<0.20
MW3-20	DUP	10-Dec-20	<25	<25	<100	<100	<100	<0.20	0.62	<0.10	<0.20

Notes:

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4. **BOLD** *Denotes entries exceed the criteria*
5. *Criteria is Ontario Regulation 153/04, Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for All Types of Property Uses with Medium-Fine Textured Soils*
6. * *F1 fraction does not include BTEX; however, the proponent has the choice as to whether or not to subtract BTEX from the analytical result*

Metals and Inorganics

Ground Water Analytical Results: Metals and Inorganics

			Metals																				Inorganics			
			Antimony	Arsenic	Barium	Beryllium	Boron (total)	Cadmium	Chromium Total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc	Chloride	Chromium VI	Electrical Conductivity (mS/cm)	Cyanide, Weak Acid Dissociable
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
O.Reg. 153/04 MECP Guideline (2011), All Types of Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition			20000	1900	29000	67	45000	2.7	810	66	87	25	2.8	9200	490	63	1.5	2300000	510	420	250	1100	2300000	140	-	66
Sample Location	Sample ID	Sample Date																								
MW2-20	MW2-20	27-May-22	<1.0	<1.0	43	<1.0	<100	<0.050	<5.0	<1.0	<2.0	<0.50	-	<0.50	<5.0	0.8	<0.50	1940000	<0.10	1.33	<5.0	<10	-	-	-	-
MW2-20	MW2-20D	27-May-22	<1.0	<1.0	41.3	<1.0	<100	<0.050	<5.0	<1.0	<2.0	<0.50	-	<0.50	<5.0	0.95	<0.50	1920000	<0.10	1.28	<5.0	<10	-	-	-	-
BH22-8.	22-8.	01-Jan-00	<1.0	<1.0	45.2	<1.0	<100	<0.050	<5.0	<1.0	2.9	<0.50	-	2.84	<5.0	0.6	<0.50	1500000	<0.10	1.61	<5.0	<10	-	-	-	-
BH22-9.	22-9.	02-Jun-22	<1.0	<1.0	39.8	<1.0	<100	<0.050	<5.0	<1.0	<2.0	<0.50	-	2.38	<5.0	0.82	<0.50	2020000	<0.10	0.79	<5.0	<10	-	-	-	-
BH22-10.	22-10.	02-Jun-22	<1.0	<1.0	169	<1.0	<100	<0.050	<5.0	<1.0	3.6	<0.50	-	0.84	<5.0	1.97	<0.50	2190000	<0.10	4.43	<5.0	<10	-	-	-	-
MW1-20	MW1	10-Dec-20	<1.0	<1.0	211	<0.50	63	<0.20	3.1	0.92	2.9	<0.50	<0.02	1.24	<3.0	1.5	<0.20	1520000	<0.30	1.28	0.48	5.1	**2750000**	<5	9.34	<2
MW3-20	MW3	10-Dec-20	<1.0	<1.0	225	<0.50	72.4	<0.20	<2.0	1.87	2.4	<0.50	<0.02	4.58	<3.0	<1.0	<0.20	1220000	<0.30	2.1	<0.40	<5.0	2240000	<5	7.6	<2
BH1	BH1	10-Dec-20	<1.0	1.9	141	<0.50	50.4	<0.20	<2.0	1.58	2.2	<0.50	<0.02	2.1	<3.0	<1.0	<0.20	1090000	<0.30	<0.50	<0.40	16.3	1820000	<5	6.43	<2
MW3-20	DUP	10-Dec-20	<1.0	1.6	225	<0.50	74.2	<0.20	<2.0	1.97	2.2	<0.50	<0.02	5	<3.0	1.5	<0.20	1230000	<0.30	2.08	<0.40	<5.0	2240000	<5	7.65	<2

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6. ** *Denotes analysis for methyl mercury only applies when mercury (total) standard is exceeded*

VOCs

Ground Water Analytical Results: Volatile Organic Compounds (VOCs)

			Acetone	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Dibromochloromethane	Chloroform	1,2-Dibromoethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethylene	cis-1,2-Dichloroethylene	trans-1,2-Dichloroethylene	Methylene Chloride	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	1,3-Dichloropropene (cis & trans)	Ethylbenzene	n-Hexane	Methyl Ethyl Ketone	Methyl Isobutyl Ketone	MTBE	Styrene	1,1,1,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	Tetrachloroethylene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethylene	Trichlorofluoromethane	Vinyl chloride	o-Xylene	m+p-Xylenes
			VOCs																																								
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
O.Reg. 153/04 MECP Guideline (2011), All Types of Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition			130000	430	85000	770	56	8.4	630	82000	22	0.83	9600	9600	67	4400	3100	12	17	17	17	5500	140	-	-	45	2300	520	1500000	580000	1400	9100	28	15	17	18000	6700	30	17	2500	1.7	4200	7300000
Sample Location	Sample ID	Sample Date																																									
MW2-20	MW2-20	27-May-22	<30	<0.50	<2.0	<5.0	<0.50	<0.20	<0.50	<2.0	<1.0	<0.20	<0.50	<0.50	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.30	<0.30	<0.50	<0.50	<0.50	<20	<20	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.40
TRIP BLANK	TRIP BLANK	27-May-22	<30	<0.50	<2.0	<5.0	<0.50	<0.20	<0.50	<2.0	<1.0	<0.20	<0.50	<0.50	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.30	<0.30	<0.50	<0.50	<0.50	<20	<20	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.40
BH22-8.	22-8.	02-Jun-22	<30	<0.50	<2.0	<5.0	<0.50	<0.20	<0.50	<2.0	<1.0	<0.20	<0.50	<0.50	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.30	<0.30	<0.50	<0.50	<0.50	<20	<20	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.40
BH22-9.	22-9.	02-Jun-22	<30	<0.50	<2.0	<5.0	<0.50	<0.20	<0.50	<2.0	<1.0	<0.20	<0.50	<0.50	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.30	<0.30	<0.50	<0.50	<0.50	<20	<20	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.40
BH22-10.	22-10.	02-Jun-22	<30	<0.50	<2.0	<5.0	<0.50	<0.20	<0.50	<2.0	<1.0	<0.20	<0.50	<0.50	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.30	<0.30	<0.50	<0.50	<0.50	<20	<20	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.40
BH22-10.	22-10D	02-Jun-22	<30	<0.50	<2.0	<5.0	<0.50	<0.20	<0.50	<2.0	<1.0	<0.20	<0.50	<0.50	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.30	<0.30	<0.50	<0.50	<0.50	<20	<20	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.40
MW1-20	MW1	10-Dec-20	<1.0	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.20	-	<0.10	<0.10	<0.10	<0.20	<0.30	-	<0.30	<0.20	<0.20	<0.30	<0.20	-	-	-	<0.10	<0.20	<1.0	<1.0	<0.20	<0.10	<0.10	<0.10	<0.20	3.8	<0.30	<0.20	<0.20	<0.40	<0.17	<0.20	<0.20
MW2-20	MW2	10-Dec-20	<1.0	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.20	-	<0.10	<0.10	<0.10	<0.20	<0.30	-	<0.30	<0.20	<0.20	<0.30	<0.20	-	-	-	<0.10	<0.20	<1.0	<1.0	<0.20	<0.10	<0.10	<0.10	<0.20	0.32	<0.30	<0.20	<0.20	<0.40	<0.17	<0.20	<0.20
MW3-20	MW3	10-Dec-20	<1.0	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.20	-	<0.10	<0.10	<0.10	<0.20	<0.30	-	<0.30	<0.20	<0.20	<0.30	<0.20	-	-	-	<0.10	<0.20	<1.0	<1.0	<0.20	<0.10	<0.10	<0.10	<0.20	0.54	<0.30	<0.20	<0.20	<0.40	<0.17	<0.20	<0.20
MW4-20	MW4	10-Dec-20	<1.0	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.20	-	<0.10	<0.10	<0.10	<0.20	<0.30	-	<0.30	<0.20	<0.20	<0.30	<0.20	-	-	-	<0.10	<0.20	<1.0	<1.0	<0.20	<0.10	<0.10	<0.10	<0.20	0.78	<0.30	<0.20	<0.20	<0.40	<0.17	<0.20	<0.20
BH1	BH1	10-Dec-20	<1.0	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.20	-	<0.10	<0.10	<0.10	<0.20	<0.30	-	<0.30	<0.20	<0.20	<0.30	<0.20	-	-	-	<0.10	<0.20	<1.0	<1.0	<0.20	<0.10	<0.10	<0.10	<0.20	<0.20	<0.30	<0.20	<0.20	<0.40	<0.17	<0.20	<0.20
BH2	BH2	10-Dec-20	<1.0	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.20	-	<0.10	<0.10	<0.10	<0.20	<0.30	-	<0.30	<0.20	<0.20	<0.30	<0.20	-	-	-	<0.10	<0.20	<1.0	<1.0	<0.20	<0.10	<0.10	<0.10	<0.20	0.34	<0.30	<0.20	<0.20	<0.40	<0.17	<0.20	<0.20
MW3-20	DUP	10-Dec-20	<1.0	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.20	-	<0.10	<0.10	<0.10	<0.20	<0.30	-	<0.30	<0.20	<0.20	<0.30	<0.20	-	-	-	<0.10	<0.20	<1.0	<1.0	<0.20	<0.10	<0.10	<0.10	<0.20	0.62	<0.30	<0.20	<0.20	<0.40	<0.17	<0.20	<0.20
TRIP BLANK	TRIP BLANK	10-Dec-20	<1.0	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.20	-	<0.10	<0.10	<0.10	<0.20	<0.30	-	<0.30	<0.20	<0.20	<0.30	<0.20	-	-	-	<0.10	<0.20	<1.0	<1.0	<0.20	<0.10	<0.10	<0.10	<0.20	<0.20	<0.30	<0.20	<0.20	<0.40	<0.17	<0.20	<0.20

Notes:

1. - *In guideline row(s) denotes no criteria for that parameter*
2. - *In data row(s) denotes parameter not analyzed*
3. mbgs *Denotes metres below ground surface*
4. **BOLD** *Denotes entries exceed the criteria*
5. *Criteria is Ontario Regulation 153/04, Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for All Types of Property Uses with Medium-Fine Textured Soils*

8.1.6 Sediment Data

Sediment sampling was not part of this investigation, as a water body is not on the Phase Two Property.

8.1.7 Soil and Ground Water Maximum Concentration Data

Soil Maximum Concentration Data

Parameter	MECP Table 3 RPI SCS (µg/g)	Maximum Soil Concentration (µg/g)	Location of Maximum Concentration	Sample Depth (m)
VOCs - BTEX				
Benzene	0.17	<0.02	All Boreholes	1.22 – 3.05
Ethylbenzene	15	<0.05	All Boreholes	1.22 – 3.05
Toluene	6	<0.080	All Boreholes	1.52 – 5.33
Xylene Mixture	25	<0.05	All Boreholes	1.22 – 5.33
Metals				
Barium	390	22	BH10-20	0.61-1.22
Beryllium	5	<0.5	All Boreholes	0.61 – 5.33
Boron (total)	120	<5	All Boreholes	0.61 – 5.33
Cadmium	1.2	<0.5	All Boreholes	0.61 – 5.33
Chromium Total	160	10	BH8-20	1.22 – 1.83
Cobalt	22	9.3	BH22-8	3.81 – 4.57
Copper	180	11	BH10-20	0.61-1.22
Lead	120	10	BH8-20	1.22 – 1.83
Molybdenum	6.9	<1.0	All Boreholes	1.52 – 5.33
Nickel	130	7	BH10-20	0.61 – 5.33
Silver	25	<0.2	All Boreholes	0.61 – 5.33
Thallium	1	<0.5	All Boreholes	1.52 – 5.33
Uranium	23	<1.0	All Boreholes	1.52 – 5.33
Vanadium	86	19	BH8-20	1.22 – 1.83
Zinc	340	25	BH8-20	1.22 – 1.83
Metals – Hydride Forming				
Antimony	7.5	<1.0	All Boreholes	1.52 – 5.33
Arsenic	18	3	BH8-20/BH9-20	0.61 – 1.83
Selenium	2.4	<1.0	All Boreholes	1.52 – 5.33
OC Pesticides				
Aldrin	0.05	<0.007	All GHD Boreholes	0.00 – 1.22
Chlordane	0.05	<0.007	All GHD Boreholes	0.00 – 1.22
DDD	3.3	<0.007	All GHD Boreholes	0.00 – 1.22
DDE	0.33	<0.007	All GHD Boreholes	0.00 – 1.22

Parameter	MECP Table 3 RPI SCS (µg/g)	Maximum Soil Concentration (µg/g)	Location of Maximum Concentration	Sample Depth (m)
DDT	1.4	<0.007	All GHD Boreholes	0.00 – 1.22
Dieldrin	0.05	<0.005	All GHD Boreholes	0.00 – 1.22
Endosulfan	0.04	<0.005	All GHD Boreholes	0.00 – 1.22
Endrin	0.04	<0.005	All GHD Boreholes	0.00 – 1.22
Heptachlor	0.15	<0.005	All GHD Boreholes	0.00 – 1.22
Heptachlor Epoxide	0.05	<0.005	All GHD Boreholes	0.00 – 1.22
Hexachlorobenzene	0.52	<0.005	All GHD Boreholes	0.00 – 1.22
Hexachlorobutadiene	0.014	<0.01	All GHD Boreholes	0.00 – 1.22
Hexachlorocyclohexane Gamma-	0.063	<0.005	All GHD Boreholes	0.00 – 1.22
Hexachloroethane	0.07	<0.01	All GHD Boreholes	0.00 – 1.22
Methoxychlor	0.13	<0.005	All GHD Boreholes	0.00 – 1.22
PAHs				
Acenaphthene	58	<0.05	All GHD Boreholes	0.61 – 1.83
Acenaphthylene	0.17	<0.05	All GHD Boreholes	0.61 – 1.83
Anthracene	0.74	<0.05	All GHD Boreholes	0.61 – 1.83
Benz(a)anthracene	0.63	<0.05	All GHD Boreholes	0.61 – 1.83
Benzo(a)pyrene	0.3	<0.05	All GHD Boreholes	0.61 – 1.83
Benzo(b)fluoranthene	0.78	<0.05	All GHD Boreholes	0.61 – 1.83
Benzo(g,h,i)perylene	7.8	<0.05	All GHD Boreholes	0.61 – 1.83
Benzo(k)fluoranthene	0.78	<0.05	All GHD Boreholes	0.61 – 1.83
Chrysene	7.6	<0.05	All GHD Boreholes	0.61 – 1.83
Dibenzo(a,h)anthracene	0.1	<0.05	All GHD Boreholes	0.61 – 1.83
Fluoranthene	0.69	<0.05	All GHD Boreholes	0.61 – 1.83
Fluorene	69	<0.05	All GHD Boreholes	0.61 – 1.83
Indeno(1,2,3-cd)pyrene	0.48	<0.05	All GHD Boreholes	0.61 – 1.83
Methlynaphthalene, 2-(1-)	3.4	<0.05	All GHD Boreholes	0.61 – 1.83
Naphthalene	0.75	<0.05	All GHD Boreholes	0.61 – 1.83
Phenanthrene	7.8	<0.05	All GHD Boreholes	0.61 – 1.83
Pyrene	78	<0.05	All GHD Boreholes	0.61 – 1.83
PHCs				
Petroleum Hydrocarbons F1	65	<5	All Boreholes	1.22 – 5.33
Petroleum Hydrocarbons F2	150	<10	All Boreholes	1.22 – 5.33
Petroleum Hydrocarbons F3	1300	120	MW4-20	1.83 – 2.44

Parameter	MECP Table 3 RPI SCS (µg/g)	Maximum Soil Concentration (µg/g)	Location of Maximum Concentration	Sample Depth (m)
Petroleum Hydrocarbons F4	5600	110	MW4-20/BH5-20	1.83 – 2.44
VOCs – Trihalomethanes				
Bromodichloromethane	13	<0.05	All Boreholes	1.22 – 5.33
Bromoform	0.26	<0.05	All Boreholes	1.22 – 5.33
Dibromochloromethane	9.4	<0.05	All Boreholes	1.52 – 5.33
VOCs				
Acetone	28	<0.05	All Boreholes	1.22 – 5.33
Bromomethane	0.05	<0.05	All Boreholes	1.22 – 5.33
Carbon Tetrachloride	0.12	<0.05	All Boreholes	1.22 – 5.33
Chlorobenzene	2.7	<0.05	All Boreholes	1.22 – 5.33
Chloroform	0.17	<0.05	All Boreholes	1.22 – 5.33
Dichlorobenzene, 1,2-	4.3	<0.05	All Boreholes	1.22 – 5.33
Dichlorobenzene, 1,3-	6	<0.05	All Boreholes	1.22 – 5.33
Dichlorobenzene, 1,4-	0.097	<0.05	All Boreholes	1.22 – 5.33
Dichlorodifluoromethane	25	<0.05	All Boreholes	1.22 – 5.33
Dichloroethane, 1,1-	11	<0.05	All Palmer Boreholes	1.52 – 5.33
Dichloroethane, 1,2-	0.05	<0.05	All Palmer Boreholes	1.52 – 5.33
Dichloroethylene, 1,1-	0.05	<0.05	All Boreholes	1.22 – 5.33
Dichloroethylene , 1,2-cis-	30	<0.05	All Palmer Boreholes	1.52 – 5.33
Dichloroethylene, 1,2-trans-	0.75	<0.05	All Boreholes	1.22 – 5.33
Dichloropropane, 1,2-	0.085	<0.05	All Palmer Boreholes	1.52 – 5.33
Dichloropropene, 1,3-	0.083	<0.042	All Boreholes	1.52 – 5.33
Ethylene Dibromide	0.05	<0.04	All Boreholes	1.22 – 3.05
Hexane (n)	34	<0.05	All Boreholes	1.22 – 5.33
Methyl Ethyl Ketone	44	<0.5	All Boreholes	1.22 – 5.33
Methyl Isobutyl Ketone	4.3	<0.5	All Boreholes	1.22 – 5.33
Methyl tert-Butyl Ether (MTBE)	1.4	<0.05	All Boreholes	1.22 – 5.33
Methylene Chloride	0.96	<0.05	All Boreholes	1.22 – 5.33
Styrene	2.2	<0.05	All Boreholes	1.22 – 5.33
Tetrachloroethane, 1,1,1,2-	0.05	<0.05	All Boreholes	1.52 – 5.33
Tetrachloroethane, 1,1,2,2-	0.05	<0.05	All Boreholes	1.22 – 5.33

Parameter	MECP Table 3 RPI SCS (µg/g)	Maximum Soil Concentration (µg/g)	Location of Maximum Concentration	Sample Depth (m)
Tetrachloroethylene	2.3	<0.05	All Boreholes	1.22 – 5.33
Trichloroethane, 1,1,1-	3.4	<0.05	All Boreholes	1.22 – 5.33
Trichloroethane, 1,1,2-	0.05	<0.05	All Boreholes	1.52 – 5.33
Trichloroethylene	0.52	<0.03	All Boreholes	1.22 – 3.05
Trichlorofluoromethane	5.8	<0.05	All Boreholes	1.22 – 5.33
Vinyl Chloride	0.022	<0.02	All Boreholes	1.22 – 5.33
Other Regulated Parameters				
Boron (Hot Water Soluble)	1.5	0.25	BH9-20	0.61 – 1.22
Chromium VI	10	<0.2	All GHD Boreholes	0.61 – 1.83
Cyanide (CN-)	0.051	<0.040	All GHD Boreholes	0.61 – 1.83
Electrical Conductivity	**0.7**	**1.57**	**BH9-20**	**0.61 – 1.22**
Mercury	1.8	<0.10	All GHD Boreholes	0.61 – 1.83
Sodium Adsorption Ratio (unitless)	**5**	**22.8**	**BH10-20**	**0.61 – 1.22**

Note:

1. ND represents Non-Detect.
2. Bold entries exceed the Criteria.
3. Criteria is Ontario Regulation 153/04, Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use with Medium-Fine-Textured Soils.

Ground Water Maximum Concentration Data

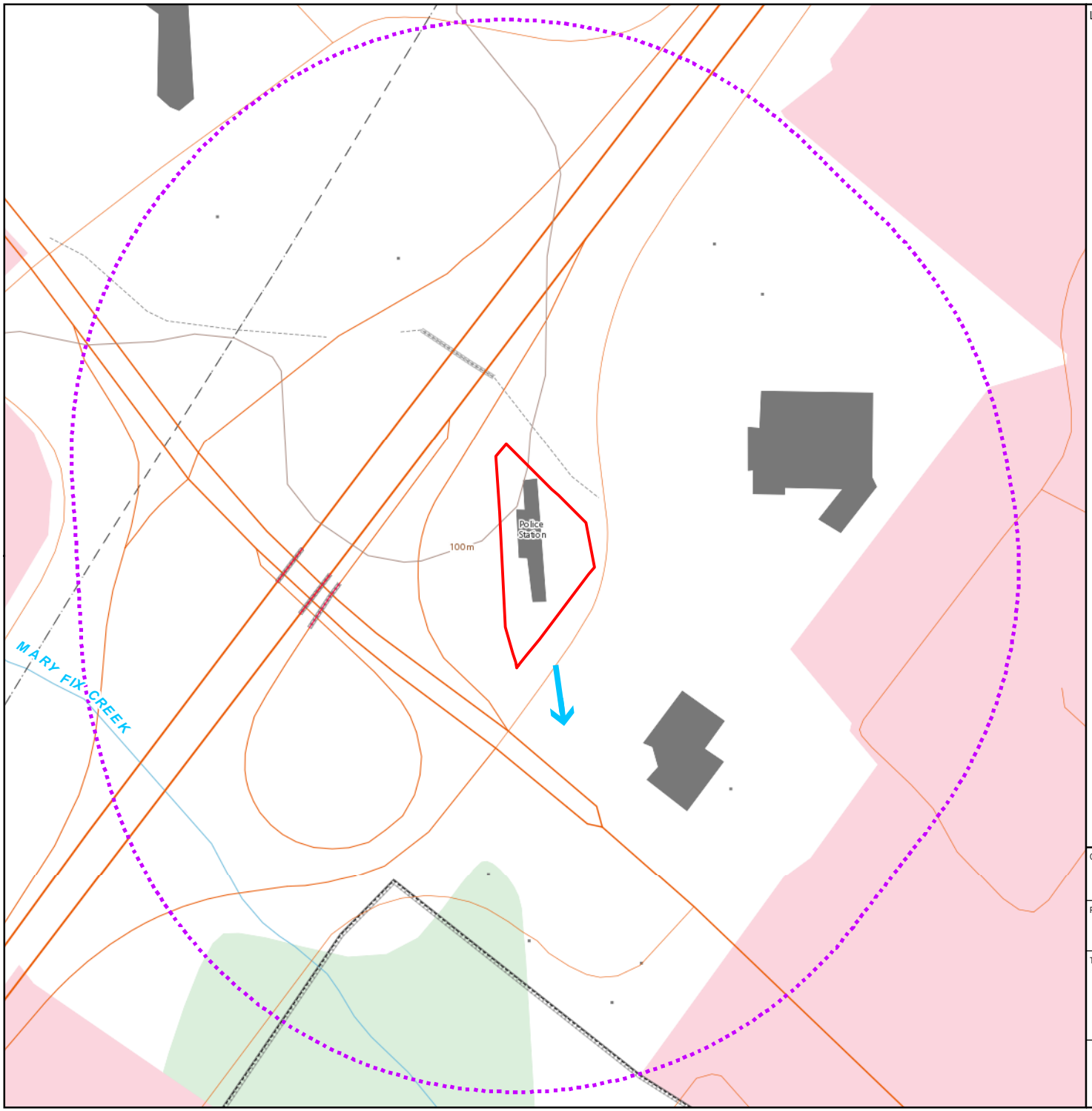
Parameter	MECP Table 3 RPI SCS (µg/L)	Maximum Ground Water Concentration (µg/L)	Location of Maximum Concentration
VOCs - BTEX			
Benzene	430	<0.5	All Palmer MWs
Ethylbenzene	2300	<0.5	All Palmer MWs
Toluene	18000	3.8	MW1-20
Xylene Mixture	4200	<0.5	All Palmer MWs
Metals			
Barium	29000	225	MW3-20
Beryllium	67	<1.0	All Palmer MWs
Boron (total)	45000	74.2	MW3-20
Cadmium	2.7	<0.2	All GHD MWs
Chromium Total	810	<5.0	All Palmer MWs
Cobalt	66	1.97	MW3-20
Copper	87	3.6	BH22-10
Lead	25	<0.5	All MWs
Molybdenum	9200	5	MW3-20
Nickel	490	<5.0	All Palmer MWs
Silver	1.5	<0.5	All Palmer MWs
Thallium	510	<0.3	All GHD MWs
Uranium	420	4.43	BH22-10
Vanadium	250	<5.0	All Palmer MWs
Zinc	1100	16.3	BH1
Metals – Hydride Forming			
Antimony	20000	<1.0	All MWs
Arsenic	1900	1.9	BH1
Selenium	63	1.97	BH22-10
Na Sodium			
Sodium	2300000	2190000	BH22-10
PHCs			
Petroleum Hydrocarbons F1	750	<25	All MWs
Petroleum Hydrocarbons F2	150	<100	All MWs
Petroleum Hydrocarbons F3	500	<250	All Palmer MWs
Petroleum Hydrocarbons F4	500	<250	All Palmer MWs

Parameter	MECP Table 3 RPI SCS (µg/L)	Maximum Ground Water Concentration (µg/L)	Location of Maximum Concentration
VOCs – Trihalomethanes			
Bromodichloromethane	85000	<2.0	All Palmer MWs
Bromoform	770	<5.0	All Palmer MWs
Dibromochloromethane	82000	<2.0	All Palmer MWs
VOCs			
Acetone	130000	<30	All Palmer MWs
Bromomethane	56	<0.5	All Palmer MWs
Carbon Tetrachloride	8.4	<0.2	All MWs
Chlorobenzene	630	<0.5	All Palmer MWs
Chloroform	22	<1.0	All Palmer MWs
Dichlorobenzene, 1,2-	9600	<0.5	All Palmer MWs
Dichlorobenzene, 1,3-	9600	<0.5	All Palmer MWs
Dichlorobenzene, 1,4-	67	<0.5	All Palmer MWs
Dichlorodifluoromethane	4400	<2.0	All Palmer MWs
Dichloroethane, 1,1-	3100	<0.5	All Palmer MWs
Dichloroethane, 1,2-	12	<0.05	All Palmer MWs
Dichloroethylene, 1,1-	17	<0.05	All Palmer MWs
Dichloroethylene , 1,2-cis-	17	<0.05	All Palmer MWs
Dichloroethylene, 1,2-trans-	17	<0.05	All Palmer MWs
Dichloropropane, 1,2-	140	<0.05	All Palmer MWs
Dichloropropene, 1,3-	45	<0.05	All Palmer MWs
Hexane (n)	520	<0.05	All Palmer MWs
Methyl Ethyl Ketone	1500000	<20	All Palmer MWs
Methyl Isobutyl Ketone	580000	<20	All Palmer MWs
Methyl tert-Butyl Ether (MTBE)	1400	<2.0	All Palmer MWs
Methylene Chloride	5500	<5.0	All Palmer MWs
Styrene	9100	<0.5	All Palmer MWs
Tetrachloroethane, 1,1,1,2-	28	<0.5	All Palmer MWs
Tetrachloroethane, 1,1,2,2-	15	<0.5	All Palmer MWs
Tetrachloroethylene	17	<0.5	All Palmer MWs
Trichloroethane, 1,1,1-	6700	<0.5	All Palmer MWs
Trichloroethane, 1,1,2-	30	<0.5	All Palmer MWs
Trichloroethylene	17	<0.5	All Palmer MWs

Parameter	MECP Table 3 RPI SCS (µg/L)	Maximum Ground Water Concentration (µg/L)	Location of Maximum Concentration
Trichlorofluoromethane	2500	<5.0	All Palmer MWs
Vinyl Chloride	1.7	<0.5	All Palmer MWs
Other Regulated Parameters			
Chloride	**2300000**	**2750000**	**MW1-20**
Chromium VI	140	<5	All GHD MWs
Cyanide (CN-)	66	<2	All GHD MWs
Mercury	2.8	<0.02	All GHD MWs

Note:

1. ND represents Non-Detect.
2. Bold entries exceed the Criteria.
3. Criteria is Ontario Regulation 153/04, Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for Residential/Parkland/Institutional Property Use with Medium-Fine-Textured Soils.



LEGEND

- Phase Two Property
- Phase One Study Area
- Regionally Inferred Ground Water Flow Direction

0 10 20 40 60 80 100
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:3,300
Page Size: Letter (8.5 x 11 inches)

Drawn: CV
Checked: BF
Date: Jul 13, 2022

Basemap:
Toporama webmap service

NORTH

CLIENT
Edenshaw SSR Developments Limited

PROJECT
49 South Service Road

TITLE
Areas of Natural Significance and Water Bodies

Palmer

REF. NO.
2204701-MR-208.2.1-A

Figure 8.2.1

Document Path: G:\Shared drives\Projects 2022\22047 - Edenshaw Developments\2204701 - Edenshaw - 49 S. Service Rd\GIS\1_Workspace\Task 2 - ESA Phase Two Figures\2204701_8.2.1-1_Areas of Natural Significance.mxd

LEGEND

- Monitoring Well Location (Palmer, 2022)
- Monitoring Well Location (GHD, 2020)
- Borehole Location (GHD, 2020)
- Previously Installed Monitoring Well Location
- Phase One Property
- Proposed Building
- Cross Section Location
- Inferred Ground Water Flow Direction
- APEC 1: Auto Service Garage
- APEC 2: Historic Above-ground Storage Tank (AST)
- APEC 3: Current Diesel Fuel Back-up Generator with AST
- APEC 4: Historic Under-ground Storage Tank (UST)
- APEC 5: Historic Oily Water Spill

0 5 10 15 20 25
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:600
Page Size: Letter (8.5 x 11 inches)

Drawn: CV
Checked: BF
Date: Oct 7, 2022

NORTH

Source Notes:
Imagery (2020) provided by Peel Region map service.
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CLIENT
Edenshaw SSR Developments Limited

PROJECT
49 South Service Road

TITLE
Property Before Actions Taken to Reduce the Concentration of Contaminants

Palmer™

REF. NO.
2204701-MR -208.2.2-A

Figure 8.2.2

LEGEND

- Monitoring Well Location (Palmer, 2022)
- Monitoring Well Location (GHD, 2020)
- Borehole Location (GHD, 2020)
- Previously Installed Monitoring Well Location
- Phase One Property
- Ground Water Elevation Contour (mASL)
- Inferred Ground Water Flow Direction

0 5 10 15 20 25
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:600
Page Size: Letter (8.5 x 11 inches)

Drawn: CV
Checked: BF
Date: Oct 7, 2022

NORTH

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CLIENT
Edenshaw SSR Developments Limited

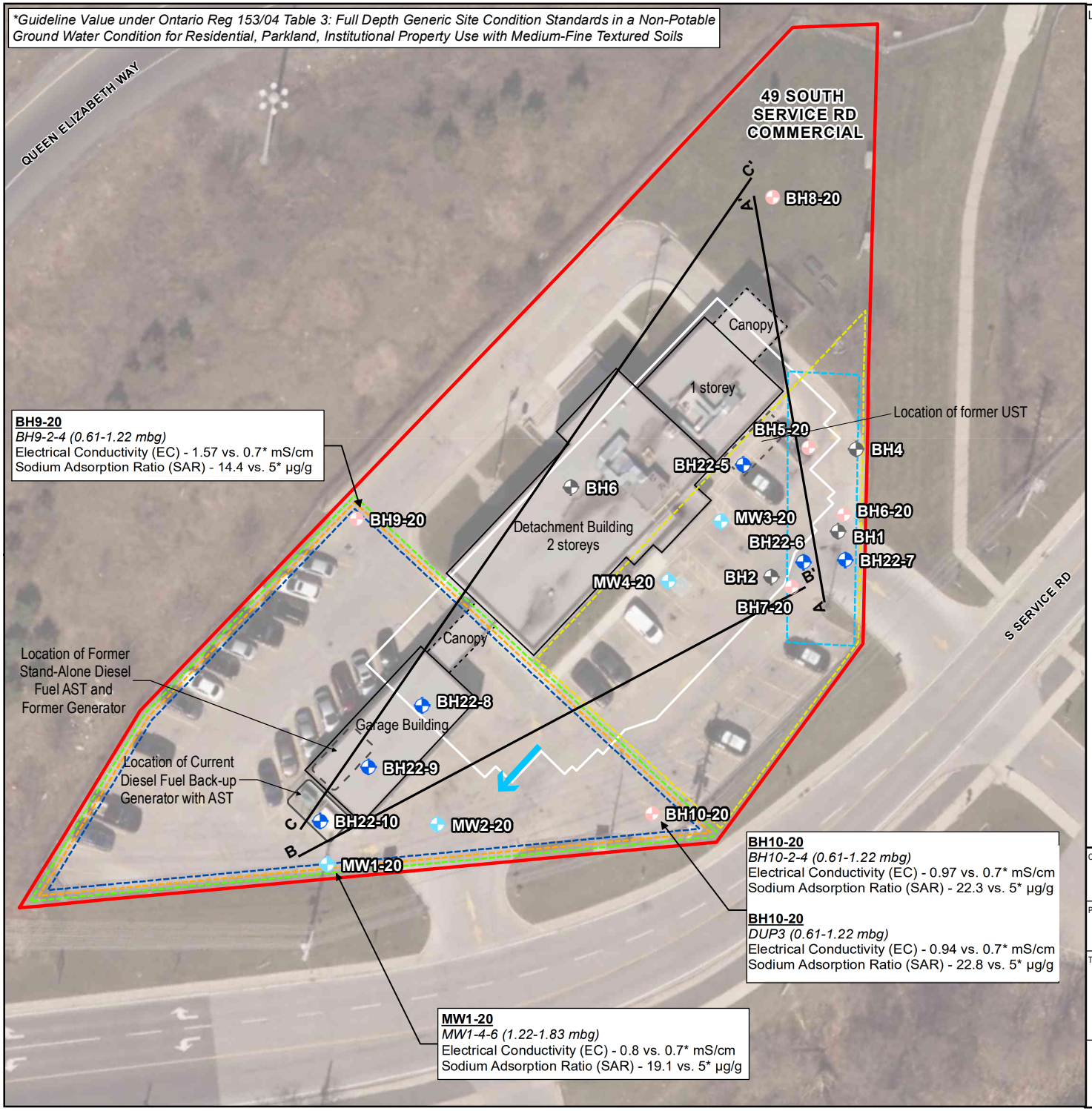
PROJECT
49 South Service Road

TITLE
Interpreted Contours of Ground Water Elevations

Palmer

REF. NO. 2204701-MR -208.2.3-A

Figure 8.2.3



LEGEND

- Monitoring Well Location (Palmer, 2022)
- Monitoring Well Location (GHD, 2020)
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- Phase One Property
- Proposed Building
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- APEC 1: Auto Service Garage
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0 5 10 15 20 25
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:600
Page Size: Letter (8.5 x 11 inches)

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CLIENT
Edenshaw SSR Developments Limited

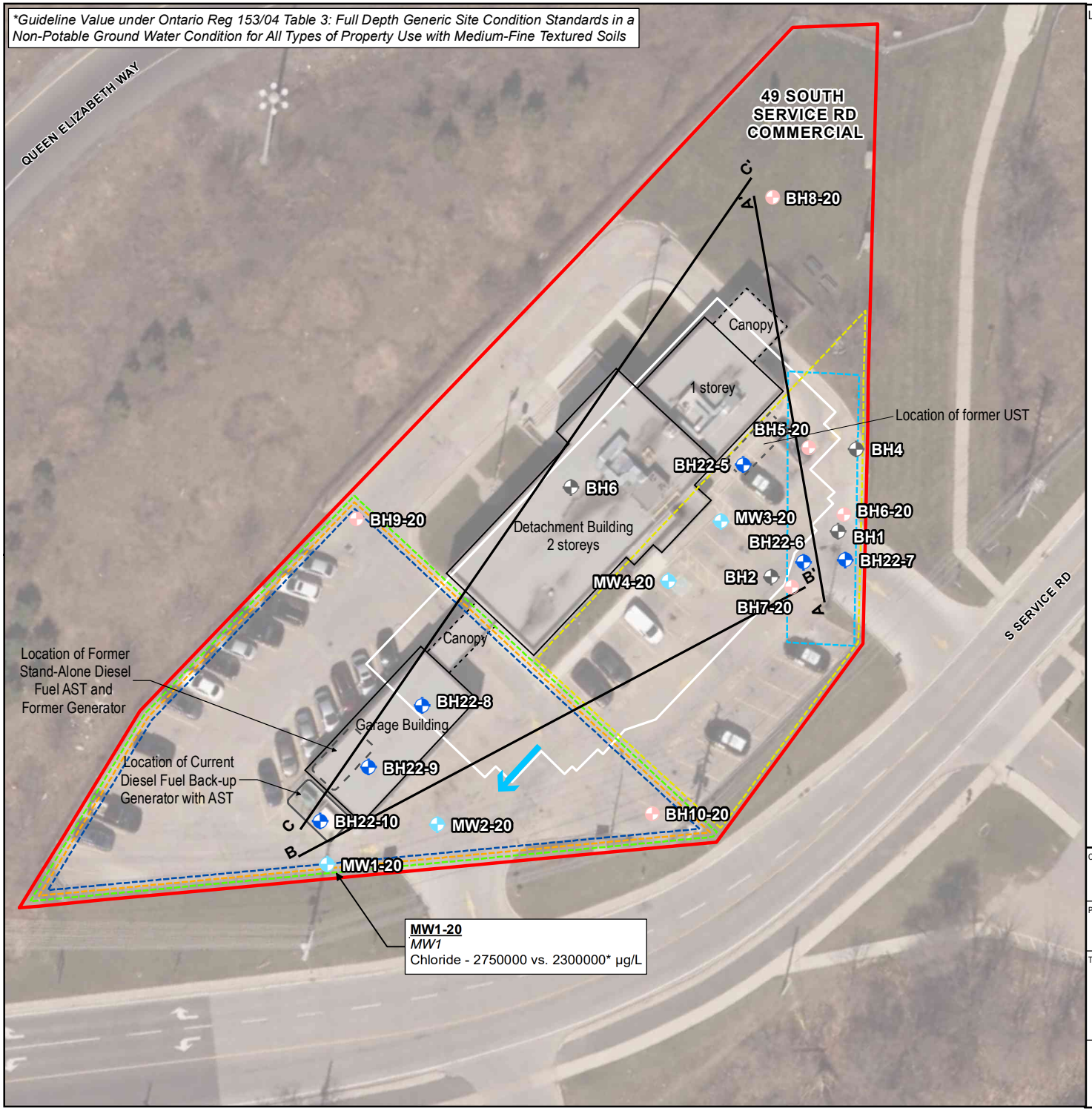
PROJECT
49 South Service Road

TITLE
Previously Identified Contaminants in Soil Before Actions Taken to Reduce the Concentration of Contaminants

Palmer

REF. NO.
2204701-MR-208.2.4a-A

Figure 8.2.4a



LEGEND

- Monitoring Well Location (Palmer, 2022)
- Monitoring Well Location (GHD, 2020)
- Borehole Location (GHD, 2020)
- Previously Installed Monitoring Well Location
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0 5 10 15 20 25
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:600
Page Size: Letter (8.5 x 11 inches)

Drawn: CV
Checked: BF
Date: Oct 7, 2022

NORTH

Source Notes:
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CLIENT
Edenshaw SSR Developments Limited

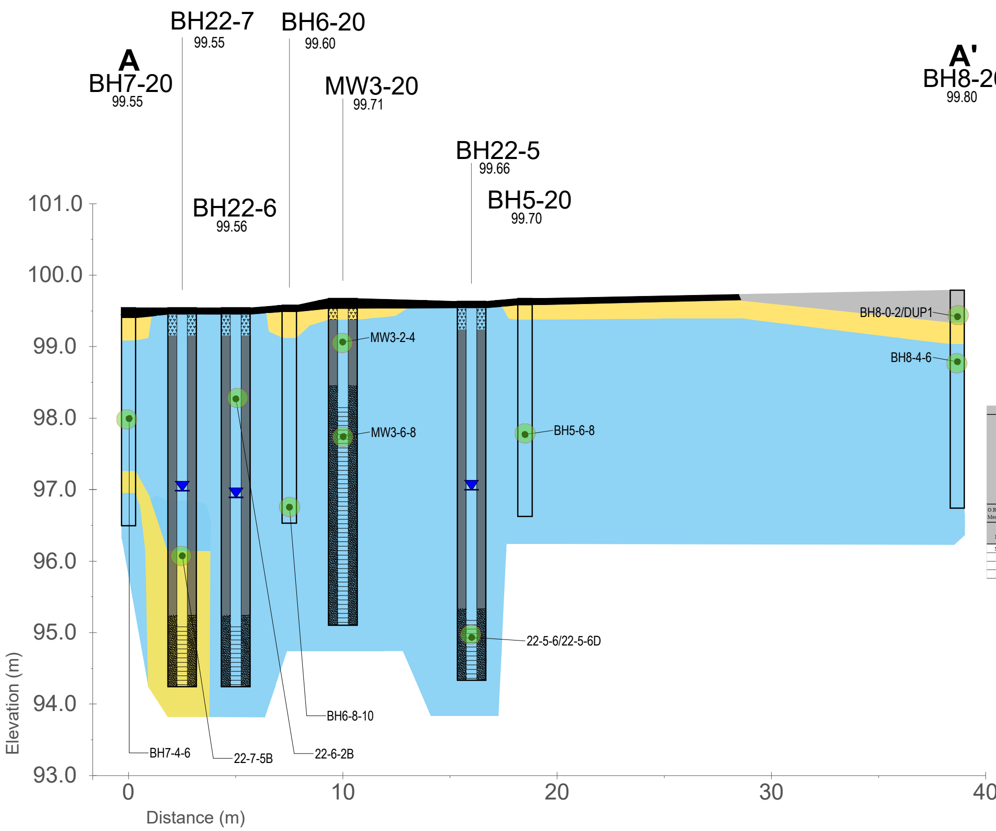
PROJECT
49 South Service Road

TITLE
Previously Identified Contaminants in Ground Water Before Actions Taken to Reduce the Concentration of Contaminants

Palmer™

REF. NO.
2204701-MR-208.2.5a-A

Figure 8.2.5a



Horizontal Scale 0 5 m

Vertical Scale 0 1 m

				PHCs					BTEX			
				F1 (C6-C10)	F1 (C6-C10) - BTEX*	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)	Benzene	Toluene	Ethylbenzene	Xylenes, Total (Xylene Mixture)
				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011), Res/Park/Inst Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition				65	65	150	1300	5600	0.17	6	15	25
Sample Location	Sample ID	Sample Interval (mbgs)	Sample Date									
BH22-5.	22-5-6.	3.81-4.57	01-Jun-22	<5.0	<5.0	<10	<50	<50	<0.0068	<0.080	<0.018	<0.050
BH22-5.	22-5-6D	3.81-4.57	01-Jun-22	<5.0	<5.0	<10	<50	<50	<0.0068	<0.080	<0.018	<0.050
BH22-6.	22-6-2B	1.22-1.52	01-Jun-22	<5.0	<5.0	<10	<50	<50	<0.0068	<0.080	<0.018	<0.050
BH22-7.	22-7-5B	3.43-3.81	01-Jun-22	<5.0	<5.0	<10	62	75	0.0194	<0.080	<0.018	<0.050
MW3-20	MW3-6-8	1.83-2.44	07-Dec-20	<5.0	<5.0	<10	<50	<50	<0.02	<0.05	<0.05	<0.05
BH5-20	BH5-6-8	1.83-2.44	07-Dec-20	<5.0	<5.0	<10	93	110	<0.02	<0.05	<0.05	<0.05
BH6-20	BH6-8-10	2.44-3.05	07-Dec-20	<5.0	<5.0	<10	<50	83	<0.02	<0.05	<0.05	<0.05
BH7-20	BH7-4-6	1.22-1.83	07-Dec-20	<5.0	<5.0	<10	<50	<50	<0.02	<0.05	<0.05	<0.05
BH8-20	BH8-4-6	1.22-1.83	07-Dec-20	<5.0	<5.0	<10	57	<50	<0.02	<0.05	<0.05	<0.05

				PAHs																
				Methylnaphthalenes, 2-(1-)***	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011), Res/Park/Inst Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition				3.4	58	0.17	0.74	0.63	0.3	0.78	7.8	0.78	7.6	0.1	0.69	69	0.48	0.75	7.8	78
Sample Location	Sample ID	Sample Interval (mbgs)	Sample Date																	
MW3-20	MW3-2-4	0.61-1.22	07-Dec-20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

				OC Pesticides														
				DDD (Total)	DDE (Total)	DDT (Total)	Aldrin	Chlordane	Dieldrin	Endosulfan (Total)	Endrin	Heptachlor	Heptachlor Epoxide	Hexachlorobenzene	Hexachlorobutadiene	Hexachloroethane	Hexachlorocyclohexane Gamma (Lindane or Gamma BHC)	Methoxychlor
				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011), Res/Park/Inst Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition				3.3	0.33	1.4	0.05	0.05	0.05	0.04	0.04	0.15	0.05	0.52	0.014	0.07	0.063	0.13
Sample Location	Sample ID	Sample Interval (mbgs)	Sample Date															
BH8-20	BH8-0-2	0.00-0.61	07-Dec-20	<0.007	<0.007	<0.007	<0.005	<0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005

				Metals																				Inorganics						
				Antimony	Arsenic	Barium	Beryllium	Boron (total)	Boron (Hot Water Soluble)*	Cadmium	Chromium Total	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc	Chloride	Chromium VI	Electrical Conductivity (mS/cm)	Cyanide, Weak Acid Dissociable	Mercury	Methyl Mercury**	Sodium Adsorption Ratio
				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	mS/cm	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011), Res/Park/Inst Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition				7.5	18	390	5	120	1.5	1.2	160	22	180	120	6.9	130	2.4	25	---	1	23	86	340	---	10	0.7	0.051	1.8	0.0094	5
Sample Location	Sample ID	Sample Interval (mbgs)	Sample Date																											
MW3-20	MW3-2-4	0.61-1.22	07-Dec-20	<0.8	<1	12	<0.5	<5	<0.10	<0.5	5	2	4	2	<0.5	2	<0.4	<0.2	-	<0.4	<0.5	12	11	-	<0.2	0.127	<0.040	<0.10	-	0.711
BH8-20	BH8-4-6	1.22-1.83	07-Dec-20	<0.8	3	17	<0.5	<5	0.14	<0.5	10	2.9	8	10	<0.5	5	<0.4	<0.2	-	<0.4	<0.5	19	25	-	<0.2	0.157	<0.040	<0.10	-	0.332

				VOCs																		
				Acetone	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroform	Dibromochloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethylene	cis-1,2-Dichloroethylene	trans-1,2-Dichloroethylene	1,2-Dichloropropane
				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011), Res/Park/Inst Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition				28	0.17	13	0.26	0.05	0.12	2.7	0.17	9.4	4.3	6	0.097	25	11	0.05	0.05	30	0.75	0.085
Sample Location	Sample ID	Sample Interval (mbgs)	Sample Date																			
MW3-20	MW3-6-8	1.83-2.44	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03
BH5-20	BH5-6-8	1.83-2.44	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03
BH6-20	BH6-8-10	2.44-3.05	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03
BH7-20	BH7-4-6	1.22-1.83	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03

Sample Location	1,3-Dichloropropene (cis) + (trans)	Ethylbenzene	Ethylene Dibromide	Hexane (n)	Methyl Ethyl Ketone	Methyl Isobutyl Ketone	Methyl tert-Butyl Ether (MTBE)	Methylene Chloride	Styrene	1,1,1,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	Tetrachloroethylene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethylene	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total (Xylene Mixture)
	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011)	0.083	15	0.05	34	44	4.3	1.4	0.96	2.2	0.05	0.05	2.3	6	3.4	0.05	0.52	5.8	0.022	25
MW3-20	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05
BH5-20	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05
BH6-20	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05
BH7-20	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05

Ground Water Analytical Results: Petroleum Hydrocarbons (PHCs) and Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)

			PHCs					BTEX			
			F1 (C6-C10)	F1-BTEX	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)	Benzene	Toluene	Ethylbenzene	Xylenes (Total)
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
O.Reg. 153/04 MECP Guideline (2011), All Types of Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition			750	750	150	500	500	430	18000	2300	4200
Sample Location	Sample ID	Sample Date									
MW3-20	MW3-20	27-May-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
BH22-6.	22-6.	03-Jun-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
BH22-5.	22-5.	02-Jun-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
BH22-7.	22-7.	02-Jun-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50

Ground Water Analytical Results: Metals and Inorganics

			Metals																				Inorganics			
			Antimony	Arsenic	Barium	Beryllium	Boron (total)	Cadmium	Chromium Total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc	Chloride	Chromium VI	Electrical Conductivity (mS/cm)	Cyanide, Weak Acid Dissociable
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
O.Reg. 153/04 MECP Guideline (2011), All Types of Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition			20000	1900	29000	67	45000	2.7	810	66	87	25	2.8	9200	490	63	1.5	2300000	510	420	250	1100	2300000	140	-	66
Sample Location	Sample ID	Sample Date																								
MW3-20	MW3	10-Dec-20	<1.0	<1.0	225	<0.50	72.4	<0.20	<2.0	1.87	2.4	<0.50	<0.02	4.58	<3.0	<1.0	<0.20	1220000	<0.30	2.1	<0.40	<5.0	2240000	<5	7.6	<2
MW3-20	DUP	10-Dec-20	<1.0	1.6	225	<0.50	74.2	<0.20	<2.0	1.97	2.2	<0.50	<0.02	5	<3.0	1.5	<0.20	1230000	<0.30	2.08	<0.40	<5.0	2240000	<5	7.65	<2

			VOCs																			
			Acetone	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Dibromochloromethane	Chloroform	1,2-Dibromoethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethylene	cis-1,2-Dichloroethylene	trans-1,2-Dichloroethylene	Methylene Chloride
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
O.Reg. 153/04 MECP Guideline (2011), All Types of Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition			130000	430	85000	770	56	8.4	630	82000	22	0.83	9600	9600	67	4400	3100	12	17	17	17	5500
Sample Location	Sample ID	Sample Date																				
MW3-20	MW3	10-Dec-20	<1.0	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.20	-	<0.10	<0.10	<0.10	<0.20	<0.30	-	<0.30	<0.20	<0.20	<0.30

Sample Location	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	1,3-Dichloropropene (cis & trans)	Ethylbenzene	n-Hexane	Methyl Ethyl Ketone	Methyl Isobutyl Ketone	MTBE	Styrene	1,1,1,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	Tetrachloroethylene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethylene	Trichlorofluoromethane	Vinyl chloride	o-Xylene	m+p-Xylenes
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
O.Reg. 153/04 MECP Guideline (2011)	140	-	-	45	2300	520	1500000	580000	1400	9100	28	15	17	18000	6700	30	17	2500	1.7	4200	7300000
MW3-20	<0.20	-	-	-	<0.10	<0.20	<1.0	<1.0	<0.20	<0.10	<0.10	<0.10	<0.20	0.54	<0.30	<0.20	<0.20	<0.40	<0.17	<0.20	<0.20

LEGEND:

SOILS

- Topsoil
- Asphalt
- Fill
- Silty Sand
- Silty Clay
- Sandy Silt

X-X-X Sample Location

Soil Met Table 3 SCS

WELL DETAILS

- Sand
- Concrete
- Water Level
- Bentonite
- Well Screen

Soil Contaminants Tested

BH5-20: PHCs, BTEX, VOCs
BH6-20: PHCs, BTEX, VOCs
BH7-20: PHCs, BTEX, VOCs
BH8-20: PHCs, BTEX, VOCs, Metals and Inorganics, OC Pesticides
BH22-5: PHCs, BTEX
BH22-6: PHCs, BTEX
BH22-7: PHCs, BTEX
MW3-20: PHCs, BTEX, VOCs, Metals and Inorganics, PAHs

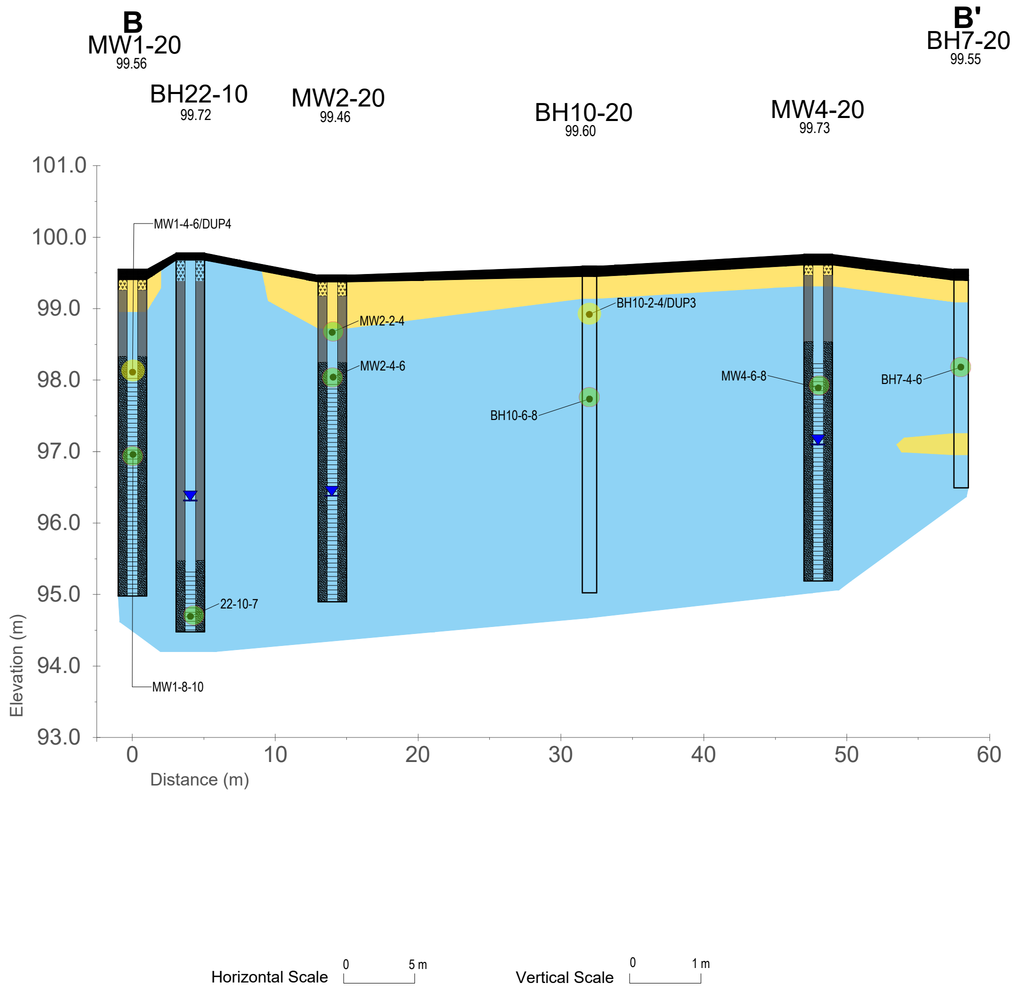
Groundwater Contaminants Tested

BH22-5: PHCs, BTEX
BH22-6: PHCs, BTEX
BH22-7: PHCs, BTEX
MW3-20: PHCs, BTEX, VOCs, Metals and Inorganics

DATE: 7/18/2022	FIGURE NO. 8.2.6a	TITLE: Cross Section A-A'
CLIENT: Edenshaw Developments		PROJECT: 49 South Service Road
PRINT SIZE: 8.5" x 11"	SCALE: As shown	PROJECT NO. 2204701
DRAWN: CV	APPROVED: BF	REVISION: 1

Palmer

74 Berkeley Street
Toronto, Ontario
M5A 2W7



				PHCs					BTEX			
				F1 (C6-C10)	F1 (C6-C10) - BTEX*	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)	Benzene	Toluene	Ethylbenzene	Xylenes, Total (Xylene Mixture)
				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011), Res/Park/Inst Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition				65	65	150	1300	5600	0.17	6	15	25
Sample Location	Sample ID	Sample Interval (mbgs)	Sample Date									
MW1-20	MW1-8-10	2.44-3.05	07-Dec-20	<5.0	<5.0	<10	<50	84	<0.02	<0.05	<0.05	<0.05
MW2-20	MW2-4-6	1.22-1.83	07-Dec-20	<5.0	<5.0	<10	<50	<50	<0.02	<0.05	<0.05	<0.05
MW4-20	MW4-6-8	1.83-2.44	07-Dec-20	<5.0	<5.0	<10	120	110	<0.02	<0.05	<0.05	<0.05
BH7-20	BH7-4-6	1.22-1.83	07-Dec-20	<5.0	<5.0	<10	<50	<50	<0.02	<0.05	<0.05	<0.05
BH10-20	BH10-6-8	1.83-2.44	07-Dec-20	<5.0	<5.0	<10	<50	<50	<0.02	<0.05	<0.05	<0.05

Soil Analytical Results: Polycyclic Aromatic Hydrocarbons (PAHs)

				PAHs																
				Methylnaphthalenes, 2-(1-)***	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011), Res/Park/Inst Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition				3.4	58	0.17	0.74	0.63	0.3	0.78	7.8	0.78	7.6	0.1	0.69	69	0.48	0.75	7.8	78
Sample Location	Sample ID	Sample Interval (mbgs)	Sample Date																	
MW1-20	MW1-4-6	1.22-1.83	07-Dec-20	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Soil Analytical Results: Organochlorine (OC) Pesticides

				OC Pesticides														
				DDD (Total)	DDE (Total)	DDT (Total)	Aldrin	Chlordane	Dieldrin	Endosulfan (Total)	Endrin	Heptachlor	Heptachlor Epoxide	Hexachlorobenzene	Hexachlorobutadiene	Hexachloroethane	Hexachlorocyclohexane Gamma (Lindane or Gamma BHC)	Methoxychlor
				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011), Res/Park/Inst Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition				3.3	0.33	1.4	0.05	0.05	0.05	0.04	0.04	0.15	0.05	0.52	0.014	0.07	0.063	0.13
Sample Location	Sample ID	Sample Interval (mbgs)	Sample Date															
MW2-20	MW2-2-4	0.61-1.22	07-Dec-20	<0.007	<0.007	<0.007	<0.005	<0.007	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.01	<0.01	<0.005	<0.005

				Acetone	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Tetrachloride	Chlorobenzene	Chloroform	Dibromochloromethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethylene	cis-1,2-Dichloroethylene	trans-1,2-Dichloroethylene	1,2-Dichloropropane
				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011), Res/Park/Inst Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition				28	0.17	13	0.26	0.05	0.12	2.7	0.17	9.4	4.3	6	0.097	25	11	0.05	0.05	30	0.75	0.085
Sample Location	Sample ID	Sample Interval (mbgs)	Sample Date																			
BH22-10.	22-10-7.	4.57-5.33	01-Jun-22	<0.50	<0.0068	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
MW1-20	MW1-8-10	2.44-3.05	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03
MW2-20	MW2-4-6	1.22-1.83	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03
MW4-20	MW4-6-8	1.83-2.44	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03
BH7-20	BH7-4-6	1.22-1.83	07-Dec-20	<0.50	<0.02	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.050	<0.050	<0.02	<0.03	<0.050	<0.02	<0.050	<0.03

Sample Location	1,3-Dichloropropene (cis) + (trans)	Ethylbenzene	Ethylene Dibromide	Hexane (n)	Methyl Ethyl Ketone	Methyl Isobutyl Ketone	Methyl tert-Butyl Ether (MTBE)	Methylene Chloride	Styrene	1,1,1,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	Tetrachloroethylene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethylene	Trichlorofluoromethane	Vinyl Chloride	Xylenes, Total (Xylene Mixture)
	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011)	0.083	15	0.05	34	44	4.3	1.4	0.96	2.2	0.05	0.05	2.3	6	3.4	0.05	0.52	5.8	0.022	25
BH22-10.	<0.042	<0.018	-	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.080	<0.050	<0.050	<0.010	<0.050	<0.020	<0.050
MW1-20	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05
MW2-20	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05
MW4-20	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05
BH7-20	<0.04	<0.05	<0.04	<0.050	<0.50	<0.50	<0.050	<0.050	<0.050	<0.04	<0.050	<0.050	<0.05	<0.050	<0.04	<0.03	<0.050	<0.020	<0.05

				Metals																				Inorganics						
				Antimony	Arsenic	Barium	Beryllium	Boron (total)	Boron (Hot Water Soluble)*	Cadmium	Chromium Total	Cobalt	Copper	Lead	Molybdenum	Nickel	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc	Chloride	Chromium VI	Electrical Conductivity (mS/cm)	Cyanide, Weak Acid Dissociable	Mercury	Methyl Mercury**	Sodium Adsorption Ratio
				µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	µg/g	mS/cm	µg/g	µg/g	µg/g	µg/g
O.Reg. 153/04 MOECC Guideline (2011), Res/Park/Inst Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition				7.5	18	390	5	120	1.5	1.2	160	22	180	120	6.9	130	2.4	25	---	1	23	86	340	---	10	0.7	0.051	1.8	0.0094	5
Sample Location	Sample ID	Sample Interval (mbgs)	Sample Date																											
BH22-10.	22-10-7.	4.57-5.33	01-Jun-22	<1.0	1.7	14.6	<0.50	<5.0	-	<0.50	8.2	3.4	9.7	3.1	<1.0	6.4	<1.0	<0.20	-	<0.50	<1.0	16.6	15.7	-	-	-	-	-	-	-
MW1-20	MW1-4-6	1.22-1.83	07-Dec-20	<0.8	2	18	<0.5	<5	0.19	<0.5	7	2.6	7	7	<0.5	5	<0.4	<0.2	-	<0.4	<0.5	13	18	-	<0.2	**0.8**	<0.040	<0.10	-	**19.1**
BH10-20	BH10-2-4	0.61-1.22	07-Dec-20	<0.8	2	19	<0.5	<5	<0.10	<0.5	8	4.1	11	5	<0.5	7	<0.4	<0.2	-	<0.4	<0.5	15	21	-	<0.2	**0.97**	<0.040	<0.10	-	**22.3**
BH10-20	DUP3	0.61-1.22	07-Dec-20	<0.8	2	22	<0.5	<5	<0.10	<0.5	9	4.3	11	5	<0.5	7	<0.4	<0.2	-	<0.4	<0.5	16	23	-	<0.2	**0.94**	<0.040	<0.10	-	**22.8**

Ground Water Analytical Results: Petroleum Hydrocarbons (PHCs) and Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)

			PHCs					BTEX			
			F1 (C6-C10)	F1-BTEX	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)	Benzene	Toluene	Ethylbenzene	Xylenes (Total)
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
O.Reg. 153/04 MECP Guideline (2011), All Types of Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition			750	750	150	500	500	430 430	18000	2300	4200
Sample Location	Sample ID	Sample Date									
MW2-20	MW2-20	27-May-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
MW4-20	MW4-20	27-May-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
BH22-10.	22-10.	02-Jun-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
BH22-10.	22-10D	02-Jun-22	<25	<25	<100	<250	<250	<0.50	<0.50	<0.50	<0.50
MW1-20	MW1	10-Dec-20	<25	<25	<100	<100	<100	<0.20	3.8	<0.10	<0.20
MW2-20	MW2	10-Dec-20	<25	<25	<100	<100	<100	<0.20	0.32	<0.10	<0.20
MW4-20	MW4	10-Dec-20	<25	<25	<100	<100	<100	<0.20	0.78	<0.10	<0.20

Ground Water Analytical Results: Metals and Inorganics

			Metals																				Inorganics			
			Antimony	Arsenic	Barium	Beryllium	Boron (total)	Cadmium	Chromium Total	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Sodium	Thallium	Uranium	Vanadium	Zinc	Chloride	Chromium VI	Electrical Conductivity (mS/cm)	Cyanide, Weak Acid Dissociable
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
O.Reg. 153/04 MECP Guideline (2011), All Types of Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition			20000	1900	29000	67	45000	2.7	810	66	87	25	2.8	9200	490	63	1.5	2300000	510	420	250	1100	2300000	140	-	66
Sample Location	Sample ID	Sample Date																								
MW2-20	MW2-20	27-May-22	<1.0	<1.0	43	<1.0	<100	<0.050	<5.0	<1.0	<2.0	<0.50	-	<0.50	<5.0	0.8	<0.50	1940000	<0.10	1.33	<5.0	<10	-	-	-	-
MW2-20	MW2-20D	27-May-22	<1.0	<1.0	41.3	<1.0	<100	<0.050	<5.0	<1.0	<2.0	<0.50	-	<0.50	<5.0	0.95	<0.50	1920000	<0.10	1.28	<5.0	<10	-	-	-	-
BH22-10.	22-10.	02-Jun-22	<1.0	<1.0	169	<1.0	<100	<0.050	<5.0	<1.0	3.6	<0.50	-	0.84	<5.0	1.97	<0.50	2190000	<0.10	4.43	<5.0	<10	-	-	-	-
MW1-20	MW1	10-Dec-20	<1.0	<1.0	211	<0.50	63	<0.20	3.1	0.92	2.9	<0.50	<0.02	1.24	<3.0	1.5	<0.20	1520000	<0.30	1.28	0.48	5.1	**2750000**	<5	9.34	<2

			VOCs																			
			Acetone	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon tetrachloride	Chlorobenzene	Dibromochloromethane	Chloroform	1,2-Dibromoethane	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Dichlorodifluoromethane	1,1-Dichloroethane	1,2-Dichloroethane	1,1-Dichloroethylene	cis-1,2-Dichloroethylene	trans-1,2-Dichloroethylene	Methylene Chloride
			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
O.Reg. 153/04 MECP Guideline (2011), All Types of Property Use, Medium-Fine Textured Soil, Non-Potable Ground Water Condition			130000	430	85000	770	56	8.4	630	82000	22	0.83	9600	9600	67	4400	3100	12	17	17	17	5500
Sample Location	Sample ID	Sample Date																				
MW2-20	MW2-20	27-May-22	<30	<0.50	<2.0	<5.0	<0.50	<0.20	<0.50	<2.0	<1.0	<0.20	<0.50	<0.50	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0
BH22-10.	22-10.	02-Jun-22	<30	<0.50	<2.0	<5.0	<0.50	<0.20	<0.50	<2.0	<1.0	<0.20	<0.50	<0.50	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0
BH22-10.	22-10D	02-Jun-22	<30	<0.50	<2.0	<5.0	<0.50	<0.20	<0.50	<2.0	<1.0	<0.20	<0.50	<0.50	<0.50	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0
MW1-20	MW1	10-Dec-20	<1.0	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.20	-	<0.10	<0.10	<0.10	<0.20	<0.30	-	<0.30	<0.20	<0.20	<0.30
MW2-20	MW2	10-Dec-20	<1.0	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.20	-	<0.10	<0.10	<0.10	<0.20	<0.30	-	<0.30	<0.20	<0.20	<0.30
MW4-20	MW4	10-Dec-20	<1.0	<0.20	<0.20	<0.10	<0.20	<0.20	<0.10	<0.10	<0.20	-	<0.10	<0.10	<0.10	<0.20	<0.30	-	<0.30	<0.20	<0.20	<0.30

Sample ID	1,2-Dichloropropane	cis-1,3-Dichloropropene	trans-1,3-Dichloropropene	1,3-Dichloropropene (cis & trans)	Ethylbenzene	n-Hexane	Methyl Ethyl Ketone	Methyl Isobutyl Ketone	MTBE	Styrene	1,1,1,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	Tetrachloroethylene	Toluene	1,1,1-Trichloroethane	1,1,2-Trichloroethane	Trichloroethylene	Trichlorofluoromethane	Vinyl chloride	o-Xylene	m+p-Xylenes
	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
O.Reg. 153/04 MECP Guideline (2011)	140	-	-	45	2300	520	1500000	580000	1400	9100	28	15	17	18000	6700	30	17	2500	1.7	4200	7300000
MW2-20	<0.50	<0.30	<0.30	<0.50	<0.50	<0.50	<20	<20	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.40
22-10.	<0.50	<0.30	<0.30	<0.50	<0.50	<0.50	<20	<20	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.40
22-10D	<0.50	<0.30	<0.30	<0.50	<0.50	<0.50	<20	<20	<2.0	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.40
MW1	<0.20	-	-	-	<0.10	<0.20	<1.0	<1.0	<0.20	<0.10	<0.10	<0.10	<0.20	3.8	<0.30	<0.20	<0.20	<0.40	<0.17	<0.20	<0.20
MW2	<0.20	-	-	-	<0.10	<0.20	<1.0	<1.0	<0.20	<0.10	<0.10	<0.10	<0.20	0.32	<0.30	<0.20	<0.20	<0.40	<0.17	<0.20	<0.20
MW4	<0.20	-	-	-	<0.10	<0.20	<1.0	<1.0	<0.20	<0.10	<0.10	<0.10	<0.20	0.78	<0.30	<0.20	<0.20	<0.40	<0.17	<0.20	<0.20

LEGEND:

SOILS

- Asphalt
- Fill
- Silty Sand
- Sandy Silt

X-X-X Sample Location

Soil Met Table 3 SCS

Soil Exceeded Table 3 SCS

The exemption set out in paragraph 1 of Section 49.1 of O.Reg 153/04 is being relied upon for soil exceedances of SAR, relating to the use of road salt for de-icing operations

WELL DETAILS

- Sand
- Concrete
- Water Level
- Bentonite
- Well Screen

Soil Contaminants Tested

BH7-20: PHCs, BTEX, VOCs
BH10-20: PHC, BTEX, VOCs, Metals and Inorganics, OC Pesticides
BH22-10: PHCs, BTEX, VOCs, Metals and Inorganics
MW1-20: PHCs, BTEX, VOCs, Metals and Inorganics, PAHs
MW2-20: PHCs, BTEX, VOCs, OC Pesticides
MW4-20: PHCs, BTEX, VOCs

Groundwater Contaminants Tested

BH22-10: PHCs, BTEX, VOCs, Metals and Inorganics
MW1-20: PHCs, BTEX, VOCs, Metals and Inorganics
MW2-20: PHCs, BTEX, VOCs, Metals and Inorganics
MW4-20: PHCs, BTEX, VOCs

DATE: 7/18/2022	FIGURE NO. 8.2.6b	TITLE: **Cross Section B-B'**
CLIENT: Edenshaw Developments		PROJECT: 49 South Service Road
PRINT SIZE: 8.5" x 11"	SCALE: As shown	PROJECT NO. 2204701
DRAWN: CV	APPROVED: BF	REVISION: 1

Palmer

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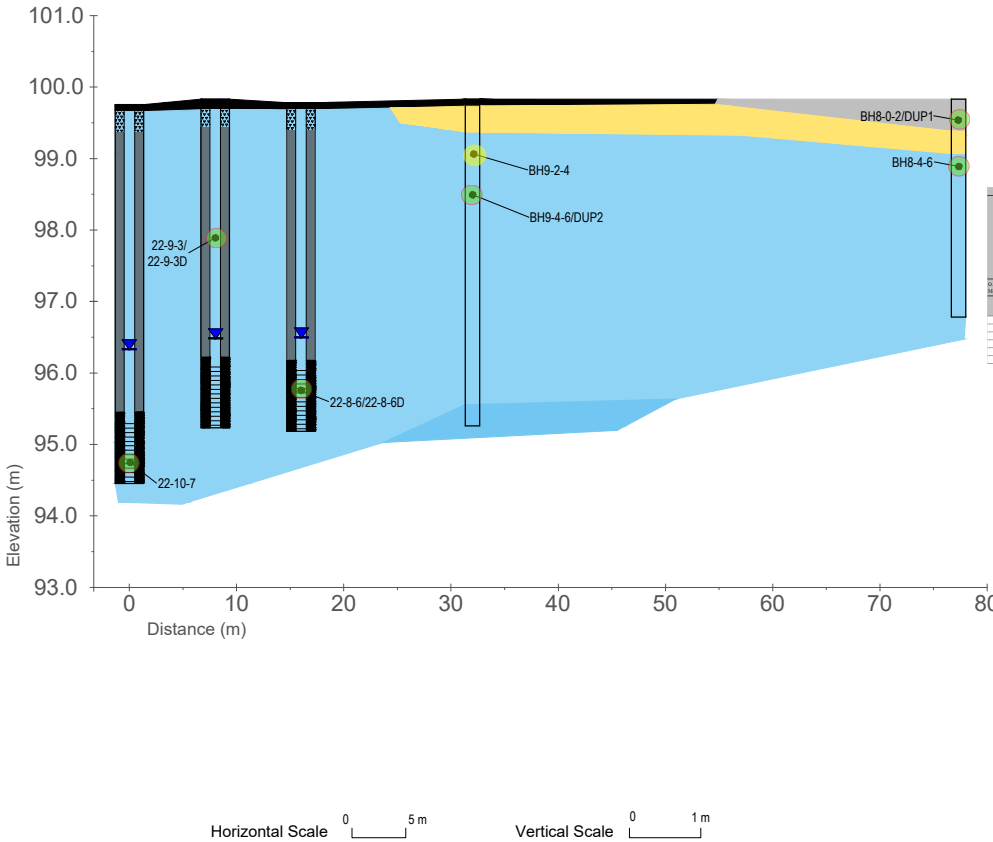
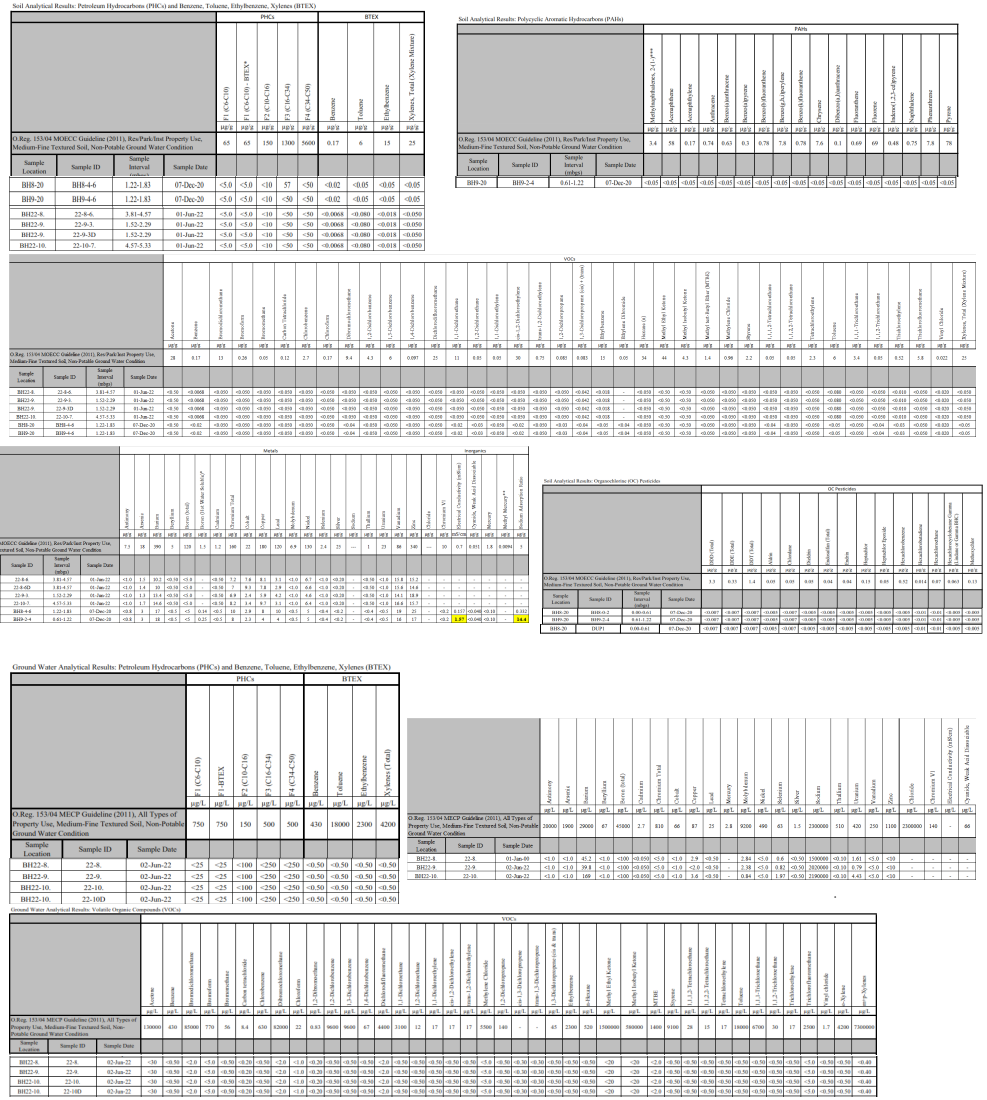
Toronto, Ontario
M5A 2W7





LEGEND:

SOILS

- Topsoil
- Asphalt
- Fill
- Silt
- Sandy Silt

- X-X-X Sample Location
- Soil Met Table 3 SCS
- Soil Exceeded Table 3 SCS
- The exemption set out in paragraph 1 of Section 49.1 of O.Reg 153/04 is being relied upon for soil exceedances of SAR, relating to the use of road salt for de-icing operations

WELL DETAILS

- Sand
- Concrete
- Water Level
- Bentonite
- Well Screen

Soil Contaminants Tested

BH8-20: PHCs, BTEX, VOCs, Metals and Inorganics, OC Pesticides
BH9-20: PHCs, BTEX, VOCs, Metals and Inorganics, PAHs, OC Pesticides
BH22-8: PHCs, BTEX, VOCs, Metals and Inorganics
BH22-9: PHCs, BTEX, VOCs, Metals and Inorganics
BH22-10: PHCs, BTEX, VOCs, Metals and Inorganics

Groundwater Contaminants Tested

BH22-8: PHCs, BTEX, VOCs, Metals and Inorganics
BH22-9: PHCs, BTEX, VOCs, Metals and Inorganics
BH22-10: PHCs, BTEX, VOCs, Metals and Inorganics

DATE: 7/18/2022	FIGURE NO. **8.2.6c**	TITLE: **Cross Section C-C'**	
CLIENT: Edenshaw Developments		PROJECT: 49 South Service Road	
PRINT SIZE: 8.5" x 11"	SCALE: As shown	PROJECT NO. 2204701	
DRAWN: CV	APPROVED: BF	REVISION: 1	

Palmer™
74 Berkeley Street
Toronto, Ontario
M5A 2W7

Drawings

LEGEND

- Phase Two Property
- Phase One Study Area
- Watercourse[1]

1. LIO/MNRF

Key Map

0 10 20 40 60 80 100
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:3,300
Page Size: Letter (8.5 x 11 inches)

Drawn: CV
Checked: BF
Date: Jul 13, 2022

NORTH

Source Notes:
Imagery (2020) provided by Peel Region map service.
Contains information licensed under the Open Government Licence – Ontario.

CLIENT
Edenshaw SSR Developments Limited

PROJECT
49 South Service Road

TITLE
Site Location Map

Palmer™

REF. NO. 2204701-MR-201-A

Drawing 1

Document Path: G:\Shared drives\Projects 2022\22047 - Edenshaw Developments\2204701 - Edenshaw - 49 S. Service Rd\GIS\1_Workspace\Task 2 - ESA Phase Two Figures\2204701_Dr1-1_Site Location Map.mxd

LEGEND

- Monitoring Well Location (Palmer, 2022)
- Monitoring Well Location (GHD, 2020)
- Borehole Location (GHD, 2020)
- Previously Installed Monitoring Well Location
- Phase One Property
- Inferred Ground Water Flow Direction
- Gas Utility
- Water Utility
- Electrical Utility
- Bell Telephone

0 5 10 15 20 25
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:600
Page Size: Letter (8.5 x 11 inches)

Drawn: CV
Checked: BF
Date: Oct 7, 2022

NORTH

Source Notes:
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CLIENT
Edenshaw SSR Developments Limited

PROJECT
49 South Service Road

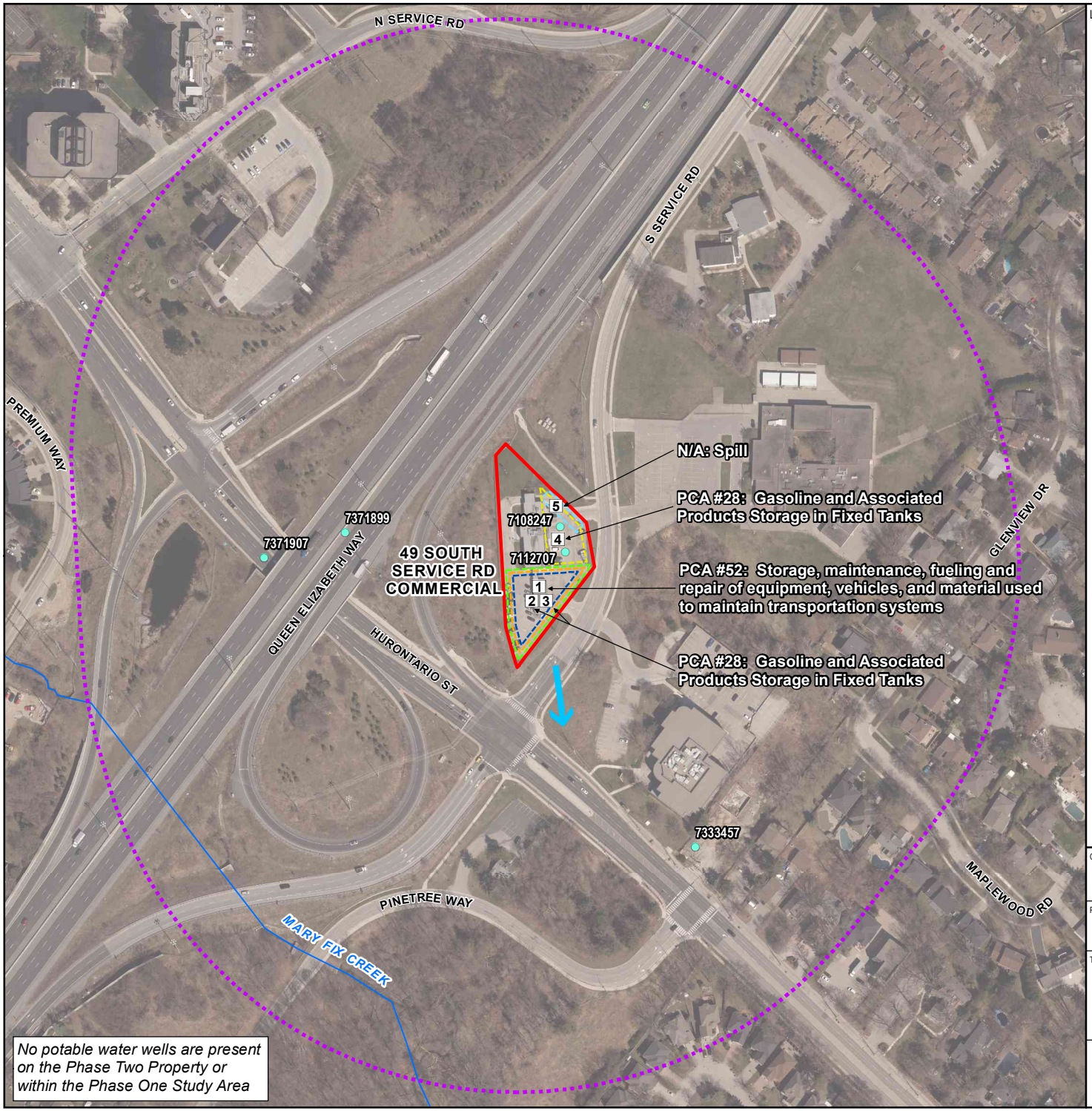
TITLE
Borehole Location Plan

Palmer™

REF. NO. 2204701-MR -202-A

Drawing 2

Document Path: G:\Shared drives\Projects 2022\22047 - Edenshaw Development s\2204701 - Edenshaw - 49 S. Service Rd\GIS\1_Workspace\Task 2 - ESA Phase Two Figures\2204701_Dr2 - 1_Borehole Location Plan.



LEGEND

- Phase Two Property
- Phase One Study Area
- Watercourse[1]
- Regionally Inferred Ground Water Flow Direction
- Water Well Record[2]
- 5 PCA of Concern (On-site)
- APEC 1: Auto Service Garage
- APEC 2: Historic Above-ground Storage Tank (AST)
- APEC 3: Current Diesel Fuel Back-up Generator with AST
- APEC 4: Historic Under-ground Storage Tank (UST)
- APEC 5: Historic Oily Water Spill

1. LIO/MNRF
2. MECP

0 10 20 40 60 80 100
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:3,300
Page Size: Letter (8.5 x 11 inches)

Drawn: CV
Checked: BF
Date: Oct 7, 2022

NORTH

Source Notes:
Imagery (2020) provided by Peel Region map service.
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CLIENT
Edenshaw SSR Developments Limited

PROJECT
49 South Service Road

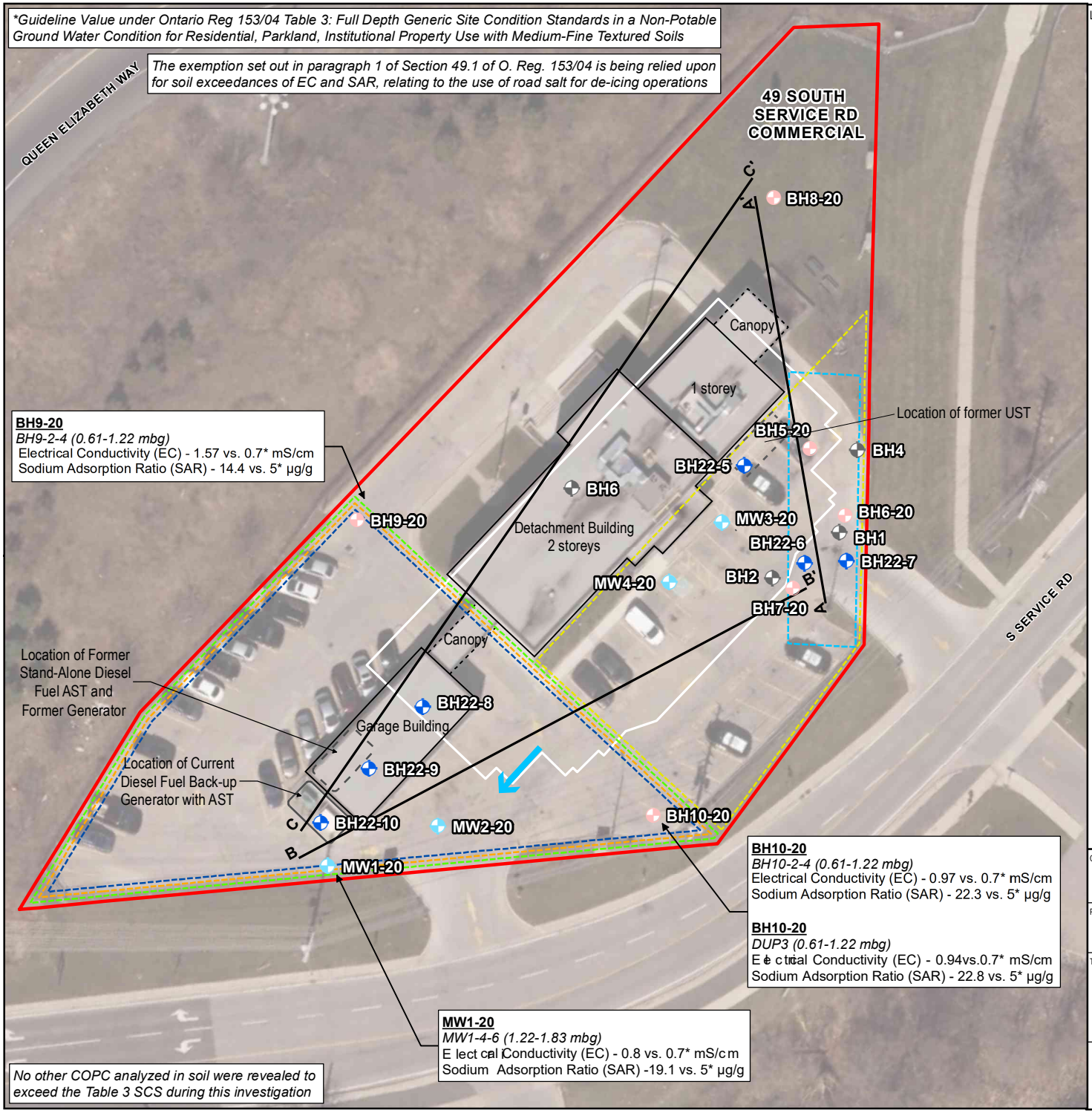
TITLE
On-Site and Off-Site Areas of Potential Environmental Concern

Palmer™

REF. NO. 2204701-MR-203-A

Drawing 3

Document Path: G:\Shared drives\Projects 2022\22047 - Edenshaw Developments\2204701 - Edenshaw - 49 S. Service Rd\GIS\1_Workspace\Task 2 - ESA Phase Two Figures\2204701_Dr3-1_Areas of Potential Environmental Concern.mxd



LEGEND

- Monitoring Well Location (Palmer, 2022)
- Monitoring Well Location (GHD, 2020)
- Borehole Location (GHD, 2020)
- Previously Installed Monitoring Well Location
- Phase One Property
- Proposed Building
- Cross Section Location
- Inferred Ground Water Flow Direction
- APEC 1: Auto Service Garage
- APEC 2: Historic Above-ground Storage Tank (AST)
- APEC 3: Current Diesel Fuel Back-up Generator with AST
- APEC 4: Historic Under-ground Storage Tank (UST)
- APEC 5: Historic Oily Water Spill

0 5 10 15 20 25
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:600
Page Size: Letter (8.5 x 11 inches)

Drawn: CV
Checked: BF
Date: Oct 7, 2022

NORTH

Source Notes:
Imagery (2020) provided by Peel Region map service.
Contains information licensed under the Open Government Licence – Ontario.

CLIENT
Edenshaw SSR Developments Limited

PROJECT
49 South Service Road

TITLE
Impacted Locations (Soil)

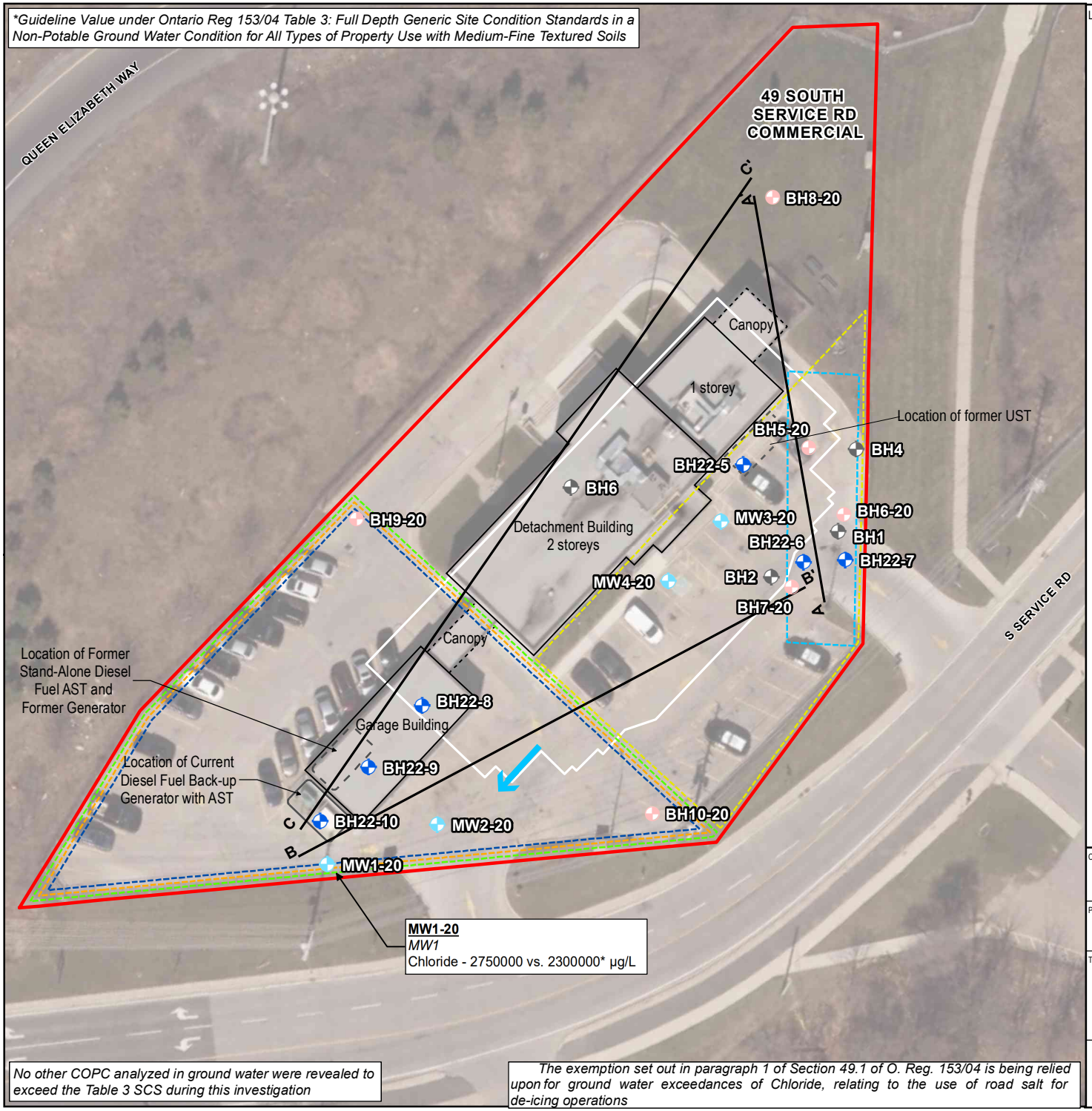
Palmer

REF. NO. 2204701-MR-204-A

Drawing 4

Document Path: G:\Shared drives\Projects 2022\22047 - Edenshaw Developments\2204701 - Edenshaw - 49 S. Service Rd\GIS\1_Workspace\Task 2 - ESA Phase Two Figures\2204701_Dr4-1_Impacted Locat

*Guideline Value under Ontario Reg 153/04 Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition for All Types of Property Use with Medium-Fine Textured Soils



LEGEND

- Monitoring Well Location (Palmer, 2022)
- Monitoring Well Location (GHD, 2020)
- Borehole Location (GHD, 2020)
- Previously Installed Monitoring Well Location
- Phase One Property
- Proposed Building
- Cross Section Location
- Inferred Ground Water Flow Direction
- APEC 1: Auto Service Garage
- APEC 2: Historic Above-ground Storage Tank (AST)
- APEC 3: Current Diesel Fuel Back-up Generator with AST
- APEC 4: Historic Under-ground Storage Tank (UST)
- APEC 5: Historic Oily Water Spill

0 5 10 15 20 25
METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

Scale: 1:600
Page Size: Letter (8.5 x 11 inches)

Drawn: CV
Checked: BF
Date: Oct 7, 2022

NORTH

Source Notes:
Imagery (2020) provided by Peel Region map service.

CLIENT
Edenshaw SSR Developments Limited

PROJECT
49 South Service Road

TITLE
Impacted Locations (Ground Water)

Palmer

REF. NO. 2204701-MR-205-A

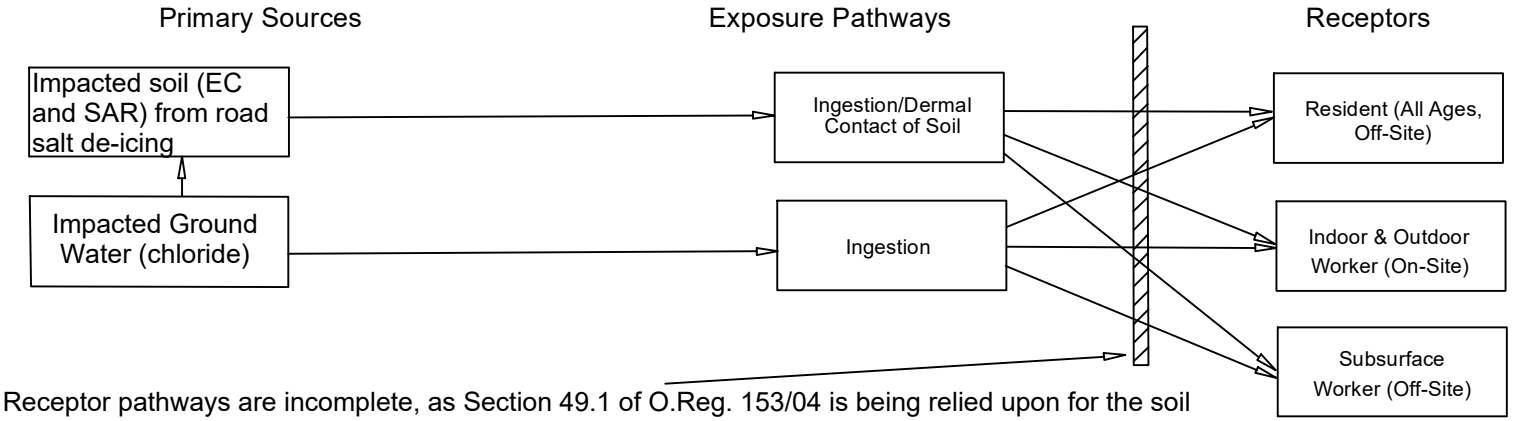
Drawing 5

No other COPC analyzed in ground water were revealed to exceed the Table 3 SCS during this investigation

The exemption set out in paragraph 1 of Section 49.1 of O. Reg. 153/04 is being relied upon for ground water exceedances of Chloride, relating to the use of road salt for de-icing operations

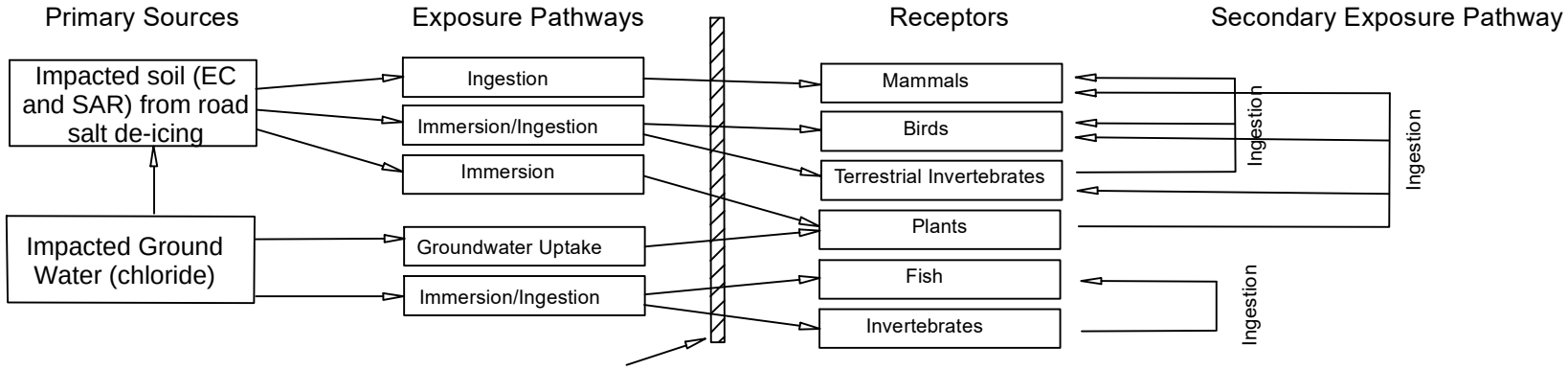
Document Path: G:\Shared drives\Projects 2022\2204701 - Edenshaw Developments\2204701 - Edenshaw - 49 S. Service Rd\GIS\1_Workspace\Task 2 - ESA Phase Two Figures\2204701_Dr 5-1_Impacted Locat

Human Receptors and Exposure Pathways



Receptor pathways are incomplete, as Section 49.1 of O.Reg. 153/04 is being relied upon for the soil exceedances of EC and SAR, and ground water exceedances of chloride, relating to the use of road salt for de-icing operations.

Ecological Receptors and Exposure Pathways



Receptor pathways are incomplete, as Section 49.1 of O.Reg. 153/04 is being relied upon for the soil exceedances of EC and SAR, and ground water exceedances of chloride, relating to the use of road salt for de-icing operations.

CLIENT:	Edenshaw SSR Developments Limited
PROJECT:	49 South Service Road
PREPARED BY:	Palmer
PROJECT NO.	2204701
DATE:	Jul 13, 2022
DRAWN:	CV
CHECKED:	BF

TITLE:

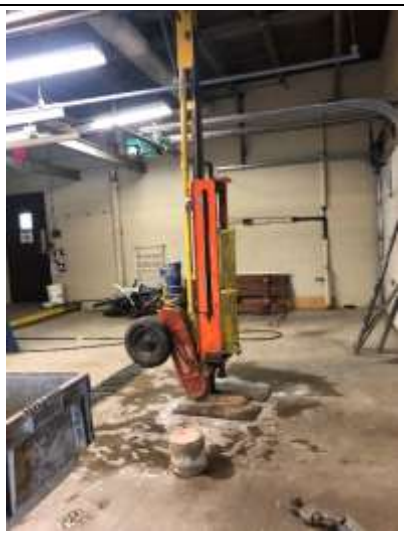
Conceptual Model for Human and Ecological Receptors

Drawing 6

Photographs

Photograph Log
Phase Two Environmental Site Assessment (ESA)
49 South Service Road, Mississauga, ON
Project No.: 2204701

	
Photograph 1 Photo depicts damaged monitoring well (MW1-20) from previous Phase Two study.	**Photograph 2** Photo depicts previously installed monitoring well with no casing.

	
Photograph 3 Photo depicts soil core sample from BH22-7.	**Photograph 4** Photo depicts drilling occurring in the garage building.

Appendix A – General
A1 – Sampling and Analysis Plan

Site: 49 South Service Road, Mississauga, ON

Project #: 2204701

Location ID	Media	Sample No.	Approximate Depth (m)	Date of Sample Collection	Date of Analysis	Chemical Analyses	Purpose and Justification
MW1-20	Soil	MW1-4-6	1.22-1.83	December 7, 2020	December 10 and 16, 2020	PAHs, Metals and Inorganics	Worst case soil sample. Collected to verify and/or refute APEC 2 and 3 from previous study.
		MW1-8-10	2.44-3.05		December 14 and 16, 2020	VOCs, PHCs, BTEX	Worst case soil sample. Collected to verify and/or refute APEC 3 and 5 from previous study.
		DUP4	1.22-1.83		December 16, 2020	PAHs	QA/QC. Duplicate sample of MW1-4-6.
	Ground Water	MW1	N/A	December 10, 2020	December 15, 17 and 18, 2020	VOCs, Metals and Inorganics, PHCs, BTEX	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 2, 3 and 5 from previous study.
MW2-20	Soil	MW2-2-4	0.61-1.22	December 7, 2020	December 16, 2020	OC Pesticides	Worst case soil sample. Collected to verify and/or refute APEC 1 from previous study.
		MW2-4-6	1.22-1.83		December 14 and 16, 2020	VOCs, PHC, BTEX	Worst case soil sample. Collected to verify and/or refute APEC 3 and 5 from previous study.
	Ground Water	MW2	N/A	December 10, 2020	December 17 and 18, 2020	VOCs, PHCs, BTEX	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 3 and 5 from previous study.
		MW2-20		May 27, 2022	May 31, June 1 and 3, 2022	PHCs, BTEX, VOCs, Metals	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 1 and 3.
		MW2-20D			May 31, 2022	Metals	QA/QC. Duplicate sample of MW2-20.
MW3-20	Soil	MW3-2-4	0.61-1.22	December 7, 2020	December 10 and 16, 2020	PAHs, Metals and Inorganics	Worst case soil sample. Collected to verify and/or refute APEC 2 from previous study.

		MW3-6-8	1.83-2.44		December 14 and 16, 2020	VOCs, PHCs, BTEX	Worst case soil sample. Collected to verify and/or refute APEC 4 from previous study.
	Ground Water	MW3	N/A	December 10, 2020	December 15, 17 and 18, 2020	VOCs, Metals and Inorganics, PHCs, BTEX	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 2 and 4 from previous study.
		DUP			December 15, 17 and 18, 2020	VOCs, Metals and Inorganics, PHCs, BTEX	QA/QC. Duplicate sample of MW3.
		MW3-20		May 27, 2022	June 1 and 3, 2022	PHCs, BTEX	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 4 and 5.
MW4-20	Soil	MW4-6-8	1.83-2.44	December 7, 2020	December 14 and 16, 2020	VOCs, PHCs, BTEX	Worst case soil sample. Collected to verify and/or refute APEC 4 from previous study.
	Ground Water	MW4	N/A	December 10, 2020	December 17 and 18, 2020	VOCs, PHCs, BTEX	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 4 from previous study.
		MW4-20		May 27, 2022	June 1 and 3, 2022	PHCs, BTEX	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 4 and 5.
BH5-20	Soil	BH5-6-8	1.83-2.44	December 7, 2020	December 14 and 16, 2020	VOCs, PHCs, BTEX	Worst case soil sample. Collected to verify and/or refute APEC 4 from previous study.
BH6-20	Soil	BH6-8-10	2.44-3.05	December 7, 2020	December 14 and 16, 2020	VOCs, PHCs, BTEX	Worst case soil sample. Collected to verify and/or refute APEC 4 from previous study.
BH7-20	Soil	BH7-4-6	1.22-1.83	December 7, 2020	December 14 and 16, 2020	VOCs, PHCs, BTEX	Worst case soil sample. Collected to verify and/or refute APEC 4 from previous study.
BH8-20	Soil	BH8-0-2	0.00-0.61	December 7, 2020	December 16, 2020	OC Pesticides	Worst case soil sample. Collected to verify and/or refute APEC 1 from previous study.
		BH8-4-6	1.22-1.83		December 10, 14 and 16, 2020	VOCs, Metals and Inorganics, PHCs, BTEX	Worst case soil sample. Collected to verify and/or refute APEC 2 and 4 from previous study.

		DUP1	0.00-0.61		December 16, 2020	OC Pesticides	QA/QC. Duplicate sample of BH8-0-2.
BH9-20	Soil	BH9-2-4	0.61-1.22	December 7, 2020	December 10 and 16, 2020	PAHs, Metals and Inorganics, OC Pesticides	Worst case soil sample. Collected to verify and/or refute APEC 1 and 2 from previous study.
		BH9-4-6	1.22-1.83		December 14 and 16, 2020	VOCs, PHCs, BTEX	Worst case soil sample. Collected to verify and/or refute APEC 2, 3 and 5 from previous study.
		DUP2	1.22-1.83		December 14 and 16, 2020	VOCs, PHCs, BTEX	QA/QC. Duplicate sample of BH9-4-6.
BH10-20	Soil	BH10-2-4	0.61-1.22	December 7, 2020	December 10 and 16, 2020	Metals and Inorganics, OC Pesticides	Worst case soil sample. Collected to verify and/or refute APEC 1 and 2 from previous study.
		BH10-6-8	1.83-2.44		December 14 and 16, 2020	VOCs, PHCs, BTEX	Worst case soil sample. Collected to verify and/or refute APEC 2, 3 and 5 from previous study.
		DUP3	0.61-1.22		December 10, 2020	Metals and Inorganics	QA/QC. Duplicate sample of BH10-2-4.
BH1	Ground Water	BH1	N/A	December 10, 2020	December 15, 17 and 18, 2020	VOCs, Metals and Inorganics, PHCs, BTEX	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 2 and 4 from previous study.
		BH1		May 27, 2022	June 1 and 3, 2022	PHCs, BTEX	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 4 and 5.
BH2	Ground Water	BH2	N/A	December 10, 2020	December 17 and 18, 2020	VOCs, PHCs, BTEX	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 4 from previous study.
BH4	Ground Water	BH4	N/A	May 27, 2022	June 1 and 3, 2022	PHCs, BTEX	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 4 and 5.
		BH4D			June 1 and 3, 2022	PHCs, BTEX	QA/QC. Duplicate sample of BH4.
BH6	Ground Water	BH6	N/A	June 3, 2022	June 7 and 9, 2022	PHCs, BTEX	Characterize ground water conditions from potential contamination sources.

							Collected to verify and/or refute APEC 4.
BH22-5	Soil	22-5-6	3.81-4.57	June 1, 2022	June 6, 7 and 8 2022	PHCs, BTEX	Worst case soil sample. Collected to verify and/or refute APEC 4 and 5.
		22-5-6D	3.81-4.57		June 6, 7 and 8 2022	PHCs, BTEX	QA/QC. Duplicate sample of 22-5-6.
	Ground Water	22-5	N/A	June 2, 2022	June 9 and 10, 2022	PHCs, BTEX	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 4 and 5.
BH22-6	Soil	22-6-2B	1.22-1.52	June 1, 2022	June 6, 7 and 8 2022	PHCs, BTEX	Worst case soil sample. Collected to verify and/or refute APEC 4 and 5.
		22-6-5	2.29-3.05	June 1, 2022	June 7, 2022	pH	Characterize soil conditions across Phase Two Property.
	Ground Water	22-6	N/A	June 2, 2022	June 9 and 10, 2022	PHCs, BTEX	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 4 and 5.
BH22-7	Soil	22-7-5B	3.43-3.81	June 1, 2022	June 6, 7 and 8 2022	PHCs, BTEX	Worst case soil sample. Collected to verify and/or refute APEC 4 and 5.
	Ground Water	22-7	N/A	June 2, 2022	June 9 and 10, 2022	PHCs, BTEX	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 4 and 5.
BH22-8	Soil	22-8-6	3.81-4.57	June 1, 2022	June 6, 7 and 8 2022	PHCs, BTEX, VOCs, Metals	Worst case soil sample. Collected to verify and/or refute APEC 1 and 2.
		22-8-6D			June 7, 2022	Metals	QA/QC. Duplicate sample of 22-8-6.
	Ground Water	22-8	N/A	June 2, 2022	June 6, 7, 9 and 10, 2022	PHCs, BTEX, VOCs, Metals	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 1 and 2.
BH22-9	Soil	22-9-3	1.52-2.29	June 1, 2022	June 6, 7 and 8 2022	PHCs, BTEX, VOCs, Metals,	Worst case soil sample. Collected to verify and/or refute APEC 1 and 2.
		22-9-3D			June 6, 7 and 8 2022	PHCs, BTEX, VOCs,	QA/QC. Duplicate sample of 22-9-3.

	Ground Water	22-9	N/A	June 2, 2022	June 6, 7, 9 and 10, 2022	PHCs, BTEX, VOCs, Metals	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 1 and 2.
BH22-10	Soil	22-10-7	4.57-5.33	June 1, 2022	June 6, 7 and 8, 2022	PHCs, BTEX, VOCs, Metals	Worst case soil sample. Collected to verify and/or refute APEC 1, 2 and 3.
		22-10-2	0.76-1.14		June 3, 2022	pH	Characterize soil conditions across Phase Two Property.
		22-10-2D			June 3, 2022	pH	QA/QC. Duplicate sample of 22-10-2.
	Ground Water	22-10	N/A	June 2, 2022	June 6, 7, 9 and 10, 2022	PHCs, BTEX, VOCs, Metals	Characterize ground water conditions from potential contamination sources. Collected to verify and/or refute APEC 1, 2 and 3.
		22-10D			June 6, 9 and 10, 2022	PHCs, BTEX, VOCs	QA/QC. Duplicate sample of 22-10.
22-TCLP	Soil	22-TCLP	N/A	June 1, 2022	June 6, 7 and 8, 2022	TCLP (Metals and Inorganics, sVOCs, VOCs, PCBs)	Characterize soil conditions across Phase Two Property.
TCLP	Soil	TCLP	N/A	December 7, 2020	December 15, 2020	TCLP (VOCs, BaP, Metals, General Chemistry)	Characterize soil conditions across Phase Two Property.

Appendix A – General
A2 – Finalized Field Logs

LOG OF BOREHOLE BH22-5

PROJECT: Phase Two ESA_49 S Service Road
REF. NO.: 2204701
CLIENT: Edenshaw SSR Developments Limited
Method: Solid Stem Auger
ENCL NO.: 1
PROJECT LOCATION: City of Mississauga, ON
Diameter: 150 mm
ORIGINATED BY SB & BF
DATUM: Geodetic
Date: Jun-22-2001
BH LOCATION:
CHECKED BY KN

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLE REMARKS	Head Space Combustible Vapor Reading (ppm)	LABORATORY ANALYSIS AND REMARKS	GROUND WATER CONDITIONS	WELL CONSTRUCTION DETAILS
	Ground Surface					100 200 300 400 500			
0.0	**ASPHALT:** 100mm								Concrete
0.2	**FILL:** brown silty sand, trace gravel, fill		1	SS					
			2	SS					Bentonite
			3	SS					
2.3	**FILL:** brown silty sand, trace gravel, wet, fill		4	SS					W. L. 2.3 mBGL Jun 02, 2022
			5	SS					Sand
3.8	**SILTY SAND:** greyish brown,silty sand, wet , native		6	SS			Analysis: PHC/BTEX+ duplicate		Screen
			7	SS					
5.3	**END OF BOREHOLE:** Notes: 1.Upon completion of drilling, one 50mm diameter monitoring well was installed in the borehole 2.Borehole was open upon completion of drilling 3.Water Level Readings: Date: June 2, 2022 W.L. Depth: 2.26 mBGS								

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

Palmer

LOG OF BOREHOLE BH22-6

PROJECT: Phase Two ESA_49 S Service Road
REF. NO.: 2204701
CLIENT: Edenshaw SSR Developments Limited
Method: Solid Stem Auger
ENCL NO.: 2
PROJECT LOCATION: City of Mississauga, ON
Diameter: 150 mm
ORIGINATED BY SB & BF
DATUM: Geodetic
Date: Jun-22-2001
BH LOCATION:
CHECKED BY KN

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLE REMARKS	Head Space Combustible Vapor Reading (ppm)	LABORATORY ANALYSIS AND REMARKS	GROUND WATER CONDITIONS	WELL CONSTRUCTION DETAILS
	Ground Surface					100 200 300 400 500			
0.0	**ASPHALT:** 76 mm								Concrete
0.0	**FILL:** grey sandy gravel, fill								
	FILL: brown silty sand, trace gravel, fill		1	SS					
0.8	**FILL:** brown silty sand, trace gravel, trace clay, fill		2	SS					Bentonite
			3	SS					
1.5	**FILL:** brown silty sand, trace gravel, wet, fill		4	SS					
2.3	**FILL:** brown,silty sand, wet, fill		5	SS					W. L. 2.7 mBGL Jun 02, 2022
2.6	**SILTY SAND:** greyish brown,silty sand, wet, native		6	SS			Analysis: PHC/BTEX, PAH, Metals, EC, SAR		Sand
			7	SS					Screen
			8	SS					
5.3	**END OF BOREHOLE:**								

Notes:
1.Upon completion of drilling, one 50mm diameter monitoring well was installed in the borehole
2.Borehole was open upon completion of drilling
3.Water Level Readings:
Date: June 2, 2022
W.L. Depth: 2.71 mBGS

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

Palmer

LOG OF BOREHOLE BH22-7

PROJECT: Phase Two ESA_49 S Service Road
CLIENT: Edenshaw SSR Developments Limited
PROJECT LOCATION: City of Mississauga, ON
DATUM: Geodetic
BH LOCATION:

Method: Solid Stem Auger
Diameter: 150 mm
Date: Jun-22-2001

REF. NO.: 2204701
ENCL NO.: 3
ORIGINATED BY SB & BF
CHECKED BY KN

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLE REMARKS	Head Space Combustible Vapor Reading (ppm)	LABORATORY ANALYSIS AND REMARKS	GROUND WATER CONDITIONS	WELL CONSTRUCTION DETAILS
	Ground Surface					100 200 300 400 500			
0.0	**ASPHALT:** 100mm								Concrete
0.2	**FILL:** brown silty sand, trace gravel, fill		1	SS					
1			2	SS					Bentonite
			3	SS					
1.8	**FILL:** black silty sand, fill		4	SS					
2									
2.3	**FILL:** grey silty sand, trace clay, fill		5	SS					W. L. 2.6 mBGL Jun 02, 2022
2.7	**FILL:** black silty clay, trace roots, fill		6	SS					
3									
3.1	**FILL:** grey silty clay, fill		7	SS			Analysis: PHC/BTEX		
3.4	**FILL:** black sandy silt, fill		8	SS	black staining and slight odour				Sand
3.8	**SANDY SILT:** greyish brown, sandy silt, trace clay, native		9	SS					Screen
4									
			10	SS					
5									
5.3	**END OF BOREHOLE:** Notes: 1.Upon completion of drilling, one 50mm diameter monitoring well was installed in the borehole 2.Borehole was open upon completion of drilling 3.Water Level Readings: Date: June 2, 2022 W.L. Depth: 2.59 mBGS								

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

Palmer

LOG OF BOREHOLE BH22-8

PROJECT: Phase Two ESA_49 S Service Road
REF. NO.: 2204701
CLIENT: Edenshaw SSR Developments Limited
Method: Solid Stem Auger
ENCL NO.: 4
PROJECT LOCATION: City of Mississauga, ON
Diameter: 150 mm
ORIGINATED BY SB & BF
DATUM: Geodetic
Date: Jun-22-2001
BH LOCATION:
CHECKED BY KN

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLE REMARKS	Head Space Combustible Vapor Reading (ppm)	LABORATORY ANALYSIS AND REMARKS	GROUND WATER CONDITIONS	WELL CONSTRUCTION DETAILS
	Ground Surface					100 200 300 400 500			
0.0	**CONCRETE:**								Concrete
0.2	**FILL:** brown silty sand, trace gravel, fill		1	SS					Bentonite
1			2	SS					
2			3	SS					
2.3	**FILL:** brown silty sand, trace gravel, boulder fragments, fill		4	SS					W. L. 2.3 mBGL Jun 02, 2022
3									Sand
3.1	**FILL:** brown silty sand, trace gravel, fill		5	SS					Screen
3.8	**SILTY SAND:** brown,silty sand, wet , native		6	SS			Analysis: PHC/VOC + duplicate, metals		
4									
4.6	**END OF BOREHOLE:** Notes: 1.Upon completion of drilling, one 50mm diameter monitoring well was installed in the borehole 2.Borehole was open upon completion of drilling 3.Water Level Readings: Date: June 2, 2022 W.L. Depth: 2.26 mBGS								

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

Palmer

LOG OF BOREHOLE BH22-9

PROJECT: Phase Two ESA_49 S Service Road
CLIENT: Edenshaw SSR Developments Limited
PROJECT LOCATION: City of Mississauga, ON
DATUM: Geodetic
BH LOCATION:

Method: Solid Stem Auger
Diameter: 150 mm
Date: Jun-22-2001

REF. NO.: 2204701
ENCL NO.: 5
ORIGINATED BY SB & BF
CHECKED BY KN

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLE REMARKS	Head Space Combustible Vapor Reading (ppm)	LABORATORY ANALYSIS AND REMARKS	GROUND WATER CONDITIONS	WELL CONSTRUCTION DETAILS
	Ground Surface					100 200 300 400 500			
0.0	**CONCRETE:**								Concrete
0.2	**FILL:** brown silty sand, trace gravel, fill		1	SS					
0.8	**FILL:** brown silty sand, trace gravel, boulder fragments, fill		2	SS					Bentonite
1.5	**FILL:** brown silty sand, trace gravel, fill		3	SS			Analysis: PHC/VOC, metals+duplicate		
2.3	**SILTY SAND:** brown,silty sand, wet , native		4	SS					Sand
			5	SS					Screen
			6	SS					W. L. 3.3 mBGL Jun 02, 2022
4.6	**END OF BOREHOLE:** Notes: 1.Upon completion of drilling, one 50mm diameter monitoring well was installed in the borehole 2.Borehole was open upon completion of drilling 3.Water Level Readings: Date: June 2, 2022 W.L. Depth: 3.32 mBGS								

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

Palmer

LOG OF BOREHOLE BH22-10

PROJECT: Phase Two ESA_49 S Service Road
REF. NO.: 2204701
CLIENT: Edenshaw SSR Developments Limited
Method: Solid Stem Auger
ENCL NO.: 6
PROJECT LOCATION: City of Mississauga, ON
Diameter: 150 mm
ORIGINATED BY SB & BF
DATUM: Geodetic
Date: Jun-22-2001
BH LOCATION:
CHECKED BY KN

(m) ELEV / DEPTH	DESCRIPTION	STRATA PLOT	SAMPLES NUMBER	SAMPLES TYPE	SAMPLE REMARKS	Head Space Combustible Vapor Reading (ppm)	LABORATORY ANALYSIS AND REMARKS	GROUND WATER CONDITIONS	WELL CONSTRUCTION DETAILS
	Ground Surface					100 200 300 400 500			
0.0	**ASPHALT:** 100mm								Concrete
0.0	**FILL:** brown silty sand, trace gravel, fill		1	SS					
0.8	**FILL:** brown silty sand, trace gravel, trace clay, fill		2	SS			Analysis: pH+duplicate		
			3	SS					Bentonite
1.5	**FILL:** golden brown silty sand, trace gravel, fill		4	SS					
2.3	**FILL:** brown silty sand, trace clay, moist, fill		5	SS			Analysis: Grain Size		
									W. L. 2.9 mBGL Jun 02, 2022
3.1	**FILL:** greyish brown,silty sand, wet , native		6	SS					Sand
			7	SS					Screen
			8	SS			Analysis: PHC/VOC, metals		
5.3	**END OF BOREHOLE:**								

Notes:
1.Upon completion of drilling, one 50mm diameter monitoring well was installed in the borehole
2.Borehole was open upon completion of drilling
3.Water Level Readings:
Date: June 2, 2022
W.L. Depth: 2.89 mBGS

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

Appendix A – General

A3 – Certificates of Analysis or Analytical Reports from Laboratories

PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
ATTN: Bailey Fleet
74 Berkeley Street
Toronto ON M5V 1E3

Date Received: 27-MAY-22
Report Date: 03-JUN-22 13:58 (MT)
Version: FINAL

Client Phone: 647-795-8153

Certificate of Analysis

Lab Work Order #: L2710170

Project P.O. #: 2204701
Job Reference: 2204701
C of C Numbers: 20-951780
Legal Site Desc:

KARANPARTAP SINGH
Account Manager

Summary of Guideline Exceedances

ALS ID	Client ID	Grouping	Analyte	Result	Guideline Limit	Unit
Guideline						
Ontario Regulation 153/04 - April 15, 2011 Standards - T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)						
(No parameter exceedances)						
Ontario Regulation 153/04 - April 15, 2011 Standards - T3-Non-Potable Ground Water-All Types of Property Uses (Fine)						
(No parameter exceedances)						

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

ANALYTICAL REPORT

Dissolved Metals - WATER

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID L2710170-4 / Sample Date 27-MAY-22 / Sample ID MW2-20	Lab ID L2710170-6 / Sample Date 27-MAY-22 / Sample ID MW2-20D
Dissolved Metals Filtration Location		-	-	FIELD	FIELD
Antimony (Sb)-Dissolved	ug/L	20000	20000	<1.0 DLHC	<1.0 DLHC
Arsenic (As)-Dissolved	ug/L	1900	1900	<1.0 DLHC	<1.0 DLHC
Barium (Ba)-Dissolved	ug/L	29000	29000	43.0 DLHC	41.3 DLHC
Beryllium (Be)-Dissolved	ug/L	67	67	<1.0 DLHC	<1.0 DLHC
Boron (B)-Dissolved	ug/L	45000	45000	<100 DLHC	<100 DLHC
Cadmium (Cd)-Dissolved	ug/L	2.7	2.7	<0.050 DLHC	<0.050 DLHC
Chromium (Cr)-Dissolved	ug/L	810	810	<5.0 DLHC	<5.0 DLHC
Cobalt (Co)-Dissolved	ug/L	66	66	<1.0 DLHC	<1.0 DLHC
Copper (Cu)-Dissolved	ug/L	87	87	<2.0 DLHC	<2.0 DLHC
Lead (Pb)-Dissolved	ug/L	25	25	<0.50 DLHC	<0.50 DLHC
Molybdenum (Mo)-Dissolved	ug/L	9200	9200	<0.50 DLHC	<0.50 DLHC
Nickel (Ni)-Dissolved	ug/L	490	490	<5.0 DLHC	<5.0 DLHC
Selenium (Se)-Dissolved	ug/L	63	63	0.80 DLHC	0.95 DLHC
Silver (Ag)-Dissolved	ug/L	1.5	1.5	<0.50 DLHC	<0.50 DLHC
Sodium (Na)-Dissolved	ug/L	23000002300000		1940000 DLHC	1920000 DLHC
Thallium (Tl)-Dissolved	ug/L	510	510	<0.10 DLHC	<0.10 DLHC
Uranium (U)-Dissolved	ug/L	420	420	1.33 DLHC	1.28 DLHC
Vanadium (V)-Dissolved	ug/L	250	250	<5.0 DLHC	<5.0 DLHC
Zinc (Zn)-Dissolved	ug/L	1100	1100	<10 DLHC	<10 DLHC

Guide Limit #1: T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)
Guide Limit #2: T3-Non-Potable Ground Water-All Types of Property Uses (Fine)

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 - WATER

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID	L2710170-1	L2710170-2	L2710170-3	L2710170-4	L2710170-5	L2710170-7	L2710170-8
				Sample Date	27-MAY-22	27-MAY-22	27-MAY-22	27-MAY-22	27-MAY-22	27-MAY-22	27-MAY-22
				Sample ID	BH1	BH4	BH4D	MW2-20	MW3-20	MW4-20	TRIP BLANK
Acetone	ug/L	130000	130000					<30			<30
Benzene	ug/L	44	430		<0.50 OWP	<0.50 OWP	<0.50 OWP	<0.50	<0.50	<0.50 OWP	<0.50
Bromodichloromethane	ug/L	85000	85000					<2.0			<2.0
Bromoform	ug/L	380	770					<5.0			<5.0
Bromomethane	ug/L	5.6	56					<0.50			<0.50
Carbon tetrachloride	ug/L	0.79	8.4					<0.20			<0.20
Chlorobenzene	ug/L	630	630					<0.50			<0.50
Dibromochloromethane	ug/L	82000	82000					<2.0			<2.0
Chloroform	ug/L	2.4	22					<1.0			<1.0
1,2-Dibromoethane	ug/L	0.25	0.83					<0.20			<0.20
1,2-Dichlorobenzene	ug/L	4600	9600					<0.50			<0.50
1,3-Dichlorobenzene	ug/L	9600	9600					<0.50			<0.50
1,4-Dichlorobenzene	ug/L	8	67					<0.50			<0.50
Dichlorodifluoromethane	ug/L	4400	4400					<2.0			<2.0
1,1-Dichloroethane	ug/L	320	3100					<0.50			<0.50
1,2-Dichloroethane	ug/L	1.6	12					<0.50			<0.50
1,1-Dichloroethylene	ug/L	1.6	17					<0.50			<0.50
cis-1,2-Dichloroethylene	ug/L	1.6	17					<0.50			<0.50
trans-1,2-Dichloroethylene	ug/L	1.6	17					<0.50			<0.50
Methylene Chloride	ug/L	610	5500					<5.0			<5.0
1,2-Dichloropropane	ug/L	16	140					<0.50			<0.50
cis-1,3-Dichloropropene	ug/L	-	-					<0.30			<0.30
trans-1,3-Dichloropropene	ug/L	-	-					<0.30			<0.30
1,3-Dichloropropene (cis & trans)	ug/L	5.2	45					<0.50			<0.50
Ethylbenzene	ug/L	2300	2300		<0.50 OWP	<0.50 OWP	<0.50 OWP	<0.50	<0.50	<0.50 OWP	<0.50
n-Hexane	ug/L	51	520					<0.50			<0.50
Methyl Ethyl Ketone	ug/L	470000	1500000					<20			<20
Methyl Isobutyl Ketone	ug/L	140000	580000					<20			<20
MTBE	ug/L	190	1400					<2.0			<2.0
Styrene	ug/L	1300	9100					<0.50			<0.50

Guide Limit #1: T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)
Guide Limit #2: T3-Non-Potable Ground Water-All Types of Property Uses (Fine)

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

Volatile Organic Compounds - WATER

		Lab ID	L2710170-1	L2710170-2	L2710170-3	L2710170-4	L2710170-5	L2710170-7	L2710170-8
		Sample Date	27-MAY-22	27-MAY-22	27-MAY-22	27-MAY-22	27-MAY-22	27-MAY-22	27-MAY-22
		Sample ID	BH1	BH4	BH4D	MW2-20	MW3-20	MW4-20	TRIP BLANK
		Guide Limits							
Analyte	Unit	#1	#2						
1,1,1,2-Tetrachloroethane	ug/L	3.3	28				<0.50			<0.50
1,1,2,2-Tetrachloroethane	ug/L	3.2	15				<0.50			<0.50
Tetrachloroethylene	ug/L	1.6	17				<0.50			<0.50
Toluene	ug/L	18000	18000	<0.50 OWP	<0.50 OWP	<0.50 OWP	<0.50	<0.50	<0.50 OWP	<0.50
1,1,1-Trichloroethane	ug/L	640	6700				<0.50			<0.50
1,1,2-Trichloroethane	ug/L	4.7	30				<0.50			<0.50
Trichloroethylene	ug/L	1.6	17				<0.50			<0.50
Trichlorofluoromethane	ug/L	2500	2500				<5.0			<5.0
Vinyl chloride	ug/L	0.5	1.7				<0.50			<0.50
o-Xylene	ug/L	-	-	<0.30 OWP	<0.30 OWP	<0.30 OWP	<0.30	<0.30	<0.30 OWP	<0.30
m+p-Xylenes	ug/L	-	-	<0.40 OWP	<0.40 OWP	<0.40 OWP	<0.40	<0.40	<0.40 OWP	<0.40
Xylenes (Total)	ug/L	4200	4200	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Surrogate: 4-Bromofluorobenzene	%	-	-	87.3	86.9	87.8	92.7	87.3	88.2	92.8
Surrogate: 1,4-Difluorobenzene	%	-	-	97.9	97.3	97.2	98.7	97.7	98.4	99.4

Guide Limit #1: T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)
Guide Limit #2: T3-Non-Potable Ground Water-All Types of Property Uses (Fine)

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

Hydrocarbons - WATER

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID	Sample Date	Sample ID				
				L2710170-1	L2710170-2	L2710170-3	L2710170-4	L2710170-5	L2710170-7
				27-MAY-22	27-MAY-22	27-MAY-22	27-MAY-22	27-MAY-22	27-MAY-22
				BH1	BH4	BH4D	MW2-20	MW3-20	MW4-20
F1 (C6-C10)	ug/L	750	750	<25 OWP	<25 OWP	<25 OWP	<25	<25	<25 OWP
F1-BTEX	ug/L	750	750	<25	<25	<25	<25	<25	<25
F2 (C10-C16)	ug/L	150	150	<100	<100	<100	<100	<100	<100
F3 (C16-C34)	ug/L	500	500	<250	<250	<250	<250	<250	<250
F4 (C34-C50)	ug/L	500	500	<250	<250	<250	<250	<250	<250
Total Hydrocarbons (C6-C50)	ug/L	-	-	<370	<370	<370	<370	<370	<370
Chrom. to baseline at nC50		-	-	YES	YES	YES	YES	YES	YES
Surrogate: 2-Bromobenzotrifluoride	%	-	-	84.9	82.8	83.7	85.6	83.5	82.4
Surrogate: 3,4-Dichlorotoluene	%	-	-	74.0	81.6	81.0	84.5	76.8	63.2

Guide Limit #1: T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)
Guide Limit #2: T3-Non-Potable Ground Water-All Types of Property Uses (Fine)

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
OWP	Organic water sample contained visible sediment (must be included as part of analysis). Measured concentrations of organic substances in water can be biased high due to presence of

Reference Information

sediment.

DLHC Detection Limit Raised: Dilution required due to high concentration of test analyte(s).

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
BTX-511-HS-WT	Water	BTEX by Headspace	SW846 8260 (511)

BTX is determined by analyzing 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).

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

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

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

Fraction F1 is determined by 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	Water	F2-F4-O.Reg 153/04 (July 2011)	EPA 3511/CCME Tier 1

Petroleum Hydrocarbons (F2-F4 fractions) are extracted from water using a hexane micro-extraction technique. Instrumental analysis is by GC-FID, as per the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Tier 1 Method, CCME, 2001.

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**
MET-D-UG/L-MS-WT	Water	Diss. Metals in Water by ICPMS (ug/L)	EPA 200.8

The metal constituents of a non-acidified sample that pass through a membrane filter prior to ICP/MS analysis.

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).

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

Liquid samples are analyzed by headspace 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 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	Water	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:

20-951780

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: L2710170 Report Date: 03-JUN-22

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTX-511-HS-WT	**Water**							
Batch R5793818								
WG3734915-4 DUP		**WG3734915-3**						
Benzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	03-JUN-22
Ethylbenzene		190	178		ug/L	6.5	30	03-JUN-22
m+p-Xylenes		649	612		ug/L	6.0	30	03-JUN-22
o-Xylene		42.7	41.4		ug/L	3.1	30	03-JUN-22
Toluene		<6.0	<5.5	RPD-NA	ug/L	N/A	30	03-JUN-22
WG3734915-1 LCS								
Benzene			97.4		%		70-130	03-JUN-22
Ethylbenzene			79.3		%		70-130	03-JUN-22
m+p-Xylenes			88.4		%		70-130	03-JUN-22
o-Xylene			82.4		%		70-130	03-JUN-22
Toluene			92.0		%		70-130	03-JUN-22
WG3734915-2 MB								
Benzene			<0.50		ug/L		0.5	03-JUN-22
Ethylbenzene			<0.50		ug/L		0.5	03-JUN-22
m+p-Xylenes			<0.40		ug/L		0.4	03-JUN-22
o-Xylene			<0.30		ug/L		0.3	03-JUN-22
Toluene			<0.50		ug/L		0.5	03-JUN-22
Surrogate: 1,4-Difluorobenzene			99.0		%		70-130	03-JUN-22
Surrogate: 4-Bromofluorobenzene			90.4		%		70-130	03-JUN-22
WG3734915-5 MS		**WG3734915-3**						
Benzene			73.7		%		50-140	03-JUN-22
Ethylbenzene			N/A	MS-B	%		-	03-JUN-22
m+p-Xylenes			N/A	MS-B	%		-	03-JUN-22
o-Xylene			86.8		%		50-140	03-JUN-22
Toluene			94.5		%		50-140	03-JUN-22
F1-HS-511-WT	**Water**							
Batch R5791463								
WG3733556-4 DUP		**WG3733556-3**						
F1 (C6-C10)		<25	<25	RPD-NA	ug/L	N/A	30	01-JUN-22
WG3733556-1 LCS								
F1 (C6-C10)			103.6		%		80-120	01-JUN-22
WG3733556-2 MB								
F1 (C6-C10)			<25		ug/L		25	01-JUN-22
Surrogate: 3,4-Dichlorotoluene			100.4		%		60-140	01-JUN-22
WG3733556-5 MS		**WG3733556-3**						

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-511-WT	**Water**							
Batch R5791463								
WG3733556-5 MS		**WG3733556-3**						
F1 (C6-C10)			84.6		%		60-140	01-JUN-22
Batch R5793818								
WG3734915-1 LCS								
F1 (C6-C10)			102.0		%		80-120	03-JUN-22
WG3734915-2 MB								
F1 (C6-C10)			<25		ug/L		25	03-JUN-22
Surrogate: 3,4-Dichlorotoluene			81.3		%		60-140	03-JUN-22
WG3734915-5 MS		**WG3734915-3**						
F1 (C6-C10)			N/A	MS-B	%		-	03-JUN-22
F2-F4-511-WT	**Water**							
Batch R5791147								
WG3732703-2 LCS								
F2 (C10-C16)			92.0		%		70-130	31-MAY-22
F3 (C16-C34)			106.6		%		70-130	31-MAY-22
F4 (C34-C50)			94.6		%		70-130	31-MAY-22
WG3732703-1 MB								
F2 (C10-C16)			<100		ug/L		100	31-MAY-22
F3 (C16-C34)			<250		ug/L		250	31-MAY-22
F4 (C34-C50)			<250		ug/L		250	31-MAY-22
Surrogate: 2-Bromobenzotrifluoride			76.0		%		60-140	31-MAY-22
MET-D-UG/L-MS-WT	**Water**							
Batch R5791056								
WG3733063-4 DUP		**WG3733063-3**						
Antimony (Sb)-Dissolved		<0.10	<0.10	RPD-NA	ug/L	N/A	20	31-MAY-22
Arsenic (As)-Dissolved		0.23	0.21		ug/L	8.0	20	31-MAY-22
Barium (Ba)-Dissolved		30.2	30.9		ug/L	2.2	20	31-MAY-22
Beryllium (Be)-Dissolved		<0.10	<0.10	RPD-NA	ug/L	N/A	20	31-MAY-22
Boron (B)-Dissolved		<10	<10	RPD-NA	ug/L	N/A	20	31-MAY-22
Cadmium (Cd)-Dissolved		<0.0050	<0.0050	RPD-NA	ug/L	N/A	20	31-MAY-22
Chromium (Cr)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	31-MAY-22
Cobalt (Co)-Dissolved		<0.10	<0.10	RPD-NA	ug/L	N/A	20	31-MAY-22
Copper (Cu)-Dissolved		0.51	0.47		ug/L	6.9	20	31-MAY-22
Lead (Pb)-Dissolved		<0.050	<0.050	RPD-NA	ug/L	N/A	20	31-MAY-22
Molybdenum (Mo)-Dissolved		0.076	0.064		ug/L			31-MAY-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R5791056								
WG3733063-4 DUP		**WG3733063-3**						
Molybdenum (Mo)-Dissolved		0.076	0.064		ug/L	17	20	31-MAY-22
Nickel (Ni)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	31-MAY-22
Selenium (Se)-Dissolved		<0.050	<0.050	RPD-NA	ug/L	N/A	20	31-MAY-22
Silver (Ag)-Dissolved		<0.050	<0.050	RPD-NA	ug/L	N/A	20	31-MAY-22
Sodium (Na)-Dissolved		1020	1030		ug/L	0.9	20	31-MAY-22
Thallium (Tl)-Dissolved		<0.010	<0.010	RPD-NA	ug/L	N/A	20	31-MAY-22
Uranium (U)-Dissolved		0.053	0.054		ug/L	2.3	20	31-MAY-22
Vanadium (V)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	31-MAY-22
Zinc (Zn)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	31-MAY-22
WG3733063-2 LCS								
Antimony (Sb)-Dissolved			98.4		%		80-120	31-MAY-22
Arsenic (As)-Dissolved			103.3		%		80-120	31-MAY-22
Barium (Ba)-Dissolved			106.3		%		80-120	31-MAY-22
Beryllium (Be)-Dissolved			100.0		%		80-120	31-MAY-22
Boron (B)-Dissolved			96.6		%		80-120	31-MAY-22
Cadmium (Cd)-Dissolved			99.5		%		80-120	31-MAY-22
Chromium (Cr)-Dissolved			100.8		%		80-120	31-MAY-22
Cobalt (Co)-Dissolved			99.5		%		80-120	31-MAY-22
Copper (Cu)-Dissolved			97.8		%		80-120	31-MAY-22
Lead (Pb)-Dissolved			98.3		%		80-120	31-MAY-22
Molybdenum (Mo)-Dissolved			104.1		%		80-120	31-MAY-22
Nickel (Ni)-Dissolved			99.2		%		80-120	31-MAY-22
Selenium (Se)-Dissolved			103.0		%		80-120	31-MAY-22
Silver (Ag)-Dissolved			99.7		%		80-120	31-MAY-22
Sodium (Na)-Dissolved			107.1		%		80-120	31-MAY-22
Thallium (Tl)-Dissolved			101.8		%		80-120	31-MAY-22
Uranium (U)-Dissolved			93.4		%		80-120	31-MAY-22
Vanadium (V)-Dissolved			102.6		%		80-120	31-MAY-22
Zinc (Zn)-Dissolved			99.5		%		80-120	31-MAY-22
WG3733063-1 MB								
Antimony (Sb)-Dissolved			<0.10		ug/L		0.1	31-MAY-22
Arsenic (As)-Dissolved			<0.10		ug/L		0.1	31-MAY-22
Barium (Ba)-Dissolved			<0.10		ug/L		0.1	31-MAY-22
Beryllium (Be)-Dissolved			<0.10		ug/L		0.1	31-MAY-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R5791056								
WG3733063-1 MB								
Boron (B)-Dissolved			<10		ug/L		10	31-MAY-22
Cadmium (Cd)-Dissolved			<0.0050		ug/L		0.005	31-MAY-22
Chromium (Cr)-Dissolved			<0.50		ug/L		0.5	31-MAY-22
Cobalt (Co)-Dissolved			<0.10		ug/L		0.1	31-MAY-22
Copper (Cu)-Dissolved			<0.20		ug/L		0.2	31-MAY-22
Lead (Pb)-Dissolved			<0.050		ug/L		0.05	31-MAY-22
Molybdenum (Mo)-Dissolved			<0.050		ug/L		0.05	31-MAY-22
Nickel (Ni)-Dissolved			<0.50		ug/L		0.5	31-MAY-22
Selenium (Se)-Dissolved			<0.050		ug/L		0.05	31-MAY-22
Silver (Ag)-Dissolved			<0.050		ug/L		0.05	31-MAY-22
Sodium (Na)-Dissolved			<50		ug/L		50	31-MAY-22
Thallium (Tl)-Dissolved			<0.010		ug/L		0.01	31-MAY-22
Uranium (U)-Dissolved			<0.010		ug/L		0.01	31-MAY-22
Vanadium (V)-Dissolved			<0.50		ug/L		0.5	31-MAY-22
Zinc (Zn)-Dissolved			<1.0		ug/L		1	31-MAY-22
WG3733063-5 MS		**WG3733063-6**						
Antimony (Sb)-Dissolved			96.1		%		70-130	31-MAY-22
Arsenic (As)-Dissolved			105.5		%		70-130	31-MAY-22
Barium (Ba)-Dissolved			N/A	MS-B	%		-	31-MAY-22
Beryllium (Be)-Dissolved			98.6		%		70-130	31-MAY-22
Boron (B)-Dissolved			89.9		%		70-130	31-MAY-22
Cadmium (Cd)-Dissolved			96.5		%		70-130	31-MAY-22
Chromium (Cr)-Dissolved			94.3		%		70-130	31-MAY-22
Cobalt (Co)-Dissolved			94.4		%		70-130	31-MAY-22
Copper (Cu)-Dissolved			88.3		%		70-130	31-MAY-22
Lead (Pb)-Dissolved			92.0		%		70-130	31-MAY-22
Molybdenum (Mo)-Dissolved			99.1		%		70-130	31-MAY-22
Nickel (Ni)-Dissolved			92.3		%		70-130	31-MAY-22
Selenium (Se)-Dissolved			113.5		%		70-130	31-MAY-22
Silver (Ag)-Dissolved			83.7		%		70-130	31-MAY-22
Sodium (Na)-Dissolved			N/A	MS-B	%		-	31-MAY-22
Thallium (Tl)-Dissolved			95.7		%		70-130	31-MAY-22
Uranium (U)-Dissolved			N/A	MS-B	%		-	31-MAY-22
Vanadium (V)-Dissolved			100.8		%		70-130	31-MAY-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R5791056								
WG3733063-5 MS		**WG3733063-6**						
Zinc (Zn)-Dissolved			97.3		%		70-130	31-MAY-22
VOC-511-HS-WT	**Water**							
Batch R5791463								
WG3733556-4 DUP		**WG3733556-3**						
1,1,1,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
1,1,2,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
1,1,1-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
1,1,2-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
1,1-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
1,1-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
1,2-Dibromoethane		<0.20	<0.20	RPD-NA	ug/L	N/A	30	01-JUN-22
1,2-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
1,2-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
1,2-Dichloropropane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
1,3-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
1,4-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
Acetone		<30	<30	RPD-NA	ug/L	N/A	30	01-JUN-22
Benzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
Bromodichloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	01-JUN-22
Bromoform		<5.0	<5.0	RPD-NA	ug/L	N/A	30	01-JUN-22
Bromomethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
Carbon tetrachloride		<0.20	<0.20	RPD-NA	ug/L	N/A	30	01-JUN-22
Chlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
Chloroform		1.0	1.0		ug/L	2.0	30	01-JUN-22
cis-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
cis-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	01-JUN-22
Dibromochloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	01-JUN-22
Dichlorodifluoromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	01-JUN-22
Ethylbenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
n-Hexane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
m+p-Xylenes		<0.40	<0.40	RPD-NA	ug/L	N/A	30	01-JUN-22
Methyl Ethyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	01-JUN-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Water**							
Batch R5791463								
WG3733556-4 DUP		**WG3733556-3**						
Methyl Isobutyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	01-JUN-22
Methylene Chloride		<5.0	<5.0	RPD-NA	ug/L	N/A	30	01-JUN-22
MTBE		<2.0	<2.0	RPD-NA	ug/L	N/A	30	01-JUN-22
o-Xylene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	01-JUN-22
Styrene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
Tetrachloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
Toluene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
trans-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
trans-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	01-JUN-22
Trichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
Trichlorofluoromethane		<5.0	<5.0	RPD-NA	ug/L	N/A	30	01-JUN-22
Vinyl chloride		<0.50	<0.50	RPD-NA	ug/L	N/A	30	01-JUN-22
WG3733556-1 LCS								
1,1,1,2-Tetrachloroethane			103.2		%		70-130	01-JUN-22
1,1,2,2-Tetrachloroethane			102.8		%		70-130	01-JUN-22
1,1,1-Trichloroethane			107.0		%		70-130	01-JUN-22
1,1,2-Trichloroethane			108.3		%		70-130	01-JUN-22
1,1-Dichloroethane			106.0		%		70-130	01-JUN-22
1,1-Dichloroethylene			104.3		%		70-130	01-JUN-22
1,2-Dibromoethane			105.2		%		70-130	01-JUN-22
1,2-Dichlorobenzene			107.2		%		70-130	01-JUN-22
1,2-Dichloroethane			105.7		%		70-130	01-JUN-22
1,2-Dichloropropane			105.1		%		70-130	01-JUN-22
1,3-Dichlorobenzene			106.5		%		70-130	01-JUN-22
1,4-Dichlorobenzene			111.0		%		70-130	01-JUN-22
Acetone			115.1		%		60-140	01-JUN-22
Benzene			107.3		%		70-130	01-JUN-22
Bromodichloromethane			114.1		%		70-130	01-JUN-22
Bromoform			104.6		%		70-130	01-JUN-22
Bromomethane			109.5		%		60-140	01-JUN-22
Carbon tetrachloride			103.2		%		70-130	01-JUN-22
Chlorobenzene			103.1		%		70-130	01-JUN-22
Chloroform			106.5		%		70-130	01-JUN-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Water**							
Batch R5791463								
WG3733556-1 LCS								
cis-1,2-Dichloroethylene			95.6		%		70-130	01-JUN-22
cis-1,3-Dichloropropene			102.6		%		70-130	01-JUN-22
Dibromochloromethane			109.6		%		70-130	01-JUN-22
Dichlorodifluoromethane			123.1		%		50-140	01-JUN-22
Ethylbenzene			103.7		%		70-130	01-JUN-22
n-Hexane			104.5		%		70-130	01-JUN-22
m+p-Xylenes			101.2		%		70-130	01-JUN-22
Methyl Ethyl Ketone			109.5		%		60-140	01-JUN-22
Methyl Isobutyl Ketone			98.2		%		60-140	01-JUN-22
Methylene Chloride			107.4		%		70-130	01-JUN-22
MTBE			101.8		%		70-130	01-JUN-22
o-Xylene			103.4		%		70-130	01-JUN-22
Styrene			103.4		%		70-130	01-JUN-22
Tetrachloroethylene			100.7		%		70-130	01-JUN-22
Toluene			104.4		%		70-130	01-JUN-22
trans-1,2-Dichloroethylene			101.9		%		70-130	01-JUN-22
trans-1,3-Dichloropropene			104.7		%		70-130	01-JUN-22
Trichloroethylene			99.9		%		70-130	01-JUN-22
Trichlorofluoromethane			105.6		%		60-140	01-JUN-22
Vinyl chloride			103.2		%		60-140	01-JUN-22
WG3733556-2 MB								
1,1,1,2-Tetrachloroethane			<0.50		ug/L		0.5	01-JUN-22
1,1,2,2-Tetrachloroethane			<0.50		ug/L		0.5	01-JUN-22
1,1,1-Trichloroethane			<0.50		ug/L		0.5	01-JUN-22
1,1,2-Trichloroethane			<0.50		ug/L		0.5	01-JUN-22
1,1-Dichloroethane			<0.50		ug/L		0.5	01-JUN-22
1,1-Dichloroethylene			<0.50		ug/L		0.5	01-JUN-22
1,2-Dibromoethane			<0.20		ug/L		0.2	01-JUN-22
1,2-Dichlorobenzene			<0.50		ug/L		0.5	01-JUN-22
1,2-Dichloroethane			<0.50		ug/L		0.5	01-JUN-22
1,2-Dichloropropane			<0.50		ug/L		0.5	01-JUN-22
1,3-Dichlorobenzene			<0.50		ug/L		0.5	01-JUN-22
1,4-Dichlorobenzene			<0.50		ug/L		0.5	01-JUN-22
Acetone			<30		ug/L		30	01-JUN-22

Quality Control Report

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74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Water**							
Batch R5791463								
WG3733556-2 MB								
Benzene			<0.50		ug/L		0.5	01-JUN-22
Bromodichloromethane			<2.0		ug/L		2	01-JUN-22
Bromoform			<5.0		ug/L		5	01-JUN-22
Bromomethane			<0.50		ug/L		0.5	01-JUN-22
Carbon tetrachloride			<0.20		ug/L		0.2	01-JUN-22
Chlorobenzene			<0.50		ug/L		0.5	01-JUN-22
Chloroform			<1.0		ug/L		1	01-JUN-22
cis-1,2-Dichloroethylene			<0.50		ug/L		0.5	01-JUN-22
cis-1,3-Dichloropropene			<0.30		ug/L		0.3	01-JUN-22
Dibromochloromethane			<2.0		ug/L		2	01-JUN-22
Dichlorodifluoromethane			<2.0		ug/L		2	01-JUN-22
Ethylbenzene			<0.50		ug/L		0.5	01-JUN-22
n-Hexane			<0.50		ug/L		0.5	01-JUN-22
m+p-Xylenes			<0.40		ug/L		0.4	01-JUN-22
Methyl Ethyl Ketone			<20		ug/L		20	01-JUN-22
Methyl Isobutyl Ketone			<20		ug/L		20	01-JUN-22
Methylene Chloride			<5.0		ug/L		5	01-JUN-22
MTBE			<2.0		ug/L		2	01-JUN-22
o-Xylene			<0.30		ug/L		0.3	01-JUN-22
Styrene			<0.50		ug/L		0.5	01-JUN-22
Tetrachloroethylene			<0.50		ug/L		0.5	01-JUN-22
Toluene			<0.50		ug/L		0.5	01-JUN-22
trans-1,2-Dichloroethylene			<0.50		ug/L		0.5	01-JUN-22
trans-1,3-Dichloropropene			<0.30		ug/L		0.3	01-JUN-22
Trichloroethylene			<0.50		ug/L		0.5	01-JUN-22
Trichlorofluoromethane			<5.0		ug/L		5	01-JUN-22
Vinyl chloride			<0.50		ug/L		0.5	01-JUN-22
Surrogate: 1,4-Difluorobenzene			98.2		%		70-130	01-JUN-22
Surrogate: 4-Bromofluorobenzene			92.9		%		70-130	01-JUN-22
WG3733556-5 MS		**WG3733556-3**						
1,1,1,2-Tetrachloroethane			96.7		%		50-140	01-JUN-22
1,1,2,2-Tetrachloroethane			85.6		%		50-140	01-JUN-22
1,1,1-Trichloroethane			102.8		%		50-140	01-JUN-22
1,1,2-Trichloroethane			95.5		%		50-140	01-JUN-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Water**							
Batch R5791463								
WG3733556-5 MS		**WG3733556-3**						
1,1-Dichloroethane			103.7		%		50-140	01-JUN-22
1,1-Dichloroethylene			97.2		%		50-140	01-JUN-22
1,2-Dibromoethane			91.9		%		50-140	01-JUN-22
1,2-Dichlorobenzene			102.1		%		50-140	01-JUN-22
1,2-Dichloroethane			99.9		%		50-140	01-JUN-22
1,2-Dichloropropane			98.3		%		50-140	01-JUN-22
1,3-Dichlorobenzene			105.2		%		50-140	01-JUN-22
1,4-Dichlorobenzene			109.2		%		50-140	01-JUN-22
Acetone			100.8		%		50-140	01-JUN-22
Benzene			102.2		%		50-140	01-JUN-22
Bromodichloromethane			109.4		%		50-140	01-JUN-22
Bromoform			91.2		%		50-140	01-JUN-22
Bromomethane			95.8		%		50-140	01-JUN-22
Carbon tetrachloride			102.0		%		50-140	01-JUN-22
Chlorobenzene			96.1		%		50-140	01-JUN-22
Chloroform			102.4		%		50-140	01-JUN-22
cis-1,2-Dichloroethylene			88.5		%		50-140	01-JUN-22
cis-1,3-Dichloropropene			94.6		%		50-140	01-JUN-22
Dibromochloromethane			101.0		%		50-140	01-JUN-22
Dichlorodifluoromethane			97.9		%		50-140	01-JUN-22
Ethylbenzene			95.0		%		50-140	01-JUN-22
n-Hexane			95.7		%		50-140	01-JUN-22
m+p-Xylenes			94.9		%		50-140	01-JUN-22
Methyl Ethyl Ketone			92.8		%		50-140	01-JUN-22
Methyl Isobutyl Ketone			82.6		%		50-140	01-JUN-22
Methylene Chloride			101.2		%		50-140	01-JUN-22
MTBE			96.5		%		50-140	01-JUN-22
o-Xylene			94.4		%		50-140	01-JUN-22
Styrene			92.8		%		50-140	01-JUN-22
Tetrachloroethylene			95.3		%		50-140	01-JUN-22
Toluene			95.4		%		50-140	01-JUN-22
trans-1,2-Dichloroethylene			98.2		%		50-140	01-JUN-22
trans-1,3-Dichloropropene			90.1		%		50-140	01-JUN-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Water**							
Batch R5791463								
WG3733556-5 MS		**WG3733556-3**						
Trichloroethylene			97.9		%		50-140	01-JUN-22
Trichlorofluoromethane			97.5		%		50-140	01-JUN-22
Vinyl chloride			87.9		%		50-140	01-JUN-22

Quality Control Report

Workorder: L2710170 Report Date: 03-JUN-22

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

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
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
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.

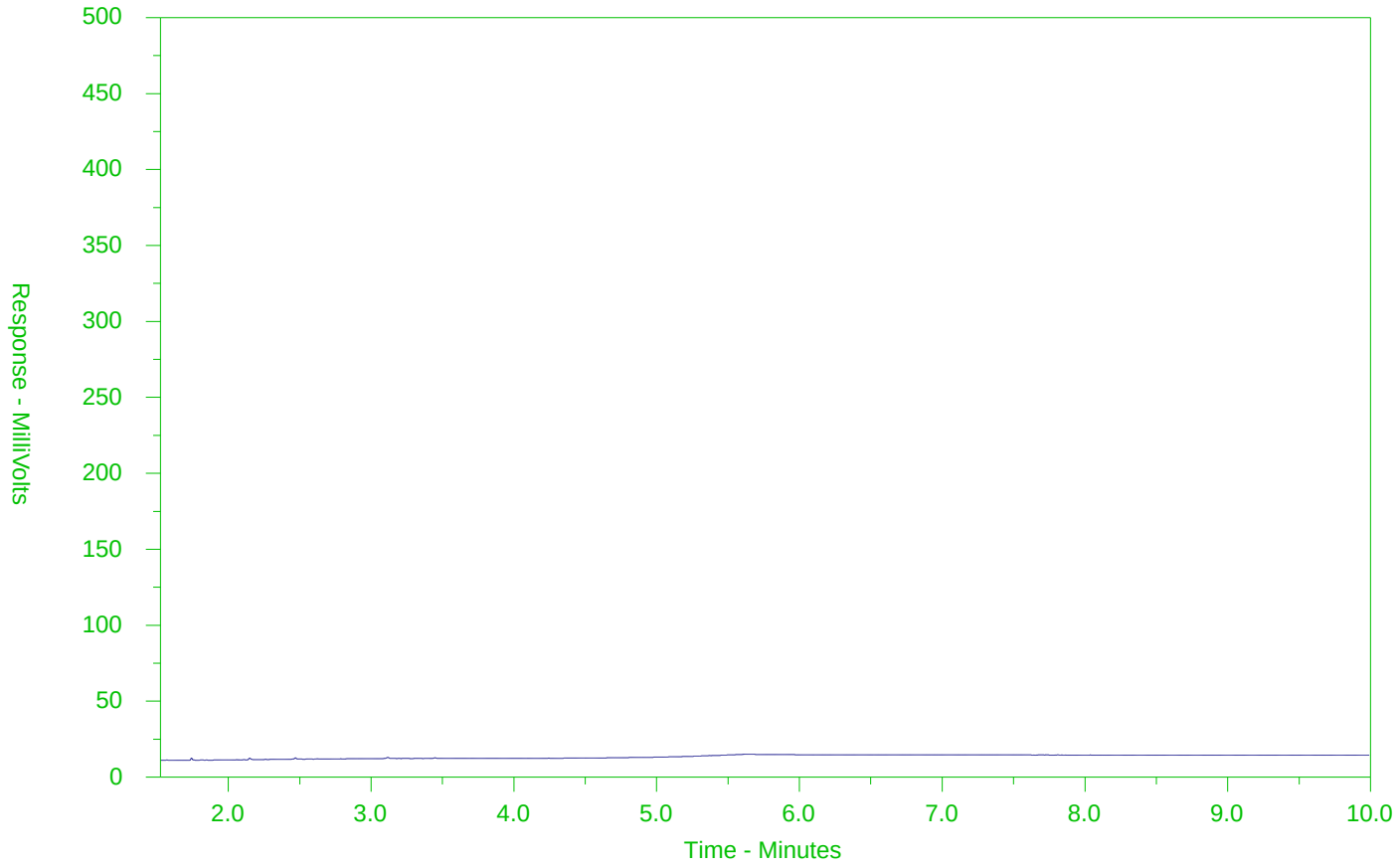
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where 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: L2710170-1
Client Sample ID: BH1



←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.

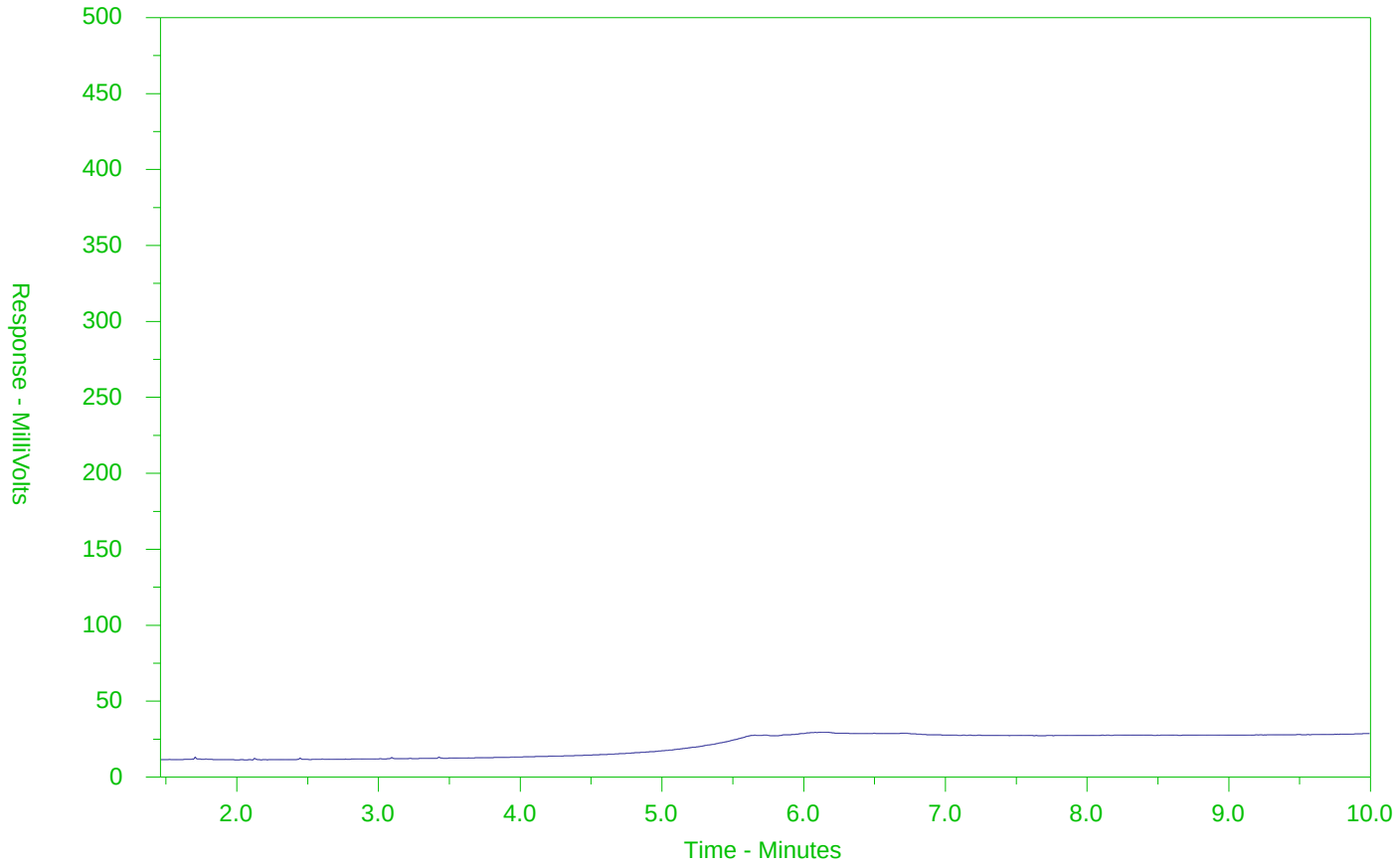
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2710170-2
Client Sample ID: BH4



←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.

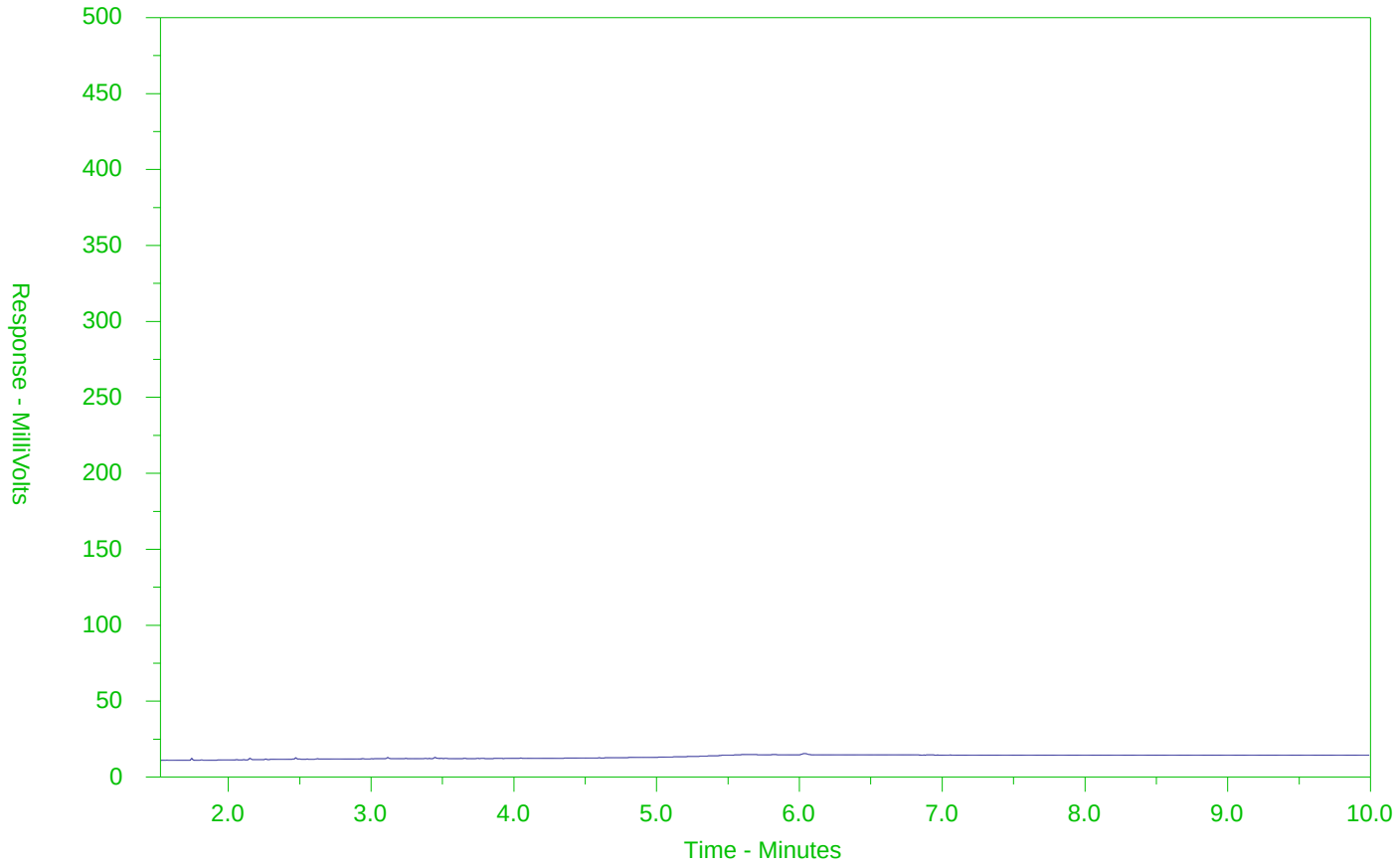
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2710170-3
Client Sample ID: BH4D



←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.

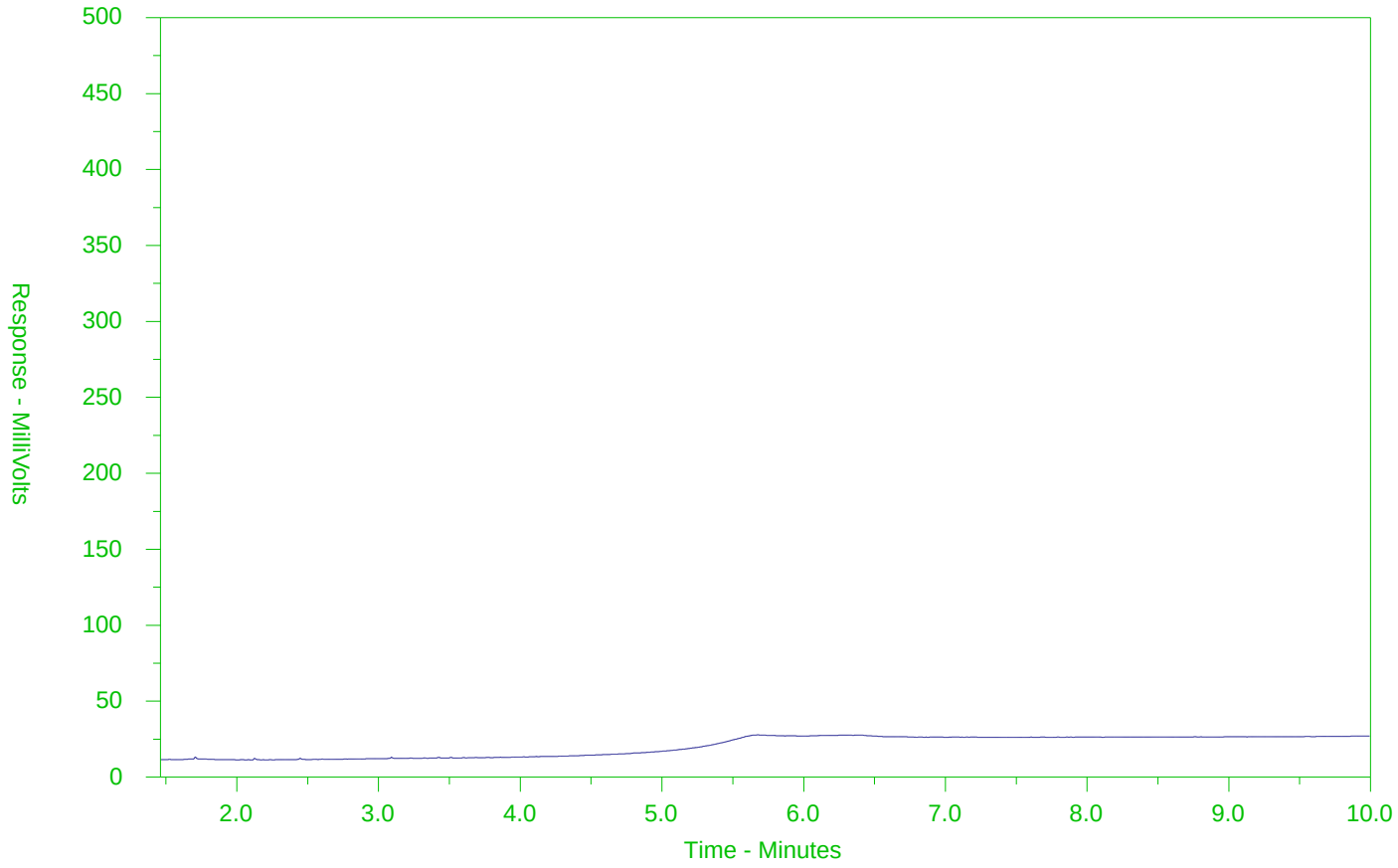
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2710170-4
Client Sample ID: MW2-20



←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.

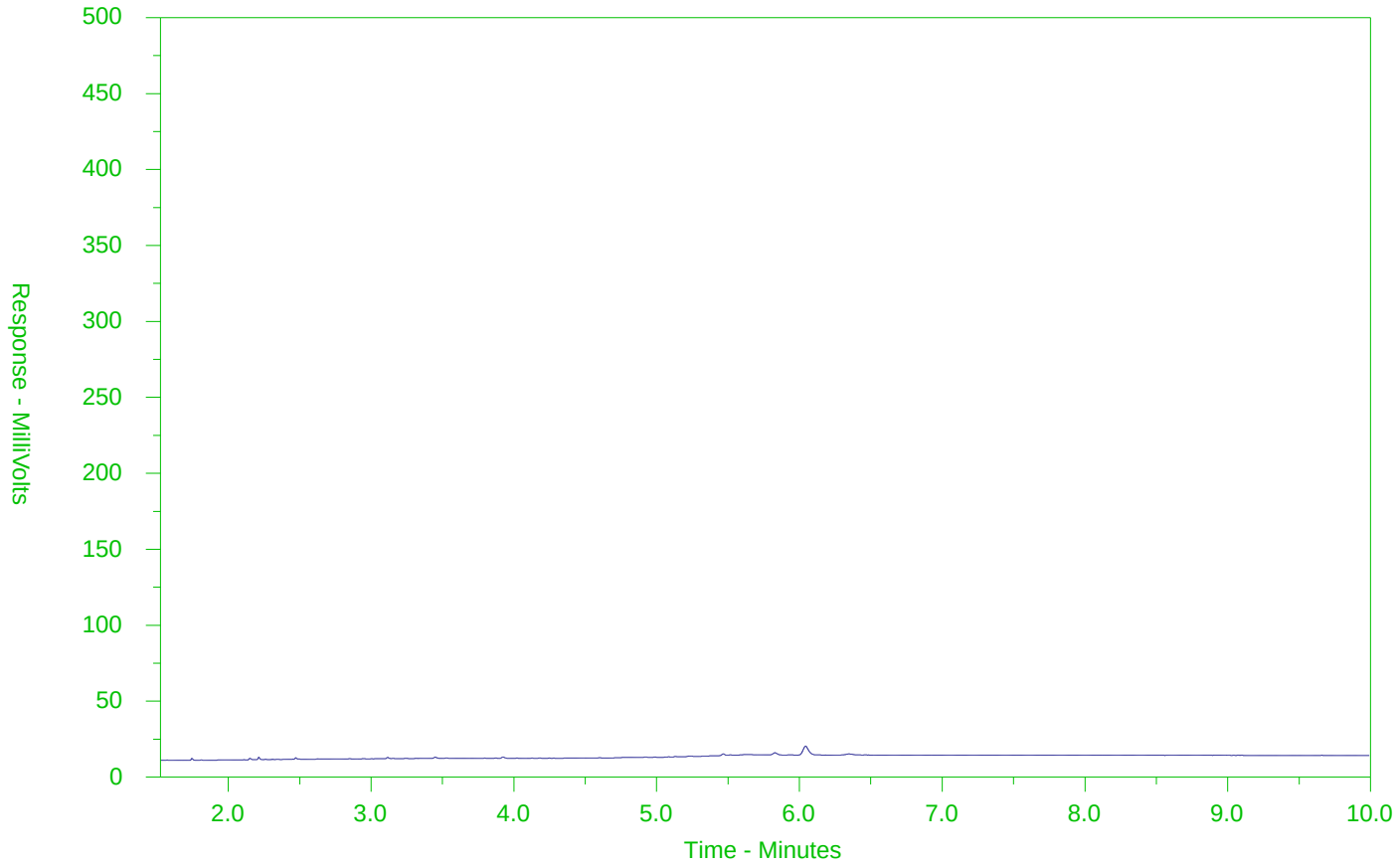
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2710170-5
Client Sample ID: MW3-20



←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.

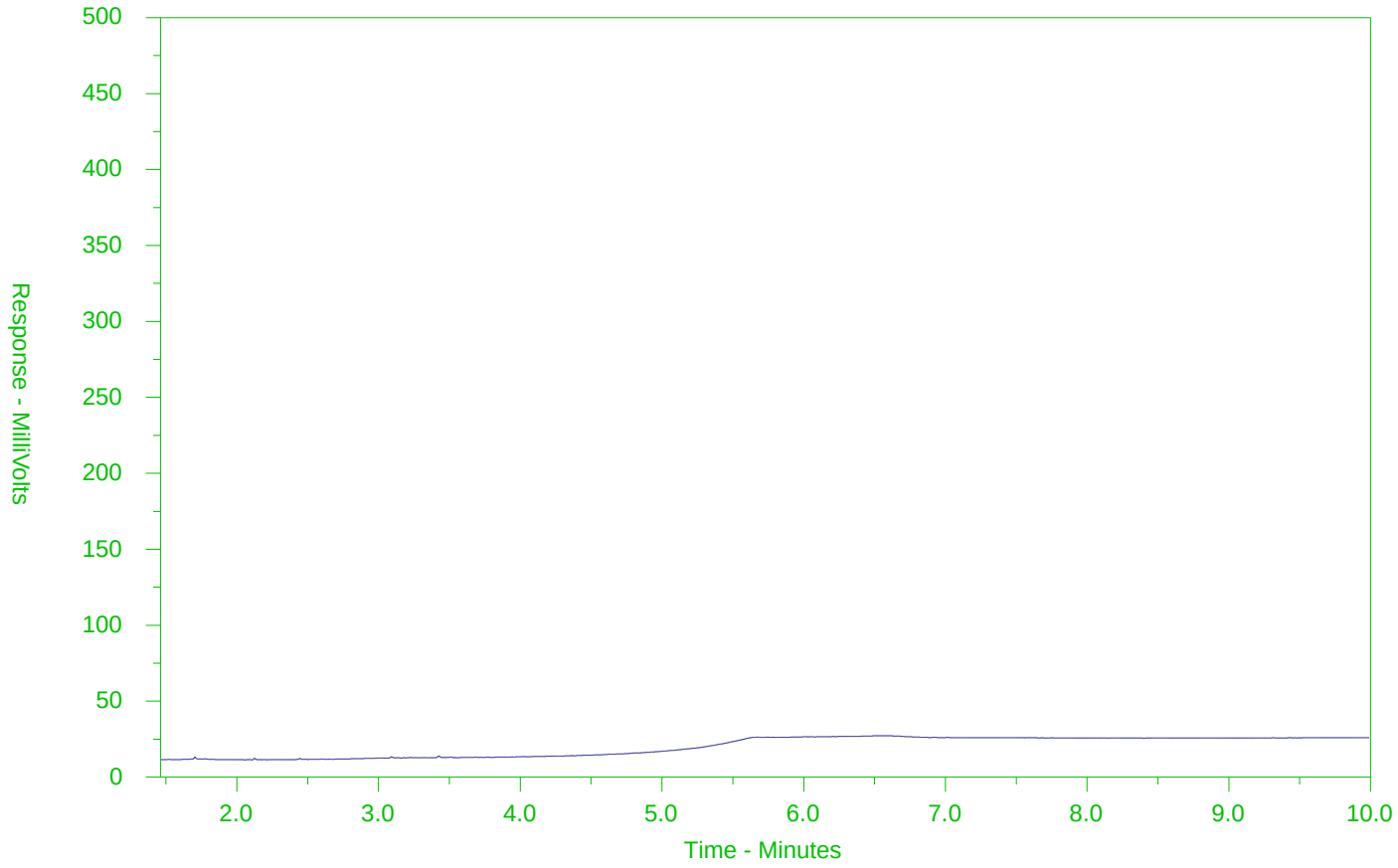
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2710170-7
Client Sample ID: MW4-20



←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.

ALS www.alsglobal.com

Chain of

L2710170-COFC

COC Number: 20 - 951780

Page 1 of 1

TS

Report To	Contact and company name below will appear on the final report
Company:	Palmer Environmental Consulting Group
Contact:	Bailey Fleet
Phone:	905 405 7299
Company address below will appear on the final report	
Street:	74 Berkeley Street
City/Province:	Toronto / Ontario
Postal Code:	M5A 2W7
Invoice To	Same as Report To ☐ YES ☑ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	Palmer Environmental Consulting Group
Contact:	Accounting@pecg.ca

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	bailey.fleet@pecg.ca
Email 2	Kalina.naydenova@pecg.ca
Email 3	Sarah.sipak@pecg.ca

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	accounting@pecg.ca
Email 2	Sarah.Sipak@pecg.ca

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:	2204761	Major/Minor Code:	Routing Code:
PO / AFE:	2204701	Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (ALS use only):	L2710170	ALS Contact:	Sampler:

Turnaround 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.

Date and Time Required for all E&P TATs: 03/06/2022

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

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Analysis Request

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

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	PHC/VOC	PHC/BTEX	ICPMS MET (F)	VOC	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	BH1	May 27/22	10:00	GW	4		X					
	BH4		11:00		4		X					
	BH40		11:00		4		X					
	MW 2-20		12:00		5	X		X				
	MW 3-20		1:00		4		X					
	MW 2-20D		12:00		1			X				
	MW 4-20		2:00		4		X					
	TRIP BLANK		2:00		2				X			

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	Compare to O. Reg 153/04 Table 3 RPI
Are samples for human consumption/ use? ☐ YES ☑ NO	metals field filtered

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			
9.4				8.1			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by:	Date:	Time:	Received by:	Date:	Time:	Received by:	Date:	Time:
Bailey Fleet	05/27/2022		H.K	05/27/22	15:45		5-27-22	1730

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**.

PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
ATTN: Bailey Fleet
74 Berkeley Street
Toronto ON M5V 1E3

Date Received: 02-JUN-22
Report Date: 22-JUN-22 12:12 (MT)
Version: FINAL REV. 3

Client Phone: 647-795-8153

Certificate of Analysis

Lab Work Order #: L2711704

Project P.O. #: 2204701
Job Reference: 2204701
C of C Numbers: 20-951920
Legal Site Desc:

Comments: ADDITIONAL 15-JUN-22 14:54

KARANPARTAP SINGH
Account Manager

Summary of Guideline Exceedances

ALS ID	Client ID	Grouping	Analyte	Result	Guideline Limit	Unit
Guideline						
Ontario Regulation 153/04 - April 15, 2011 Standards - T3-Soil-Res/Park/Inst. Property Use (Coarse)						
(No parameter exceedances)						
Ontario Regulation 153/04 - April 15, 2011 Standards - T3-Soil-Res/Park/Inst. Property Use (Fine)						
(No parameter exceedances)						

ANALYTICAL REPORT

Physical Tests - SOIL

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID	Sample Date	Sample ID							
				L2711704-1	L2711704-2	L2711704-3	L2711704-4	L2711704-5	L2711704-7	L2711704-8	L2711704-9	L2711704-10
				01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22
				22-5-6	22-5-6D	22-6-2B	22-7-5B	22-8-6	22-9-3	22-9-3D	22-10-2	22-10-2D
Grain Size Curve		-	-									
% Moisture	%	-	-	17.5	17.5	9.26	31.3	23.2	6.51	6.33		
pH	pH units	-	-								7.74	7.75

Guide Limit #1: T3-Soil-Res/Park/Inst. Property Use (Coarse)
Guide Limit #2: T3-Soil-Res/Park/Inst. Property Use (Fine)

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

Physical Tests - SOIL

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID: L2711704-12 Sample Date: 01-JUN-22 Sample ID: 22-10-7
Grain Size Curve		-	-	SEE ATTACHED
% Moisture	%	-	-	16.7
pH	pH units	-	-	

Guide Limit #1: T3-Soil-Res/Park/Inst. Property Use (Coarse)
Guide Limit #2: T3-Soil-Res/Park/Inst. Property Use (Fine)

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.

Particle Size - SOIL

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID: L2711704-11 Sample Date: 01-JUN-22 Sample ID: 22-10-5	Lab ID: L2711704-12 Sample Date: 01-JUN-22 Sample ID: 22-10-7
Gravel (4.75mm - 3in.)	%	-	-		<1.0
Medium Sand (0.425mm - 2.0mm)	%	-	-		<1.0
Coarse Sand (2.0mm - 4.75mm)	%	-	-		<1.0
Fine Sand (0.075mm - 0.425mm)	%	-	-		22.3
Silt (0.002mm - 0.075mm)	%	-	-		73.3
Silt (0.005mm - 0.075mm)	%	-	-		71.6
Clay (<0.002mm)	%	-	-		4.4
Clay (<0.005mm)	%	-	-		6.0
General Texture Class		-	-	Coarse	
MUST PSA % > 75um	%	-	-	84.4	

Guide Limit #1: T3-Soil-Res/Park/Inst. Property Use (Coarse)
Guide Limit #2: T3-Soil-Res/Park/Inst. Property Use (Fine)

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.

Metals - SOIL

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID	Sample Date	Sample ID
				L2711704-5	01-JUN-22	22-8-6
				L2711704-6	01-JUN-22	22-8-6D
				L2711704-7	01-JUN-22	22-9-3
				L2711704-12	01-JUN-22	22-10-7
Antimony (Sb)	ug/g	7.5	7.5	<1.0	<1.0	<1.0	<1.0
Arsenic (As)	ug/g	18	18	1.5	1.4	1.3	1.7
Barium (Ba)	ug/g	390	390	10.2	10.0	13.4	14.6
Beryllium (Be)	ug/g	4	5	<0.50	<0.50	<0.50	<0.50
Boron (B)	ug/g	120	120	<5.0	<5.0	<5.0	<5.0
Cadmium (Cd)	ug/g	1.2	1.2	<0.50	<0.50	<0.50	<0.50
Chromium (Cr)	ug/g	160	160	7.2	7.0	6.9	8.2
Cobalt (Co)	ug/g	22	22	7.6	9.3	2.4	3.4
Copper (Cu)	ug/g	140	180	8.1	7.8	5.9	9.7
Lead (Pb)	ug/g	120	120	3.1	2.9	4.2	3.1
Molybdenum (Mo)	ug/g	6.9	6.9	<1.0	<1.0	<1.0	<1.0
Nickel (Ni)	ug/g	100	130	6.7	6.6	4.6	6.4
Selenium (Se)	ug/g	2.4	2.4	<1.0	<1.0	<1.0	<1.0
Silver (Ag)	ug/g	20	25	<0.20	<0.20	<0.20	<0.20
Thallium (Tl)	ug/g	1	1	<0.50	<0.50	<0.50	<0.50
Uranium (U)	ug/g	23	23	<1.0	<1.0	<1.0	<1.0
Vanadium (V)	ug/g	86	86	15.8	15.6	14.1	16.6
Zinc (Zn)	ug/g	340	340	15.2	14.6	18.9	15.7

Guide Limit #1: T3-Soil-Res/Park/Inst. Property Use (Coarse)
Guide Limit #2: T3-Soil-Res/Park/Inst. Property Use (Fine)

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	L2711704-1	L2711704-2	L2711704-3	L2711704-4	L2711704-5	L2711704-7	L2711704-8	L2711704-12
				Sample Date	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22
				Sample ID	22-5-6	22-5-6D	22-6-2B	22-7-5B	22-8-6	22-9-3	22-9-3D	22-10-7
		Guide Limits										
Analyte	Unit	#1	#2									
Acetone	ug/g	16	28						<0.50	<0.50	<0.50	<0.50
Benzene	ug/g	0.21	0.17	<0.0068	<0.0068	<0.0068	0.0194	<0.0068	<0.0068	<0.0068	<0.0068	
Bromodichloromethane	ug/g	13	13						<0.050	<0.050	<0.050	<0.050
Bromoform	ug/g	0.27	0.26						<0.050	<0.050	<0.050	<0.050
Bromomethane	ug/g	0.05	0.05						<0.050	<0.050	<0.050	<0.050
Carbon tetrachloride	ug/g	0.05	0.12						<0.050	<0.050	<0.050	<0.050
Chlorobenzene	ug/g	2.4	2.7						<0.050	<0.050	<0.050	<0.050
Dibromochloromethane	ug/g	9.4	9.4						<0.050	<0.050	<0.050	<0.050
Chloroform	ug/g	0.05	0.18						<0.050	<0.050	<0.050	<0.050
1,2-Dibromoethane	ug/g	0.05	0.05						<0.050	<0.050	<0.050	<0.050
1,2-Dichlorobenzene	ug/g	3.4	4.3						<0.050	<0.050	<0.050	<0.050
1,3-Dichlorobenzene	ug/g	4.8	6						<0.050	<0.050	<0.050	<0.050
1,4-Dichlorobenzene	ug/g	0.083	0.097						<0.050	<0.050	<0.050	<0.050
Dichlorodifluoromethane	ug/g	16	25						<0.050	<0.050	<0.050	<0.050
1,1-Dichloroethane	ug/g	3.5	11						<0.050	<0.050	<0.050	<0.050
1,2-Dichloroethane	ug/g	0.05	0.05						<0.050	<0.050	<0.050	<0.050
1,1-Dichloroethylene	ug/g	0.05	0.05						<0.050	<0.050	<0.050	<0.050
cis-1,2-Dichloroethylene	ug/g	3.4	30						<0.050	<0.050	<0.050	<0.050
trans-1,2-Dichloroethylene	ug/g	0.084	0.75						<0.050	<0.050	<0.050	<0.050
Methylene Chloride	ug/g	0.1	0.96						<0.050	<0.050	<0.050	<0.050
1,2-Dichloropropane	ug/g	0.05	0.085						<0.050	<0.050	<0.050	<0.050
cis-1,3-Dichloropropene	ug/g	-	-						<0.030	<0.030	<0.030	<0.030
trans-1,3-Dichloropropene	ug/g	-	-						<0.030	<0.030	<0.030	<0.030
1,3-Dichloropropene (cis & trans)	ug/g	0.05	0.083						<0.042	<0.042	<0.042	<0.042
Ethylbenzene	ug/g	2	15	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	<0.018	
n-Hexane	ug/g	2.8	34						<0.050	<0.050	<0.050	<0.050
Methyl Ethyl Ketone	ug/g	16	44						<0.50	<0.50	<0.50	<0.50
Methyl Isobutyl Ketone	ug/g	1.7	4.3						<0.50	<0.50	<0.50	<0.50
MTBE	ug/g	0.75	1.4						<0.050	<0.050	<0.050	<0.050
Styrene	ug/g	0.7	2.2						<0.050	<0.050	<0.050	<0.050

Guide Limit #1: T3-Soil-Res/Park/Inst. Property Use (Coarse)
Guide Limit #2: T3-Soil-Res/Park/Inst. Property Use (Fine)

Volatile Organic Compounds - SOIL

				Lab ID	L2711704-1	L2711704-2	L2711704-3	L2711704-4	L2711704-5	L2711704-7	L2711704-8	L2711704-12
				Sample Date	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22
				Sample ID	22-5-6	22-5-6D	22-6-2B	22-7-5B	22-8-6	22-9-3	22-9-3D	22-10-7
		Guide Limits										
Analyte	Unit	#1	#2									
1,1,1,2-Tetrachloroethane	ug/g	0.058	0.05						<0.050	<0.050	<0.050	<0.050
1,1,2,2-Tetrachloroethane	ug/g	0.05	0.05						<0.050	<0.050	<0.050	<0.050
Tetrachloroethylene	ug/g	0.28	2.3						<0.050	<0.050	<0.050	<0.050
Toluene	ug/g	2.3	6	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
1,1,1-Trichloroethane	ug/g	0.38	3.4						<0.050	<0.050	<0.050	<0.050
1,1,2-Trichloroethane	ug/g	0.05	0.05						<0.050	<0.050	<0.050	<0.050
Trichloroethylene	ug/g	0.061	0.52						<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	ug/g	4	5.8						<0.050	<0.050	<0.050	<0.050
Vinyl chloride	ug/g	0.02	0.022						<0.020	<0.020	<0.020	<0.020
o-Xylene	ug/g	-	-	<0.020	<0.020	<0.020	<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	<0.030	<0.030	<0.030
Xylenes (Total)	ug/g	3.1	25	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Surrogate: 4-Bromofluorobenzene	%	-	-	99.8	104.4	108.0	95.3	95.1	95.1	94.5	92.7	
Surrogate: 1,4-Difluorobenzene	%	-	-	101.4	108.0	112.1	103.4	99.0	100.7	102.0	99.0	

Guide Limit #1: T3-Soil-Res/Park/Inst. Property Use (Coarse)
Guide Limit #2: T3-Soil-Res/Park/Inst. Property Use (Fine)

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.

Hydrocarbons - SOIL

				Lab ID	L2711704-1	L2711704-2	L2711704-3	L2711704-4	L2711704-5	L2711704-7	L2711704-8	L2711704-12
				Sample Date	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22	01-JUN-22
				Sample ID	22-5-6	22-5-6D	22-6-2B	22-7-5B	22-8-6	22-9-3	22-9-3D	22-10-7
		Guide Limits										
Analyte	Unit	#1	#2									
F1 (C6-C10)	ug/g	55	65		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F1-BTEX	ug/g	55	65		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	ug/g	98	150		<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16-C34)	ug/g	300	1300		<50	<50	<50	62	<50	<50	<50	<50
F4 (C34-C50)	ug/g	2800	5600		<50	<50	<50	75	<50	<50	<50	<50
Total Hydrocarbons (C6-C50)	ug/g	-	-		<72	<72	<72	137	<72	<72	<72	<72
Chrom. to baseline at nC50		-	-				YES		YES		YES	YES
Chrom. to baseline at nC50	ppm	-	-		YES	YES		YES		YES		
Surrogate: 2-Bromobenzotrifluoride	%	-	-		87.2	78.6	87.5	83.8	85.2	79.8	86.2	88.9
Surrogate: 3,4-Dichlorotoluene	%	-	-		94.5	91.0	98.6	86.4	85.1	85.6	84.5	80.9

Guide Limit #1: T3-Soil-Res/Park/Inst. Property Use (Coarse)
Guide Limit #2: T3-Soil-Res/Park/Inst. Property Use (Fine)

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.

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
BTX-511-HS-WT	Soil	BTEX-O.Reg 153/04 (July 2011)	SW846 8260

BTX is determined by extracting a soil or sediment sample as received with methanol, then analyzing 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).

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.
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.

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**

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).

GRAIN SIZE-HYD-SK	Soil	Grain Size by Hydrometer	ASTM D6913/D7928

Particle size curve is generated from dry sieving (particles > 2 mm), wet sieving (particles 2 mm-75 um) and hydrometer readings (particles < 75 um)

ASTM D422-63 has been withdrawn, the ASTM D6913/D7928 standard serves as the successor method.

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).

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

PSA-MUST-SK	Soil	% Particles > 75um (Coarse/Fine)	ASTM D6913

An air-dried sample is reduced to < 2 mm size and mixed with a dispersing agent (Calgon solution). The sample is washed through a 200 mesh (75 µm) sieve. The retained mass of sample is used to determine % sand fraction.

Reference: ASTM D422-63

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.

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**

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

Chain of Custody Numbers:

20-951920

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
SK	ALS ENVIRONMENTAL - SASKATOON, SASKATCHEWAN, CANADA
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: L2711704 Report Date: 22-JUN-22

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTX-511-HS-WT	**Soil**							
Batch R5794926								
WG3734987-4 DUP		**WG3734987-3**						
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	07-JUN-22
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	07-JUN-22
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	07-JUN-22
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	07-JUN-22
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	07-JUN-22
WG3734987-2 LCS								
Benzene			101.9		%		70-130	07-JUN-22
Ethylbenzene			100.5		%		70-130	07-JUN-22
m+p-Xylenes			102.5		%		70-130	07-JUN-22
o-Xylene			102.3		%		70-130	07-JUN-22
Toluene			105.5		%		70-130	07-JUN-22
WG3734987-1 MB								
Benzene			<0.0068		ug/g		0.0068	07-JUN-22
Ethylbenzene			<0.018		ug/g		0.018	07-JUN-22
m+p-Xylenes			<0.030		ug/g		0.03	07-JUN-22
o-Xylene			<0.020		ug/g		0.02	07-JUN-22
Toluene			<0.080		ug/g		0.08	07-JUN-22
Surrogate: 1,4-Difluorobenzene			118.1		%		50-140	07-JUN-22
Surrogate: 4-Bromofluorobenzene			113.4		%		50-140	07-JUN-22
WG3734987-5 MS		**WG3734987-3**						
Benzene			121.7		%		60-140	07-JUN-22
Ethylbenzene			114.6		%		60-140	07-JUN-22
m+p-Xylenes			117.9		%		60-140	07-JUN-22
o-Xylene			117.9		%		60-140	07-JUN-22
Toluene			122.3		%		60-140	07-JUN-22
F1-HS-511-WT	**Soil**							
Batch R5794788								
WG3734963-4 DUP		**WG3734963-3**						
F1 (C6-C10)		<5.0	<5.0	RPD-NA	ug/g	N/A	30	06-JUN-22
WG3734963-2 LCS								
F1 (C6-C10)			102.4		%		80-120	06-JUN-22
WG3734963-1 MB								
F1 (C6-C10)			<5.0		ug/g		5	06-JUN-22
Surrogate: 3,4-Dichlorotoluene			92.6		%		60-140	06-JUN-22
WG3734963-5 MS		**WG3734963-3**						

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-511-WT	**Soil**							
Batch R5794788								
WG3734963-5 MS		**WG3734963-3**						
F1 (C6-C10)			112.2		%		60-140	06-JUN-22
Batch R5794926								
WG3734987-4 DUP		**WG3734987-3**						
F1 (C6-C10)		<5.0	<5.0	RPD-NA	ug/g	N/A	30	07-JUN-22
WG3734987-2 LCS								
F1 (C6-C10)			108.6		%		80-120	07-JUN-22
WG3734987-1 MB								
F1 (C6-C10)			<5.0		ug/g		5	07-JUN-22
Surrogate: 3,4-Dichlorotoluene			103.4		%		60-140	07-JUN-22
WG3734987-5 MS		**WG3734987-3**						
F1 (C6-C10)			119.5		%		60-140	07-JUN-22
F2-F4-511-WT	**Soil**							
Batch R5794798								
WG3735164-3 DUP		**WG3735164-5**						
F2 (C10-C16)		<10	<10	RPD-NA	ug/g	N/A	40	06-JUN-22
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	40	06-JUN-22
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	40	06-JUN-22
WG3735164-2 LCS								
F2 (C10-C16)			97.7		%		70-130	06-JUN-22
F3 (C16-C34)			100.7		%		70-130	06-JUN-22
F4 (C34-C50)			102.5		%		70-130	06-JUN-22
WG3735164-1 MB								
F2 (C10-C16)			<10		ug/g		10	06-JUN-22
F3 (C16-C34)			<50		ug/g		50	06-JUN-22
F4 (C34-C50)			<50		ug/g		50	06-JUN-22
Surrogate: 2-Bromobenzotrifluoride			86.3		%		60-140	06-JUN-22
WG3735164-4 MS		**WG3735164-5**						
F2 (C10-C16)			91.2		%		60-140	06-JUN-22
F3 (C16-C34)			99.8		%		60-140	06-JUN-22
F4 (C34-C50)			106.7		%		60-140	06-JUN-22
Batch R5795307								
WG3734983-3 DUP		**WG3734983-5**						
F2 (C10-C16)		<10	<10	RPD-NA	ug/g	N/A	40	07-JUN-22
F3 (C16-C34)		<50	<50	RPD-NA	ug/g	N/A	40	07-JUN-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F2-F4-511-WT	**Soil**							
Batch R5795307								
WG3734983-3 DUP		**WG3734983-5**						
F4 (C34-C50)		<50	<50	RPD-NA	ug/g	N/A	40	07-JUN-22
WG3734983-2 LCS								
F2 (C10-C16)			100.4		%		70-130	07-JUN-22
F3 (C16-C34)			105.6		%		70-130	07-JUN-22
F4 (C34-C50)			101.0		%		70-130	07-JUN-22
WG3734983-1 MB								
F2 (C10-C16)			<10		ug/g		10	08-JUN-22
F3 (C16-C34)			<50		ug/g		50	08-JUN-22
F4 (C34-C50)			<50		ug/g		50	08-JUN-22
Surrogate: 2-Bromobenzotrifluoride			87.8		%		60-140	08-JUN-22
WG3734983-4 MS		**WG3734983-5**						
F2 (C10-C16)			97.1		%		60-140	08-JUN-22
F3 (C16-C34)			106.6		%		60-140	08-JUN-22
F4 (C34-C50)			112.4		%		60-140	08-JUN-22
GRAIN SIZE-HYD-SK	**Soil**							
Batch R5805630								
WG3740142-1 DUP		**L2708487-2**						
Gravel (4.75mm - 3in.)		<1.0	<1.0	RPD-NA	%	N/A	25	22-JUN-22
Coarse Sand (2.0mm - 4.75mm)		5.7	5.7	J	%	0.0	5	22-JUN-22
Medium Sand (0.425mm - 2.0mm)		15.0	14.7	J	%	0.3	5	22-JUN-22
Fine Sand (0.075mm - 0.425mm)		28.2	25.6	J	%	2.6	5	22-JUN-22
Silt (0.005mm - 0.075mm)		41.4	43.5	J	%	2.1	5	22-JUN-22
Clay (<0.005mm)		9.7	10.6	J	%	0.9	5	22-JUN-22
Silt (0.002mm - 0.075mm)		44.7	46.7	J	%	2.0	5	22-JUN-22
Clay (<0.002mm)		6.4	7.3	J	%	0.9	5	22-JUN-22
WG3740142-2 IRM		**2020-PSA_SOIL**						
Medium Sand (0.425mm - 2.0mm)			7.0		%		2-12	22-JUN-22
Fine Sand (0.075mm - 0.425mm)			35.5		%		29.6-39.6	22-JUN-22
Silt (0.005mm - 0.075mm)			32.7		%		27.4-37.4	22-JUN-22
Clay (<0.005mm)			24.8		%		21-31	22-JUN-22
Silt (0.002mm - 0.075mm)			37.7		%		32.3-42.3	22-JUN-22
Clay (<0.002mm)			19.8		%		16.1-26.1	22-JUN-22
MET-200.2-CCMS-WT	**Soil**							

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5795170								
WG3736376-2 CRM		**WT-SS-2**						
Antimony (Sb)			95.6		%		70-130	07-JUN-22
Arsenic (As)			98.3		%		70-130	07-JUN-22
Barium (Ba)			103.4		%		70-130	07-JUN-22
Beryllium (Be)			99.3		%		70-130	07-JUN-22
Boron (B)			8.4		mg/kg		3.5-13.5	07-JUN-22
Cadmium (Cd)			102.2		%		70-130	07-JUN-22
Chromium (Cr)			98.8		%		70-130	07-JUN-22
Cobalt (Co)			99.5		%		70-130	07-JUN-22
Copper (Cu)			102.9		%		70-130	07-JUN-22
Lead (Pb)			96.2		%		70-130	07-JUN-22
Molybdenum (Mo)			102.4		%		70-130	07-JUN-22
Nickel (Ni)			100.5		%		70-130	07-JUN-22
Selenium (Se)			0.13		mg/kg		0-0.34	07-JUN-22
Silver (Ag)			99.2		%		70-130	07-JUN-22
Thallium (Tl)			0.070		mg/kg		0.029-0.129	07-JUN-22
Uranium (U)			90.1		%		70-130	07-JUN-22
Vanadium (V)			100.1		%		70-130	07-JUN-22
Zinc (Zn)			98.8		%		70-130	07-JUN-22
WG3736376-6 DUP		**WG3736376-5**						
Antimony (Sb)		<0.10	<0.10	RPD-NA	ug/g	N/A	30	07-JUN-22
Arsenic (As)		1.63	1.62		ug/g	0.8	30	07-JUN-22
Barium (Ba)		33.0	33.6		ug/g	1.6	40	07-JUN-22
Beryllium (Be)		0.24	0.24		ug/g	2.3	30	07-JUN-22
Boron (B)		<5.0	<5.0	RPD-NA	ug/g	N/A	30	07-JUN-22
Cadmium (Cd)		0.057	0.053		ug/g	8.4	30	07-JUN-22
Chromium (Cr)		9.87	9.50		ug/g	3.8	30	07-JUN-22
Cobalt (Co)		3.39	3.35		ug/g	0.9	30	07-JUN-22
Copper (Cu)		6.22	6.15		ug/g	1.3	30	07-JUN-22
Lead (Pb)		3.34	3.41		ug/g	1.9	40	07-JUN-22
Molybdenum (Mo)		0.19	0.20		ug/g	2.2	40	07-JUN-22
Nickel (Ni)		6.62	6.58		ug/g	0.6	30	07-JUN-22
Selenium (Se)		<0.20	<0.20	RPD-NA	ug/g	N/A	30	07-JUN-22
Silver (Ag)		<0.10	<0.10	RPD-NA	ug/g	N/A	40	07-JUN-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5795170								
WG3736376-6 DUP		**WG3736376-5**						
Thallium (Tl)		0.076	0.071		ug/g	7.6	30	07-JUN-22
Uranium (U)		0.423	0.430		ug/g	1.7	30	07-JUN-22
Vanadium (V)		20.5	20.1		ug/g	1.8	30	07-JUN-22
Zinc (Zn)		19.0	18.7		ug/g	1.4	30	07-JUN-22
WG3736376-4 LCS								
Antimony (Sb)			106.0		%		80-120	07-JUN-22
Arsenic (As)			103.0		%		80-120	07-JUN-22
Barium (Ba)			100.9		%		80-120	07-JUN-22
Beryllium (Be)			96.2		%		80-120	07-JUN-22
Boron (B)			95.6		%		80-120	07-JUN-22
Cadmium (Cd)			101.1		%		80-120	07-JUN-22
Chromium (Cr)			99.5		%		80-120	07-JUN-22
Cobalt (Co)			99.97		%		80-120	07-JUN-22
Copper (Cu)			97.7		%		80-120	07-JUN-22
Lead (Pb)			100.5		%		80-120	07-JUN-22
Molybdenum (Mo)			102.3		%		80-120	07-JUN-22
Nickel (Ni)			99.2		%		80-120	07-JUN-22
Selenium (Se)			103.7		%		80-120	07-JUN-22
Silver (Ag)			82.8		%		80-120	07-JUN-22
Thallium (Tl)			99.2		%		80-120	07-JUN-22
Uranium (U)			99.1		%		80-120	07-JUN-22
Vanadium (V)			101.9		%		80-120	07-JUN-22
Zinc (Zn)			100.1		%		80-120	07-JUN-22
WG3736376-1 MB								
Antimony (Sb)			<0.10		mg/kg		0.1	07-JUN-22
Arsenic (As)			<0.10		mg/kg		0.1	07-JUN-22
Barium (Ba)			<0.50		mg/kg		0.5	07-JUN-22
Beryllium (Be)			<0.10		mg/kg		0.1	07-JUN-22
Boron (B)			<5.0		mg/kg		5	07-JUN-22
Cadmium (Cd)			<0.020		mg/kg		0.02	07-JUN-22
Chromium (Cr)			<0.50		mg/kg		0.5	07-JUN-22
Cobalt (Co)			<0.10		mg/kg		0.1	07-JUN-22
Copper (Cu)			<0.50		mg/kg		0.5	07-JUN-22
Lead (Pb)			<0.50		mg/kg		0.5	07-JUN-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-200.2-CCMS-WT	**Soil**							
Batch R5795170								
WG3736376-1 MB								
Molybdenum (Mo)			<0.10		mg/kg		0.1	07-JUN-22
Nickel (Ni)			<0.50		mg/kg		0.5	07-JUN-22
Selenium (Se)			<0.20		mg/kg		0.2	07-JUN-22
Silver (Ag)			<0.10		mg/kg		0.1	07-JUN-22
Thallium (Tl)			<0.050		mg/kg		0.05	07-JUN-22
Uranium (U)			<0.050		mg/kg		0.05	07-JUN-22
Vanadium (V)			<0.20		mg/kg		0.2	07-JUN-22
Zinc (Zn)			<2.0		mg/kg		2	07-JUN-22
MOISTURE-WT	**Soil**							
Batch R5794231								
WG3735277-3 DUP		**L2711704-8**						
% Moisture		6.33	6.80		%	7.2	20	04-JUN-22
WG3735277-2 LCS								
% Moisture			100.3		%		90-110	04-JUN-22
WG3735277-1 MB								
% Moisture			<0.25		%		0.25	04-JUN-22
PH-WT	**Soil**							
Batch R5793798								
WG3734979-1 DUP		**L2711120-1**						
pH		7.57	7.60	J	pH units	0.03	0.3	03-JUN-22
WG3735098-1 LCS								
pH			7.09		pH units		6.9-7.1	03-JUN-22
PSA-MUST-SK	**Soil**							
Batch R5796629								
WG3738159-1 DUP		**L2711704-11**						
MUST PSA % > 75um		84.4	84.1	J	%	0.3	5	10-JUN-22
WG3738159-2 IRM		**2020-PSA_SOIL**						
MUST PSA % > 75um			42.7		%		37.9-47.9	10-JUN-22
VOC-511-HS-WT	**Soil**							
Batch R5794788								
WG3734963-4 DUP		**WG3734963-3**						
1,1,1,2-Tetrachloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
1,1,2,2-Tetrachloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
1,1,1-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
1,1,2-Trichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5794788								
WG3734963-4 DUP		**WG3734963-3**						
1,1-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
1,1-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
1,2-Dibromoethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
1,2-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
1,2-Dichloroethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
1,2-Dichloropropane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
1,3-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
1,4-Dichlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
Acetone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	06-JUN-22
Benzene		<0.0068	<0.0068	RPD-NA	ug/g	N/A	40	06-JUN-22
Bromodichloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
Bromoform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
Bromomethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
Carbon tetrachloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
Chlorobenzene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
Chloroform		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
cis-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
cis-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	06-JUN-22
Dibromochloromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
Dichlorodifluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
Ethylbenzene		<0.018	<0.018	RPD-NA	ug/g	N/A	40	06-JUN-22
n-Hexane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
Methylene Chloride		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
MTBE		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
m+p-Xylenes		<0.030	<0.030	RPD-NA	ug/g	N/A	40	06-JUN-22
Methyl Ethyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	06-JUN-22
Methyl Isobutyl Ketone		<0.50	<0.50	RPD-NA	ug/g	N/A	40	06-JUN-22
o-Xylene		<0.020	<0.020	RPD-NA	ug/g	N/A	40	06-JUN-22
Styrene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
Tetrachloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
Toluene		<0.080	<0.080	RPD-NA	ug/g	N/A	40	06-JUN-22
trans-1,2-Dichloroethylene		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
trans-1,3-Dichloropropene		<0.030	<0.030		ug/g			06-JUN-22

Quality Control Report

Workorder: L2711704 Report Date: 22-JUN-22

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5794788								
WG3734963-4 DUP		**WG3734963-3**						
trans-1,3-Dichloropropene		<0.030	<0.030	RPD-NA	ug/g	N/A	40	06-JUN-22
Trichloroethylene		<0.010	<0.010	RPD-NA	ug/g	N/A	40	06-JUN-22
Trichlorofluoromethane		<0.050	<0.050	RPD-NA	ug/g	N/A	40	06-JUN-22
Vinyl chloride		<0.020	<0.020	RPD-NA	ug/g	N/A	40	06-JUN-22
WG3734963-2 LCS								
1,1,1,2-Tetrachloroethane			102.6		%		60-130	06-JUN-22
1,1,2,2-Tetrachloroethane			97.7		%		60-130	06-JUN-22
1,1,1-Trichloroethane			105.2		%		60-130	06-JUN-22
1,1,2-Trichloroethane			99.9		%		60-130	06-JUN-22
1,1-Dichloroethane			100.3		%		60-130	06-JUN-22
1,1-Dichloroethylene			99.3		%		60-130	06-JUN-22
1,2-Dibromoethane			98.4		%		70-130	06-JUN-22
1,2-Dichlorobenzene			103.1		%		70-130	06-JUN-22
1,2-Dichloroethane			101.4		%		60-130	06-JUN-22
1,2-Dichloropropane			104.0		%		70-130	06-JUN-22
1,3-Dichlorobenzene			105.5		%		70-130	06-JUN-22
1,4-Dichlorobenzene			107.3		%		70-130	06-JUN-22
Acetone			96.9		%		60-140	06-JUN-22
Benzene			105.1		%		70-130	06-JUN-22
Bromodichloromethane			109.9		%		50-140	06-JUN-22
Bromoform			88.8		%		70-130	06-JUN-22
Bromomethane			98.8		%		50-140	06-JUN-22
Carbon tetrachloride			105.2		%		70-130	06-JUN-22
Chlorobenzene			102.9		%		70-130	06-JUN-22
Chloroform			103.3		%		70-130	06-JUN-22
cis-1,2-Dichloroethylene			102.0		%		70-130	06-JUN-22
cis-1,3-Dichloropropene			103.1		%		70-130	06-JUN-22
Dibromochloromethane			103.6		%		60-130	06-JUN-22
Dichlorodifluoromethane			77.7		%		50-140	06-JUN-22
Ethylbenzene			103.3		%		70-130	06-JUN-22
n-Hexane			99.7		%		70-130	06-JUN-22
Methylene Chloride			103.1		%		70-130	06-JUN-22
MTBE			102.6		%		70-130	06-JUN-22
m+p-Xylenes			104.7				70-130	

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5794788								
WG3734963-2 LCS								
m+p-Xylenes			104.7		%		70-130	06-JUN-22
Methyl Ethyl Ketone			87.7		%		60-140	06-JUN-22
Methyl Isobutyl Ketone			92.4		%		60-140	06-JUN-22
o-Xylene			101.9		%		70-130	06-JUN-22
Styrene			102.1		%		70-130	06-JUN-22
Tetrachloroethylene			107.8		%		60-130	06-JUN-22
Toluene			103.0		%		70-130	06-JUN-22
trans-1,2-Dichloroethylene			104.5		%		60-130	06-JUN-22
trans-1,3-Dichloropropene			91.5		%		70-130	06-JUN-22
Trichloroethylene			105.1		%		60-130	06-JUN-22
Trichlorofluoromethane			99.6		%		50-140	06-JUN-22
Vinyl chloride			87.5		%		60-140	06-JUN-22
WG3734963-1 MB								
1,1,1,2-Tetrachloroethane			<0.050		ug/g		0.05	06-JUN-22
1,1,2,2-Tetrachloroethane			<0.050		ug/g		0.05	06-JUN-22
1,1,1-Trichloroethane			<0.050		ug/g		0.05	06-JUN-22
1,1,2-Trichloroethane			<0.050		ug/g		0.05	06-JUN-22
1,1-Dichloroethane			<0.050		ug/g		0.05	06-JUN-22
1,1-Dichloroethylene			<0.050		ug/g		0.05	06-JUN-22
1,2-Dibromoethane			<0.050		ug/g		0.05	06-JUN-22
1,2-Dichlorobenzene			<0.050		ug/g		0.05	06-JUN-22
1,2-Dichloroethane			<0.050		ug/g		0.05	06-JUN-22
1,2-Dichloropropane			<0.050		ug/g		0.05	06-JUN-22
1,3-Dichlorobenzene			<0.050		ug/g		0.05	06-JUN-22
1,4-Dichlorobenzene			<0.050		ug/g		0.05	06-JUN-22
Acetone			<0.50		ug/g		0.5	06-JUN-22
Benzene			<0.0068		ug/g		0.0068	06-JUN-22
Bromodichloromethane			<0.050		ug/g		0.05	06-JUN-22
Bromoform			<0.050		ug/g		0.05	06-JUN-22
Bromomethane			<0.050		ug/g		0.05	06-JUN-22
Carbon tetrachloride			<0.050		ug/g		0.05	06-JUN-22
Chlorobenzene			<0.050		ug/g		0.05	06-JUN-22
Chloroform			<0.050		ug/g		0.05	06-JUN-22
cis-1,2-Dichloroethylene			<0.050		ug/g		0.05	06-JUN-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5794788								
WG3734963-1 MB								
cis-1,3-Dichloropropene			<0.030		ug/g		0.03	06-JUN-22
Dibromochloromethane			<0.050		ug/g		0.05	06-JUN-22
Dichlorodifluoromethane			<0.050		ug/g		0.05	06-JUN-22
Ethylbenzene			<0.018		ug/g		0.018	06-JUN-22
n-Hexane			<0.050		ug/g		0.05	06-JUN-22
Methylene Chloride			<0.050		ug/g		0.05	06-JUN-22
MTBE			<0.050		ug/g		0.05	06-JUN-22
m+p-Xylenes			<0.030		ug/g		0.03	06-JUN-22
Methyl Ethyl Ketone			<0.50		ug/g		0.5	06-JUN-22
Methyl Isobutyl Ketone			<0.50		ug/g		0.5	06-JUN-22
o-Xylene			<0.020		ug/g		0.02	06-JUN-22
Styrene			<0.050		ug/g		0.05	06-JUN-22
Tetrachloroethylene			<0.050		ug/g		0.05	06-JUN-22
Toluene			<0.080		ug/g		0.08	06-JUN-22
trans-1,2-Dichloroethylene			<0.050		ug/g		0.05	06-JUN-22
trans-1,3-Dichloropropene			<0.030		ug/g		0.03	06-JUN-22
Trichloroethylene			<0.010		ug/g		0.01	06-JUN-22
Trichlorofluoromethane			<0.050		ug/g		0.05	06-JUN-22
Vinyl chloride			<0.020		ug/g		0.02	06-JUN-22
Surrogate: 1,4-Difluorobenzene			107.2		%		50-140	06-JUN-22
Surrogate: 4-Bromofluorobenzene			100.7		%		50-140	06-JUN-22
WG3734963-5 MS		**WG3734963-3**						
1,1,1,2-Tetrachloroethane			133.8		%		50-140	06-JUN-22
1,1,2,2-Tetrachloroethane			134.4		%		50-140	06-JUN-22
1,1,1-Trichloroethane			139.2		%		50-140	06-JUN-22
1,1,2-Trichloroethane			134.9		%		50-140	06-JUN-22
1,1-Dichloroethane			138.3		%		50-140	06-JUN-22
1,1-Dichloroethylene			134.2		%		50-140	06-JUN-22
1,2-Dibromoethane			132.9		%		50-140	06-JUN-22
1,2-Dichlorobenzene			128.6		%		50-140	06-JUN-22
1,2-Dichloroethane			141.5	K	%		50-140	06-JUN-22
1,2-Dichloropropane			141.0	K	%		50-140	06-JUN-22
1,3-Dichlorobenzene			127.5		%		50-140	06-JUN-22
1,4-Dichlorobenzene			129.8		%		50-140	06-JUN-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Soil**							
Batch R5794788								
WG3734963-5 MS		**WG3734963-3**						
Acetone			134.7		%		50-140	06-JUN-22
Benzene			141.0	K	%		50-140	06-JUN-22
Bromodichloromethane			150.6	K	%		50-140	06-JUN-22
Bromoform			119.9		%		50-140	06-JUN-22
Bromomethane			140.5	K	%		50-140	06-JUN-22
Carbon tetrachloride			139.6		%		50-140	06-JUN-22
Chlorobenzene			131.4		%		50-140	06-JUN-22
Chloroform			139.9		%		50-140	06-JUN-22
cis-1,2-Dichloroethylene			138.3		%		50-140	06-JUN-22
cis-1,3-Dichloropropene			141.0	K	%		50-140	06-JUN-22
Dibromochloromethane			138.8		%		50-140	06-JUN-22
Dichlorodifluoromethane			126.0		%		50-140	06-JUN-22
Ethylbenzene			129.1		%		50-140	06-JUN-22
n-Hexane			136.7		%		50-140	06-JUN-22
Methylene Chloride			142.2	K	%		50-140	06-JUN-22
MTBE			122.3		%		50-140	06-JUN-22
m+p-Xylenes			130.8		%		50-140	06-JUN-22
Methyl Ethyl Ketone			126.4		%		50-140	06-JUN-22
Methyl Isobutyl Ketone			132.1		%		50-140	06-JUN-22
o-Xylene			128.5		%		50-140	06-JUN-22
Styrene			130.1		%		50-140	06-JUN-22
Tetrachloroethylene			133.0		%		50-140	06-JUN-22
Toluene			131.1		%		50-140	06-JUN-22
trans-1,2-Dichloroethylene			137.5		%		50-140	06-JUN-22
trans-1,3-Dichloropropene			122.4		%		50-140	06-JUN-22
Trichloroethylene			138.2		%		50-140	06-JUN-22
Trichlorofluoromethane			138.2		%		50-140	06-JUN-22
Vinyl chloride			124.7		%		50-140	06-JUN-22

Quality Control Report

Workorder: L2711704 Report Date: 22-JUN-22

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: Bailey Fleet

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.
K	Matrix Spike recovery outside ALS DQO due to sample matrix effects.
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.

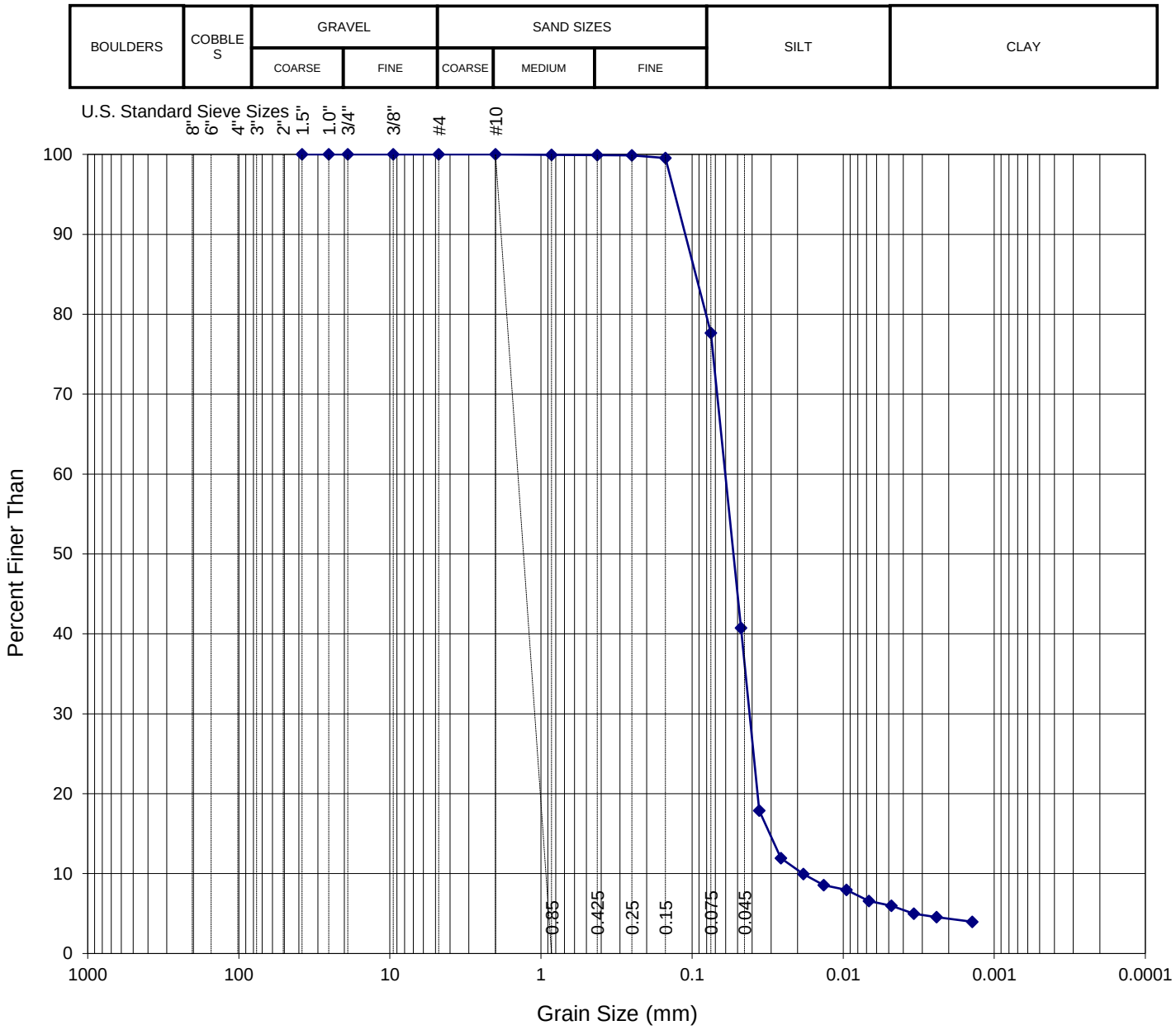
Please note that this report may contain QC results from anonymous Sample Duplicates and Matrix Spikes that do not originate from this Work Order.

ALS Laboratory Group

819-58th Street, Saskatoon,SK

PARTICLE SIZE DISTRIBUTION CURVE

Client Name:	PALMER ENVIRONMENTAL CONSULT
Project Number:	
Client Sample ID	22-10-7
Lab Sample ID	L2711704-12
Date Sample Received	02-Jun-22
Test Completion Date:	20-Jun-22
Analyst:	SIH



METHOD DESCRIPTION

Method Reference: ASTM D6913 & D7928

Dispersion method: Mechanical

Dispesion period: 1 minute cm/s

DESCRIPTION OF SAND AND GRAVEL PARTICLES

Shape: Angular

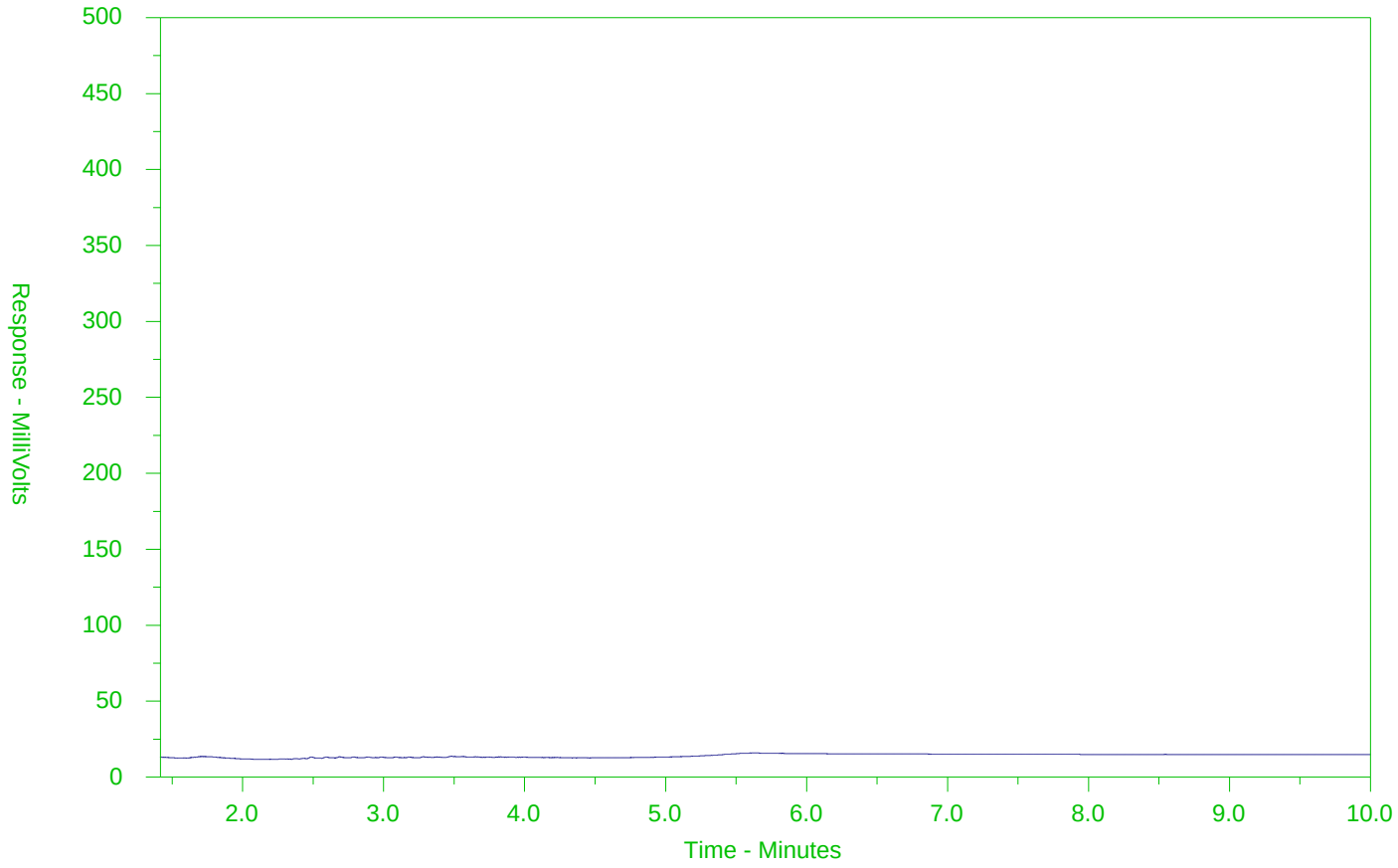
Hardness: Hard

SUMMARY OF RESULTS

GRAIN SIZE	WT %	DIA. RANGE (mm)
% GRAVEL :	<1	> 4.75
% COARSE SAND :	<1	2.0 - 4.75
% MEDIUM SAND :	<1	0.425 - 2.0
% FINE SAND :	22.28	0.075 - 0.425
% SILT :	71.60	0.075 - 0.005
% CLAY :	6.03	< 0.005

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: L2711704-1
Client Sample ID: 22-5-6



←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.

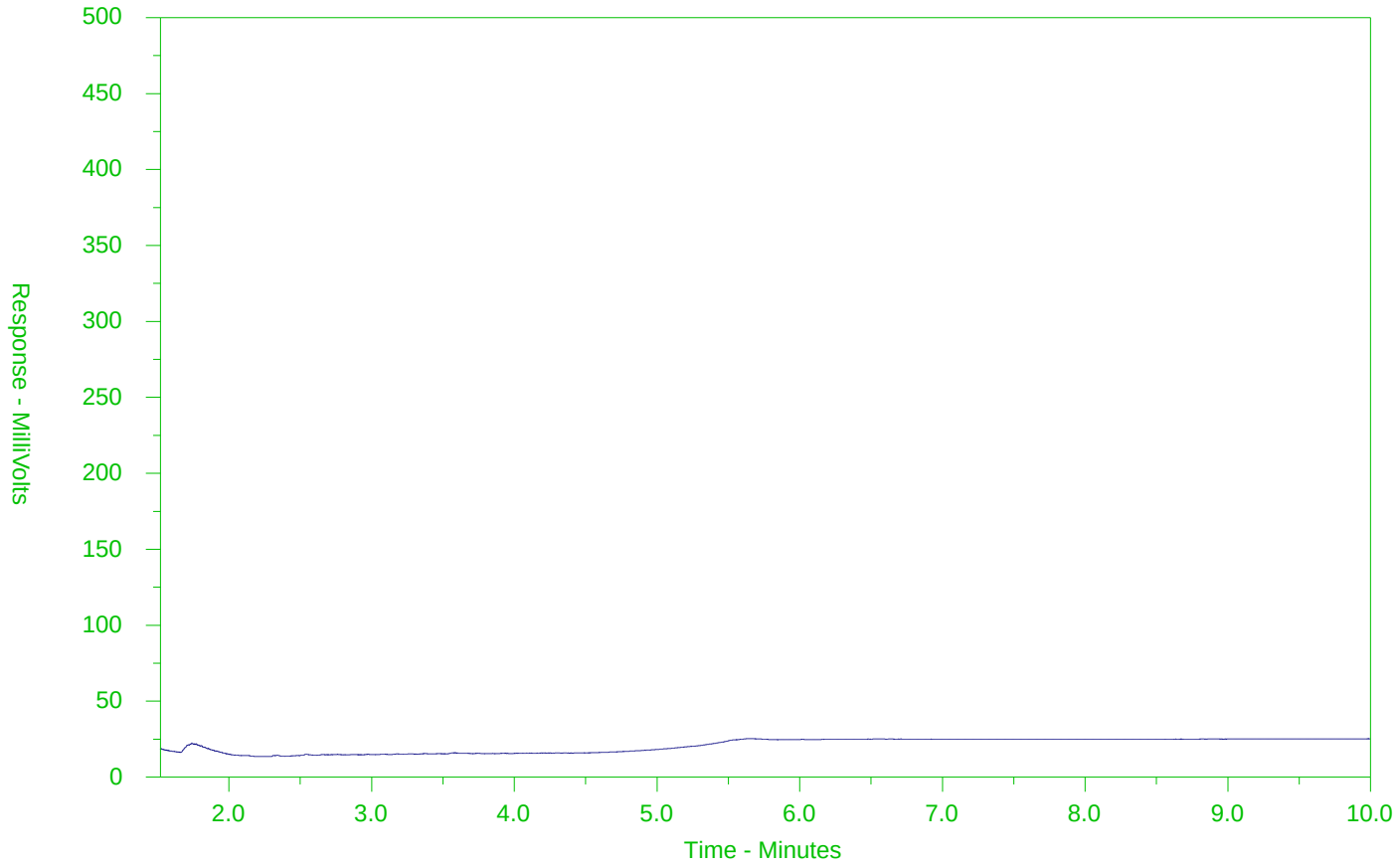
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2711704-2
Client Sample ID: 22-5-6D



←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.

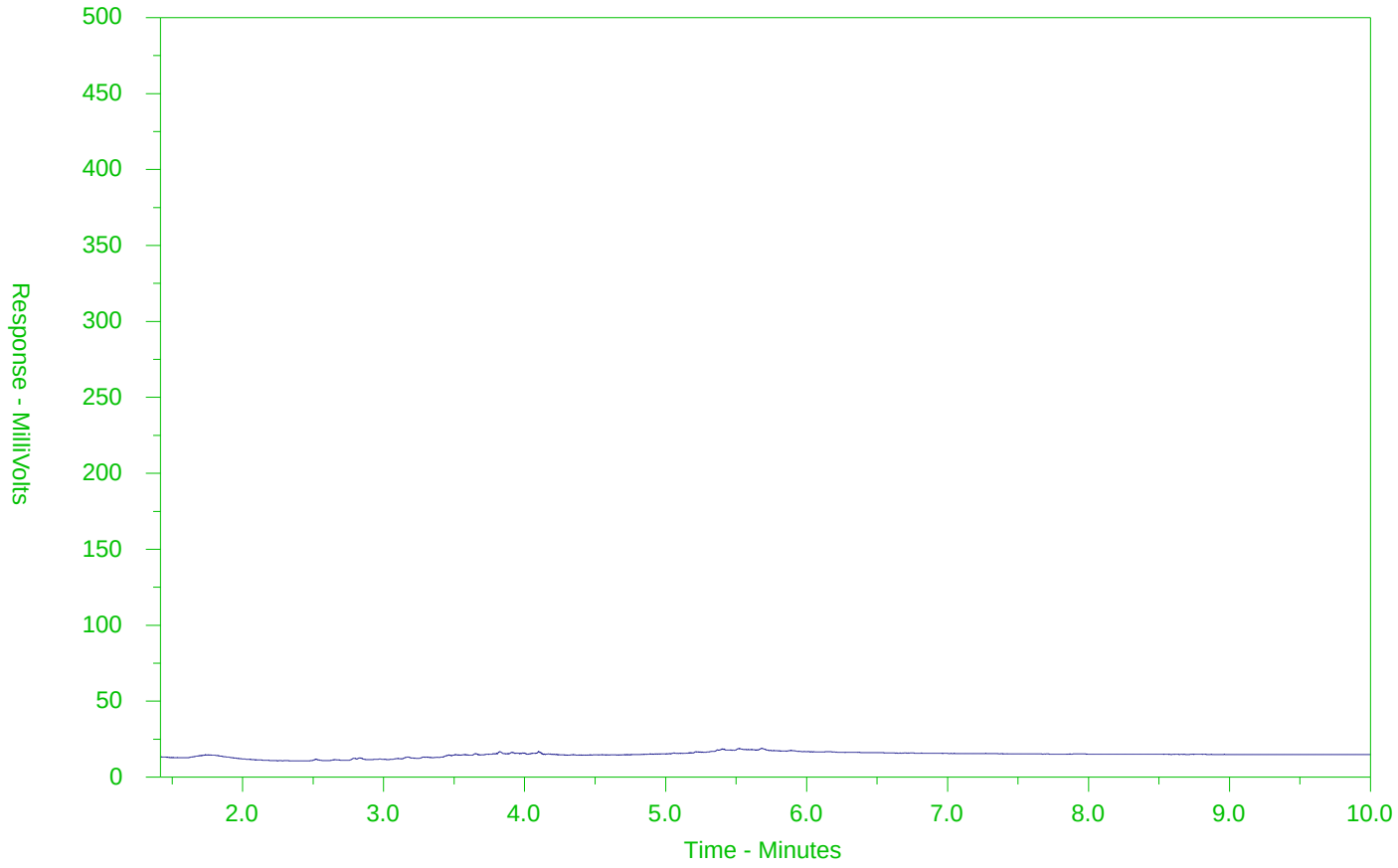
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2711704-3
Client Sample ID: 22-6-2B



←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.

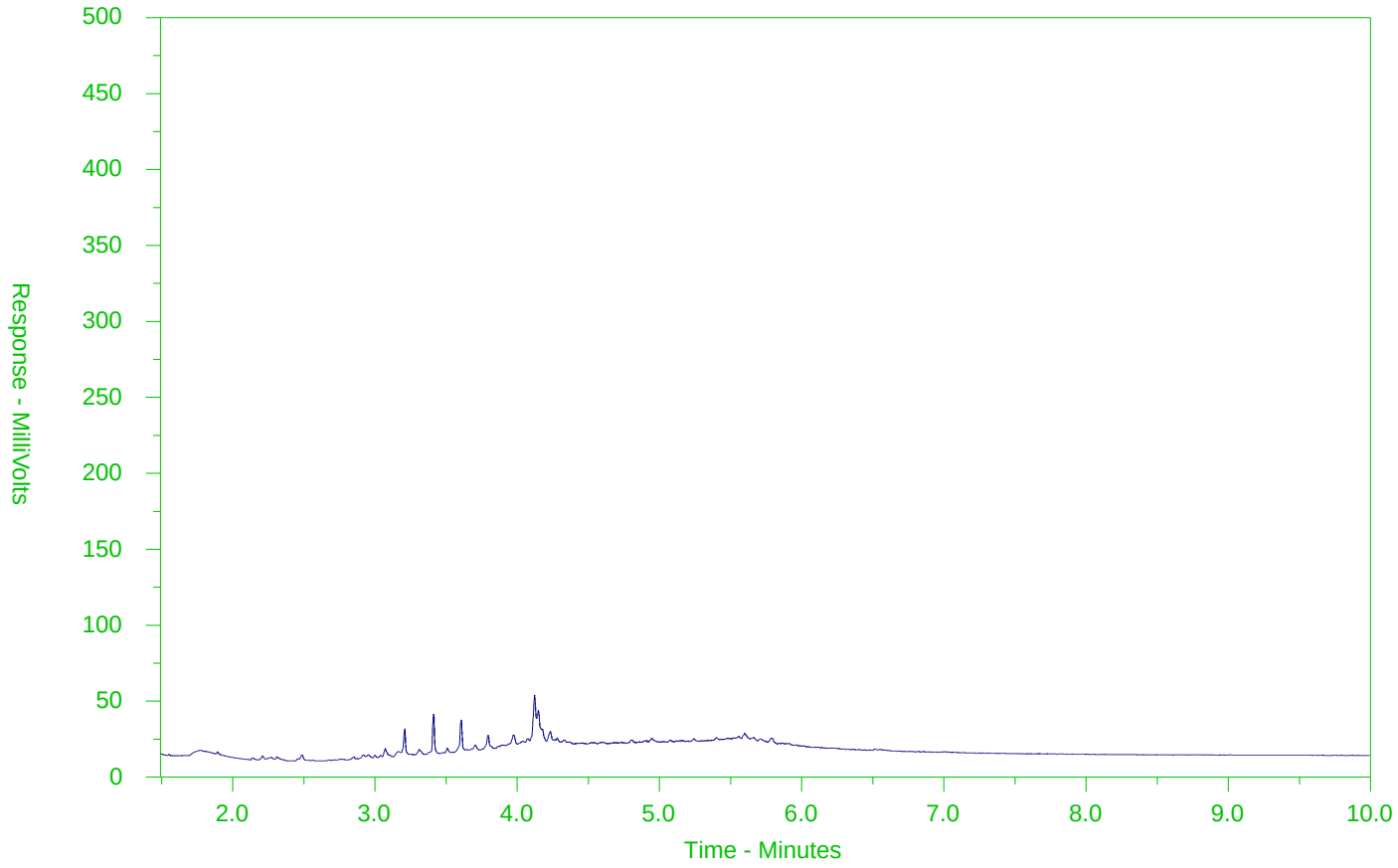
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2711704-4
Client Sample ID: 22-7-5B



←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.

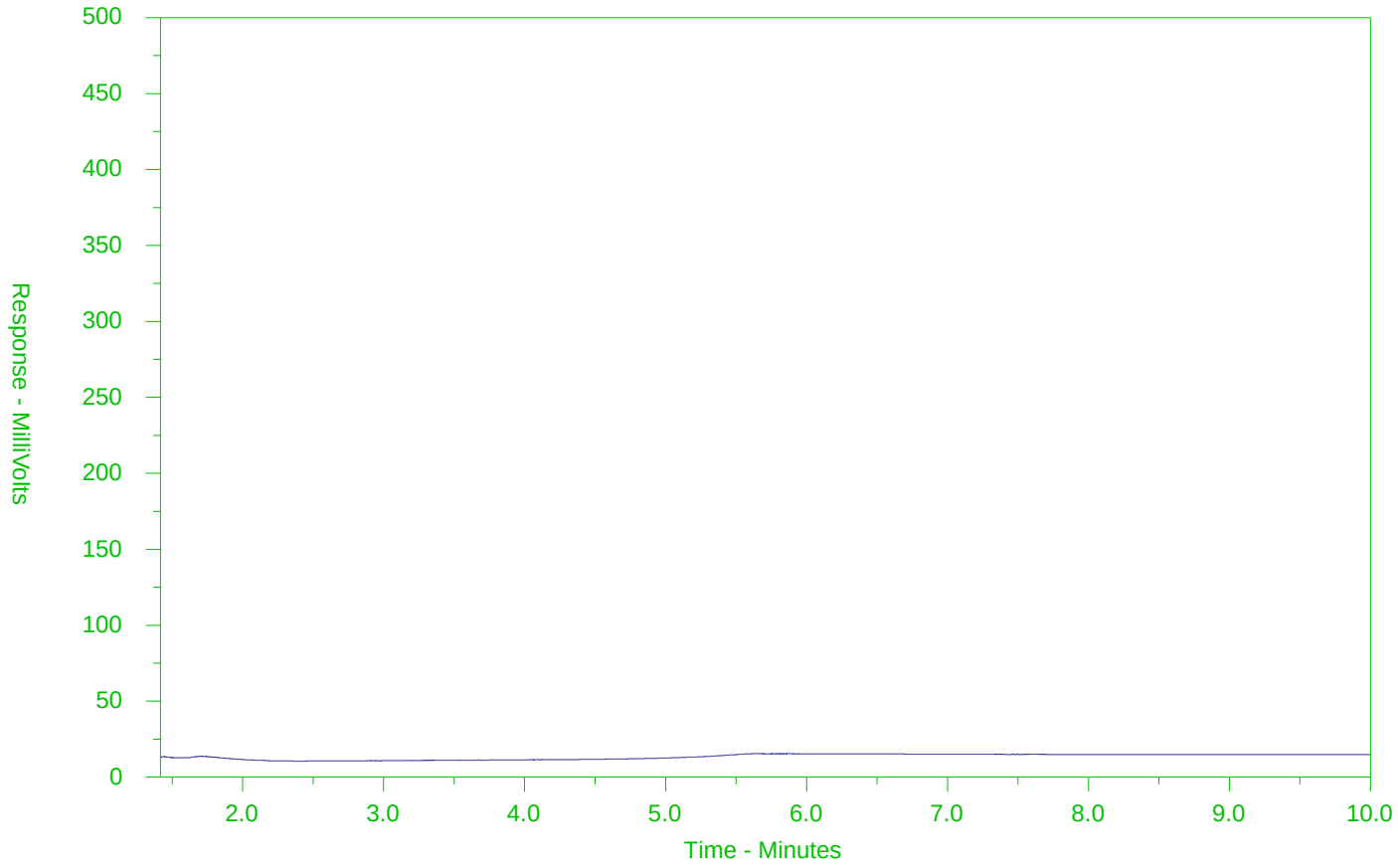
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2711704-5
Client Sample ID: 22-8-6



←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.

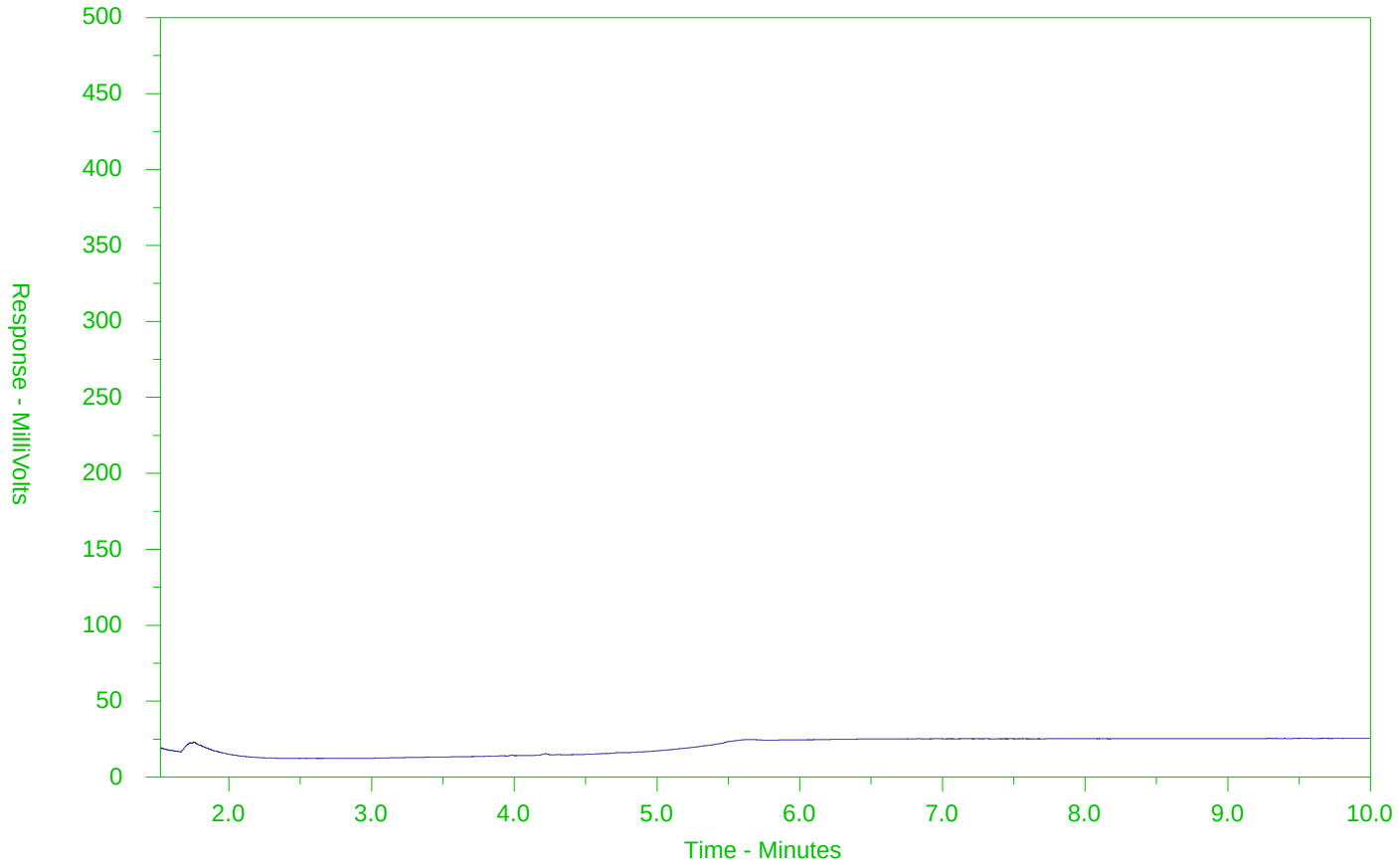
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2711704-7
Client Sample ID: 22-9-3



←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.

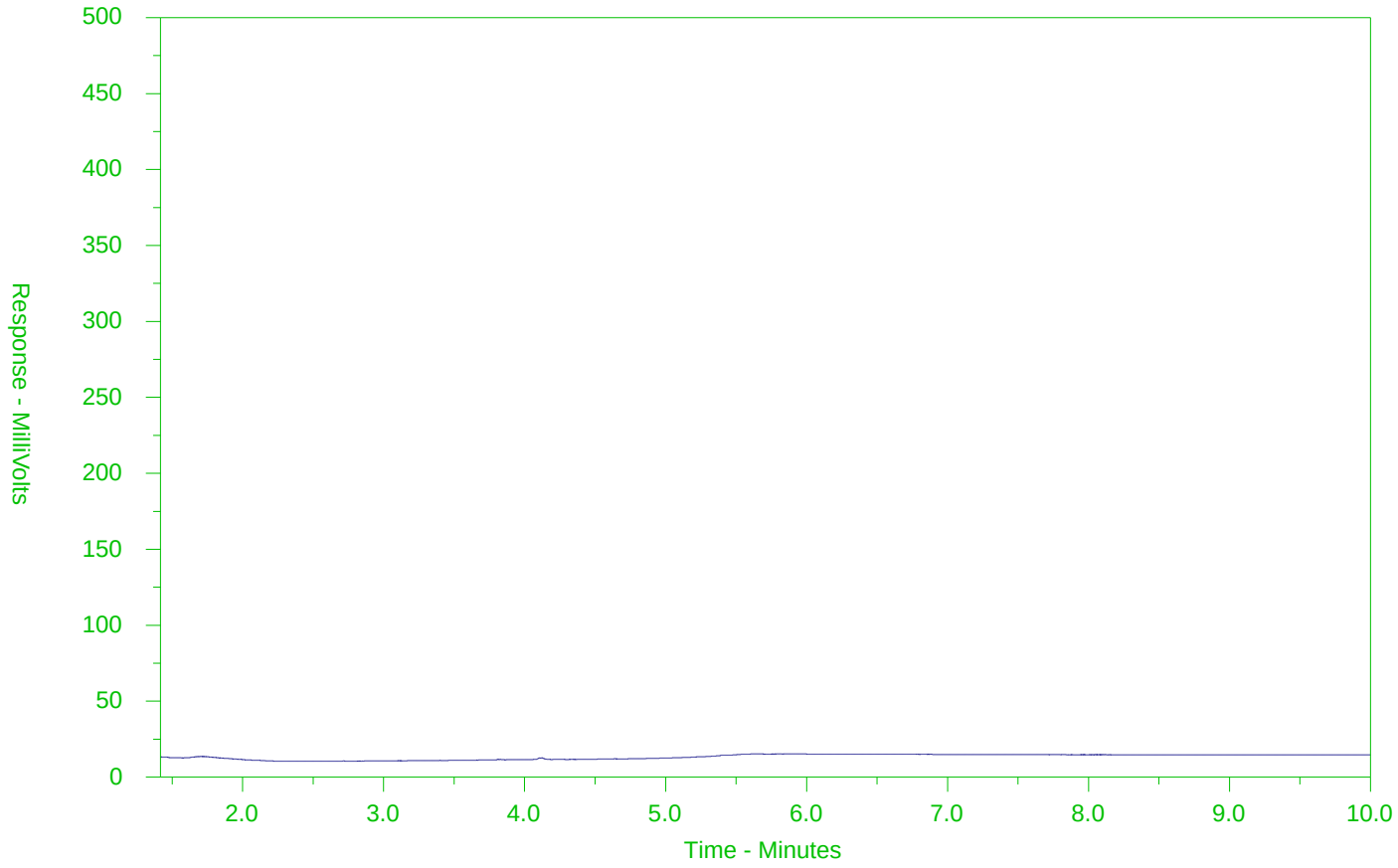
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2711704-8
Client Sample ID: 22-9-3D



←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.

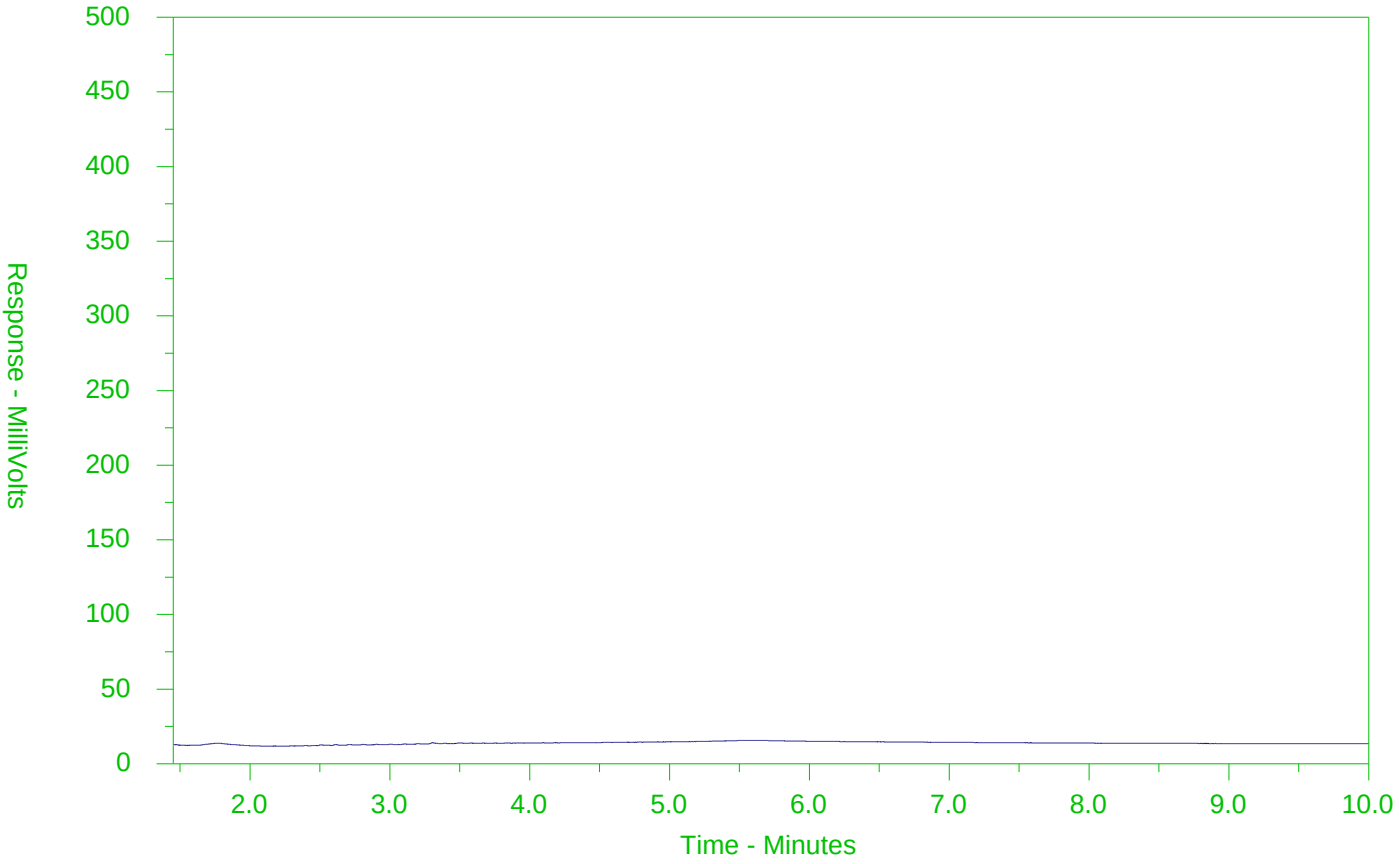
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2711704-12
Client Sample ID: 22-10-7



←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.

ALS www.alsglobal.com

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 - 951920

Page 1 of 1

Report To — Contact and company name below will appear on the final report

Company:	Palmer Environmental Consulting Group
Contact:	Bailey Fleet
Phone:	

Company address below will appear on the final report

Street:	74 Berkeley St
City/Province:	Toronto
Postal Code:	M5A 2W7

Invoice To

Same as Report To ☒ YES ☒ NO

Copy of Invoice with Report ☒ YES ☐ NO

Company:	Palmer
Contact:	accounting

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: bailey.fleet@pecg.ca

Email 2: kalina.naydenova@pecg.ca

Email 3: sarah.s.park@pecg.ca

Invoice Recipients

Select Invoice Distribution: ☒ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: accounting@pecg.ca

Email 2: sarah.s.park@pecg.ca

Turnaround Time (TAT) Requested

☒ Routine [R] if received by 3p

☐ 4 day [P4] if received by 3p

☐ 3 day [P3] if received by 3p

☐ 2 day [P2] if received by 3p

☐ 1 day [E] if received by 3pm

☐ Same day [E2] if received by ... may apply to rush requests on ...

L2711704-COFC

Date and Time Required for all E&P TATs: June 8/22

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

Project Information

ALS Account # / Quote #:	
Job #:	2204701
PO / AFE:	2204701
LSD:	

Oil and Gas Required Fields (client use)

AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (ALS use only): L2711704 JO

ALS Contact: Karan

Sampler: BF

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

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	PHC/BTEX	ICPMS metals	PAH/VOC	pH	grain size sieve	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	22-5-6	June 1	12:00	Soil	3	✓							
	22-5-6D	↓	12:00	↓	3	✓							
	22-6-2B	↓	1:00	↓	3	✓							
	22-7 5B	↓	2:00	↓	3	✓							
	22-8-6	↓	3:00	↓	4	[illegible]	✓	✓					
	22-8-6D	↓	3:00	↓	1		✓						
	22-9-3	↓	4:00	↓	3			✓					
	22-9-3D	↓	4:00	↓	3			✓					
	22-10-2	↓	5:00	↓	1				✓				
	22-10-2D	↓	5:00	↓	1				✓				
	22-10-5	↓	5:00	↓	1					✓			
	22-10-7	↓	5:00	↓	3			✓					

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)

Compare to O.Reg 153/04 Table 3 RPI

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: -0.1

SHIPMENT RELEASE (client use)

Released by: S.Babiak Date: June 1/22 Time:

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by: Date: Time:

FINAL SHIPMENT RECEPTION (ALS use only)

Received by: [signature] Date: 06/02/22 Time: 1000

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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.

AUG 2020 FRONT

PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
ATTN: BAILEY FLEET
74 Berkeley Street
Toronto ON M5V 1E3

Date Received: 03-JUN-22
Report Date: 13-JUN-22 07:06 (MT)
Version: FINAL

Client Phone: 647-795-8153

Certificate of Analysis

Lab Work Order #: L2712120

Project P.O. #: 2204701
Job Reference: 2204701
C of C Numbers: 20-951595
Legal Site Desc:

KARANPARTAP SINGH
Account Manager

ANALYTICAL REPORT

Summary of Guideline Exceedances

ALS ID	Client ID	Grouping	Analyte	Result	Guideline Limit	Unit	Guideline

Ontario Regulation 153/04 - April 15, 2011 Standards - T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)

(No parameter exceedances)

Ontario Regulation 153/04 - April 15, 2011 Standards - T3-Non-Potable Ground Water-All Types of Property Uses (Fine)

(No parameter exceedances)

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

ANALYTICAL REPORT

Dissolved Metals - WATER

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID	Sample Date	Sample ID
				L2712120-4	L2712120-5	L2712120-6
				02-JUN-22	02-JUN-22	02-JUN-22
				22-8	22-9	22-10
Dissolved Metals Filtration Location		-	-	FIELD	FIELD	FIELD
Antimony (Sb)-Dissolved	ug/L	20000	20000	<1.0 DLHC	<1.0 DLHC	<1.0 DLHC
Arsenic (As)-Dissolved	ug/L	1900	1900	<1.0 DLHC	<1.0 DLHC	<1.0 DLHC
Barium (Ba)-Dissolved	ug/L	29000	29000	45.2 DLHC	39.8 DLHC	169 DLHC
Beryllium (Be)-Dissolved	ug/L	67	67	<1.0 DLHC	<1.0 DLHC	<1.0 DLHC
Boron (B)-Dissolved	ug/L	45000	45000	<100 DLHC	<100 DLHC	<100 DLHC
Cadmium (Cd)-Dissolved	ug/L	2.7	2.7	<0.050 DLHC	<0.050 DLHC	<0.050 DLHC
Chromium (Cr)-Dissolved	ug/L	810	810	<5.0 DLHC	<5.0 DLHC	<5.0 DLHC
Cobalt (Co)-Dissolved	ug/L	66	66	<1.0 DLHC	<1.0 DLHC	<1.0 DLHC
Copper (Cu)-Dissolved	ug/L	87	87	2.9 DLHC	<2.0 DLHC	3.6 DLHC
Lead (Pb)-Dissolved	ug/L	25	25	<0.50 DLHC	<0.50 DLHC	<0.50 DLHC
Molybdenum (Mo)-Dissolved	ug/L	9200	9200	2.84 DLHC	2.38 DLHC	0.84 DLHC
Nickel (Ni)-Dissolved	ug/L	490	490	<5.0 DLHC	<5.0 DLHC	<5.0 DLHC
Selenium (Se)-Dissolved	ug/L	63	63	0.60 DLHC	0.82 DLHC	1.97 DLHC
Silver (Ag)-Dissolved	ug/L	1.5	1.5	<0.50 DLHC	<0.50 DLHC	<0.50 DLHC
Sodium (Na)-Dissolved	ug/L	2300000	2300000	1500000 DLHC	2020000 DLHC	2190000 DLHC
Thallium (Tl)-Dissolved	ug/L	510	510	<0.10 DLHC	<0.10 DLHC	<0.10 DLHC
Uranium (U)-Dissolved	ug/L	420	420	1.61 DLHC	0.79 DLHC	4.43 DLHC
Vanadium (V)-Dissolved	ug/L	250	250	<5.0 DLHC	<5.0 DLHC	<5.0 DLHC
Zinc (Zn)-Dissolved	ug/L	1100	1100	<10 DLHC	<10 DLHC	<10 DLHC

Guide Limit #1: T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)
Guide Limit #2: T3-Non-Potable Ground Water-All Types of Property Uses (Fine)

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 - WATER

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID	L2712120-1	L2712120-2	L2712120-3	L2712120-4	L2712120-5	L2712120-6	L2712120-7
				Sample Date	02-JUN-22	02-JUN-22	02-JUN-22	02-JUN-22	02-JUN-22	02-JUN-22	02-JUN-22
				Sample ID	22-5	22-6	22-7	22-8	22-9	22-10	22-10D
Acetone	ug/L	130000	130000					<30	<30	<30	<30
Benzene	ug/L	44	430		<0.50	<0.50 OWP	<0.50 OWP	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane	ug/L	85000	85000					<2.0	<2.0	<2.0	<2.0
Bromoform	ug/L	380	770					<5.0	<5.0	<5.0	<5.0
Bromomethane	ug/L	5.6	56					<0.50	<0.50	<0.50	<0.50
Carbon tetrachloride	ug/L	0.79	8.4					<0.20	<0.20	<0.20	<0.20
Chlorobenzene	ug/L	630	630					<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	ug/L	82000	82000					<2.0	<2.0	<2.0	<2.0
Chloroform	ug/L	2.4	22					<1.0	<1.0	<1.0	<1.0
1,2-Dibromoethane	ug/L	0.25	0.83					<0.20	<0.20	<0.20	<0.20
1,2-Dichlorobenzene	ug/L	4600	9600					<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	ug/L	9600	9600					<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	ug/L	8	67					<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	ug/L	4400	4400					<2.0	<2.0	<2.0	<2.0
1,1-Dichloroethane	ug/L	320	3100					<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane	ug/L	1.6	12					<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	ug/L	1.6	17					<0.50	<0.50	<0.50	<0.50
cis-1,2-Dichloroethylene	ug/L	1.6	17					<0.50	<0.50	<0.50	<0.50
trans-1,2-Dichloroethylene	ug/L	1.6	17					<0.50	<0.50	<0.50	<0.50
Methylene Chloride	ug/L	610	5500					<5.0	<5.0	<5.0	<5.0
1,2-Dichloropropane	ug/L	16	140					<0.50	<0.50	<0.50	<0.50
cis-1,3-Dichloropropene	ug/L	-	-					<0.30	<0.30	<0.30	<0.30
trans-1,3-Dichloropropene	ug/L	-	-					<0.30	<0.30	<0.30	<0.30
1,3-Dichloropropene (cis & trans)	ug/L	5.2	45					<0.50	<0.50	<0.50	<0.50
Ethylbenzene	ug/L	2300	2300		<0.50	<0.50 OWP	<0.50 OWP	<0.50	<0.50	<0.50	<0.50
n-Hexane	ug/L	51	520					<0.50	<0.50	<0.50	<0.50
Methyl Ethyl Ketone	ug/L	470000	1500000					<20	<20	<20	<20
Methyl Isobutyl Ketone	ug/L	140000	580000					<20	<20	<20	<20
MTBE	ug/L	190	1400					<2.0	<2.0	<2.0	<2.0
Styrene	ug/L	1300	9100					<0.50	<0.50	<0.50	<0.50

Guide Limit #1: T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)
Guide Limit #2: T3-Non-Potable Ground Water-All Types of Property Uses (Fine)

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

Volatile Organic Compounds - WATER

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID	L2712120-1	L2712120-2	L2712120-3	L2712120-4	L2712120-5	L2712120-6	L2712120-7
				Sample Date	02-JUN-22	02-JUN-22	02-JUN-22	02-JUN-22	02-JUN-22	02-JUN-22	02-JUN-22
				Sample ID	22-5	22-6	22-7	22-8	22-9	22-10	22-10D
1,1,1,2-Tetrachloroethane	ug/L	3.3	28				<0.50	<0.50	<0.50	<0.50
1,1,2,2-Tetrachloroethane	ug/L	3.2	15				<0.50	<0.50	<0.50	<0.50
Tetrachloroethylene	ug/L	1.6	17				<0.50	<0.50	<0.50	<0.50
Toluene	ug/L	18000	18000	<0.50	<0.50 OWP	<0.50 OWP	<0.50	<0.50	<0.50	<0.50
1,1,1-Trichloroethane	ug/L	640	6700				<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	ug/L	4.7	30				<0.50	<0.50	<0.50	<0.50
Trichloroethylene	ug/L	1.6	17				<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane	ug/L	2500	2500				<5.0	<5.0	<5.0	<5.0
Vinyl chloride	ug/L	0.5	1.7				<0.50	<0.50	<0.50	<0.50
o-Xylene	ug/L	-	-	<0.30	<0.30 OWP	<0.30 OWP	<0.30	<0.30	<0.30	<0.30
m+p-Xylenes	ug/L	-	-	<0.40	<0.40 OWP	<0.40 OWP	<0.40	<0.40	<0.40	<0.40
Xylenes (Total)	ug/L	4200	4200	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Surrogate: 4-Bromofluorobenzene	%	-	-	89.0	84.8	89.0	92.1	90.3	91.0	90.8
Surrogate: 1,4-Difluorobenzene	%	-	-	95.2	95.2	95.3	97.3	97.6	96.6	97.3

Guide Limit #1: T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)
Guide Limit #2: T3-Non-Potable Ground Water-All Types of Property Uses (Fine)

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

Hydrocarbons - WATER

		Guide Limits								
Lab ID				L2712120-1	L2712120-2	L2712120-3	L2712120-4	L2712120-5	L2712120-6	L2712120-7
Sample Date				02-JUN-22	02-JUN-22	02-JUN-22	02-JUN-22	02-JUN-22	02-JUN-22	02-JUN-22
Sample ID				22-5	22-6	22-7	22-8	22-9	22-10	22-10D
Analyte	**Unit**	**#1**	**#2**							
F1 (C6-C10)	ug/L	750	750	<25	<25 OWP	<25 OWP	<25	<25	<25	<25
F1-BTEX	ug/L	750	750	<25	<25	<25	<25	<25	<25	<25
F2 (C10-C16)	ug/L	150	150	<100	<100	<100	<100	<100	<100	<100
F3 (C16-C34)	ug/L	500	500	<250	<250	<250	<250	<250	<250	<250
F4 (C34-C50)	ug/L	500	500	<250	<250	<250	<250	<250	<250	<250
Total Hydrocarbons (C6-C50)	ug/L	-	-	<370	<370	<370	<370	<370	<370	<370
Chrom. to baseline at nC50		-	-	YES	YES	YES	YES	YES	YES	YES
Surrogate: 2-Bromobenzotrifluoride	%	-	-	85.2	89.4	86.0	91.1	86.0	84.8	80.0
Surrogate: 3,4-Dichlorotoluene	%	-	-	79.7	65.3	61.9	84.7	98.1	91.3	86.9

Guide Limit #1: T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)
Guide Limit #2: T3-Non-Potable Ground Water-All Types of Property Uses (Fine)

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
OWP	Organic water sample contained visible sediment (must be included as part of analysis). Measured concentrations of organic substances in water can be biased high due to presence of

Reference Information

sediment.

DLHC Detection Limit Raised: Dilution required due to high concentration of test analyte(s).

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
BTX-511-HS-WT	Water	BTEX by Headspace	SW846 8260 (511)

BTX is determined by analyzing 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).

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

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

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

Fraction F1 is determined by 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	Water	F2-F4-O.Reg 153/04 (July 2011)	EPA 3511/CCME Tier 1

Petroleum Hydrocarbons (F2-F4 fractions) are extracted from water using a hexane micro-extraction technique. Instrumental analysis is by GC-FID, as per the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Tier 1 Method, CCME, 2001.

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**
MET-D-UG/L-MS-WT	Water	Diss. Metals in Water by ICPMS (ug/L)	EPA 200.8

The metal constituents of a non-acidified sample that pass through a membrane filter prior to ICP/MS analysis.

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).

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

Liquid samples are analyzed by headspace 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 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	Water	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:

20-951595

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: L2712120 Report Date: 13-JUN-22

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: BAILEY FLEET

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTX-511-HS-WT	**Water**							
Batch R5795986								
WG3737173-4 DUP		**WG3737173-3**						
Benzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	09-JUN-22
Ethylbenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	09-JUN-22
m+p-Xylenes		<0.40	<0.40	RPD-NA	ug/L	N/A	30	09-JUN-22
o-Xylene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	09-JUN-22
Toluene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	09-JUN-22
WG3737173-1 LCS								
Benzene			110.5		%		70-130	09-JUN-22
Ethylbenzene			89.8		%		70-130	09-JUN-22
m+p-Xylenes			102.1		%		70-130	09-JUN-22
o-Xylene			95.3		%		70-130	09-JUN-22
Toluene			98.8		%		70-130	09-JUN-22
WG3737173-2 MB								
Benzene			<0.50		ug/L		0.5	09-JUN-22
Ethylbenzene			<0.50		ug/L		0.5	09-JUN-22
m+p-Xylenes			<0.40		ug/L		0.4	09-JUN-22
o-Xylene			<0.30		ug/L		0.3	09-JUN-22
Toluene			<0.50		ug/L		0.5	09-JUN-22
Surrogate: 1,4-Difluorobenzene			95.8		%		70-130	09-JUN-22
Surrogate: 4-Bromofluorobenzene			88.9		%		70-130	09-JUN-22
WG3737173-5 MS		**WG3737173-3**						
Benzene			102.8		%		50-140	09-JUN-22
Ethylbenzene			80.0		%		50-140	09-JUN-22
m+p-Xylenes			92.2		%		50-140	09-JUN-22
o-Xylene			85.3		%		50-140	09-JUN-22
Toluene			93.4		%		50-140	09-JUN-22
F1-HS-511-WT	**Water**							
Batch R5794652								
WG3735733-4 DUP		**WG3735733-3**						
F1 (C6-C10)		<25	<25	RPD-NA	ug/L	N/A	30	06-JUN-22
WG3735733-1 LCS								
F1 (C6-C10)			111.8		%		80-120	06-JUN-22
WG3735733-2 MB								
F1 (C6-C10)			<25		ug/L		25	06-JUN-22
Surrogate: 3,4-Dichlorotoluene			100.2		%		60-140	06-JUN-22
WG3735733-5 MS		**WG3735733-3**						

Quality Control Report

Workorder: L2712120 Report Date: 13-JUN-22

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: BAILEY FLEET

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-511-WT	**Water**							
Batch R5794652								
WG3735733-5 MS		**WG3735733-3**						
F1 (C6-C10)			92.3		%		60-140	06-JUN-22
Batch R5795986								
WG3737173-4 DUP		**WG3737173-3**						
F1 (C6-C10)		<25	<25	RPD-NA	ug/L	N/A	30	09-JUN-22
WG3737173-1 LCS								
F1 (C6-C10)			101.9		%		80-120	09-JUN-22
WG3737173-2 MB								
F1 (C6-C10)			<25		ug/L		25	09-JUN-22
Surrogate: 3,4-Dichlorotoluene			99.4		%		60-140	09-JUN-22
WG3737173-5 MS		**WG3737173-3**						
F1 (C6-C10)			97.7		%		60-140	09-JUN-22
F2-F4-511-WT	**Water**							
Batch R5796385								
WG3735786-2 LCS								
F2 (C10-C16)			98.9		%		70-130	10-JUN-22
F3 (C16-C34)			104.7		%		70-130	10-JUN-22
F4 (C34-C50)			115.2		%		70-130	10-JUN-22
WG3735786-1 MB								
F2 (C10-C16)			<100		ug/L		100	10-JUN-22
F3 (C16-C34)			<250		ug/L		250	10-JUN-22
F4 (C34-C50)			<250		ug/L		250	10-JUN-22
Surrogate: 2-Bromobenzotrifluoride			82.7		%		60-140	10-JUN-22
Batch R5796662								
WG3735790-2 LCS								
F2 (C10-C16)			97.1		%		70-130	10-JUN-22
F3 (C16-C34)			102.4		%		70-130	10-JUN-22
F4 (C34-C50)			101.4		%		70-130	10-JUN-22
WG3735790-1 MB								
F2 (C10-C16)			<100		ug/L		100	10-JUN-22
F3 (C16-C34)			<250		ug/L		250	10-JUN-22
F4 (C34-C50)			<250		ug/L		250	10-JUN-22
Surrogate: 2-Bromobenzotrifluoride			83.2		%		60-140	10-JUN-22
MET-D-UG/L-MS-WT	**Water**							

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: BAILEY FLEET

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R5795060								
WG3736171-4 DUP		**WG3736171-3**						
Antimony (Sb)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	07-JUN-22
Arsenic (As)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	07-JUN-22
Barium (Ba)-Dissolved		297	291		ug/L	2.2	20	07-JUN-22
Beryllium (Be)-Dissolved		<1.0	<1.0	RPD-NA	ug/L	N/A	20	07-JUN-22
Boron (B)-Dissolved		<100	<100	RPD-NA	ug/L	N/A	20	07-JUN-22
Cadmium (Cd)-Dissolved		0.065	0.072		ug/L	10	20	07-JUN-22
Chromium (Cr)-Dissolved		<5.0	<5.0	RPD-NA	ug/L	N/A	20	07-JUN-22
Cobalt (Co)-Dissolved		3.5	3.4		ug/L	2.6	20	07-JUN-22
Copper (Cu)-Dissolved		4.8	4.6		ug/L	5.3	20	07-JUN-22
Lead (Pb)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	07-JUN-22
Molybdenum (Mo)-Dissolved		0.87	0.82		ug/L	5.5	20	07-JUN-22
Nickel (Ni)-Dissolved		8.6	8.2		ug/L	3.8	20	07-JUN-22
Selenium (Se)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	07-JUN-22
Silver (Ag)-Dissolved		<0.50	<0.50	RPD-NA	ug/L	N/A	20	07-JUN-22
Sodium (Na)-Dissolved		492000	495000		ug/L	0.8	20	07-JUN-22
Thallium (Tl)-Dissolved		<0.10	<0.10	RPD-NA	ug/L	N/A	20	07-JUN-22
Uranium (U)-Dissolved		5.28	4.99		ug/L	5.7	20	07-JUN-22
Vanadium (V)-Dissolved		<5.0	<5.0	RPD-NA	ug/L	N/A	20	07-JUN-22
Zinc (Zn)-Dissolved		<10	<10	RPD-NA	ug/L	N/A	20	07-JUN-22
WG3736171-2 LCS								
Antimony (Sb)-Dissolved			104.9		%		80-120	07-JUN-22
Arsenic (As)-Dissolved			98.5		%		80-120	07-JUN-22
Barium (Ba)-Dissolved			103.9		%		80-120	07-JUN-22
Beryllium (Be)-Dissolved			99.4		%		80-120	07-JUN-22
Boron (B)-Dissolved			102.8		%		80-120	07-JUN-22
Cadmium (Cd)-Dissolved			99.8		%		80-120	07-JUN-22
Chromium (Cr)-Dissolved			103.4		%		80-120	07-JUN-22
Cobalt (Co)-Dissolved			99.4		%		80-120	07-JUN-22
Copper (Cu)-Dissolved			100.2		%		80-120	07-JUN-22
Lead (Pb)-Dissolved			103.9		%		80-120	07-JUN-22
Molybdenum (Mo)-Dissolved			100.5		%		80-120	07-JUN-22
Nickel (Ni)-Dissolved			102.8		%		80-120	07-JUN-22
Selenium (Se)-Dissolved			92.2		%		80-120	07-JUN-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: BAILEY FLEET

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R5795060								
WG3736171-2 LCS								
Silver (Ag)-Dissolved			95.6		%		80-120	07-JUN-22
Sodium (Na)-Dissolved			109.6		%		80-120	07-JUN-22
Thallium (Tl)-Dissolved			102.2		%		80-120	07-JUN-22
Uranium (U)-Dissolved			101.5		%		80-120	07-JUN-22
Vanadium (V)-Dissolved			106.2		%		80-120	07-JUN-22
Zinc (Zn)-Dissolved			97.4		%		80-120	07-JUN-22
WG3736171-1 MB								
Antimony (Sb)-Dissolved			<0.10		ug/L		0.1	07-JUN-22
Arsenic (As)-Dissolved			<0.10		ug/L		0.1	07-JUN-22
Barium (Ba)-Dissolved			<0.10		ug/L		0.1	07-JUN-22
Beryllium (Be)-Dissolved			<0.10		ug/L		0.1	07-JUN-22
Boron (B)-Dissolved			<10		ug/L		10	07-JUN-22
Cadmium (Cd)-Dissolved			<0.0050		ug/L		0.005	07-JUN-22
Chromium (Cr)-Dissolved			<0.50		ug/L		0.5	07-JUN-22
Cobalt (Co)-Dissolved			<0.10		ug/L		0.1	07-JUN-22
Copper (Cu)-Dissolved			<0.20		ug/L		0.2	07-JUN-22
Lead (Pb)-Dissolved			<0.050		ug/L		0.05	07-JUN-22
Molybdenum (Mo)-Dissolved			<0.050		ug/L		0.05	07-JUN-22
Nickel (Ni)-Dissolved			<0.50		ug/L		0.5	07-JUN-22
Selenium (Se)-Dissolved			<0.050		ug/L		0.05	07-JUN-22
Silver (Ag)-Dissolved			<0.050		ug/L		0.05	07-JUN-22
Sodium (Na)-Dissolved			<50		ug/L		50	07-JUN-22
Thallium (Tl)-Dissolved			<0.010		ug/L		0.01	07-JUN-22
Uranium (U)-Dissolved			<0.010		ug/L		0.01	07-JUN-22
Vanadium (V)-Dissolved			<0.50		ug/L		0.5	07-JUN-22
Zinc (Zn)-Dissolved			<1.0		ug/L		1	07-JUN-22
WG3736171-5 MS		**WG3736171-6**						
Antimony (Sb)-Dissolved			103.5		%		70-130	07-JUN-22
Arsenic (As)-Dissolved			104.7		%		70-130	07-JUN-22
Barium (Ba)-Dissolved			N/A	MS-B	%		-	07-JUN-22
Beryllium (Be)-Dissolved			104.5		%		70-130	07-JUN-22
Cadmium (Cd)-Dissolved			99.0		%		70-130	07-JUN-22
Chromium (Cr)-Dissolved			100.4		%		70-130	07-JUN-22
Cobalt (Co)-Dissolved			82.5		%		70-130	07-JUN-22

Quality Control Report

Workorder: L2712120 Report Date: 13-JUN-22

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: BAILEY FLEET

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
MET-D-UG/L-MS-WT	**Water**							
Batch R5795060								
WG3736171-5 MS		**WG3736171-6**						
Copper (Cu)-Dissolved			87.6		%		70-130	07-JUN-22
Lead (Pb)-Dissolved			99.4		%		70-130	07-JUN-22
Molybdenum (Mo)-Dissolved			96.7		%		70-130	07-JUN-22
Nickel (Ni)-Dissolved			79.7		%		70-130	07-JUN-22
Selenium (Se)-Dissolved			105.1		%		70-130	07-JUN-22
Silver (Ag)-Dissolved			92.9		%		70-130	07-JUN-22
Sodium (Na)-Dissolved			N/A	MS-B	%		-	07-JUN-22
Thallium (Tl)-Dissolved			98.1		%		70-130	07-JUN-22
Uranium (U)-Dissolved			N/A	MS-B	%		-	07-JUN-22
Vanadium (V)-Dissolved			106.4		%		70-130	07-JUN-22
Zinc (Zn)-Dissolved			100.4		%		70-130	07-JUN-22
VOC-511-HS-WT	**Water**							
Batch R5794652								
WG3735733-4 DUP		**WG3735733-3**						
1,1,1,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
1,1,2,2-Tetrachloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
1,1,1-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
1,1,2-Trichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
1,1-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
1,1-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
1,2-Dibromoethane		<0.20	<0.20	RPD-NA	ug/L	N/A	30	06-JUN-22
1,2-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
1,2-Dichloroethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
1,2-Dichloropropane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
1,3-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
1,4-Dichlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
Acetone		<30	<30	RPD-NA	ug/L	N/A	30	06-JUN-22
Benzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
Bromodichloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	06-JUN-22
Bromoform		<5.0	<5.0	RPD-NA	ug/L	N/A	30	06-JUN-22
Bromomethane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
Carbon tetrachloride		<0.20	<0.20	RPD-NA	ug/L	N/A	30	06-JUN-22
Chlorobenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: BAILEY FLEET

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Water**							
Batch R5794652								
WG3735733-4 DUP		**WG3735733-3**						
Chloroform		<1.0	<1.0	RPD-NA	ug/L	N/A	30	06-JUN-22
cis-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
cis-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	06-JUN-22
Dibromochloromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	06-JUN-22
Dichlorodifluoromethane		<2.0	<2.0	RPD-NA	ug/L	N/A	30	06-JUN-22
Ethylbenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
n-Hexane		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
m+p-Xylenes		<0.40	<0.40	RPD-NA	ug/L	N/A	30	06-JUN-22
Methyl Ethyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	06-JUN-22
Methyl Isobutyl Ketone		<20	<20	RPD-NA	ug/L	N/A	30	06-JUN-22
Methylene Chloride		<5.0	<5.0	RPD-NA	ug/L	N/A	30	06-JUN-22
MTBE		<2.0	<2.0	RPD-NA	ug/L	N/A	30	06-JUN-22
o-Xylene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	06-JUN-22
Styrene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
Tetrachloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
Toluene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
trans-1,2-Dichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
trans-1,3-Dichloropropene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	06-JUN-22
Trichloroethylene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
Trichlorofluoromethane		<5.0	<5.0	RPD-NA	ug/L	N/A	30	06-JUN-22
Vinyl chloride		<0.50	<0.50	RPD-NA	ug/L	N/A	30	06-JUN-22
WG3735733-1 LCS								
1,1,1,2-Tetrachloroethane			101.5		%		70-130	06-JUN-22
1,1,2,2-Tetrachloroethane			99.0		%		70-130	06-JUN-22
1,1,1-Trichloroethane			101.4		%		70-130	06-JUN-22
1,1,2-Trichloroethane			100.2		%		70-130	06-JUN-22
1,1-Dichloroethane			95.6		%		70-130	06-JUN-22
1,1-Dichloroethylene			92.3		%		70-130	06-JUN-22
1,2-Dibromoethane			102.6		%		70-130	06-JUN-22
1,2-Dichlorobenzene			102.1		%		70-130	06-JUN-22
1,2-Dichloroethane			105.2		%		70-130	06-JUN-22
1,2-Dichloropropane			105.7		%		70-130	06-JUN-22
1,3-Dichlorobenzene			100.2		%		70-130	06-JUN-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: BAILEY FLEET

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Water**							
Batch R5794652								
WG3735733-1 LCS								
1,4-Dichlorobenzene			101.5		%		70-130	06-JUN-22
Acetone			97.5		%		60-140	06-JUN-22
Benzene			105.9		%		70-130	06-JUN-22
Bromodichloromethane			112.6		%		70-130	06-JUN-22
Bromoform			103.0		%		70-130	06-JUN-22
Bromomethane			90.7		%		60-140	06-JUN-22
Carbon tetrachloride			102.6		%		70-130	06-JUN-22
Chlorobenzene			100.8		%		70-130	06-JUN-22
Chloroform			106.8		%		70-130	06-JUN-22
cis-1,2-Dichloroethylene			103.4		%		70-130	06-JUN-22
cis-1,3-Dichloropropene			106.8		%		70-130	06-JUN-22
Dibromochloromethane			105.2		%		70-130	06-JUN-22
Dichlorodifluoromethane			49.7	MES	%		50-140	06-JUN-22
Ethylbenzene			89.7		%		70-130	06-JUN-22
n-Hexane			91.7		%		70-130	06-JUN-22
m+p-Xylenes			94.1		%		70-130	06-JUN-22
Methyl Ethyl Ketone			97.5		%		60-140	06-JUN-22
Methyl Isobutyl Ketone			82.2		%		60-140	06-JUN-22
Methylene Chloride			109.7		%		70-130	06-JUN-22
MTBE			100.8		%		70-130	06-JUN-22
o-Xylene			88.3		%		70-130	06-JUN-22
Styrene			91.6		%		70-130	06-JUN-22
Tetrachloroethylene			103.0		%		70-130	06-JUN-22
Toluene			95.0		%		70-130	06-JUN-22
trans-1,2-Dichloroethylene			103.6		%		70-130	06-JUN-22
trans-1,3-Dichloropropene			100.1		%		70-130	06-JUN-22
Trichloroethylene			104.6		%		70-130	06-JUN-22
Trichlorofluoromethane			90.7		%		60-140	06-JUN-22
Vinyl chloride			69.9		%		60-140	06-JUN-22
WG3735733-2 MB								
1,1,1,2-Tetrachloroethane			<0.50		ug/L		0.5	06-JUN-22
1,1,2,2-Tetrachloroethane			<0.50		ug/L		0.5	06-JUN-22
1,1,1-Trichloroethane			<0.50		ug/L		0.5	06-JUN-22
1,1,2-Trichloroethane			<0.50		ug/L		0.5	06-JUN-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: BAILEY FLEET

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Water**							
Batch R5794652								
WG3735733-2 MB								
1,1-Dichloroethane			<0.50		ug/L		0.5	06-JUN-22
1,1-Dichloroethylene			<0.50		ug/L		0.5	06-JUN-22
1,2-Dibromoethane			<0.20		ug/L		0.2	06-JUN-22
1,2-Dichlorobenzene			<0.50		ug/L		0.5	06-JUN-22
1,2-Dichloroethane			<0.50		ug/L		0.5	06-JUN-22
1,2-Dichloropropane			<0.50		ug/L		0.5	06-JUN-22
1,3-Dichlorobenzene			<0.50		ug/L		0.5	06-JUN-22
1,4-Dichlorobenzene			<0.50		ug/L		0.5	06-JUN-22
Acetone			<30		ug/L		30	06-JUN-22
Benzene			<0.50		ug/L		0.5	06-JUN-22
Bromodichloromethane			<2.0		ug/L		2	06-JUN-22
Bromoform			<5.0		ug/L		5	06-JUN-22
Bromomethane			<0.50		ug/L		0.5	06-JUN-22
Carbon tetrachloride			<0.20		ug/L		0.2	06-JUN-22
Chlorobenzene			<0.50		ug/L		0.5	06-JUN-22
Chloroform			<1.0		ug/L		1	06-JUN-22
cis-1,2-Dichloroethylene			<0.50		ug/L		0.5	06-JUN-22
cis-1,3-Dichloropropene			<0.30		ug/L		0.3	06-JUN-22
Dibromochloromethane			<2.0		ug/L		2	06-JUN-22
Dichlorodifluoromethane			<2.0		ug/L		2	06-JUN-22
Ethylbenzene			<0.50		ug/L		0.5	06-JUN-22
n-Hexane			<0.50		ug/L		0.5	06-JUN-22
m+p-Xylenes			<0.40		ug/L		0.4	06-JUN-22
Methyl Ethyl Ketone			<20		ug/L		20	06-JUN-22
Methyl Isobutyl Ketone			<20		ug/L		20	06-JUN-22
Methylene Chloride			<5.0		ug/L		5	06-JUN-22
MTBE			<2.0		ug/L		2	06-JUN-22
o-Xylene			<0.30		ug/L		0.3	06-JUN-22
Styrene			<0.50		ug/L		0.5	06-JUN-22
Tetrachloroethylene			<0.50		ug/L		0.5	06-JUN-22
Toluene			<0.50		ug/L		0.5	06-JUN-22
trans-1,2-Dichloroethylene			<0.50		ug/L		0.5	06-JUN-22
trans-1,3-Dichloropropene			<0.30		ug/L		0.3	06-JUN-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: BAILEY FLEET

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Water**							
Batch R5794652								
WG3735733-2 MB								
Trichloroethylene			<0.50		ug/L		0.5	06-JUN-22
Trichlorofluoromethane			<5.0		ug/L		5	06-JUN-22
Vinyl chloride			<0.50		ug/L		0.5	06-JUN-22
Surrogate: 1,4-Difluorobenzene			99.1		%		70-130	06-JUN-22
Surrogate: 4-Bromofluorobenzene			93.8		%		70-130	06-JUN-22
WG3735733-5 MS		**WG3735733-3**						
1,1,1,2-Tetrachloroethane			96.5		%		50-140	06-JUN-22
1,1,2,2-Tetrachloroethane			94.3		%		50-140	06-JUN-22
1,1,1-Trichloroethane			98.4		%		50-140	06-JUN-22
1,1,2-Trichloroethane			94.5		%		50-140	06-JUN-22
1,1-Dichloroethane			93.3		%		50-140	06-JUN-22
1,1-Dichloroethylene			87.1		%		50-140	06-JUN-22
1,2-Dibromoethane			95.6		%		50-140	06-JUN-22
1,2-Dichlorobenzene			96.4		%		50-140	06-JUN-22
1,2-Dichloroethane			103.4		%		50-140	06-JUN-22
1,2-Dichloropropane			102.7		%		50-140	06-JUN-22
1,3-Dichlorobenzene			93.4		%		50-140	06-JUN-22
1,4-Dichlorobenzene			95.7		%		50-140	06-JUN-22
Acetone			98.6		%		50-140	06-JUN-22
Benzene			102.3		%		50-140	06-JUN-22
Bromodichloromethane			111.5		%		50-140	06-JUN-22
Bromoform			96.7		%		50-140	06-JUN-22
Bromomethane			83.2		%		50-140	06-JUN-22
Carbon tetrachloride			99.7		%		50-140	06-JUN-22
Chlorobenzene			94.5		%		50-140	06-JUN-22
Chloroform			105.4		%		50-140	06-JUN-22
cis-1,2-Dichloroethylene			99.2		%		50-140	06-JUN-22
cis-1,3-Dichloropropene			96.7		%		50-140	06-JUN-22
Dibromochloromethane			99.6		%		50-140	06-JUN-22
Dichlorodifluoromethane			41.8	MES	%		50-140	06-JUN-22
Ethylbenzene			79.7		%		50-140	06-JUN-22
n-Hexane			82.8		%		50-140	06-JUN-22
m+p-Xylenes			85.6		%		50-140	06-JUN-22
Methyl Ethyl Ketone			92.5		%		50-140	06-JUN-22

Quality Control Report

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: BAILEY FLEET

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
VOC-511-HS-WT	**Water**							
Batch R5794652								
WG3735733-5 MS		**WG3735733-3**						
Methyl Isobutyl Ketone			73.2		%		50-140	06-JUN-22
Methylene Chloride			107.4		%		50-140	06-JUN-22
MTBE			95.2		%		50-140	06-JUN-22
o-Xylene			78.6		%		50-140	06-JUN-22
Styrene			80.5		%		50-140	06-JUN-22
Tetrachloroethylene			92.7		%		50-140	06-JUN-22
Toluene			85.7		%		50-140	06-JUN-22
trans-1,2-Dichloroethylene			98.5		%		50-140	06-JUN-22
trans-1,3-Dichloropropene			84.0		%		50-140	06-JUN-22
Trichloroethylene			99.7		%		50-140	06-JUN-22
Trichlorofluoromethane			85.2		%		50-140	06-JUN-22
Vinyl chloride			63.1		%		50-140	06-JUN-22

Quality Control Report

Workorder: L2712120 Report Date: 13-JUN-22

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: BAILEY FLEET

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
MES	Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).
MS-B	Matrix Spike recovery could not be accurately calculated due to high analyte background in sample.
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.

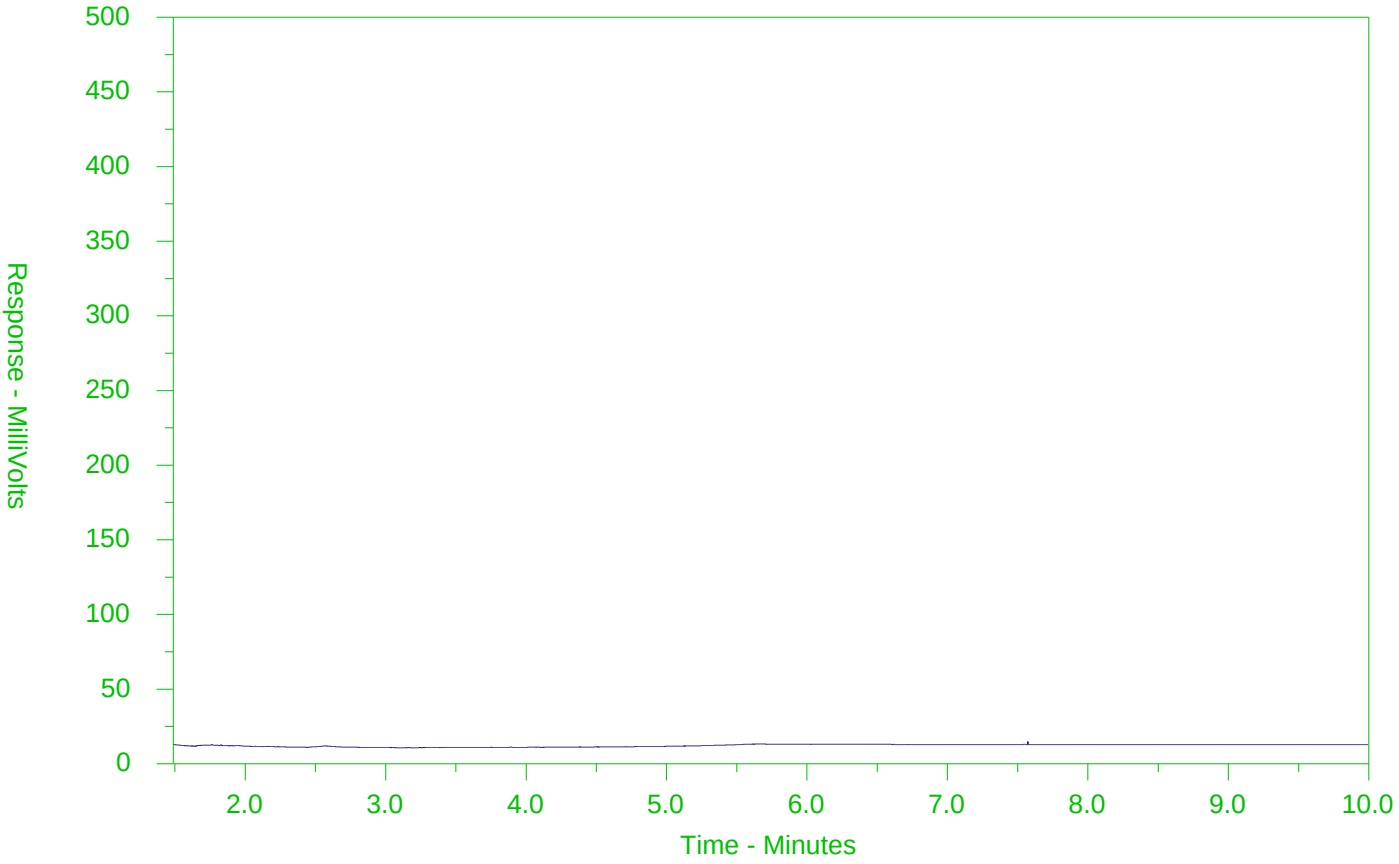
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where 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: L2712120-1
Client Sample ID: 22-5



←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.

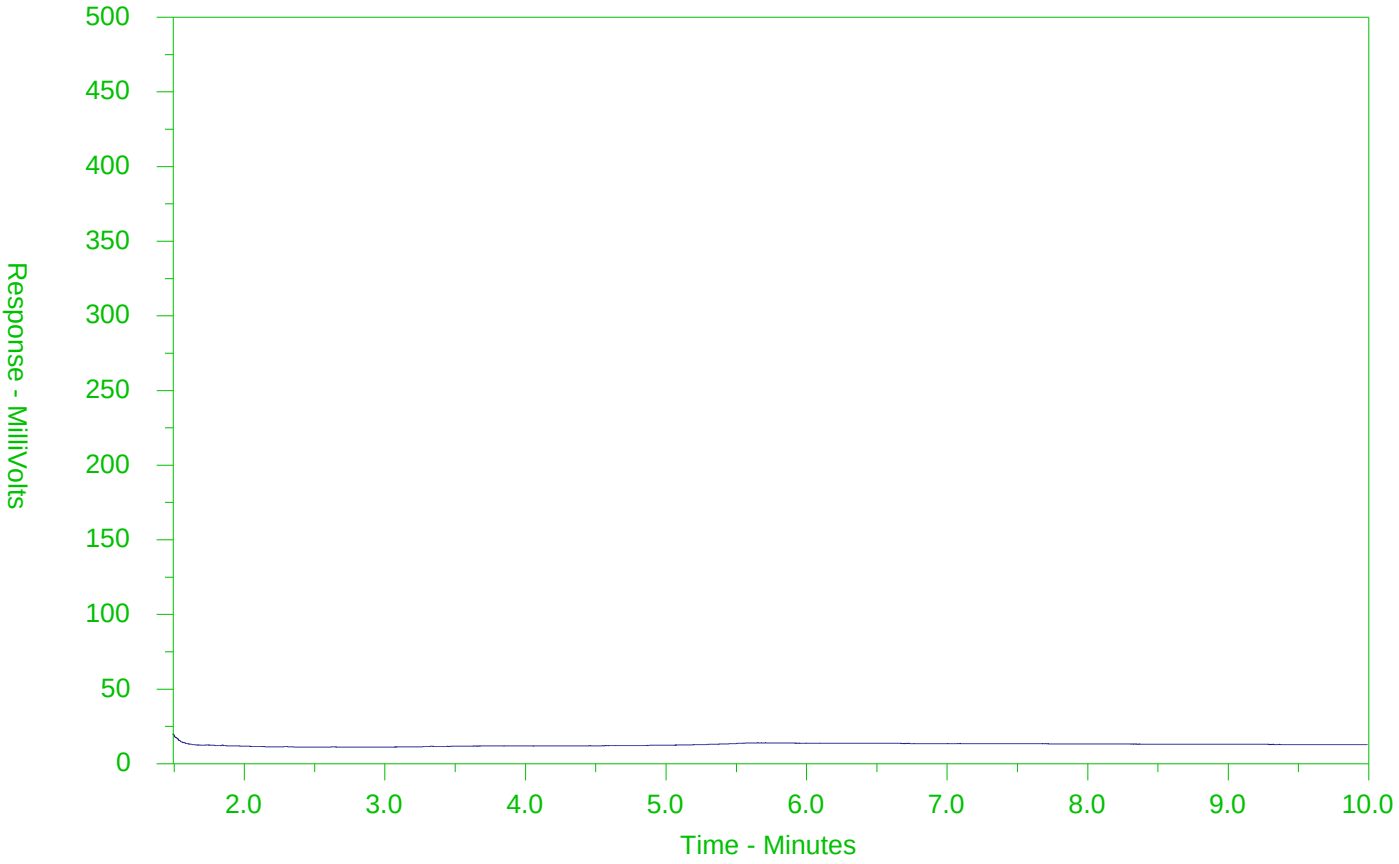
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2712120-2
Client Sample ID: 22-6



←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.

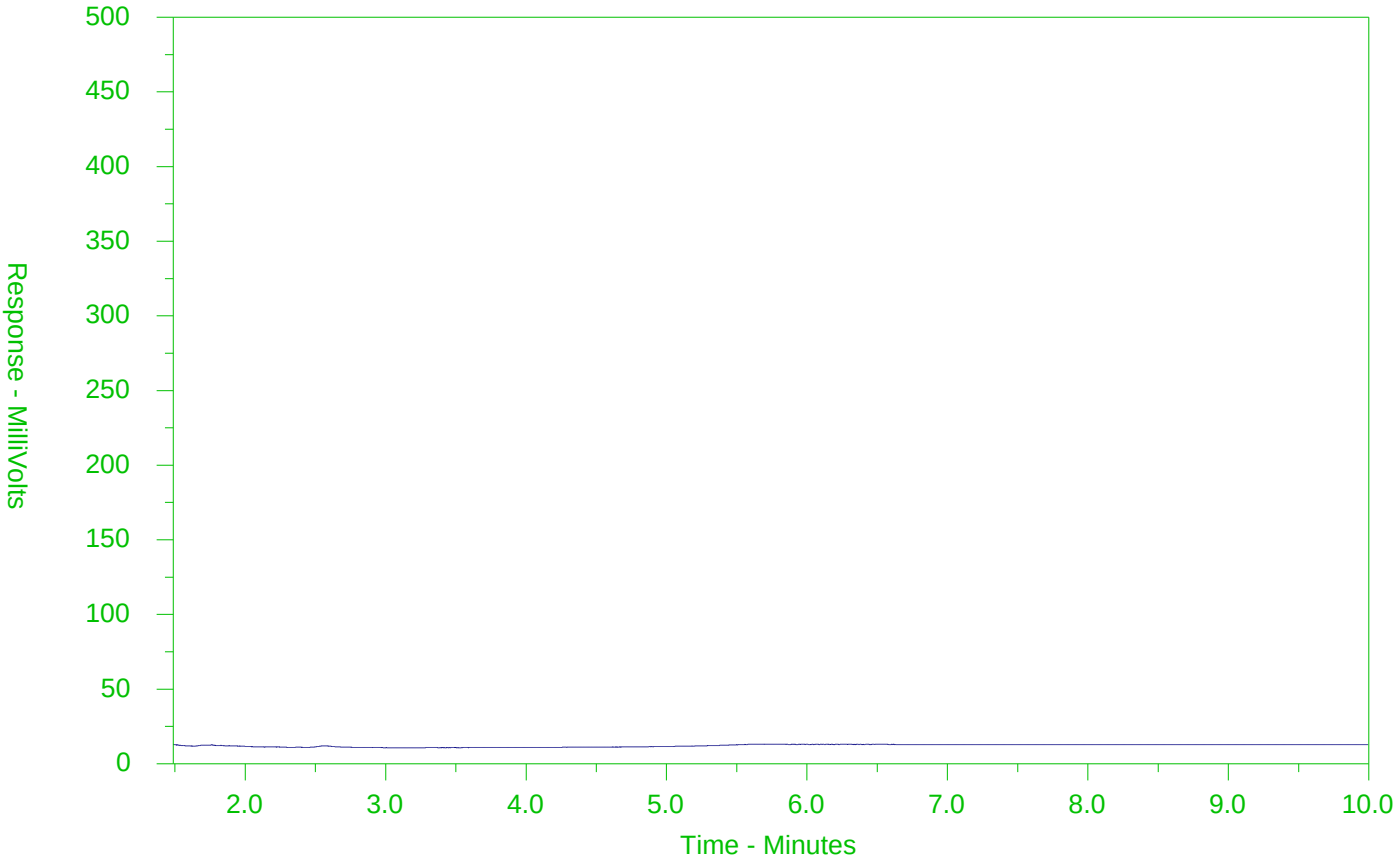
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2712120-3
Client Sample ID: 22-7



←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.

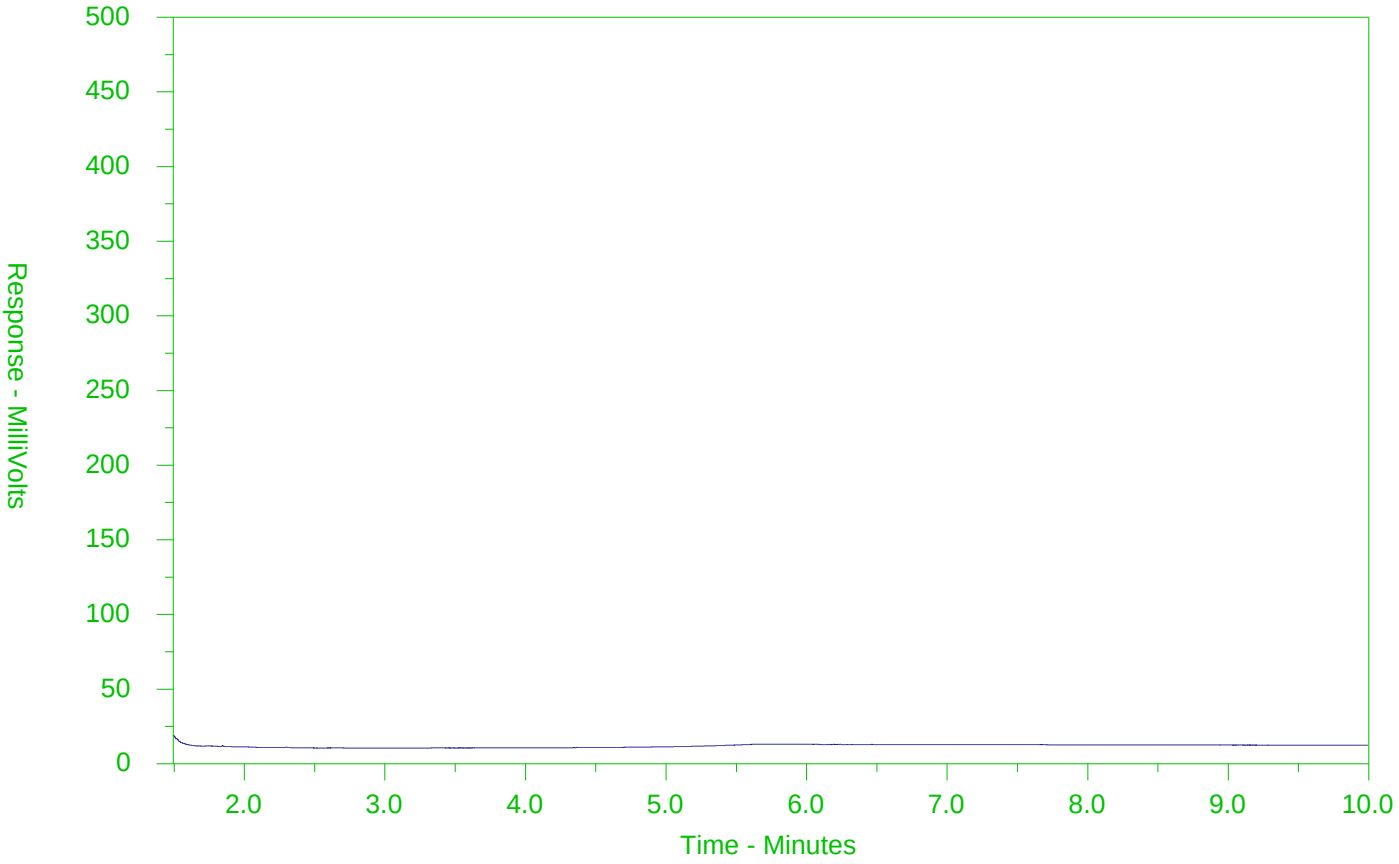
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2712120-4
Client Sample ID: 22-8



←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.

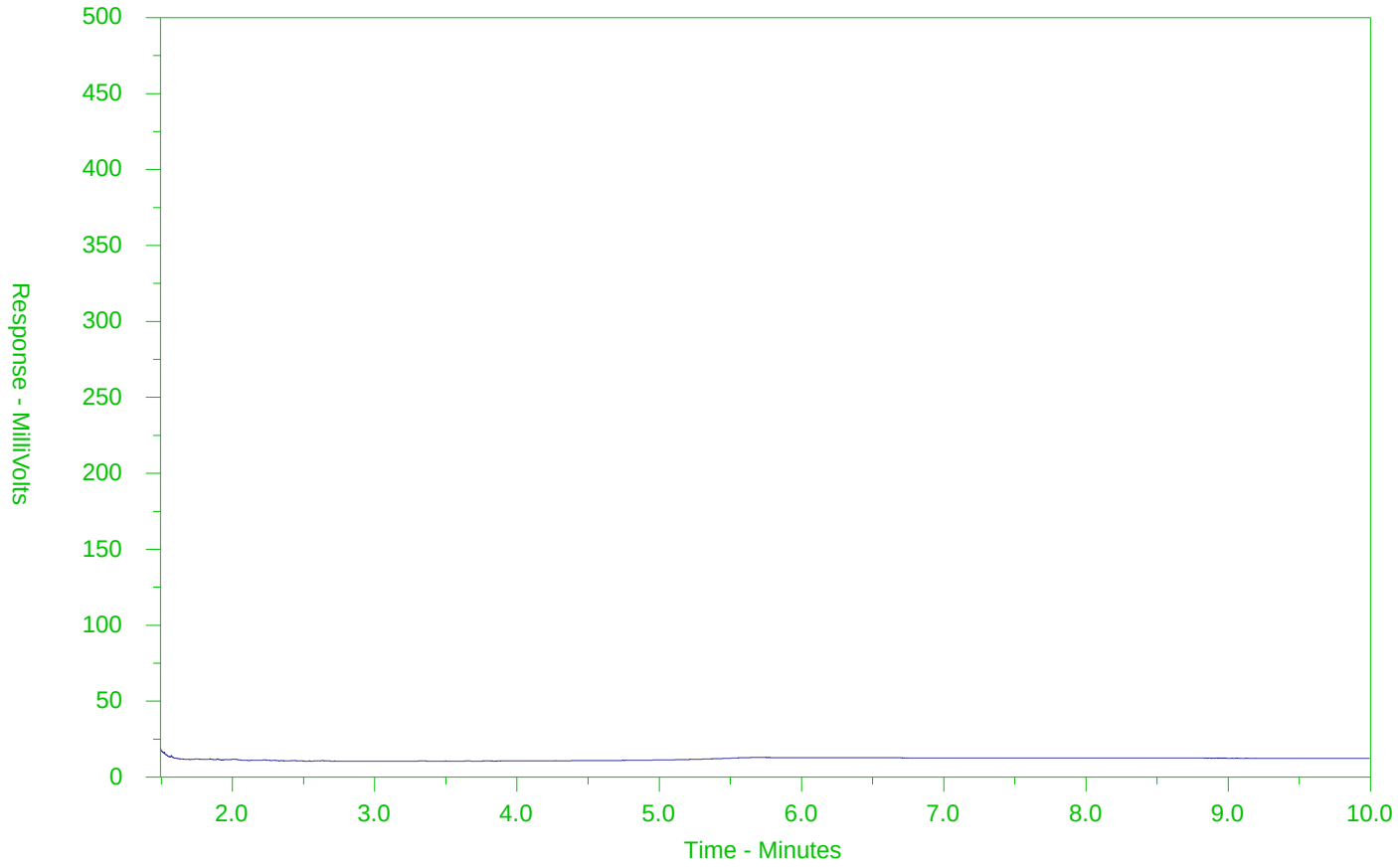
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2712120-5
Client Sample ID: 22-9



←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.

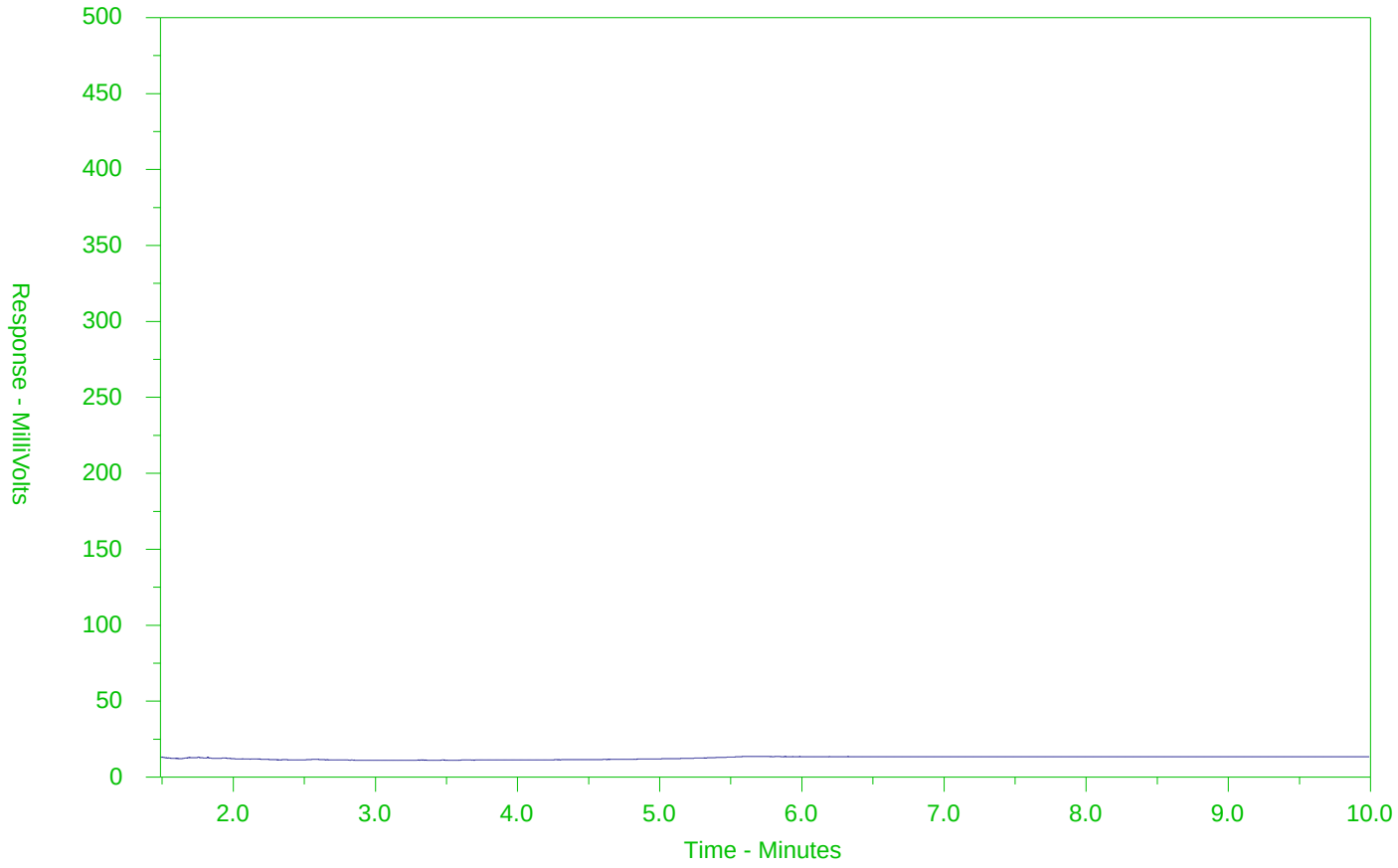
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2712120-6
Client Sample ID: 22-10



←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.

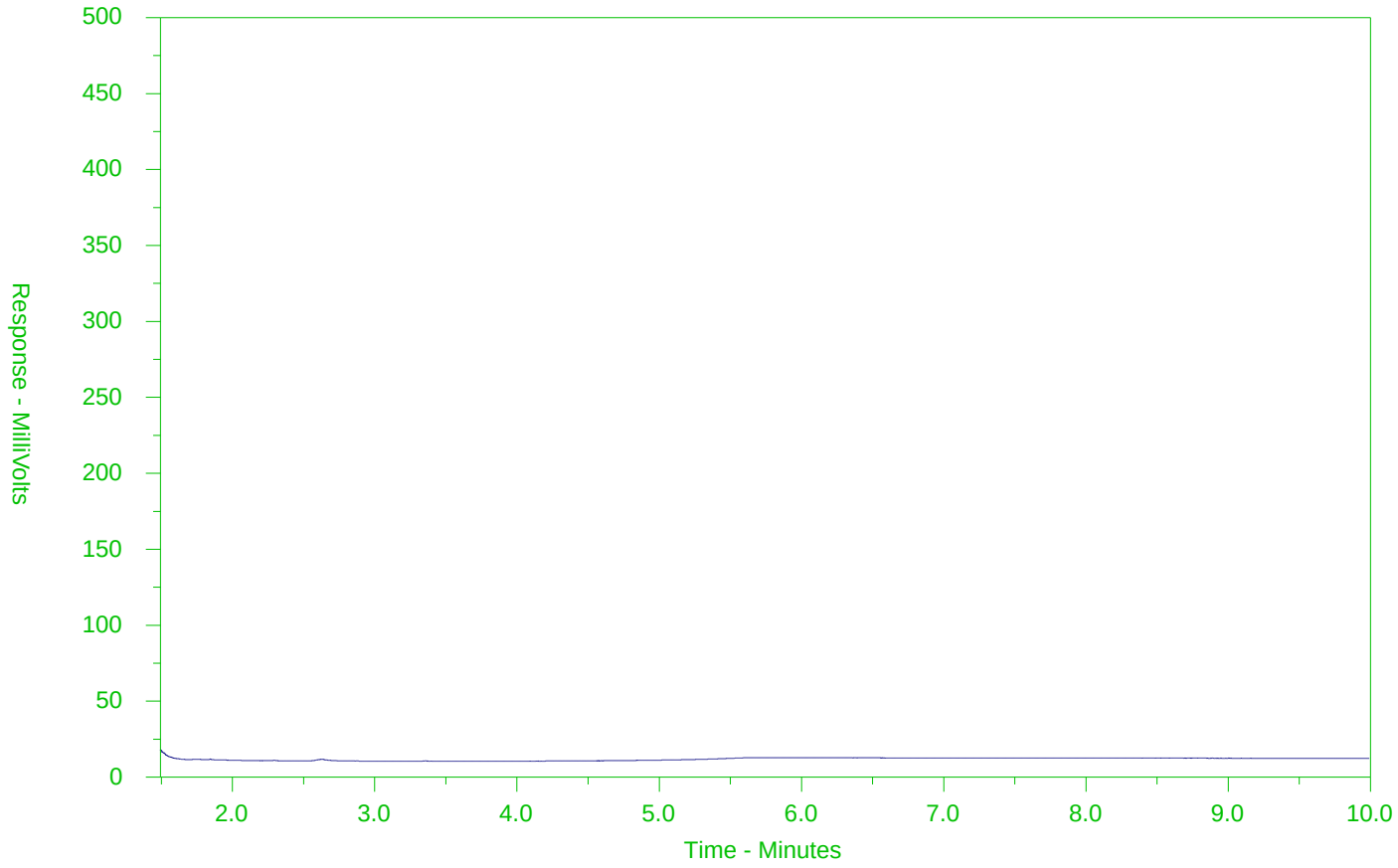
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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: L2712120-7
Client Sample ID: 22-10D



←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 (COC) / Analytical Request Form

COC Number: 20 - 951595

Page 1 of 1

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

L2712120-COFC

Report To	Contact and company name below will appear on the final report
Company:	Palmer Environmental Consulting Group
Contact:	Bailey Fleet
Phone:	
Company address below will appear on the final report	
Street:	74 Berkeley St
City/Province:	Toronto
Postal Code:	M5A 2W2
Invoice To	Same as Report To ☒ YES ☒ NO
	Copy of Invoice with Report ☒ YES ☒ NO
Company:	Palmer
Contact:	accounting

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	bailey.fleet@palmerenv.com
Email 2	kalina.naudenova@palmerenv.com
Email 3	sarah.sipak@palmerenv.com

Invoice Recipients	
Select Invoice Distribution:	☒ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	accounting@palmerenv.com
Email 2	sarah.sipak@palmerenv.com

Turnaround Time (TAT) Requested
☒ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by
☐ 3 day [P3] if received
☐ 2 day [P2] if received
☐ 1 day [E] if received by
☐ Same day [E2] if received may apply to rush requ
Date and Time Re

ABEL HERE

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

Project Information		Oil and Gas Required Fields (client use)	
ALS Account # / Quote #:		AFE/Cost Center:	PO#
Job #:	2204751	Major/Minor Code:	Routing Code:
PO / AFE:	2204751	Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (ALS use only):	L2712120	ALS Contact: Karan	Sampler: BF

Analysis Request

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

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	PHC/BTEX	PHC/NDC	ICPMS metals	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	22-5	June 2	12:00	GW	4	✓					
	22-6		1:00		4	✓					
	22-7		2:00		4	✓					
	22-8		3:00		5		✓	✓			
	22-9		4:00		5		✓	✓			
	22-10		5:00		5		✓	✓			
	22-10D		5:08		4		✓				

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	compare to table 3 RPI O. Reg 153/04
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
	-0.4

SHIPMENT RELEASE (client use)		
Released by: SBabair	Date: June 2	Time: 5:15pm

INITIAL SHIPMENT RECEPTION (ALS use only)		
Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (ALS use only)		
Received by:	Date: 06/03/22	Time: 1000

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

AKI 2070 FRONT

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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.**

PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
ATTN: BAILEY FLEET
74 Berkeley Street
Toronto ON M5V 1E3

Date Received: 03-JUN-22
Report Date: 07-JUN-22 15:20 (MT)
Version: FINAL

Client Phone: 647-795-8153

Certificate of Analysis

Lab Work Order #: L2712128

Project P.O. #: 2204701
Job Reference: 2204701
C of C Numbers: 20-951594
Legal Site Desc:

KARANPARTAP SINGH
Account Manager

ANALYTICAL REPORT

Summary of Guideline Exceedances

ALS ID	Client ID	Grouping	Analyte	Result	Guideline Limit	Unit
Guideline						
Ontario Regulation 153/04 - April 15, 2011 Standards - T3-Soil-Res/Park/Inst. Property Use (Coarse)						
(No parameter exceedances)						

ANALYTICAL REPORT

Physical Tests - SOIL

Analyte	Unit	Guide Limits #1	Guide Limits #2	Lab ID: L2712128-1 Sample Date: 01-JUN-22 Sample ID: 22-6-5
pH	pH units	-	-	7.67

Guide Limit #1: T3-Soil-Res/Park/Inst. Property Use (Coarse)

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.

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
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).

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

Chain of Custody Numbers:

20-951594

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: L2712128 Report Date: 07-JUN-22

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: BAILEY FLEET

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
PH-WT	**Soil**							
Batch R5795182								
WG3735883-1 DUP		**L2711787-2**						
pH		10.86	10.81	J	pH units	0.05	0.3	07-JUN-22
WG3736361-1 LCS								
pH			7.01		pH units		6.9-7.1	07-JUN-22

Quality Control Report

Workorder: L2712128 Report Date: 07-JUN-22

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: BAILEY FLEET

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.

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.

Chain of Custody (COC) / Analytical Reque

151594

Canada Toll Free: 1 800 668 9878

L2712128-COFC

of 1

www.alsglobal.com

Report To	Contact and company name below will appear on the final report
Company:	Palmer Environmental Consulting Group
Contact:	Bailey Fleet
Phone:	
Company address below will appear on the final report	
Street:	721 Berkeley St
City/Province:	Toronto
Postal Code:	M5A 2R7
Invoice To	Same as Report To ☐ YES ☒ NO
	Copy of Invoice with Report ☒ YES ☐ NO
Company:	Palmer accounting
Contact:	

Project Information

ALS Account # / Quote #:	
Job #:	2204701
PO / AFE:	2204701
LSD:	
ALS Lab Work Order # (ALS use only):	L2712128

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	bailey.fleet@pecg.ca
Email 2	Kalina.Nenadenova@pecg.ca
Email 3	sarah.spak@pecg.ca

Invoice Recipients

Select Invoice Distribution:	☒ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	accounting@pecg.ca
Email 2	sarah.spak@pecg.ca

Oil and Gas Required Fields (client use)

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

Turnaround 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: 09/06/22

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

Analysis Request

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	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	22-6-S	June 1/22	5:00 pm	SOIL	1	F/P			

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)

compare to O. Reg 153/04
Table 3 RPI - metals field filtered

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			
				0.4			

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
S. Babiak	June 2/22	5:10 pm

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
QA	06/03/22	1000

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

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**.

ALS 2520 FRONT

PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
ATTN: BAILEY FLEET
74 Berkeley Street
Toronto ON M5V 1E3

Date Received: 06-JUN-22
Report Date: 05-JUL-22 15:37 (MT)
Version: FINAL REV. 2

Client Phone: 647-795-8153

Certificate of Analysis

Lab Work Order #: L2712466

Project P.O. #: 2204701
Job Reference: 2204701
C of C Numbers: 20-951934
Legal Site Desc:

KARANPARTAP SINGH
Account Manager

Summary of Guideline Exceedances

ALS ID	Client ID	Grouping	Analyte	Result	Guideline Limit	Unit	Guideline

Ontario Regulation 153/04 - April 15, 2011 Standards - T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)

(No parameter exceedances)

Ontario Regulation 153/04 - April 15, 2011 Standards - T3-Non-Potable Ground Water-All Types of Property Uses (Fine)

(No parameter exceedances)

ANALYTICAL REPORT

Volatile Organic Compounds - WATER

			Lab ID	L2712466-1
			Sample Date	03-JUN-22
			Sample ID	BH6
		Guide Limits		
Analyte	Unit	#1	#2	
Benzene	ug/L	44	430	<0.50
Ethylbenzene	ug/L	2300	2300	<0.50
Toluene	ug/L	18000	18000	<0.50
o-Xylene	ug/L	-	-	<0.30
m+p-Xylenes	ug/L	-	-	<0.40
Xylenes (Total)	ug/L	4200	4200	<0.50
Surrogate: 4-Bromofluorobenzene	%	-	-	86.8
Surrogate: 1,4-Difluorobenzene	%	-	-	95.1

Guide Limit #1: T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)
Guide Limit #2: T3-Non-Potable Ground Water-All Types of Property Uses (Fine)

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

Hydrocarbons - WATER

			Lab ID	L2712466-1
			Sample Date	03-JUN-22
			Sample ID	BH6
		Guide Limits		
Analyte	**Unit**	**#1**	**#2**	
F1 (C6-C10)	ug/L	750	750	<25
F1-BTEX	ug/L	750	750	<25
F2 (C10-C16)	ug/L	150	150	<100
F3 (C16-C34)	ug/L	500	500	<250
F4 (C34-C50)	ug/L	500	500	<250
Total Hydrocarbons (C6-C50)	ug/L	-	-	<370
Chrom. to baseline at nC50	ppm	-	-	YES
Surrogate: 2-Bromobenzotrifluoride	%	-	-	79.6
Surrogate: 3,4-Dichlorotoluene	%	-	-	93.0

Guide Limit #1: T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)
Guide Limit #2: T3-Non-Potable Ground Water-All Types of Property Uses (Fine)

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.

Reference Information

Methods Listed (if applicable):

ALS Test Code	Matrix	Test Description	Method Reference**
BTX-511-HS-WT	Water	BTEX by Headspace	SW846 8260 (511)

BTX is determined by analyzing 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).

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

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

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

Fraction F1 is determined by 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	Water	F2-F4-O.Reg 153/04 (July 2011)	EPA 3511/CCME Tier 1

Petroleum Hydrocarbons (F2-F4 fractions) are extracted from water using a hexane micro-extraction technique. Instrumental analysis is by GC-FID, as per the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Tier 1 Method, CCME, 2001.

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	Water	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.

Reference Information

Chain of Custody Numbers:

20-951934

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: L2712466 Report Date: 05-JUL-22

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: BAILEY FLEET

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
BTX-511-HS-WT	**Water**							
Batch R5795986								
WG3737173-4 DUP		**WG3737173-3**						
Benzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	09-JUN-22
Ethylbenzene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	09-JUN-22
m+p-Xylenes		<0.40	<0.40	RPD-NA	ug/L	N/A	30	09-JUN-22
o-Xylene		<0.30	<0.30	RPD-NA	ug/L	N/A	30	09-JUN-22
Toluene		<0.50	<0.50	RPD-NA	ug/L	N/A	30	09-JUN-22
WG3737173-1 LCS								
Benzene			110.5		%		70-130	09-JUN-22
Ethylbenzene			89.8		%		70-130	09-JUN-22
m+p-Xylenes			102.1		%		70-130	09-JUN-22
o-Xylene			95.3		%		70-130	09-JUN-22
Toluene			98.8		%		70-130	09-JUN-22
WG3737173-2 MB								
Benzene			<0.50		ug/L		0.5	09-JUN-22
Ethylbenzene			<0.50		ug/L		0.5	09-JUN-22
m+p-Xylenes			<0.40		ug/L		0.4	09-JUN-22
o-Xylene			<0.30		ug/L		0.3	09-JUN-22
Toluene			<0.50		ug/L		0.5	09-JUN-22
Surrogate: 1,4-Difluorobenzene			95.8		%		70-130	09-JUN-22
Surrogate: 4-Bromofluorobenzene			88.9		%		70-130	09-JUN-22
WG3737173-5 MS		**WG3737173-3**						
Benzene			102.8		%		50-140	09-JUN-22
Ethylbenzene			80.0		%		50-140	09-JUN-22
m+p-Xylenes			92.2		%		50-140	09-JUN-22
o-Xylene			85.3		%		50-140	09-JUN-22
Toluene			93.4		%		50-140	09-JUN-22
F1-HS-511-WT	**Water**							
Batch R5795986								
WG3737173-4 DUP		**WG3737173-3**						
F1 (C6-C10)		<25	<25	RPD-NA	ug/L	N/A	30	09-JUN-22
WG3737173-1 LCS								
F1 (C6-C10)			101.9		%		80-120	09-JUN-22
WG3737173-2 MB								
F1 (C6-C10)			<25		ug/L		25	09-JUN-22
Surrogate: 3,4-Dichlorotoluene			99.4		%		60-140	09-JUN-22
WG3737173-5 MS		**WG3737173-3**						

Quality Control Report

Workorder: L2712466 Report Date: 05-JUL-22

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3

Contact: BAILEY FLEET

Test	Matrix	Reference	Result	Qualifier	Units	RPD	Limit	Analyzed
F1-HS-511-WT	**Water**							
Batch R5795986								
WG3737173-5 MS		**WG3737173-3**						
F1 (C6-C10)			97.7		%		60-140	09-JUN-22
F2-F4-511-WT	**Water**							
Batch R5795248								
WG3736080-2 LCS								
F2 (C10-C16)			92.9		%		70-130	07-JUN-22
F3 (C16-C34)			97.5		%		70-130	07-JUN-22
F4 (C34-C50)			98.2		%		70-130	07-JUN-22
WG3736080-1 MB								
F2 (C10-C16)			<100		ug/L		100	07-JUN-22
F3 (C16-C34)			<250		ug/L		250	07-JUN-22
F4 (C34-C50)			<250		ug/L		250	07-JUN-22
Surrogate: 2-Bromobenzotrifluoride			79.6		%		60-140	07-JUN-22

Quality Control Report

Workorder: L2712466 Report Date: 05-JUL-22

Client: PALMER ENVIRONMENTAL CONSULTING GROUP INC. (Richmond Hill)
74 Berkeley Street
Toronto ON M5V 1E3
Contact: BAILEY FLEET

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
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.

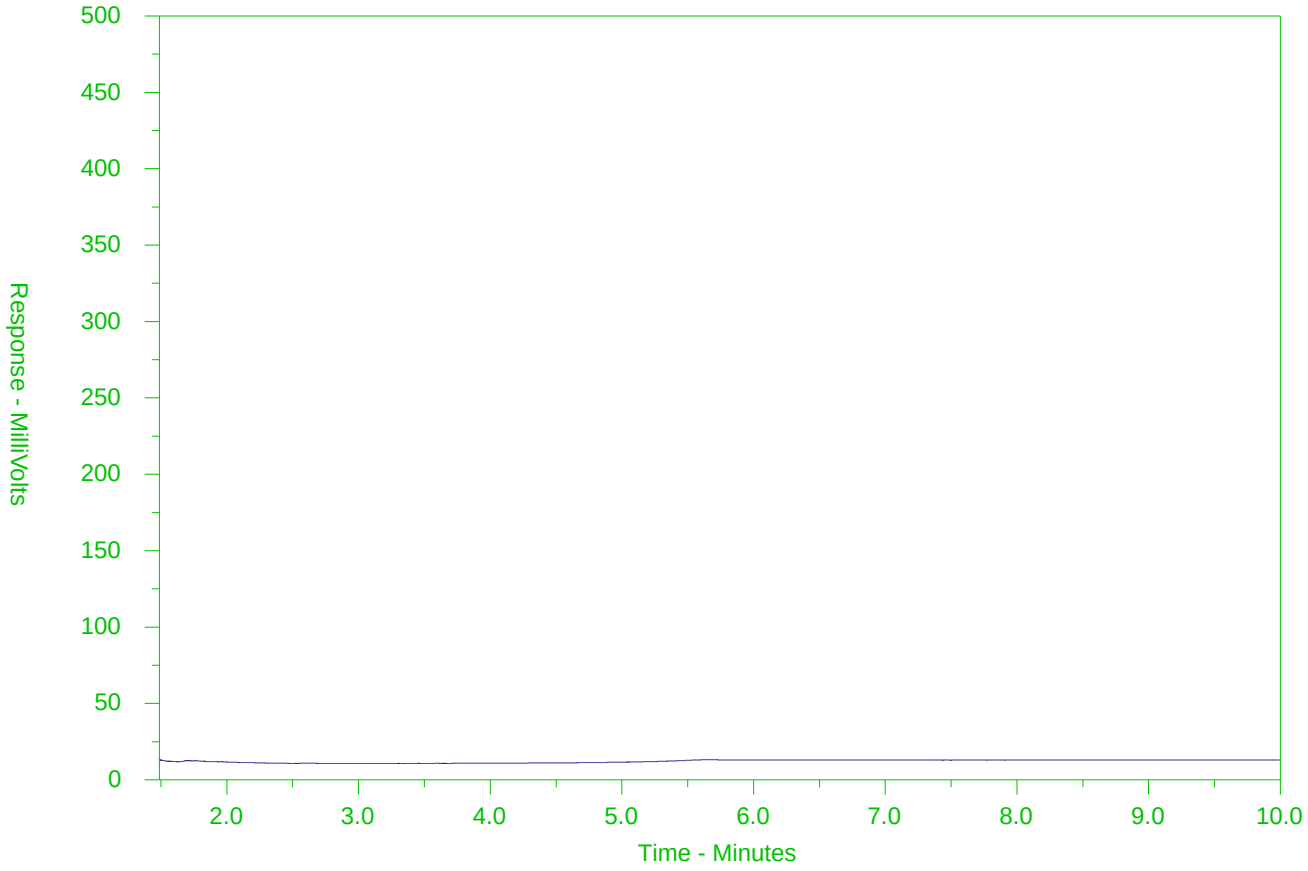
ALS recommended hold times may vary by province. They are assigned to meet known provincial and/or federal government requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by the US EPA, APHA Standard Methods, or Environment Canada (where 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: L2712466-1
Client Sample ID: 22-6



←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 characterizin hydrocarbon products that may be present in your sample.

The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee 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, th 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-F method. Refer to the ALS Canada CCME F2-F4 Hydrocarbon Library for a collection of chromatograms fro common reference samples (fuels, oils, etc.). The HDR Library can be found at www.alsglobal.com.

ALS www.alsglobal.com

Chain of Custody (COC)

Canada Toll Fr

L2712466-COFC

COC Number: 20 - 951934

Page 1 of 1

Report To	Contact and company name below will appear on the final report
Company:	Palmer Environmental Consulting Gro
Contact:	Bailey Fleet
Phone:	
	Company address below will appear on the final report
Street:	74 Berkeley St
City/Province:	Toronto / ON
Postal Code:	M5A 2W7
Invoice To	Same as Report To ☐ YES ☒ NO
	Copy of Invoice with Report ☒ YES ☐ NO
Company:	Palmer
Contact:	accounting

Project Information

ALS Account # / Quote #:	
Job #:	220475
PO / AFE:	220475
LSD:	
ALS Lab Work Order # (ALS use only):	L2712466

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: bailey.fleet@pecg.ca

Email 2: kalina.naydenova@pecg.ca

Email 3: sarah.sipak@pecg.ca

Invoice Recipients

Select Invoice Distribution: ☒ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: accounting@pecg.ca

Email 2: sarah.sipak@pecg.ca

Oil and Gas Required Fields (client use)

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

Turnaround 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

Date and Time Required for all E&P TATs: June 9/22

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

AFFIX ALS BARCODE LABEL HERE (ALS use only)

Analysis Request

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

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	PHC/BTEX	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	22-6	June 3/22	2:00	GW	4	✓			

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)

Compare to O.Reg 153/04 Table 3 RPI

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: 5.1

SHIPMENT RELEASE (client use)		
Released by: SB	Date: June 3/22	Time:

INITIAL SHIPMENT RECEPTION (ALS use only)		
Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (ALS use only)		
Received by: YA	Date: 06/06/22	Time: 10:00

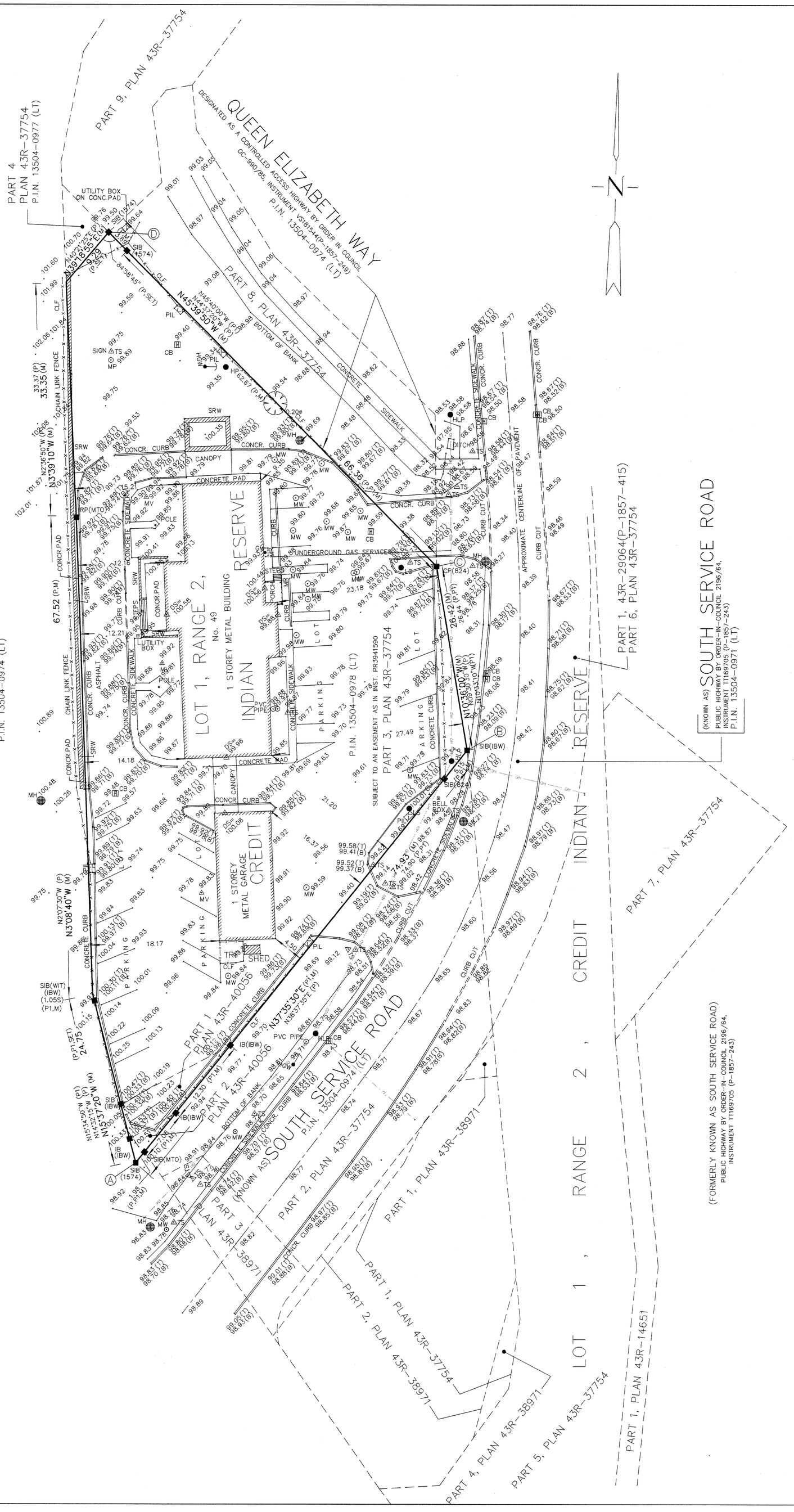
REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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**.

AUG 2020 FRONT

Appendix A – General
A4 – Survey of Phase Two



PLAN OF SURVEY OF

PART OF LOT 1, RANGE 2 CREDIT INDIAN RESERVE

GEOGRAPHIC TOWNSHIP OF TORONTO

CITY OF MISSISSAUGA

REGIONAL MUNICIPALITY OF PEEL

SCALE 1 : 400

10m 5 0 10 20 30m

R. AVIS SURVEYING INC.

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

NOTES AND LEGEND

BEARINGS SHOWN HEREON ARE GRID BEARINGS AND ARE DERIVED FROM OBSERVED REFERENCE POINTS A AND B HAVING A BEARING OF N37°35'55"E BY REAL TIME NETWORK(RTN) OBSERVATION , UTM ZONE 17, CENTRAL MERIDIAN 81° 00' WEST LONGITUDE.
(3° MODIFIED TRANSVERSE MERCATOR PROJECTION, NAD 83 (CSRS-2010)

6° UTM ZONE 17 COORDINATES
NAD83(CSRS-2010) (CENTRAL MERIDIAN 81° 00' WEST LONGITUDE)

	NORTHING	EASTING
A	4824807.213	613183.946
B	4824866.583	613229.664
C	4824892.548	613224.805
D	4824938.928	613177.338

(1) THE UTM COORDINATES LISTED ABOVE COMPLY WITH SUBSECTION 14(2) OF ONTARIO REGULATION 216/10 FILED UNDER THE SURVEYORS ACT

(2) THE UTM COORDINATES LISTED ABOVE ARE TO BE USED FOR GEOGRAPHIC INFORMATION SYSTEM INTEGRATION ONLY AND CANNOT BE USED TO RE-ESTABLISH THE PROPERTY CORNERS OR BOUNDARIES SHOWN HEREON

DISTANCES SHOWN HEREON ARE GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.99972.

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE REFERRED TO CITY OF MISSISSAUGA BENCH MARK No. BM300, HAVING AN ELEVATION = 97.563 metres.

■	DENOTES SURVEY MONUMENT FOUND
□	DENOTES SURVEY MONUMENT PLANTED
SIB	DENOTES STANDARD IRON BAR
CP	DENOTES CONCRETE PIN
IB	DENOTES IRON BAR
RP	DENOTES ROCK PIN
WIT	DENOTES WITNESS
MEAS/M	DENOTES MEASURED
N,S,E,W	DENOTES NORTH, SOUTH, EAST, WEST
MTO	DENOTES MINISTRY OF TRANSPORTATION, ONTARIO
824	DENOTES A. T. McLAREN LTD., O.L.S.
1574	DENOTES DELPH & JENKINS NORTH LTD.
IBW	DENOTES IBW SURVEYORS
P	DENOTES PLAN 43R-37754
P1	DENOTES PLAN 43R-40056
(B)	DENOTES BOTTOM OF CURB
CB	DENOTES CATCH BASIN
CLF	DENOTES CHAIN LINK FENCE
CONCR.	DENOTES CONCRETE
HLP	DENOTES HYDRO LIGHT POLE
HGW	DENOTES HYDRO GUY WIRE
HP	DENOTES HYDRO POLE
LS	DENOTES LIGHT STANDARD
MH	DENOTES MANHOLE
MR	DENOTES METAL RAIL
MP	DENOTES METAL PIPE
MW	DENOTES MONITORING WELL
PIL	DENOTES STONE PILLER
SRW	DENOTES STONE RETAINING WALL
(T)	DENOTES TOP OF CURB
TRF	DENOTES TRANSFORMER
TS	DENOTES TRAFFIC SIGN
0.10ø	DENOTES DECIDUOUS TREE WITH TRUNK DIAMETER 0.10 metres
.000.00	DENOTES SPOT ELEVATION

AREA = 4377.4 sq. m.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM.

2. THE SURVEY WAS COMPLETED ON THE 6TH DAY OF JULY, 2022.

JULY 13, 2022
DATE

PIRATHEEPAN RAMACHANDRAN
Ontario Land Surveyor

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
2193609

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

R. AVIS SURVEYING INC.
SUITE 203
235 YORKLAND BOULEVARD
TORONTO, ONTARIO
M2J 4Y8
TEL.: (416) 490-8352 FAX: (416) 491-6206
EMAIL : office@ravissurveying.com

CHECKED BY : J.B., O.L.S.	
CALCULATED BY : FM	PROJECT No. : 3592-0
DRAWN BY : FM/AM	DRAWING No. : 3592-OPS.DWG

Appendix B – Historical Data

B1 – GHD Phase I ESA Summary

1. Executive Summary

GHD Limited (GHD) was retained by Infrastructure Ontario (IO) to conduct a Phase One Environmental Site Assessment (ESA) of a parcel of land located at 49 South Service Road in Mississauga, Ontario (herein referred to as the Site or Property). The Site is owned by Her Majesty the Queen in Right of Ontario, as represented by the Minister of Government and Consumer Services (MGCS), and represented by Ontario Infrastructure and Lands Corporation (Infrastructure Ontario).

The Site is a 1.09 acre property located at 49 South Service Road in Mississauga, Ontario, and consists of a former Ontario Provincial Police (OPP) detachment building (B12278) and associated garage (B12279) and two canopy structures. The building contains a two storey portion including a 334 square-metre (m^2) (3,600 square-foot [ft^2]) main floor, a 334 m^2 (3,600 ft^2) basement, and a one storey 111 m^2 (1,200 ft^2) detention area. The garage is 143 m^2 (1,534 ft^2) in size. A paved parking lot surrounds the buildings which can accommodate approximately 45 vehicles. Other portions of the Property include landscaped areas. OPP recently moved to a new facility, and the Site has been unoccupied since August of 2020. The Site is maintained by CBRE Group Inc. (CBRE) on behalf of Infrastructure Ontario.

The purpose of the Phase One ESA was to identify, through a non-intrusive investigation, the existence of any Potentially Contaminating Activities (PCAs) and Areas of Potential Environmental Concern (APECs) associated with the Site. PCAs and APECs are defined in Ontario Regulation 153/04 (O. Reg. 153/04). It is GHD's understanding that the Phase One ESA was completed to document environmental conditions for the potential disposition of the Property; and that a Record of Site Condition (RSC) is not being completed at this time

Based on the results of the Phase One ESA, including the Site inspection, information provided by Site representatives and regulatory agencies, documents reviewed, the review of Site history, and pending receipt and review of information from the Ministry of the Environment, Conservation, and Parks (MECP), the following APECs were identified to be associated with the Site:

APEC #1 – Historical Pesticide Use (on-Site): Based on a review of the aerial photographs for the Site, the Site appears to have been utilized for agricultural purposes (possibly including a portion of an orchard) around 1946 and up to the redevelopment of the Site in 1957. Based on the time frame, the operation of agricultural areas on the Site likely would have included the application of pesticides. No information was available regarding the potential historic use of pesticides for agricultural purposes on Site. The potential use of pesticides on Site is included in O. Reg. 153/04 as a PCA (#40 – Pesticides (including Herbicides, Fungicides, and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage, and Large-Scale Applications). As required by O. Reg. 153/04, GHD has identified this PCA as having the potential to contribute to an APEC across the Site, and has been identified in this report as **APEC #1.**

APEC #2 – Unknown Fill Material Quality (on-Site): Based on the review of historical records and discussion with facility personnel, the Property was redeveloped in 1957. Based on GHD's observations, the southern portion of the Site appeared at a higher elevation than the surrounding areas and South Service Road. In addition, previous aerial images indicate a low lying area may

have been located on the eastern portion of the Site in the past, and several buildings were located on the Site in the past. No information was available regarding whether fill material was used to raise grades at the Site, or if fill material related to the former buildings remains at the Site. The potential use of fill of unknown quality during development is included in O. Reg. 153/04 as a PCA (#30 – Importation of Fill Material of Unknown Quality). As required by O. Reg. 153/04, GHD has identified this PCA as having the potential to contribute to an APEC across the Site, and has been identified in this report as **APEC #2.**

APEC #3 – Vehicle Servicing Garage (on-Site): Based on GHD's review of historical documents, and interview with Mr. Besir, the Site was redeveloped in 1957 with two buildings: Building B12278 (Office/OPP Detachment) and Building B12279 (Garage Building). Building B12279 was utilized as a garage building for vehicle servicing. According to Mr. Besir, there were minimal vehicle maintenance activities in recent times. No other information was available regarding the historical utilization of the Building B12279 as a garage. The operation of a garage is included in O. Reg. 153/04 as a PCA (#52 – Storage, maintenance, fuelling and repair of equipment, vehicles, and material used to maintain transportation systems). As required by O. Reg. 153/04, GHD has identified this PCA as having the potential to contribute to an APEC in the immediate vicinity of the garage building, and has been identified in this report as **APEC #3.**

APEC #4 – Potential Historical UST (on-Site): Based on GHD's observations, a levelometer was identified in the boiler room in the basement of Building B12278 with a scale going up to 1,000, suggesting the historic presence of a 1,000 gallon UST outside of the boiler room. Historical records identified a Phase I and Phase II ESA completed in 2008 and light fuels generated in 2009, suggesting that previous investigations have been completed at the Site. No information was available regarding the potential presence of a UST, or the current status of the UST. The potential historical operation of an UST on the Property represents a PCA (#28 – Gasoline and Associated Products Storage in Fixed Tanks) and has been identified in this report as **APEC #4**.

APEC #5 – Fuel Storage Tank (on-Site): At the time of the Site inspection, GHD identified a standby diesel generator on Site, located in the northwest corner of the property within building B12279. The generator included a 50 gallon diesel fuel storage tank which is integrated into the base of the generator. Mr. Besir indicated that no spills or releases have occurred from the AST, and GHD did not observe any evidence of spills or releases. The operation of a fuel storage tank on-Site is included in O. Reg. 153/04 as a PCA (#28 – Gasoline and Associated Products Storage in Fixed Tanks). As required by O. Reg. 153/04, GHD has identified this PCA as having the potential to contribute to an APEC in the immediate vicinity of the garage building, and has been identified in this report as **APEC #5.**

Appendix B – Historical Data

B2 – GHD Phase II Borehole Logs

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Phase Two Environmental Site Assessment
PROJECT NUMBER: 11220510
CLIENT: Infrastructure Ontario
LOCATION: 49 South Service Road, Mississauga, Ontario

HOLE DESIGNATION: MW1-20
DATE COMPLETED: December 7, 2020
DRILLING METHOD: Direct Push and Hollow Stem Augering
FIELD PERSONNEL: Chris Cini

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITORING WELL	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' Value	SAMPLE PID (ppm)
	GROUND SURFACE TOP OF RISER	99.58 99.46						
0	ASPHALT, 150 mm in thickness	99.43	BENTONITE	1				2.8
0.5	FILL, sand and gravel, well graded, brown/grey, moist	98.97		2				2.5
1.0	SAND, trace silt, trace gravel, medium to fine grained, poorly graded, brown, moist			3				2.2
1.5			SAND					
2.0				4				2.7
2.5				5				2.7
3.0			SCREEN					
3.5	- wet at 3.35m BGS			6				2.8
4.0				7				4.0
4.5	END OF BOREHOLE @ 4.57m BGS	95.01		8				3.0
5.0								
5.5								
6.0								
6.5								

WELL DETAILS
Screened interval:
98.06 to 95.01m BGS
1.52 to 4.57m BGS
Length: 3.05m
Diameter: 51mm
Slot Size: 10
Material: Aluminium
Seal:
99.28 to 98.36m BGS
0.30 to 1.22m BGS
Material: CEMENT
Sand Pack:
98.36 to 95.01m BGS
1.22 to 4.57m BGS
Material: SAND

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ 12/9/2020

CHEMICAL ANALYSIS (◯)

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Phase Two Environmental Site Assessment
PROJECT NUMBER: 11220510
CLIENT: Infrastructure Ontario
LOCATION: 49 South Service Road, Mississauga, Ontario

HOLE DESIGNATION: MW2-20
DATE COMPLETED: December 7, 2020
DRILLING METHOD: Direct Push and Hollow Stem Augering
FIELD PERSONNEL: Chris Cini

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITORING WELL	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' Value	SAMPLE PID (ppm)
	GROUND SURFACE TOP OF RISER	99.44 99.32						
0	ASPHALT, 150 mm in thickness							
	FILL, gravel and sand, well graded, brown/grey, moist	99.28		1				3.2
0.5								
	SAND, trace gravel, trace silt, fine to medium grained, poorly graded, brown, moist	98.68	BENTONITE	2				2.4
1.0								
1.5				3				3.2
	- wet at 1.83m BGS		SAND					
2.0				4				3.1
2.5				5				3.3
3.0			SCREEN					
				6				3.6
3.5	- grey spotting from 3.66 to 4.27m BGS							
4.0				7				2.8
4.5	END OF BOREHOLE @ 4.57m BGS	94.87		8				3.6
5.0								
5.5								
6.0								
6.5								

WELL DETAILS
Screened interval:
97.91 to 94.87m BGS
1.52 to 4.57m BGS
Length: 3.05m
Diameter: 51mm
Slot Size: 10
Material: Aluminium
Seal:
99.13 to 98.22m BGS
0.30 to 1.22m BGS
Material: CEMENT
Sand Pack:
98.22 to 94.87m BGS
1.22 to 4.57m BGS
Material: SAND

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ 12/9/2020

CHEMICAL ANALYSIS (oval)

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Phase Two Environmental Site Assessment
PROJECT NUMBER: 11220510
CLIENT: Infrastructure Ontario
LOCATION: 49 South Service Road, Mississauga, Ontario

HOLE DESIGNATION: MW3-20
DATE COMPLETED: December 7, 2020
DRILLING METHOD: Direct Push
FIELD PERSONNEL: Chris Cini

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITORING WELL	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' Value	SAMPLE PID (ppm)
	GROUND SURFACE	99.67						
	TOP OF RISER	99.57						
	ASPHALT, 150 mm in thickness							
	FILL, sand and gravel, well graded, light grey/brown, moist	99.52		1				2.2
0.5	SAND, with gravel, trace silt, fine to medium grained, poorly graded, brown, moist	99.37	BENTONITE	2				3
1.0								
1.5				3				2.8
2.0			SAND					
2.5				4				3
	- wet at 2.90m BGS			5				2.3
3.0			SCREEN					
3.5				6				2.5
4.0				7				2.0
	- grey at 4.27m BGS							
4.5				8				2.0
	END OF BOREHOLE @ 4.57m BGS	95.10						
5.0								
5.5								
6.0								
6.5								

WELL DETAILS
Screened interval:
98.15 to 95.10m BGS
1.52 to 4.57m BGS
Length: 3.05m
Diameter: 51mm
Slot Size: 10
Material: Aluminium
Seal:
99.37 to 98.45m BGS
0.30 to 1.22m BGS
Material: CEMENT
Sand Pack:
98.45 to 95.10m BGS
1.22 to 4.57m BGS
Material: SAND

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ 12/9/2020

CHEMICAL ANALYSIS (oval)

File: \\GHDNET\GHD\CA\TORONTO\PROJECTS\662\11220510\TECH\GINT\LOG DATABASE\11220510-WA-012021.GPJ Library File: GHD_ENVIRO_V02.GLB Report: OVERBURDEN LOG Date: 1/25/21

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Phase Two Environmental Site Assessment
PROJECT NUMBER: 11220510
CLIENT: Infrastructure Ontario
LOCATION: 49 South Service Road, Mississauga, Ontario

HOLE DESIGNATION: MW4-20
DATE COMPLETED: December 7, 2020
DRILLING METHOD: Direct Push
FIELD PERSONNEL: Chris Cini

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m BGS	MONITORING WELL	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' Value	SAMPLE PID (ppm)
	GROUND SURFACE TOP OF RISER	99.69 99.54						
0	ASPHALT, 150 mm in thickness	99.54		1				2.3
	FILL, sand and gravel, well graded, brown, moist	99.23						
0.5	SAND, trace silt, trace gravel, fine to medium grained, poorly graded, brown, moist		BENTONITE	2				2.7
1.0								
1.5				3				2.4
2.0			SAND					
				4				2.7
2.5								
	- wet at 2.74m BGS			5				2.6
3.0			SCREEN					
3.5				6				1.4
4.0				7				1.0
	- grey at 4.27m BGS							
4.5				8				1.1
	END OF BOREHOLE @ 4.57m BGS	95.12						
5.0								
5.5								
6.0								
6.5								

WELL DETAILS
Screened interval:
98.17 to 95.12m BGS
1.52 to 4.57m BGS
Length: 3.05m
Diameter: 51mm
Slot Size: 10
Material: Aluminium
Seal:
99.39 to 98.47m BGS
0.30 to 1.22m BGS
Material: CEMENT
Sand Pack:
98.47 to 95.12m BGS
1.22 to 4.57m BGS
Material: SAND

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

STATIC WATER LEVEL ▼ 12/9/2020

CHEMICAL ANALYSIS (4)

File: \\GHDNET\GHD\CA\TORONTO\PROJECTS\662\11220510\TECH\GINT\LOG DATABASE\11220510-WA-012021.GPJ Library File: GHD_ENVIRO_V02.GLB Report: OVERBURDEN LOG Date: 1/25/21

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: Phase Two Environmental Site Assessment
PROJECT NUMBER: 11220510
CLIENT: Infrastructure Ontario
LOCATION: 49 South Service Road, Mississauga, Ontario

HOLE DESIGNATION: BH5-20
DATE COMPLETED: December 7, 2020
DRILLING METHOD: Direct Push
FIELD PERSONNEL: Chris Cini

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' Value	SAMPLE PID (ppm)
	ASPHALT, 150 mm in thickness	0.15					
	FILL, sand and gravel, well graded, brown, moist	0.30					
	SAND, trace silt, trace gravel, fine to medium grained, poorly graded, brown, moist		1				2.9
			2				2.9
			3				3.3
	- with gravel at 1.83m BGS		(4)				3.5
	- wet, trace gravel from 2.44 to 3.05m BGS		5				3.0
	END OF BOREHOLE @ 3.05m BGS	3.05					

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (4)

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: Phase Two Environmental Site Assessment
PROJECT NUMBER: 11220510
CLIENT: Infrastructure Ontario
LOCATION: 49 South Service Road, Mississauga, Ontario

HOLE DESIGNATION: BH6-20
DATE COMPLETED: December 7, 2020
DRILLING METHOD: Direct Push
FIELD PERSONNEL: Chris Cini

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' Value	SAMPLE PID (ppm)
	ASPHALT, 150 mm in thickness	0.15					
	FILL, sand and gravel, well graded, brown, moist	0.46	1				1.8
0.5	SAND, with silt, fine to medium grained, trace gravel, poorly graded, brown, moist						
1.0			2				3.0
1.5			3				2.8
2.0			4				2.4
2.5	- sand and gravel at 2.70m BGS		5				2.2
3.0	END OF BOREHOLE @ 3.05m BGS	3.05					
3.5							
4.0							
4.5							
5.0							
5.5							
6.0							
6.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (5)

File: \\GHDNET\GHD\CA\TORONTO\PROJECTS\662\11220510\TECH\GINT\LOG DATABASE\11220510-WA-012021.GPJ Library File: GHD_ENVIRO_V02.GLB Report: OVERBURDEN LOG Date: 1/25/21

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: Phase Two Environmental Site Assessment
PROJECT NUMBER: 11220510
CLIENT: Infrastructure Ontario
LOCATION: 49 South Service Road, Mississauga, Ontario

HOLE DESIGNATION: BH7-20
DATE COMPLETED: December 7, 2020
DRILLING METHOD: Direct Push
FIELD PERSONNEL: Chris Cini

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' Value	SAMPLE PID (ppm)
	ASPHALT, 150 mm in thickness	0.15					
	FILL, sand and gravel, well graded, light brown, moist	0.46	1				3.0
0.5	SAND, trace silt, trace gravel, fine to medium grained, poorly graded, brown, moist						
1.0			2				1.8
1.5			(3)				3.1
2.0			4				2.7
	SANDY SILT, trace gravel, low plasticity, black, moist/wet, trace wood fragments	2.29					
2.5	SAND, with silt, trace gravel, fine to medium grained, poorly graded, brown, moist	2.59	5				3.0
3.0	END OF BOREHOLE @ 3.05m BGS	3.05					
3.5							
4.0							
4.5							
5.0							
5.5							
6.0							
6.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (3)

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: Phase Two Environmental Site Assessment
PROJECT NUMBER: 11220510
CLIENT: Infrastructure Ontario
LOCATION: 49 South Service Road, Mississauga, Ontario

HOLE DESIGNATION: BH8-20
DATE COMPLETED: December 7, 2020
DRILLING METHOD: Direct Push
FIELD PERSONNEL: Chris Cini

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' Value	SAMPLE PID (ppm)
0	TOPSOIL		1				2.3
0.5	FILL, sand and gravel, well graded, grey, moist	0.46					
	SAND, trace silt, trace gravel, fine to medium grained, brown, moist	0.76	2				1.5
1.0							
1.5			3				2.4
2.0			4				1.5
	- wet at 2.29m BGS						
2.5			5				2.3
3.0	END OF BOREHOLE @ 3.05m BGS	3.05					
3.5							
4.0							
4.5							
5.0							
5.5							
6.0							
6.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (1)

File: \\GHDNET\GHD\CA\TORONTO\PROJECTS\662\11220510\TECH\GINT\LOG DATABASE\11220510-WA-012021.GPJ Library File: GHD_ENVIRO_V02.GLB Report: OVERBURDEN LOG Date: 1/25/21

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: Phase Two Environmental Site Assessment
PROJECT NUMBER: 11220510
CLIENT: Infrastructure Ontario
LOCATION: 49 South Service Road, Mississauga, Ontario

HOLE DESIGNATION: BH9-20
DATE COMPLETED: December 7, 2020
DRILLING METHOD: Direct Push
FIELD PERSONNEL: Chris Cini

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' Value	PID (ppm)
	ASPHALT, 150 mm in thickness	0.15					
	FILL, sand and gravel, well graded, brown/grey, moist	0.46	1				1.5
0.5	SAND, trace gravel, trace silt, fine to medium grained, poorly graded, brown, moist						
1.0			2				1.4
1.5			3				1.6
2.0			4				1.3
2.5			5				1.4
3.0			6				3.7
3.5							
4.0			7				1.5
	SILT, with sand, trace gravel, fine grained sand, soft/firm, brown/grey	4.27					
4.5	- wet at 4.57m BGS	4.57	8				0.4
	END OF BOREHOLE @ 4.57m BGS						
5.0							
5.5							
6.0							
6.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (oval)

STRATIGRAPHIC LOG
(OVERBURDEN)

PROJECT NAME: Phase Two Environmental Site Assessment
PROJECT NUMBER: 11220510
CLIENT: Infrastructure Ontario
LOCATION: 49 South Service Road, Mississauga, Ontario

HOLE DESIGNATION: BH10-20
DATE COMPLETED: December 7, 2020
DRILLING METHOD: Direct Push
FIELD PERSONNEL: Chris Cini

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS	SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' Value	PID (ppm)
	ASPHALT, 150 mm in thickness	0.15					
	FILL, sand and gravel, well graded, brown/grey, moist	0.46	1				2.9
0.5	SAND, trace gravel, trace silt, fine to medium grained, poorly graded, brown, moist						
1.0			2				2.8
1.5			3				2.8
2.0			4				3.5
2.5			5				3.1
3.0							
3.5	- wet at 3.35m BGS		6				1.0
4.0			7				1.1
4.5			8				1.4
	END OF BOREHOLE @ 4.57m BGS	4.57					
5.0							
5.5							
6.0							
6.5							

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS (2)

File: \\GHDNET\GHD\CA\TORONTO\PROJECTS\662\11220510\TECH\GINT\LOG DATABASE\11220510-WA-012021.GPJ Library File: GHD_ENVIRO_V02.GLB Report: OVERBURDEN LOG Date: 1/25/21