REPORT

Phase Two Environmental Site Assessment

Wateridge Village Phase 7, 0 Tawadina Road, Ottawa, Ontario

Submitted to:

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1.0 EXECUTIVE SUMMARY

WSP Canada Inc. was retained by Canada Lands Company (CLC) to conduct a Phase Two Environmental Site Assessment (ESA) of part of the former Canadian Forces Base (CFB) Rockcliffe (the “Site” or the “Phase Two Property”) in Ottawa, Ontario, specifically Phase 7, in the north and central parts of the former military base. The location of the Phase Two Property is provided in Figure 1.

WSP completed a Phase One ESA in support of the Record of Site Condition (RSC) Property in October 2024. The Phase One Property consisted of a 16.7174-hectare parcel vacant, forested land that consisted of forested land and a few old, paved roadways. No buildings or structures were noted on the Phase One Property. Historically, the Site was used for the CFB Rockcliffe military base and consisted of commercial buildings associated with base operations. Some of the known uses of these buildings included officer quarters, postal outlet, drop off dry cleaner and auto club (with auto service/maintenance operations). The Site is not known to have had any on-site dry-cleaning facility, bulk fuel storage or used formerly for any industrial activities. As such, the Site is not considered as an enhanced investigation property as defined by O. Reg. 153/04. The Site is considered an environmentally sensitive area due to the presence of wooded areas on or within 30 m of the Phase One Property that were identified as being habitat for SAR, specifically the brown myotis bat. Based on the available information reviewed, four APECs were identified for the Phase One Property:

- APEC 1: Potential and known subsurface impacts resulting from the presence of poor quality of fill including building demolition materials and hydrocarbons across majority of the Site.
- APEC 2: Potential for subsurface impacts on the Site resulting from former Auto Club at former Building 29 and subsequent PHC remediation.
- APEC 3: Potential for groundwater impacts on the Site from former off-Site fuel storage tanks at former Building 137 and known off-Site groundwater contamination.
- APEC 4: Potential for groundwater impacts on the Site from former on-Site heating oil storage tanks at former Building 16.

For context, the RSC Property was initially assessed as federal land along with the remainder of the CFB Rockcliffe as far back as the 1990s through a series of investigations cumulating in remediation work undertaken in 2014, 2015, 2022, and 2023 including portions of the RSC property. WSP has reviewed the previous investigations and remedial work in comparison to the current Site Condition Standards (SCS) and has incorporated the historical data that was considered by the QP as reliable for use in the Phase Two ESA.

The primary source of historical information at the Site was completed by DST in 2014 (Phase Two ESA report date 2015) which formed the basis for the remedial work completed by DST in 2014/2015 which included excavation of six separate areas of soil and groundwater exceedances described by DST as being related to former building activities (APEC 1 and APEC 2). These former building activities had resulted in the presence of poor-quality fill, including demolition debris and hydrocarbon impacts. The impacts that were identified and remediated included the presence of one or all the following chemicals of concern (COCs): polycyclic aromatic hydrocarbons (PAHs), petroleum hydrocarbons (PHCs) and metals in soil. PHC and PAH groundwater impacts were identified and remediated at two locations/remediations (Building 22 and 29). On completion, the 2014/2015 remediations successfully remediated all the identified impacts to the MECP Table 3 Site Condition Standards (SCS) and were validated by the collection of floor and wall verification samples meeting SCS and the density requirements of Table E of O.Reg. 153/04. Remediation included two rounds of post remediation groundwater

sampling where groundwater remediation was undertaken. The information contained within the 2015 DST Phase Two ESA and Remediation reports were incorporated into this CSM.

WSP completed a supplemental Phase Two ESA in accordance with O. Reg.153/04 at the Site in 2020 consisting of a test pit program to further evaluate fill quality at the RSC Property and surrounding lands. None of the 2020 investigation locations identified any exceedances of the SCS. However, following this investigation, sensitive habitats were identified on the RSC Property resulting in a change to the SCS to MECP Table 1 Background SCS. As a result, an evaluation of all historical results to the MECP Table 1 Background SCS was required, the result of which identified five new exceedances. To address these new exceedances, WSP completed a test pit program to delineate the Table 1 SCS. In total twelve (12) test pits were completed in 2021 (TP21-09 to TP21-21) around the newly identified Table 1 SCS exceedances. In addition to the five historical exceedances, two new exceedances of the MECP Table 1 SCS were identified, TP21-16, south of the remediation of test pit TP52 and TP21-10, south of the newly identified Table 1 exceedances at TP57, bringing the total exceedances of MECP Table 1 SCS to seven.

Following the completion of the supplemental 2021 investigations, two new remediations and expansions to three of the previous remediations occurred between November 2022 and May 2023 to remove the seven identified Table 1 SCS exceedances. Like the previous remediation, each remedial excavation was validated with the required number of floor and wall validation samples, collected in accordance with Table E of O.Reg. 153/04. At this stage of work, additional Phase Two ESA groundwater sampling was completed at select locations across the Site to confirm current groundwater quality, post remediation. This also included at a series of new monitoring wells installed along the southwest boundary of the RSC Property in 2024. These wells were installed due to an expanding PHC remediation program located off-Site to the southwest of the RSC Property (APEC-3).

Overall, Remediation of impacted soil (9,570 m^3) and groundwater (1,333 m^3) identified on the RSC property was conducted and details of the remediation work including sampling density, soil removal and backfilling are included in Appendix G (Remediation Report) following this report. Based on the results of the soil and groundwater samples submitted as part of this Phase Two ESA, the reported concentrations of the contaminants of potential concern were below the applicable site condition standards as of the certification date (June 5, 2024). No risk assessment or further remediation is required prior to the submission of an RSC.

2.0 INTRODUCTION

2.1 Site Description

WSP Canada Ltd. (formerly Golder Associates Ltd. at the time of the investigation), hereafter referred to as WSP, was retained by CLC to conduct a Phase Two ESA of the following property:

Table A: RSC Property Information

Municipal Address	0 Tawadina Road, Ottawa, Ontario (formerly part of 335 St. Laurent Boulevard and formerly part of 1076 Hemlock Private)
Property Identification Number	Part of PIN 04273-1225 (LT) Formerly part of PIN 04273-0256 (LT)
Legal Description	Part of Lots 22 and 23, Concession 1, Ottawa Front. More specifically, Part of PIN 04273-1225 (LT), legally described as PART LOTS 21, 22, 23 & 24, CONCESSION 1, OTTAWA FRONT, GLOUCESTER; SUBJECT TO AN EASEMENT IN GROSS OVER PARTS 3, 4, AND 6 PLAN 4R-29367 AS IN OC1755037; SUBJECT TO AN EASEMENT IN GROSS OVER PART 5 PLAN 4R29367 AS IN OC1755038; SUBJECT TO AN EASEMENT IN GROSS OVER PARTS 1, 2, 7, 8, 9, 10 AND 11 PLAN 4R29367 AS IN OC1755039; SUBJECT TO AN EASEMENT OVER PART LOT 21 CONCESSION 1, OTTAWA FRONT, GLOUCESTER PARTS 2-5, 4R31050 IN FAVOUR OF PART LOT 21 CONCESSION 1, OTTAWA FRONT AS IN GL38119 AND AS 1STLY, 3RDLY AND 4THLY DESCRIBED IN GL37030 EXCEPT OT2620; AS IN OC2013554; SUBJECT TO AN EASEMENT OVER PART LOT 21 CONCESSION 1 OTTAWA FRONT, GLOUCESTER, PARTS 1 & 2 4R31050 AS IN OC2032640; SUBJECT TO AN EASEMENT IN GROSS OVER PARTS 8 AND 16 4R34409 AS IN OC2465477; SUBJECT TO AN EASEMENT IN GROSS AS IN OC2498617; SUBJECT TO AN EASEMENT IN GROSS AS IN OC1771382; CITY OF OTTAWA and identified as Part of Lots 22 and 23 Concession 1 on the Survey
Size of the Phase Two Property	16.7174 hectares

The location of the RSC Property is provided in Figure 1. A plan of survey for the Site is provided in Appendix A. The boundaries of the Site, which are the same as the RSC property boundaries, are provided in Figure 1.

2.2 Property Ownership

The contact information for the Phase Two Property owner is as follows:

Table B: RSC Property Owner's Information

Owner: Canada Lands Company CLC Limited	100 Queen Street, Suite 1050 Ottawa, ON K1P 1J9	Mary Jarvis, Director Real Estate Office: 613-564-3019 Email: mjarvis@clc.ca

2.3 Current and Proposed Future Uses

The Phase Two Property is currently vacant with no buildings. The proposed future use of the Phase Two Property is mixed use with residential homes in the east part and a city park in the west part of the Site. The specific location of any proposed residential buildings and other structures is unknown.

2.4 Applicable Site Condition Standard

The analytical results of the samples collected for this Phase Two ESA were compared to the Table 1 Full Depth Background Site Condition standards (residential property use) presented in the MECP document "*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*", dated April 15, 2011. The applicable site condition standards were selected based on the following rationale:

- The Phase Two Property and all other properties located, in whole or in part, within 250 metres of the Phase Two Property are supplied by the City of Ottawa municipal drinking water system. No wells were identified that are used or intended for use as a source of water.
- The Phase Two Property is not located in an area designated in a municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of ground water.
- Based on field observations the native soil are considered to be coarse textured. As such coarse textured soils was selected for screening purpose.
- The overburden thickness is less than 2 metres over more than one-third of the Phase Two Property. Hence, the RSC Property is considered a shallow soil property.
- The closest water body is the Ottawa River, located 750 metres (m") north of the Phase Two Property.
- An area of natural and scientific interest was identified on the Site, specifically wooded areas on and the central portion of the Site that were identified as being habitat for species at risk (the brown myotis bat). As such the Site is considered to be an environmentally sensitive area.
- The intended use for the Phase Two Property is with residential homes in the east part and a city park in the west part.
- The overburden thickness is more than 2 metres over more than one-third of the Phase Two Property.
- The pH of surface soil is 5≤pH≤9 and the pH of sub-surface soil meet the requirement that 5≤pH≤11.

3.0 BACKGROUND INFORMATION

This section presents the background conditions of the Phase Two Property including a description of the physical setting and a summary of past investigations conducted.

3.1 Physical Setting

The RSC Property consisted of a 16.7174-hectare parcel of currently vacant land that consisted of wood lot and several old, paved roadways associated with the former CFB Rockcliffe military base. There are no built structures currently on the Site, however the RSC Property was historically occupied and surrounded by a series of buildings associated with the former military base, 24 in total. These buildings uses were primarily commercial and included officer quarters, postal outlet, drop-off dry cleaner, and auto club (with auto service maintenance operations).

The neighboring properties to the north, east and west are undeveloped and the properties to the south and south are under development for parkland and residential housing. Historically, the surrounding lands included an indoor swimming pool (former Building 137) located southwest of the RSC Property. Other former buildings included offices (former Buildings 8, 9, 10, 124 and 126), and residences (barracks in former Building 71). A transmission tower was located at former Building 126.

The proposed future use of the Phase Two Property is mixed use with residential homes in the east part and a city park in the west part of the Site. The specific location of any proposed residential buildings and other structures is unknown.

3.2 Past Investigation

The following environmental reports related to the Site were provided to WSP by CLC. Noteworthy findings are summarized below.

- "DST 2004 Steam Line Decommissioning and Remediation Plan". CFB Rockcliffe Underground Steam Line Decommissioning and Site Remediation Plan. Prepared by DST Consulting Engineers, dated December 2004.
- "DST 2015 Phase One ESA". Phase One Environmental Site Assessment, Former CFB Rockcliffe, Ottawa, Ontario. Prepared by DST Consulting Engineers for Canada Lands Company CLC Limited, dated May 2015.
- "DST 2015 Phase Two ESA". Phase Two Environmental Site Assessment Update, Former CFB Rockcliffe, Ottawa, Ontario. Prepared by DST Consulting Engineers for Canada Lands Company CLC Limited, dated May 2015.
- "DST 2016 Environmental Status Summary Letter." Environmental Status Summary Letter, May 2105, Soil and Groundwater Remediation, Former CFB Rockcliffe, Ottawa, Ontario. Prepared by DST Consulting Engineers for the City of Ottawa, dated May 11, 2016.
- "DST 2016 Soil and Groundwater Remediation Volume 5". Soil and Groundwater Remediation Volume 5, Former CFB Rockcliffe, Ottawa, Ontario. Prepared by DST Consulting Engineers for Canada Lands Company CLC Limited, dated September 2017.
- "Dillon 2019 Environmental Impact Statement". Wateridge Village Phase 2A and 2B, Environmental Impact Statement. Prepared by Dillon Consulting for Canada Lands Company, dated February 2019.

The above previous reports relate to work completed by others which cumulated in the completion of six remediations across the RSC Property between September 2014 and January 2015 and is discussed below. Select historical information is included in Appendix E.

The Phase Two ESA was prepared for the investigation and remediation work completed by WSP, after the previous work by others, due to the change in site condition standards following the identification of sensitive species and habitats on and within 30 metres of the RSC Property and to address data gaps in the previous work (i.e. additional fill quality information).

3.2.1 DST 2004 Steam Line Decommissioning and Remediation Plan (figure)

This figure outlines the location of the steam distribution line throughout the base that was used to distribute steam heating from the central heating plant. The 2009 Phase II ESA makes a reference to testing completed from the fill along the steam line during its removal. In total there were nine samples of the twenty-five collected

that were documented to exceed the provincial standards at that time and an additional three exceeding federal criteria. The parameters noted as exceedances are metals, PAHs, and PHCs. No details on the location of the exceedances were provided and as such all fill materials through which the steam line passes is considered to be a PCA.

The steam line passes through the Phase Two Property servicing former buildings 3, 11, 12, 28, 22, 16 and 29, as well as north of former building 69, 70 and 71. As a result, poor quality fill associated with the steam line may be present in the vicinity of these former building and has been considered as a PCA resulting in an APEC.

3.2.2 DST 2015 Phase One ESA

The 2015 Phase One ESA was done for the entire CFB Rockcliffe area including the Phase Two Property. In total the Phase One ESA identifies 23 areas of environmental concern on the former base lands and two areas of concern associated with the off-site land uses for the Montfort Hospital and the National Research Council (NRC). The main Montfort Hospital campus and NRC is outside the Phase One Study Area. The report indicates the property was first developed as a military base in 1937 and was previously owned by individual owners as either vacant land or part of larger farmsteads. The site was occupied by a series of buildings throughout the operation of the base until being decommissioned and demolished prior to the completion of the Phase One ESA.

Previous investigations reviewed documented petroleum hydrocarbon impacts at building 3, 22, 29, and in fill at test pit TP52 as well as metals impacts in the fill at building 12. Building uses at these locations included: offices quarters, postal outlet and drop off dry cleaner and auto club, respectively. No other specific sources for the impacts were identified except for a documented heating oil tank at Building 16.

The report identified several off-Site PCAs within the Phase One ESA Study Area, including poor quality fill to the south and west, fuel storage tanks at Building 137 200 metres to the southwest, a retail fuel outlet 200 metres to the south at Building 196, and fuel storage tanks at a central heating plant at Building 80 located 250 metres to the southeast. All of the off-Site PCAs are reported as having been remediated with the exception of some residual contamination following remediation at Building 196 and 80. Based on the remediation activities and the distance from the Phase Two Property, none of the off-Site PCAs are considered as resulting in an APEC to the Phase Two Property.

3.2.3 DST 2015 Phase Two ESA

The above report provides an updated summary of the Phase II ESA completed in 2004 and 2007 and presented in the report entitled “Phase II Environmental Site Assessment, Lands Associated with the Remediation of Various Building Sites at Canadian Forces Base Rockcliffe. Prepared by DST Consulting Engineers for Canada Lands Company and Public Works and Government Services, dated April 2009”. As the report does not introduce any significant new data and is a repackaging of the pervious report including a comparison to the current MECP standards, only the 2015 report is discussed.

The report presents the findings of a Phase II ESA completed at the Site in 2009, much of which is carried over from a 2004 investigation, which included 26 boreholes/monitoring wells and 73 test pits. The 2015 update included the addition of four groundwater samples from existing monitoring wells and the installation and sampling of one new monitoring well. The investigation covers the entire CFB Rockcliffe property in addition to Phase Two Property.

The 2015 Phase Two ESA documents the findings of thirty-seven (37) test pits in the vicinity of the previous buildings along with some locations not associated with a specific building. The investigation included thirteen

borehole/monitoring wells. Of these investigation locations soil at thirteen (13) of the locations reported exceedances. Two locations for metals exceedances at building 12 in the shallow (upper 1 metre) soil, five locations for PHCs, PAH and barium at building 29 in the upper 2 metres of soil, PHC and PAH in fill at TP52, PHC at six locations in the top 3 metres of soil at building 22, PHC impacts in the upper 2 meters of soil at building 3.

Building 29 was identified as a former auto club where staining was present which was the likely source of the PHC impacts at this location. No sources for the PHC impacts at building 22 were identified and the remaining exceedances at building 3, 12 and TP52 are attributed to poor quality fill resulting from demolition and filling.

Groundwater from monitoring well BHMW-21 at building 22 and BHMW-12 south of building 29 contained PHCs above the current standards, with the remaining monitoring wells meeting criteria.

The estimated quantity of contaminated soil was 180 m3, 600 m3, 3,750 m3, 380 m3 and 3,750 m3 for the areas near TP52, building 12, 22, 3 and building 29, respectively.

The poor-quality fill in several locations and the automotive garage at Building 29 are considered as on-Site PCAs.

3.2.4 DST 2016 Environmental Status Summary Letter

This document is a summary letter for the City of Ottawa on the status of the remediation works at the larger CFB Rockcliffe site and includes a summary of a post remediation groundwater sampling program. The letter states that a total of 62,000 m^3 of impacted soil and 2,300 m^3 of impacted groundwater was removed from the site from all areas, as of February 5, 2015, and that all the soils except one site (former Cannex gas station) met the MECP Table 3 residential standards. The Cannex site is outside the Phase Two Property at a distance of approximately 200 metres to the south. The letter indicates that there were two rounds of groundwater sampling completed across the site from all of the wells between March and August of 2015. Although the letter does not list the wells that were sampled it is assumed that the wells shown on the figure are the wells that were included in the program. Groundwater remediation was completed at three sites (Buildings 29, 80 and 137) due to exceedances during the sampling and were subsequently resampled following the additional remediation.

The impacts identified at building 3, 22, 29 and TP52 are shown as having been remediated with the groundwater at building 29 shown as having ongoing remediation. Monitoring wells are present in each remediation area. Building 29 was shown to have elevated PHC (510 ug/L) in monitoring well BHMW29-1 which resulted in additional groundwater remediation via pump and treat. Resampling completed 30 days after the additional remediation at this location was below the standards.

3.2.5 Soil and Groundwater Remediation Volume 5, Former CFB Rockcliffe, Ottawa, Ontario. Prepared by DST Consulting Engineers for Canada Lands Company CLC Limited, dated September 2017.

This report documented the remediation completed for five APECs identified in the former RSC area 5, which includes current Phase Two Property. These include the remediation of former building 3 (PHCs), 12 (metals and PAHs), 22 (PHCs), 29 (PHCs, metals and PAH) and 52 (PHC and PAH) within the Phase Two Property. Each area was remediated by the removal of 35,350 metric tons of contaminated soil and 83,000 litres of groundwater. Following remediation only one exceedance in groundwater at building 29 remained (510 ug/L, PHC F2). Further remediation after this report, (discussed above) was completed with the most recent concentrations being below standards.

3.2.6 Wateridge Village Phase 2A and 2B, Environmental Impact Statement. Prepared by Dillon Consulting for Canada Lands Company, dated February 2019

This report was prepared for the planning approvals process of part of the overall CFB Rockcliffe Site and included surveys for endangered and threatened species at the Site (SAR), including targeted surveys for select species. The study area of the impact statement included the eastern part of the Phase Two Property and the lands to the northeast. The findings of the assessment indicated there were SAR on the CFB Rockcliffe property, mainly in the north of the CFB Rockcliffe property including the woodlands adjacent to the north property boundary (500 m north of the Phase Two Property). These included Category 2 retainable Butternut trees along the north boundary of the CFB Rockcliffe property and in the northwest part of the base property. There was also documented SAR bats present in the woodlots on and north of the base property. SAR bat habitat was noted to be present along the north property boundary of the Phase Two Property.

4.0 PHASE ONE ESA CONCEPTUAL SITE MODEL

The following key features (as required by O.Reg. 153/04) are presented in Figures 1 and 2:

- Existing buildings and structures
- Water bodies and areas of natural significance located in the Phase One Study Area
- Drinking water wells on the Phase One Property
- Roads (including names) within the Phase One Study Area
- Uses of properties adjacent to the Phase One Property
- Location of identified PCAs in the Phase One Study Area (including any storage tanks)

The following describes the Phase One ESA CSM based on the information obtained and reviewed as part of this Phase One ESA:

- At the time of the Site visit, conducted on August 5, 2024, the Phase One Property consisted of a 16.7174-hectare parcel of vacant land that consisted of wooded lot and some old, paved roadways associated with the former CFB Rockcliffe military base. No structures were present on site at the time of the site visit.
- Historically, the Phase One Property has been primarily used for commercial purposes for the base which consisted of office quarters, postal outlet, drop off dry cleaner and auto club (with auto service/maintenance operations). Other undisclosed buildings were also present.
- The previous EIS reports identified an area of bat habitat on and within 30 m of the Site, specifically the endangered brown myotis. Additional ANSI, including more bat habitat and butternut trees are present on the ridgeline (NRC Woods) bordering the north of the Phase One Property. Therefore, the Site is considered an environmentally sensitive area.
- Potable water in the vicinity of the Phase One Property is provided by the City of Ottawa. No potable water wells were identified on the Phase One Property or within 250 m of the site boundary.

- At the time of the Phase One ESA, the neighbouring properties to the north, east and west were undeveloped and primarily covered by vegetation including some wooded areas. The properties to the southeast were under construction with residential housing and associated infrastructure (i.e. roadways and parks) whereas the lands to the southwest were being prepared for future developed (land use could not be confirmed).
- There is a potential for abandoned storm sewers and watermains to be present on the Phase One Property, primarily along the older roadways.
- The geological mapping that the overburden soils include alluvial deposits (medium grained stratified sand with some silt), offshore marine deposits (clay, silty clay and silt) as well as a landslide area. It also indicates there is no overburden soil in one area of the northern portion of the Site where bedrock is expected at surface.
- The geological mapping indicates that the indicates that the depth to bedrock generally slopes downward from the east to the west with the depth on the eastern portion to be between 2 and 3 mbgs and the depth on the western portion to be primarily 15 to 25 mbgs. One smaller area of deeper bedrock (25 to 50 mbgs) is also expected on the western Site limit and one small area along the northern Site boundary is expected to have shallow bedrock between surface at 1 mgs. Bedrock was encountered during the subsurface investigations completed by DST at a maximum depth of 5.0 mbgs (in 2004), with the average being 2.64 mbgs. Subsequent monitoring wells installed by DST in 2015 identified bedrock at a maximum depth of 3.0 mbgs, with an average being 2.0 mbgs.
- Bedrock consists of Bobcaygeon Formation (limestone with minor shale in the upper parts) on the southern portion of the Site and a mix of Rockcliffe Formation (sandstone, shale, limestone and dolostone) and Gull River Formation (limestone, with dolostone beds towards base).
- The nearest permanent watercourse is the Ottawa River which is located approximately 700 m north of the Site. A stormwater pond is located approximately 100 m to the north and there are associated stormwater ditches north of the Site that are both open and contained in subsurface piping. The pond and ditches are not considered as a water bodies under the Regulation.
- Local groundwater is anticipated to flow north towards the Ottawa River.
- A steam line passes through the Phase One Property servicing former buildings 3, 11, 12, 28, 22, 16 and 29, as well as north of former building 69, 70 and 71. As a result, poor quality fill associated with the steam line may be present in the vicinity of these former building and has been considered as a PCA resulting in an APEC. Additionally, fill has been documented to be present in the areas occupied by former buildings, likely brought during first development of the Site and resulting from subsequent historical construction/demolition activities. No fill stockpiles were present during the site visit (a previously identified fill stockpile at the south of the Site, evaluated in previous work, had since been removed). Fill located off-site is considered a PCA but is not considered to have resulted in an APEC to the Phase One Property.
- The impacts identified at building 3, 22, 29 and TP52 are shown as having been remediated with the groundwater at building 29 shown as having ongoing remediation. Monitoring wells are present in each remediation area. Building 29 was shown to have elevated PHC (510 ug/L) in monitoring well BHMW29-1 which resulted in additional groundwater remediation via pump and treat. Resampling completed 30 days after the additional remediation at this location was below the standards.

- Former building 137, located within 100m south of the central portion of the Site and demolished in 1997, operated as a swimming pool and included two fuel storage tanks – one above ground storage tank (AST) and an underground storage tank (UST). Previous investigations completed by other consultants identified TPH gas/diesel in the soil and groundwater at the location of the former tanks. Subsequently, the soil impacts were excavated and remediated in 2014. The soil remediation of the petroleum hydrocarbon impacts was validated and backfilled with granular B; however, post remediation groundwater sampling identified residual groundwater impacts within the bedrock present south of the Phase One Property. Given this groundwater issue in vicinity to the Site and likely located at a up or cross-gradient compared to the Site, the presence of former USTs associated with former Building 137 remains as an APEC to the Phase One Property.

The following is a summary of all the PCAs identified by the Phase One ESA and the rationale on which were carried as APECs for the Phase Two ESA, or not.

Table C: Potentially Contaminating Activities (PCAs) Identified in the Phase One ESA

Location	PCA	Information Source	Rationale for Potential Contribution of the PCA to an APEC
Phase One Property	*#30 Importation of Fill Material of Unknown Quality* – Fill used to develop, demolish and remediate the Site.	Site visit and Previous Reports	Importation of fill to the Phase One Property without the proper testing would be considered an APEC. In addition, fill containing documented impacts (PHC, PAH, Metals) and demolition debris have been reported near former buildings.
	#10 Commercial Autobody Shop – A former auto club was located on site (building 29).	Previous Reports	Documented fill impacts in the immediate vicinity of the auto club building as well as potential for contaminant migration in groundwater results in this PCA being considered as an APEC.
	#28 Gasoline and Associated Products Storage in Fixed Tanks – Heating oil AST at building 16	Previous Reports	Heating oil AST at Building 16 is a PCA that is considered as an APEC.
Phase One Study Area	*#28 Gasoline and Associated Products Storage in Fixed Tanks* – former UST and AST associated with the swimming pool at Building 137	Previous Reports	Documented PHC impacts around the off-site PCA associated with Building 137 as well as potential for contaminant migration from Building 137 due to groundwater flowing northeast onto the RSC Property results in an APEC on southwest portion of the Site.
	#30 Importation of Fill Material of Unknown Quality – Fill material with documented impacts (metals, PAH and petroleum hydrocarbons) were documented associated with the former main base operations, east and north of the site.	Site visit and Previous Reports	The main base operations and historical evidence of fill in the subsurface was noted; however, due to the relative immobility of fill impacts and reported remediation, the off-Site fill is **not** considered to have resulted in an APEC to the Phase One Property.
	#28 Gasoline and Associated Products Storage in Fixed Tanks – Underground fuel storage tanks associated with the former steam heating plant (Building 80) were located 250 m south of the Site.	Previous Reports	Based on the distance and the fact that the steam plant has been decommissioned and remediated it is not considered to have resulted in an APEC

Location	PCA	Information Source	Rationale for Potential Contribution of the PCA to an APEC
	#28 Gasoline and Associated Products Storage in Fixed Tanks – Underground fuel storage tanks associated with the former CANNEX gas station (Building 126) were located 200 m south of the Site.	Previous Reports	Based on the distance and the fact that the gas station has been decommissioned and remediated it is not considered to have resulted in an APEC
	#3 Airstrips and Hangars Operation – the area at the based of the escarpment approximately 70-100 m north of the Site was occupied by the base airfield and hangers.	Air Photos and Previous Reports.	Based on the change in elevation from the north to south, distance form the Site and groundwater flow direction, the former hangers and airstrip are not considered to have resulted in an APEC.

Based on the above, four APECs were carried forward into the Phase Two ESA.

- **APEC 1:** Potential and known subsurface impacts resulting from the presence of poor quality of fill including building demolition materials and hydrocarbons across majority of the Site.
- **APEC 2:** Potential for subsurface impacts on the Site resulting from former Auto Club at former Building 29 and subsequent PHC remediation.
- **APEC 3:** Potential for groundwater impacts on the Site from former off-Site fuel storage tanks at former Building 137 and known off-Site groundwater contamination.
- **APEC 4:** Potential for groundwater impacts on the Site from former on-Site fuel storage tanks at former Building 16.

5.0 SCOPE OF WORK

The objectives of the Phase Two ESA were to obtain information about environmental conditions in the soil and groundwater on, in or under the Site following the previous work and with consideration to the current site condition standards, and to develop the information necessary to complete a Record of Site Condition (“RSC”) for the property. The objectives of this Phase Two ESA were achieved by:

- Developing an understanding of the geological and hydrogeological conditions at the Phase Two Property, from the review of previous work and supplemental investigations.
- Conducting field sampling for all COCs associated with each area of potential environmental concern APEC identified in the Phase One ESA. Where considered reliable, previous Phase Two ESA data was used to supplement the evaluation of the APECs.

5.1 Overview

The Phase Two ESA investigation activities undertaken by WSP were completed between July 2020, and June 2024, and included the following investigation programs.

- **Historical Phase Two ESA Investigation**: WSP completed a review of the historical investigation and remediation work as part of the Phase Two ESA and has relied upon data that was considered complete and reliable, as described the summary of historical work and in Section 5.2. This data was used to develop the sampling plans completed by WSP and to support the RSC process. A summary of the historical investigation is provided in the CSM, figures and analytical tables but the details such as methodologies, logs, certificates of analysis are presented under separate cover.
- **2020 Test Pit investigation**: WSP initially determined that the site wide APEC related to fill required supplemental investigation. This investigation included a program of test pits and fill sampling across the Phase Two Property. This investigation included lands both on the Phase Two Property and surrounding lands to the south and east of the Phase Two Property. This is described in detail in Section 5.3.
- **2021 Test Pit Investigation**: Following the re-classification of the site as a sensitive site due to the presence of endangered species and their habitat on and around the Phase Two Property, a review of the historical investigation data was undertaken which identified the need for delineation of select exceedances of the MECP Table 1 Standards. This included exceedances in remedial validation samples and previous investigation locations that were between the MECP Table 1 and the previously applied MECP Table 3 Standards (five locations in total).
- **2024 Monitoring Well Installation Program:** As part of ongoing remediation work off-Site to the southwest of the Phase Two Property, a series of monitoring wells were installed to determine the appropriate southern boundary of the RSC Property that was sufficiently far from the off-Site remediation work and where no groundwater contaminants existed.
- **Groundwater Sampling:** WSP completed a series of groundwater monitoring events on the Phase Two Property. This included sampling of historical exiting wells to confirm the previous remediations remained below the applicable site condition standard as well as to evaluate the groundwater quality in the 2024 monitoring wells installed by WSP.

The Phase Two ESA was carried out in general accordance with WSP's standard operating procedures, which conform to the requirements of O. Reg. 153/04.

There were no impediments or access limitations that would affect the conclusions of this Phase Two ESA report.

WSP completed remedial validation sampling on the walls and floors of the remedial excavations completed by WSP to remove historical exceedances of the newly applied MECP Table 1 Standards. Remedial testing, both current and historical is presented in the Remediation Report (Appendix G).

5.2 Historical Investigations

The following is a summary of the historical investigation data that was previously collected and used within the Phase Two ESA. Details on methodologies, drilling, sampling and analytical records are provided in the historical Phase Two ESA reports.

APEC	PCA	Summary of Phase Two ESA Program
APEC 1 – Fill containing documented impacts (PHC, PAH, Metals) and demolition debris.	#30 – Importation of Fill Material of Unknown Quality.	Phase Two ESAs completed **in 2015 and prior**, fifty (50) soil samples were analyzed PHC F1 - F4, BTEX, PAHs and/or metals. It is noted that delineation investigation in later investigations was only completed for the COCs found in prior investigations (i.e. PHCs only at Building 22 and Building 3 and metals only at Building 12). **In 2020,** eighteen (19) soil samples from test pits were collected and analyzed for PHC F1-F4, BTEX, PAHs, Metals (including hydrides) as well as hexavalent chromium and mercury. **In 2021,** twenty-one (21) soil samples from test pits were collected and analyzed for PHC F1-F4, BTEX, PAHs, and metals (including hydrides). Groundwater sampling was completed at 14 monitoring wells (BHMW series monitoring wells) sampled as part of the 2015 and earlier Phase Two ESA activities and in 2016 and 2017 following remediation.
APEC 2 – PHC impacts associated with the former auto club (Building 29). It is noted that some of these samples overlap with APEC 1	#10 – Commercial Autobody Shop.	**In 2014,** ten (10) soil samples were collected and analyzed for PHC F1-F4, BTEX, PAHs, and Metals (including hydrides). In 2014, two (2) groundwater samples from BHMW12 were analyzed PHC F1-F4, BTEX, PAHs, and Metals. **In 2015,** four (4) groundwater samples were taken (BHMW12, BHMW29-1 (resampled), BHMW29-2) and analyzed for PHC F1-F4, BTEX, PAHs, and Metals. **In 2016,** six (6) groundwater samples were taken (BHMW12, BHMW 29-1 (resampled 4 times), BHMW29-2) and analyzed for PHC F1-F4, BTEX, PAHs, and Metals
APEC 3 – PHC impacts around the off-site PHC impacts associated with Building 137.	#28 – Gasoline and Associated products storage in fixed tanks.	This APEC was evaluated historically by the completion of several boreholes, test pits and monitoring wells, however, these investigation points are not within the Phase Two ESA boundaries and not included herein.
APEC 4 – Potential PHC impacts associated with documented heating oil tank at Building 16.	#28 – Gasoline and Associated products storage in fixed tanks.	As part of ESAs prior to 2015, three soil samples were collected and analyzed for PHC F1-F4, BTEX, PAHs, metals. In addition, three (3) groundwater samples were collected to investigate potential impact in the vicinity of this former building.

5.3 2020 Test Pit Investigation

In 2020, a total of fourteen test pits were completed at the RSC Property (TP4-03, TP4-04, TP4-05, TP4-07, TP7-27, TP7-28, TP7-29, TP7-30, TP7-31, TP7-32, TP7-33, TP7-34, TP7-35, TP7-36). These test pits were located in a grid spacing across the RSC Property and were completed using a track mounted excavator and were excavated until reaching refusal on bedrock or native soil. One sample from each of the test pits were submitted for laboratory analysis of metals, PHC/BTEX and PAHs. The test pits were completed between July 7 and 9, 2020. The maximum depth of investigation was 2.5 metres.

Additionally, as part of this investigation, a large fill stockpile was present at the south limit of the Phase Two Property which was evaluated via collection of five samples from within the stockpile (SPD SA2 through SPD SA7). This pile was later removed off-Site but the information was useful in the determination of general fill quality on the Phase Two Property.

Test pit records are included in Appendix B.

5.4 2021 Test Pit Investigation

A total of twelve test pits were excavated on the Phase Two Property on July 27 and 28, 2021 to delineate previously identified sample results between MECP Table 1 and the previously site condition standard MECP Table 3. This included:

- Three test pits TP 21-10, TP21-11 and TP21-12 were completed in the vicinity of the previous exceedance of MECP Table 1 at former test pit TP57 at a depth of 0.1-1.0 metres. Test pits were completed on July 27, 2021, to bedrock a depth of between 0.9 metres to 1.5 metres
- Three test pits TP21-13, TP21-14 and TP21-15 were completed in the vicinity of the previous exceedance of MECP Table 1 at former test pit TP32 at a depth of 0.1 metres. Test pits were completed on July 27, 2021, to a depth of 1.5 metres
- Three test pits TP21-19, TP21-20 and TP21-21 at the southeast corner of the previously completed building 29 remediation where validation sample BLD29 EW SS32 was found to exceed MECP Table 1. The test pits were completed to refusal on bedrock and sampled at a depth equivalent to the previous exceedance.
- Three test pits TP21-16, TP21-17 and TP21-18 were completed at the south end of the previously completed remediation around historical test pit TP52 where a validation sample TP52WL SS4 exceeded MECP Table 1. The test pits were completed to refusal on bedrock and sampled at a depth equivalent to the previous exceedance.

Test pit records are included in Appendix B.

5.5 2024 Monitoring Well Installation

Ten monitoring wells were installed on the Phase Two Property in the west and southwest of the Site, MW24-03, MW24-05, MW24-06, MW24-07 MW24-08, MW24-10, MW24-12, MW24-13, MW24-14, MW24-15 to evaluate groundwater quality downgradient of the PCA resulting in APEC 3. These wells were installed on May 14-17, 2024. MW24-06 and MW24-15 were installed in overburden at depth of 3.81 and 3.05 whereas the remainder were installed with 3 metre screens in bedrock between 2.5 and 7.01 metres depth. The wells were installed using air rotary and did not include soil sampling.

Borehole and monitoring well records are included in Appendix C.

5.6 Groundwater Sampling

Groundwater sampling completed as part of the Phase Two ESA, included the following. Historical sampling is included in the groundwater analytical tables for reference but reported under separate cover:

- WSP completed one round of sampling in June 2024 for each of the ten monitoring wells installed in 2024 to evaluate APEC 3. A second resampling of monitoring well MW24-12 was completed two weeks after the initial sample due to an exceedance of PHCs.
- WSP re-sampled existing monitoring wells BHMW12, BHMW52-1, BHMW29-1, BHMW29-2 in June 2020 with supplemental sampling completed at BHMW29-1 in June 2021 and November 2021 due to the previous exceedance documented at this location in August 2017.

Each monitoring well was purged prior to sample collection. During purging, qualitative observations were made of water colour, clarity, and the presence of hydrocarbon sheen or odour. Purged was completed by pumping at least three well volumes or, where the well was considered a “low-yield” monitoring well, by purging at least one half of the well volume.

Groundwater samples were placed in laboratory-prepared containers and stored in a cooler until delivery to the analytical laboratory under chain-of-custody procedures. A summary of the groundwater samples submitted for analysis is presented in Table 4.

5.6.1 Groundwater: Field Measurements for Water Quality Parameters

Groundwater indicator parameters including temperature, pH, conductivity, oxidation-reduction potential (“ORP”) and dissolved oxygen were measured prior to sampling to ensure adequate well development and purging. A Horiba U-52 water quality meter was used to measure groundwater quality during monitoring well development and groundwater sampling. The instrument was calibrated using factory supplied solutions for electrical conductivity (4.49 milli-Siemens per centimetre (mS/cm)); pH (4.00 pH and 7.00 pH); turbidity (0 and 100 NTU); dissolved oxygen (9.09 mg/L @ 20 degC); and, oxidization reduction potential (240 mV) parameters.

5.7 Quality Assurance and Quality Control Measures

WSP’s quality assurance program for environmental investigations was implemented to ensure that analytical data obtained by the investigation were valid and representative. The quality assurance program included the following measures:

- The use of standard operating procedures for all field investigation activities.
- All monitoring wells were developed following installation to remove fine particles from the filter pack and any fluids introduced during drilling.
- Monitoring wells were appropriately purged prior to groundwater sample collection to remove stagnant water from the well bore and improve sample representativeness, minimizing sample agitation and aeration to the extent practicable.
- The collection of field duplicate samples at a minimum frequency of one duplicate for every ten samples.
- The collection of at least one trip blank for sampling events that include the analysis of volatile organic compounds in groundwater.

- Initial calibration of field equipment was performed at the start of each field day, with a daily check of calibration, as needed, using a standard of known concentration.
- Soil and groundwater samples were handled and stored in accordance with the sample collection and preservation requirement of the MECP "*Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.I of the Environmental Protection Act*", July 1, 2011. Samples were collected directly into pre-cleaned, laboratory-supplied sample containers with the appropriate preservative for the analyte group. Upon collection, samples were placed in insulated coolers with ice for storage and transport to the analytical laboratory under chain-of-custody.
- Dedicated sampling equipment (tubing and foot valves) and clean disposable Nitrile™ gloves were used at each sampling location to prevent cross-contamination. All non-dedicated sampling equipment (e.g., water level meters, split spoons) was decontaminated between sampling locations. Sampling equipment in contact with soil, groundwater, or sediment was cleaned by mechanical means; washed with a phosphate-free, laboratory-grade detergent (e.g., LiquiNox) and, if necessary, an appropriate desorbing wash solution; and thoroughly rinsed with analyte-free water.
- Detailed field records documenting the methods and circumstances of collection for each field sample were prepared at the time of sample collection. Each sample was assigned a unique sample identification number recorded in the field notes, along with the date and time of sample collection, the sample matrix, and the requested analyses.
- The submission of samples to the analytical laboratory in accordance with standard chain of custody procedures.

6.0 REVIEW AND EVALUATION – CONCEPTUAL SITE MODEL (CSM)

The Phase Two ESA Conceptual Site Model (CSM) described below is based on data from previous investigations and on the results of this Phase Two ESA. The CSM consists of diagrams, cross-sections and figures that show the current condition of the RSC Property. A narrative description is provided to explain the contents of the figures and an interpretation of the contaminant distribution.

The figures that comprise the Phase Two CSM include:

Figure 1: Site Plan with Former Buildings and Areas of Potential Environmental Concern
Figure 2: Groundwater Elevation and Groundwater Flow Direction
Figure 3: Petroleum Hydrocarbon Soil Sample Locations and Exceedances
Figure 3A: Petroleum Hydrocarbon Soil Sample Locations and Exceedances – BLD 22 Remediation
Figure 3B: Petroleum Hydrocarbon Soil Sample Locations and Exceedances – BLD 3 and TP57 Remediation
Figure 3C: Petroleum Hydrocarbon Soil Sample Locations and Exceedances – TP32 Remediation
Figure 3D: Petroleum Hydrocarbon Soil Sample Locations and Exceedances – TP31 Remediation
Figure 3E: Petroleum Hydrocarbon Soil Sample Locations and Exceedances – Building 29 Remediation
Figure 3F: Petroleum Hydrocarbon Soil Sample Locations and Exceedances – TP52 Remediation
Figure 4: Polycyclic Aromatic Hydrocarbon Soil Sample Locations and Exceedances
Figure 4A: Polycyclic Aromatic Hydrocarbon Soil Sample Locations and Exceedances – BLD 22 Remediation
Figure 4B: Polycyclic Aromatic Hydrocarbon Soil Sample Locations and Exceedances – BLD 3 Remediation

Figure 4C: Polycyclic Aromatic Hydrocarbon Soil Sample Locations and Exceedances – TP32 Remediation
Figure 4D: Polycyclic Aromatic Hydrocarbon Soil Sample Locations and Exceedances – TP31 Remediation
Figure 4E: Polycyclic Aromatic Hydrocarbon Soil Sample Locations and Exceedances – Building 29 and Building 12 Remediation
Figure 4F: Polycyclic Aromatic Hydrocarbon Soil Sample Locations and Exceedances – TP52 Remediation
Figure 5: Metals Soil Sample Locations and Exceedances
Figure 5A: Metals Soil Sample Locations and Exceedances - BLD 22 Remediation
Figure 5B: Metals Soil Sample Locations and Exceedances - BLD 3 and TP57 Remediation
Figure 5C: Metals Soil Sample Locations and Exceedances – TP32 Remediation
Figure 5D: Metals Soil Sample Locations and Exceedances – TP31 Remediation
Figure 5E: Metals Soil Sample Locations and Exceedances – Building 29 and Building 12 Remediation
Figure 5F: Metals Soil Sample Locations and Exceedances – TP52 Remediation
Figure 6: PHCs Analysis and Exceedances in Groundwater
Figure 7: PAHs Analysis and Exceedances in Groundwater
Figure 8: Metals Analysis and Exceedances in Groundwater
Figure 9A: Analytical Results for Metals in Soil (Cross-sections A-A' & B-B')
Figure 9B: Analytical Results for Petroleum Hydrocarbons in Soil (Cross-sections A-A' & B-B')
Figure 10A: Analytical Results for Petroleum Hydrocarbon in Soil at BLD 29 Remediation (Cross-sections C-C' & D-D')
Figure 10B: Analytical Results for Polycyclic Aromatic Hydrocarbons in Soil at BLD 29 Remediation (Cross-sections C-C' & D-D')
Figure 11: Analytical Results for Metals in Soil at BLD 12 Remediation (Cross-sections E-E' & F-F')
Figure 12A: Analytical Results for Petroleum Hydrocarbons in Soil (Cross-sections G-G' & H-H')
Figure 12B: Analytical Results for Polycyclic Aromatic Hydrocarbons in Soil (Cross-sections G-G' & H-H')
Figure 13: Analytical Results for Petroleum Hydrocarbons in Soil (Cross-sections I-I' & J-J')
Figure 14: Analytical Results for Petroleum Hydrocarbons in Soil (Cross-sections K-K' & L-L')
Figure 15: Analytical Results for Petroleum Hydrocarbons in Soil (Cross-sections M-M' & N-N')
Figure 16A: Analytical Results for Petroleum Hydrocarbon in Soil at BLD 22 Remediation (Cross-sections O-O' & P-P')
Figure 16B: Analytical Results for Polycyclic Aromatic Hydrocarbons in Soil at BLD 22 Remediation (Cross-sections O-O' & P-P')

6.1 Physical Setting

The RSC Property consisted of a 16.7174-hectare parcel of currently vacant land that consists of several old, paved roadways associated with the former CFB Rockcliffe military base. There are no built structures currently on the Site, however the RSC Property was historically occupied and surrounded by a series of buildings associated with the former military base, 24 in total. These buildings were previously used for:

- Building 3: Residential – Officers' Quarters (male)
- Building 5: Community – Officers' Mess
- Building 11: Ground telecom transmission site

- Building 12: Model Railway and Camera Club
- Building 15: Office – Airwomen's Lounge
- Building 16: Office (previously residential) – Space Agency and SIU (formerly female OR quarters)
- Building 18: Community – Corporals' Club, Senior NCOs' mess
- Building 19: Commercial – Station Hobby Shop, Senior NCOs' mess
- Building 20: Residential – Officers' Quarters (female)
- Building 21: Telephone Exchange CANEX warehouse
- Building 22: Post office and dry cleaner (drop-off)
- Building 29: Auto club
- Building 69: RCAFA
- Building 70: Residential – Airwomen's quarters (barrack block)
- Building 128: Dental clinic
- Building 131: Residential – Officers' Quarters
- Building 132: Residential – OR Quarters
- Building 133: Community – OR Mess
- Building 140: Library
- Building 155A: Aerospace offices
- Building 158: Residential – OR Quarters
- Part of Building 159: Former Junior Ranks Club (leased to RCAF-410)
- Building 161: Community – Officers' Mess
- Building 174: Officer's pool

There were no industrial, manufacturing, or equipment servicing facilities in this portion of the base.

The neighboring properties to the north, east and west are undeveloped and the properties to the south and southwest are under development for parkland and residential housing. Historically, the surrounding lands included an indoor swimming pool (former Building 137) located southwest of the RSC Property. Other former buildings included offices (former Buildings 8, 9, 10, 124 and 126), and residences (barracks in former Building 71). A transmission tower was located at former Building 126.

6.1.1 Topography and Drainage

The Phase Two ESA topography is generally uneven with an overall slope to the north. Drainage is mostly via natural infiltration.

6.1.2 Environmentally Sensitive Areas

An area of natural significance was identified on the Phase Two Property (woodlots on the central portion of the Site identified as potential bat habitat). As such the Site is considered to be an environmentally sensitive area. One surface soil sample and four subsurface soil samples were submitted for pH analysis.

Four soil samples were submitted for pH analysis. The samples met the requirements of the surface soil being $5 \leq pH \leq 9$, and the pH of sub-surface soil being $5 \leq pH \leq 11$.

Accordingly, Section 41 of the Regulation applies to the RSC Property due to the presence of an environmentally sensitive area on and adjacent to the RSC Property.

6.1.3 Shallow Soil Property or Water Body

Bedrock was encountered during the Phase Two investigation at an average depth greater than 2.0 metres. Given that >1/3 of the Site has an average overburden thickness greater than 2 m, the Site is not considered to be a shallow soil property as defined by O.Reg. 153/04 (as amended).

The property does not include all or part of a water body and is not adjacent to a water body or include land that is within 30 meters of a water body. The nearest permanent watercourse is the Ottawa River which is located approximately 750 m north of the Site.

Accordingly, Section 43.1 of the Regulation does not apply to the RSC Property.

6.1.4 Summary of Historical Site Use

The Phase Two Property is currently vacant. Previous historical use primarily includes commercial purposes for the base which consisted of officer quarters, postal outlet, library, station hobby shop, drop off dry cleaner and auto club (with auto service/maintenance operations). Other undisclosed buildings were also present. All of these former buildings were part of the CFB Rockcliffe base and have been demolished and removed since approximately 2000 and were present since the 1940s. It is understood prior to these buildings having been present, the Phase Two Site was undeveloped land.

6.1.5 Potable Water Wells

Based on the Site observations and a review of the ERIS Report, no potable water wells are located on or within 250 metres of the RSC Property. The Site is not currently connected to the municipal water supply; however, the former buildings on the Site were connected to the municipal sewer and water system.

6.1.6 Subsurface Utilities

A storm and sanitary sewer line runs north-south along the western edge RSC Property which connects the newly developed areas to the south of the Site to a stormwater pond north of the Site. Based on the review of a cross-section drawing, this sewer line excavation and associated backfill materials extends to a depth of approximately 9.0 mbgs (78.0 masl). The drawing notes clay dykes were installed in the trench to reduce groundwater migration along the sewer trench.

At the time of the Phase Two ESA and remedial excavations, public and private utility locates were completed to clear the borehole and test pit locations. Underground utility drawings and review of previous subsurface investigation did not indicate presence of any other active buried utilities within the RSC Property. However, there are former abandoned sewer and water lines present below the historical roadways servicing the former base buildings. None of the previous remediations where groundwater impacts were documented, intersected any of the abandoned utilities. Furthermore, the identified active sewer does not extend or intersect the documented off-Site groundwater impacts at former building 137, southeast of the RSC Property.

6.1.7 Geological Conditions

In general, the subsurface soil conditions encountered in the boreholes and test pits consisted of surficial topsoil and fill of variable depths (up to 3.90 mbgs at BHMW17) with predominantly gravelly silty sand that extend to the bedrock at a maximum depth of 5 metres. At numerous investigation locations, silts and clays interbedded with sands and gravels as well as cobbles were observed in the fill and glacial till layers.

6.1.8 Grain Size Analysis

Based on field observations the native soil materials are considered to be a mixture of fine and coarse textured soils, as such coarse textured soils was selected as a conservative approach.

6.1.9 Applicable Site Condition Standard

The analytical results of the samples collected for this Phase Two ESA were compared to the Table 1 generic site condition standards (residential property use) presented in the MECP document "*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*", dated April 15, 2011.
The applicable site condition standards were selected based on the following rationale:

- The Phase Two Property and all other properties located, in whole or in part, within 250 metres of the Phase Two Property are supplied by the City of Ottawa municipal drinking water system. No wells were identified that are used or intended for use as a source of water.
- The Phase Two Property is not located in an area designated in a municipal official plan as a well-head protection area or other designation identified by the municipality for the protection of ground water.
- Based on field observations the native soil materials are considered to be coarse textured.
- The closest water body is the Ottawa River, located 750 metres ("m") north of the Phase Two Property.
- An area of natural and scientific interest was identified on the Site, specifically wooded areas on the central portion of the Site that were identified as being habitat for species at risk (the brown myotis bat). As such the Site is considered to be an environmentally sensitive area.
- The pH of surface soil is $5 \leq pH \leq 9$ and the pH of sub-surface soil meets the requirement that $5 \leq pH \leq 11$.
- The intended use for the Phase Two Property is with residential homes in the east part and a city park in the west part.
- The overburden thickness is more than 2 metres over more than one-third of the Phase Two Property.

6.1.10 Hydrogeological Characteristics

The local and regional groundwater flow direction is expected to be north following the considerable drop in ground surface elevation towards the Ottawa River to the north. It is anticipated that the new active storm and sanitary sewer may be influencing the groundwater elevations in the area near the sewer, and that localized flow towards the sewer maybe occurring.

In March 2015, static groundwater levels were measured in monitoring wells (BHMW11, BHMW12, BHMW12-1, BHMW12-2, BHMW20, BHMW22, BHMW22-1, BHMW22-2, BHMW23, BHMW29-1, BHMW29-2, BHMW52-1) across the RSC Property between 77.28 and 86.30 mASL (depth range between 1.98 and 8.63 mbgs). Most recent static groundwater levels were measured in the monitoring wells (MW24-05 to MW24-08; MW24-10; and MW24-12 to MW24-15) on the southwest portion of the Site between June 4 and 11, 2024. Groundwater elevations ranged from 78.92 to 81.98 masl (0.76 to 5.02 mbgs) on June 4-11, 2024.

Seasonal fluctuation in water levels on the Site should be expected. Given the limited number of monitoring events, seasonal trends could not be identified; however shallow groundwater water levels are typically highest following the spring recharge and decline throughout the summer and fall months into the winter.

Figure 2 shows groundwater elevations, contours and the interpreted groundwater flow direction. The groundwater levels collected in 2015 and 2024 were used to interpret the groundwater contour lines indicating that local groundwater flow is to the north.

The horizontal hydraulic gradient was estimated for groundwater conditions based on water levels collected on November 26, 2004, March 15, 2015, and June 5, 2024. The inferred horizontal hydraulic gradient for groundwater conditions is approximately -0.025 m/m to the northeast of the site. There is a small, localized flow to the west near the sewer trench on the western edge of the Site. Vertical hydraulic gradients were not calculated as there no nested monitoring well pairs were installed. Available nested monitoring wells off-Site to the southwest at the Building 137 remediation suggest a slight downward gradient.

Groundwater flow velocity was determined based on the hydraulic conductivity of 3.0×10^{-6} m/s (source: https://structx.com/Soil_Properties_006.html) and assumed porosity of 20% for limestone (source: http://worthingtongroundwater.com/?page_id=131#:~:text=Most%20flow%20in%20bedrock%20aquifers,in%20the%20range%200.01%2D0.4), and the hydraulic gradient. The average linear groundwater velocity within limestone was calculated to be 3.75×10^{-7} m/s. Note that the actual groundwater velocity may vary significantly because of the variability of the hydraulic gradient, in addition to the variability of the hydraulic conductivity due to presence of the sewer trench excavation on the western edge of the RSC Property.

6.1.11 Depth to Groundwater

In March 2015, static groundwater levels were measured in monitoring wells (BHMW11, BHMW12, BHMW12-1, BHMW12-2, BHMW20, BHMW22, BHMW22-1, BHMW22-2, BHMW23, BHMW29-1, BHMW29-2, BHMW52-1) across the RSC Property between 77.28 and 86.30 mASL (depth range between 1.98 and 8.63 mbgs). Most recent static groundwater levels were measured in the monitoring wells (MW24-05 to MW24-08; MW24-10; and MW24-12 to MW24-15) on the southwest portion of the Site between June 4 and 11, 2024. Groundwater elevations ranged from 78.92 to 81.98 masl (0.76 to 5.02 mbgs) on June 4-11, 2024.

6.2 Proposed Buildings and Other Structures

The Canada Lands Company is considering disposition of the property and a future owner for redevelopment of the RSC Property with residential homes in the east part and a city park in the west part. The specific location of any proposed residential buildings and other structures is unknown.

6.3 Reliance on 49.1 – Applicable Standards Deemed to be Met

Exceedances of barium, chromium, cobalt, and vanadium in select test pits, validation samples and remediation backfill were documented. These metals were considered to have resulted from naturally occurring elevated concentrations due to the presence of clay within the fill across the site. The concentrations present were within the range of typical of the marine clays of eastern Ontario. As such, the metals are considered to be natural in origin and within typical background levels for the Ottawa area and are therefore not an exceedance of the site condition standards. A rationale for such naturally occurring metals above the MECP Table 1 Standards is appended to this report (Appendix F). The qualified person has determined these exceedances do not exceed the naturally occurring range of concentrations typically found within the area where the property is located as outlined in Section 49.1.3 in O.Reg 153.

These locations were present in the remedial validation samples from TP57 (one sample), TP31 (two samples), and Phase Two ESA locations TP4-37A/B, TP4-03, TP12, TP21-06, TP24, TP29-8 and TP57. They were also

consistently present in the samples from the stockpile used to backfill the 2022 remediations. The maximum concentrations of natural metals were barium 487 ug/g, chromium 146 ug/g, cobalt 29.3 ug/g and vanadium 120 ug/g.

6.4 Potentially Contaminating Activities (PCA) and Areas of Potential Environmental Concern (APEC)

The following table summarizes the PCAs identified in the Phase One ESA considered to have resulted in an APEC on the Site. Figures 2 show the locations of the identified APECs and PCAs.

Table D: APECs and Associated PCAs Identified in the Phase One ESA

Area of Potential Environmental Concern	Location of APEC on the Phase Two Property	Potentially Contaminating Activity	Location of PCA (on-Site or Off-Site)	Contaminants of Potential Concern	Media Potentially Impacted
APEC 1 – Fill containing documented impacts (PHC, PAH, Metals) and demolition debris. Present near former buildings.	Site-Wide	#30 – Importation of Fill Material of Unknown Quality	On-Site	PHC/BTEX PAHs Metals	Soil and groundwater
APEC 2 – PHC impacts associated with the former auto club (Building 29).	On-Site	#10 – Commercial Autobody Shop	On-Site	PHC/BTEX, metals, PAHs	Soil, groundwater
APEC 3 – PHC impacts around the off-site PHC/PAH impacts associated with building 137.	Southwest portion of the Site	#28 – Gasoline and Associated products storage in fixed tanks. AST and UST located at Building 137 off-Site	Off-Site	PHC/BTEX, PAHs	Soil and Groundwater
APEC 4 – Potential PHC impacts associated with documented heating oil tank at Building 16.	On-Site	#28 – Gasoline and Associated products storage in fixed tanks. 909 Litre tank fuel oil tank reported in 2015 Phase One ESA.	On-Site	PHC/BTEX,	Soil and groundwater

6.5 Soil Quality

The summary of the soil and groundwater conditions at the Site based on the results of the Phase Two ESA (current and historical), by stratigraphic layer and media, is presented below. The analytical results of soil samples are presented in Tables 2-1A to 2-1C with historical results in Tables 2-2A to 2-2C. The soil samples submitted for analysis are presented on Figures 3 (A-F) through 5 (A-F).

A summary of the number of soil samples analyzed and the number of soil samples exceeding the Table 1 site condition standards is provided below:

- **Fill (soil)** – A total of ninety (90) fill/reworked native samples were analyzed for PHC F1 to F4, BTEX, PAHs and/or metals as part of the Phase Two ESA completed between 2004 and 2024. Altogether, eighteen (18) of these samples exceeded applicable MECP Table 1 Standards for PHCs/BTEX, five (5) sample exceeded for various PAHs, and three (3) samples exceeded for various metals. The exceedances were limited to the following distinct areas:
  - Building 22 in the central part of the Site (Figures 3, 4, 5A): PHC and PAH exceedances.
  - Building 3 in the northeastern corner of the Site (Figures 3, 4, 5B): PHC exceedances.
  - TP32 in the northeastern corner of the Site (Figures 3, 4, 5C): PHC exceedances.
  - TP31 in the northwestern corner of the Site (Figure 3,4,5D): PHC and metals exceedances.
  - Building 29 in the southcentral part of the Site (Figure 3,4,5D): PHC and PAH exceedances.
  - Building 12 in the southeastern part of the Site (Figure 3,4, 5E): Metals exceedances.
  - TP52 in the lower eastern side of the Site (Figure 3,4, 5F). PHC and PAH exceedances.

These impacts were located entirely within the fill materials and were found at depths not exceeding 2.8 mbgs.

6.6 Groundwater Quality

Groundwater quality assessment included sampling from twenty-six (26) wells across the Site, with at least one monitoring well in each of the areas of soil exceedances and APECs. The analytical results of groundwater samples are presented in Tables 3-1A to 3-1C with historical results in Tables 3-2A to 3-2C. Samples were collected at least once following their initial installation (either in 2004, 2014, 2015 or 2024), prior to remediation. Monitoring wells were resampled around Building 22 and Building 29 where exceedances were identified and to monitoring groundwater quality during the course of remediation. Except for the monitoring wells BHMW12 and BHMW 29-1 at Building 29 and BHMW21 at Building 22, the concentrations of PHC F1 to F4, BTEX, PAHs and/or metals were below the applicable site condition standards at all other monitoring wells. The three locations with groundwater exceedances included PHC F2 exceedances at Building 22 and PHC F2, F3 and PAHs exceedances at Building 29.

The groundwater samples submitted for analysis are presented on Figures 6 to 8.

6.7 Findings of the Phase Two ESA with Respect to the APECs

To address the APECs and PCAs identified at the Site, soil and groundwater sampling and analysis for potential COCs were completed as part of this Phase Two ESA and previous Phase Two ESAs. A summary of the findings of the Phase Two ESA with respect to the APECs and associated PCAs identified by the Phase One ESA with respect to the Site is provided in the table below.

Table E: Phase Two ESA Investigation Results for Each APEC

APEC	PCA	Summary of Phase Two ESA Program	Summary of Exceedances (pre-remediation)	Summary of Exceedances (post-remediation)
APEC 1 – Fill containing documented impacts (PHC, PAH, Metals) and demolition debris.	#30 – Importation of Fill Material of Unknown Quality.	Phase Two ESAs completed **in 2015 and prior**, fifty (50) soil samples were analyzed PHC F1 - F4, BTEX, PAHs and/or metals. It is noted that delineation investigation in later investigations was only completed for the COCs found in prior investigations (i.e. PHCs only at Building 22 and Building 3 and metals only at Building 12). **In 2020,** eighteen (19) soil samples from test pits were collected and analyzed for PHC F1-F4, BTEX, PAHs, Metals (including hydrides) as well as hexavalent chromium and mercury. **In 2021,** twenty-one (21) soil samples from test pits were collected and analyzed for PHC F1-F4, BTEX, PAHs, and metals (including hydrides). Groundwater sampling was completed at 12 monitoring wells in 2024 (MW24 series monitoring wells) and at 14 monitoring wells (BHMW series monitoring wells) sampled as part of the 2015 and earlier Phase Two ESA activities. Resampling of select BHMW series wells was completed in 2016, 2017, 2020 and 2021 to validate groundwater remediation.	**SOIL** **2014/15 (DST):** TP31 SGS2 and TP31 SGS5 had exceedance of PHC-F2 and zinc. TP31 SGS3 and TP32 SGS2 exceeded for PHC-F2. TP52 SGS1 and TP56 SGS1 exceeded for PHC-F2/F3/F4 as well as dibenz(a,h)anthracene. TP12-2 S1 had exceedance of lead, zinc, mercury. TP12-3 S1 exceeded for mercury. TP3-2 S1 exceeded for PHC (TPH-heavy oils). TP57 SG1 exceeded for PHC F4 TP22-4 S2, TP22-5 S1, BHMW 22-1 SS4, BHMW 22-5 SS4 exceeded for PHCs (TPH gas/diesel and heavy oil) **2020:** No exceedances in TP4- and TP7-series test pits for any of the parameters analyzed. **2021:** TP21-16 SA1 exceeded for PHC-F2. TP21-10 SA1 exceeded for several PAHs. **GROUNDWATER** **2014/15:** BHWM21 exceeded PHC F2	**SOIL** None, given all the samples with exceedances were subsequently removed and revalidated as part of the remediation. **GROUNDWATER** BHMW22-1 (post remediation replacement of BHWM21): no exceedances in 2015 or 2016

APEC	PCA	Summary of Phase Two ESA Program	Summary of Exceedances (pre-remediation)	Summary of Exceedances (post-remediation)
APEC 2 – PHC impacts associated with the former auto club (Building 29). It is noted that some of these samples overlap with APEC 1	#10 – Commercial Autobody Shop.	**In 2014,** ten (10) soil samples were collected and analyzed for PHC F1-F4, BTEX, PAHs, and Metals (including hydrides). In 2014, two (2) groundwater samples from BHMW12 were analyzed PHC F1-F4, BTEX, PAHs, and Metals. **In 2015,** four (4) groundwater samples were taken (BHMW12, BHMW29-1 (resampled), BHMW29-2) and analyzed for PHC F1-F4, BTEX, PAHs, and Metals. **In 2016,** six (6) groundwater samples were taken (BHMW12, BHMW 29-1 (resampled 4 times), BHMW29-2) and analyzed for PHC F1-F4, BTEX, PAHs, and Metals. **In 2017, 2020, and 2021**, BHMW 29-1 was sampled a further four (4) times and analyzed for PHC F1-F4 and BTEX, with PAHs also being analyzed in the two 2021 samples. Additionally, BHMW12 was sampled once for PHC F1-F4. **In 2021,** three (3) soil samples were collected (TP21-19 SA2, TP21-20 SA2, and TP21-21 SA2) and analyzed for PHC F1-F4, BTEX, PAHs, and metals (including hydrides).	**SOIL** **2014/15:** TP26 SGS2 and TP27 SGS2 exceeded for PHCs F2, F3, F4 and/or several PAHs. TP29-2 S3, TP29-8 S16, TP29-12 S20 exceeded for PHCs (TPH gas/diesel and TPH heavy oil). 2015 remediation wall sample BLD EW SS32 exceeded for xylenes. **GROUNDWATER** **2015:** BHMW12: groundwater sample exceeded PHC F2 in 2015 BHMW29-1: Both 2015 groundwater samples exceeded PHC F2. **2016:** BHMW29-1: exceeded PHC F2 in the three samples collected in 2016 as well as PHC F3 in the last sample in 2016. **2017:** BHMW29-1: exceeded PHC F2.	**SOIL** None, given all the samples with exceedances were subsequently removed and revalidated as part of the remediation. **GROUNDWATER** BHMW29-1: No exceedances in post remediation groundwater samples collected in 2020, June 2021 and November 2021. BHMW12: No exceedances in post remediation groundwater samples collected in 2015 and 2016.

APEC	PCA	Summary of Phase Two ESA Program	Summary of Exceedances (pre-remediation)	Summary of Exceedances (post-remediation)
APEC 3 – PHC impacts around the off-site PHC impacts associated with Building 137.	#28 – Gasoline and Associated products storage in fixed tanks.	Given the PCA associated with this APEC was located off-Site and it was deemed that transport of contamination was via groundwater only, no soil samples were collected for analysis of the associated COCs. **In 2024,** eleven (11) groundwater samples were collected and analyzed for PHC F1-F4, BTEX, and PAHs.	No exceedance observed in any of the soil or groundwater samples Collected from this APEC.	No remediation completed or required.
APEC 4 – Potential PHC impacts associated with documented heating oil tank at Building 16.	#28 – Gasoline and Associated products storage in fixed tanks.	As part of ESAs prior to 2015, three soil samples were collected and analyzed for PHC F1-F4, BTEX, PAHs, metals. In addition, three (3) groundwater samples were collected to investigate potential impact in the vicinity of this former building.	No exceedance observed in any of the soil or groundwater samples collected from this APEC.	No remediation completed or required.

Notes: The above table does note include the presence of naturally elevated metals (barium, chromium, cobalt, and vanadium) present in several samples over the generic standards. These are discussed in previous sections and in Appendix F of the Phase Two ESA.

6.8 Delineation of Contaminant Impacts

6.8.1 APEC Where Contaminants are Present at a Concentration Above the Applicable Site Condition Standard

The reported concentrations of all soil and groundwater samples submitted for analysis indicate that current soil and groundwater quality meets the applicable site condition standards. Any location with a soil sample(s) that had exceedances identified has since been remediated and removed from the RSC Property. Impacts present before remediation were located within the fill. Except for Building 12, TP32 and part of TP31, the exceedances were delineated up to the bedrock surface. At these three locations, the impacts were delineated to within the shallow fill and were not found to extend into the native soils or all the way to bedrock. The Phase Two ESA delineation of exceedances before remediation is shown on Figure 3 (A-F) and Figures 5(A-F).

The fill around and below each impacted samples from the Phase Two ESA was subsequently removed to either bedrock or validated clean excavation floor and the wall validated with clean samples (Appendix G).

Groundwater impacts were only noted in the two areas where the groundwater intersected the lower impacted fill at Building 22 and 29. The exceedances at monitoring well BHMW21 at Building 22 were delineated by

surrounding nearby wells BHMW22-1(15), BHMW22 and BHMW22-1. Groundwater exceedances at BHMW12 were delineated by the RSC boundary to the south and BHMW 29-2 to the north.

6.8.2 Contaminant Distribution

No contaminants were present in soil, groundwater or sediment samples at a concentration greater than the applicable site condition standards following remediation. As indicated above, no groundwater impacts remain on the RSC Property and all the remediated soil impacts were limited to the fill, primarily in areas where former buildings and infrastructure were present.

6.8.3 Potential Reason for Discharge into the Environment at the Site

Impacts at the property were limited to the fill and are the result of building demolition activities and resulting mixing of debris with the fill in areas where former buildings and infrastructure were present. At Building 29, the source of the impacts may have been the same, however, this building was the site of a former auto club which may have had additional sources for PHC related impacts. No fuel storage tanks were documented at any of the buildings on the Phase One Property, excluding Building 16. Therefore, the presence of PHC impacts in the fill have been tied to the demolition activities and filling in the absence of any fuel storage records.

The APEC resulting from the off-Site PHC impacts in groundwater originated from a historical release from off-Site fuel storage located southwest of the Site at the former base swimming pool.

6.8.4 Contaminant Migration

Fill impacts (pre-remediation) were delineated to the upper fill and not in contact with groundwater except for groundwater at Building 22 and 29, where a shallower groundwater table was in contact with the lower fills and resulted in PHC related impacts in the groundwater. At Building 22, the impacts were found to have migrated along the fill/bedrock interface in the direction of groundwater flow resulting in PHC soil impacts in a NE/SW pattern. At Building 29, impacts extend radially around the former building footprint (former auto club) with highest concentration found east of the former building in the centre of the soil remediation. Limited migration of groundwater beyond the area of soil impacts was observed. The direction of groundwater migration may also have been influenced by the bedrock slope and topography which does not fully coincide with the groundwater flow direction. These impacts, soil and groundwater, have subsequently been remediated.

Off-Site, the PCA resulting in APEC 3 had resulted in localized soil impacts off-Site and was found to have entered bedrock up to the groundwater table. These impacts were found to have migrated to the north, east and west of the former tanks within the bedrock. As discussed, monitoring wells on the RSC Property at the downgradient (relative to the PCA) property boundary, confirmed no evidence that the off-Site impacts in groundwater had migrated onto the RSC Property.

6.8.5 Meteorological and Climatic Considerations

Seasonal fluctuation in water levels on the Site should be expected. Given the limited number of monitoring events seasonal trends could not be identified. Shallow groundwater water levels are typically highest following the spring recharge and decline throughout the summer and fall months into the winter. Groundwater levels used to generate the cross sections and shown on Figure 2 were taken in spring at the highest likely water table.

6.8.6 Soil Vapour Intrusion Pathways

The Site is presently undeveloped with no buildings. No contaminants were present at concentrations greater than the applicable MECP site condition standards and therefore soil vapour intrusion is not a concern for future building at the Site.

7.0 REMEDIATION

Remediation of impacted soil (9,570 m^3) and groundwater (1,333 m^3) identified on the RSC property was conducted and details of the remediation work including sampling density, soil removal and backfilling are included in Appendix G (Remediation Report) of the Phase Two ESA report. The validation sampling following removal of the impacted soil met the minimum sampling density requirements outlined in Table 3 of Schedule E of O.Reg. 153/04. Groundwater at monitoring wells installed in the remedial excavations have at least two consecutive clean groundwater samples, collected at least 3 months apart, from each of the two remedial excavations where groundwater impacts were present.

7.1 Summary of Current Site Condition (Post-remediation)

Following remediation, all contaminated soil was removed from the Site. The verification sampling program included the collection of samples as per the guidance for sampling and analysis frequency is provided in O. Reg 153/04, as amended, Schedule E, Table 3 (Minimum Confirmation Sampling Requirements for Excavation). All the validation samples met the applicable MECP Table 1 Standards. As a result, no contaminated soil above the applicable site conditions standards remains on the Site.

PHC groundwater remediation was completed by pump, treat and off-site sewer discharge at the two remedial areas where groundwater exceedances were noted (Building 22 and 29). Remediation at Building 22 was achieved by pumping from the open excavation whereas Building 29 included additional extraction from monitoring wells following soil remediation as well as pumping during the excavation. Groundwater sampling completed at monitoring wells BHMW29-1 and BHMW22-1 located in the centre of the remedial excavations were sampled until two consecutive clean groundwater samples were achieved. This was in March 2015 and April 2016 for Building 22 and June 2020, June 2021 and November 2021 for Building 29.

8.0 POTENTIAL EXPOSURE PATHWAYS AND RECEPTORS

Following the remediation, no contaminants were present at concentrations greater than the applicable site condition standards and therefore potential release and transport mechanisms, exposure pathways and human and ecological receptors are not considered further.

9.0 CONCLUSIONS

The Phase Two ESA investigated the four APECs identified in the Phase One ESA.

Based on the results of the soil and groundwater (APEC 1 – fill, APEC 2 – PHC Impacts at building 29, and APEC 4 – PHC Impacts at building 16) samples submitted as part of this Phase Two ESA, the reported concentrations of the contaminants of potential concern were below the applicable site condition standards as of the certification date (June 5, 2024). No risk assessment or remediation is required prior to the submission of an RSC.

The data presented in this report follows the O. Reg. 153/04 Phase Two ESA report format.

10.0 LIMITATIONS

This report was prepared for the exclusive use of Canada Lands Company. The report, which specifically includes all tables, figures and attachments, is based on data and information collected by WSP Canada Inc. and is based solely on the conditions of the properties at the time of the work, supplemented by historical information and data obtained by WSP Canada Inc. as described in this report.

Electronic media is susceptible to unauthorized modification, deterioration and incompatibility and therefore authenticity of any electronic media versions of WSP's report should be verified.

WSP Canada Inc. has relied in good faith on all information provided and does not accept responsibility for any deficiency, misstatements, or inaccuracies contained in the report as a result of omissions, misinterpretation, or fraudulent acts of the persons contacted or errors or omissions in the reviewed documentation.

The services performed, as described in this report, were conducted in a manner consistent with that level of care and skill normally exercised by other members of the engineering and science professions currently practicing under similar conditions, subject to the time limits and financial and physical constraints applicable to the services.

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

The findings and conclusions of this report are valid only as of the date of this report. If new information is discovered in future work, including excavations, borings, or other studies, WSP Canada Inc. should be requested to re-evaluate the conclusions of this report, and to provide amendments as required.

11.0 SIGNATURES

The undersigned Qualified Person confirms that he/she was responsible for conducting and/or supervising this Phase Two ESA and the associated findings and conclusions.

We trust that you will find the contents of this report satisfactory for your current needs. Should you require clarification of the information provided, please do not hesitate to contact the undersigned.

WSP Canada Ltd.

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Environmental Engineer

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SAC/LT/KPH/ha/sg

https://wsponline.sharepoint.com/sites/gld-110705/project files/6 deliverables/phase two esas/phase two esa - phase 4-2 & 7_rsc/phase two esa report/19124906 clc phase two esa_ phase7 rsc - feb2025.docx

Tables

Monitoring Well ID	Screen Depths (mbgs)		Monitoring Well Elevation		Screen Intervals (masl)				Depth to Groundwater (mbgs)		
	Top of Screen	Bottom of Screen	GS Elevation (masl)	TOP Elevation (masl)	Top of Screen	Bottom of Screen	Date of GW Elevation Measurement	Groundwater Elevation (masl)[a]	26-Nov-04	Mar-15	05-Jun-24
BHMW11	4.4	6.1	NS	NS	NS	NS	NS	NS	NM	5.70	NM
BHMW12	3.6	6.6	90.46	91.44	86.86	83.86	13-Mar-15	85.43	NM	5.03	NM
BHMW12-1	2.4	4.8	89.12	90.00	86.72	84.32	13-Mar-15	85.93	NM	3.19	NM
BHMW12-2	4.3	7.3	89.06	89.94	84.76	81.76	13-Mar-15	86.30	NM	2.76	NM
BHMW16	4.5	6.1	NS	NS	NS	NS	NS	NS	4.60	NM	NM
BHMW17	2.0	5.0	NS	NS	NS	NS	NS	NS	4.40	NM	NM
BHMW18	3.2	6.2	87.80	88.55	84.60	81.60	26-Nov-04	84.30	3.50	NM	NM
BHMW-19	3.2	6.2	NS	NS	NS	NS	NS	NS	4.40	NM	NM
BHMW20	2.5	8.8	85.91	86.62	83.41	77.11	13-Mar-15	77.28	8.20	8.63	NM
BHMW21	3.3	6.3	NS	NS	NS	NS	NS	NS	2.80	NM	NM
BHMW22	3.2	6.2	83.58	84.47	80.40	77.40	13-Mar-15	80.93	2.00	2.65	NM
BHMW22-1	3.3	5.7	84.16	85.05	80.88	78.48	13-Mar-15	81.16	NM	3.00	NM
BHMW22-2	2.5	5.5	88.48	89.32	85.98	82.98	13-Mar-15	84.50	NM	3.98	NM
BHMW23	3.2	6.0	NS	NS	NS	NS	NS	NS	1.40	1.98	NM
BHMW29-1	2.8	4.9	87.94	88.87	85.14	83.04	13-Mar-15	85.59	NM	2.35	NM
BHMW29-2	2.8	5.8	87.91	88.70	85.14	82.14	13-Mar-15	84.32	NM	3.59	NM
BHMW52-1	3.8	6.8	89.23	90.02	85.39	82.39	13-Mar-15	85.60	NM	3.63	NM
MW24-05	4.0	7.0	82.84	83.78	78.84	75.84	05-Jun-24	80.61	NM	NM	3.17
MW24-06	1.0	3.8	83.58	84.49	82.58	79.78	05-Jun-24	82.90	NM	NM	1.60
MW24-07	2.4	5.5	84.39	85.05	81.99	78.89	05-Jun-24	81.95	NM	NM	3.10
MW24-08	3.7	6.7	84.73	85.58	81.03	78.03	05-Jun-24	82.20	NM	NM	3.38
MW24-10	4.0	7.0	85.55	86.33	81.55	78.55	05-Jun-24	81.31	NM	NM	5.02
MW24-12	3.7	6.7	84.34	85.09	80.64	77.64	05-Jun-24	81.72	NM	NM	3.37
MW24-13	3.0	6.0	83.53	84.25	80.53	77.53	05-Jun-24	80.93	NM	NM	3.32
MW24-14	3.7	6.7	82.09	82.99	78.39	75.39	05-Jun-24	79.82	NM	NM	3.17
MW24-15	1.5	3.0	82.49	83.28	80.99	79.49	05-Jun-24	82.52	NM	NM	0.76

Notes:

"masl" Metres above sea level

"mbgs" Metres below ground surface

"a" Groundwater elevation based on available measurement, where more than one measurement collected, March 2015 was used to calculate elevation.

Table 2-1A - Soil Analytical Results (Petroleum Hydrocarbons)

Data Source		MECP Table 1 Standard (R/P/I/I/C/C) [1]	WSP Remediation Program 2022/2023																
Sample Location			Remediation Validation - BLD29			Remediation Validation - TP 52													
Sample Description			VS-BLD29-NW1	VS-BLD29-DUP1 (Duplicate of VS-BLD29-NW1)	VS-BLD29-EW1	VS-TP52-SW1	VS-TP21-16-SW1 (removed)	VS-TP52-SW2 (removed)	VS-TP52-SW3	VS-TP52-EW1	VS-TP52-EW2	VS-TP52-DUP1	VS-TP52-EW3	VS-TP52-WW1	VS-TP52-WW2	VS-TP52-F1	VS-TP52-F2	VS-TP52-F3	VS-TP52-F4
Date Sampled			2022-11-10	2022-11-10	2022-11-10	2022-11-09	2022-12-01	2022-12-20	2023-03-23	2022-11-09	2023-03-14	2023-03-14	2023-03-22	2022-12-08	2023-03-14	2022-11-09	2022-11-09	2022-12-08	2023-03-22
Sample Depth (mbgs)	**Unit**		**0.5**	**0.5**	**0.5**	**0.5**	**0.7**	**0.7**	**1.0-1.2**	**0.5**	**1.0-1.2**	**1.0-1.2**	**1.3-1.5**	**0.7**	**1.5-1.7**	**1**	**1**	**1.4-1.5**	**1.8**
Parameter	**mbgs**																		
Benzene	µg/g	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Toluene	µg/g	0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethylbenzene	µg/g	0.05	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
o-Xylene	µg/g	--	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
p+m-Xylene	µg/g	--	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Xylenes (Total)	µg/g	0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
F1 (C6 to C10)	µg/g	25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F1 (C6 to C10) minus BTEX	µg/g	25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16)	µg/g	10	<10	<10	<10	10	**24**	**43**	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
F3 (C16 to C34)	µg/g	240	<50	<50	<50	140	**290**	**610**	<50	75	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
F4 (C34 to C50)	µg/g	120	<50	<50	<50	95	**180**	**410**	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Reached Baseline at C50	--	--	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Gravimetric Heavy Hydrocarbons	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moisture Content	%	--	9.9	13	4.7	13	10	14	26	5.2	11	12	12	13	11	7.7	7.2	7.8	11
TPgH (Gas C5-C10)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEH (Diesel, C10-C24)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH (Gas/Diesel)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons (heavy oils)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
Value	Parameters exceeds MOE (1998) criteria
m bgs	metres below ground surface
NA	Parameter not analyzed
RDL	Reported Detection Limit
--	Not available

Table 2-1A - Soil Analytical Results (Petroleum Hydrocarbons)

Data Source		MECP Table 1 Standard (R/P/I/I/C/C) [1]	WSP Remediation Program 2022/2023						
Sample Location			Remedial Validation - TP32					Remedial Validation - TP57	
Sample Description			VS-TP32-NW1	VS-TP32-EW1	VS-TP32-F1	VS-TP32-DUP1 (Duplicate of VS-TP32-F1)	VS-TP32-F2	VS-TP57-NW1	VS-TP57-EW1
Date Sampled			2022-11-09	2022-11-09	2022-11-09	2022-11-09	2022-11-09	2022-11-09	2022-11-09
Sample Depth (mbgs)	**Unit**		**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**1.5**	**1.5**
Parameter	**mbgs**								
Benzene	µg/g	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Toluene	µg/g	0.20	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Ethylbenzene	µg/g	0.05	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
o-Xylene	µg/g	--	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
p+m-Xylene	µg/g	--	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Xylenes (Total)	µg/g	0.05	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
F1 (C6 to C10)	µg/g	25	<10	<10	<10	<10	<10	<10	<10
F1 (C6 to C10) minus BTEX	µg/g	25	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16)	µg/g	10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g	10	--	--	--	--	--	--	--
F3 (C16 to C34)	µg/g	240	<50	<50	<50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g	--	--	--	--	--	--	--	--
F4 (C34 to C50)	µg/g	120	<50	<50	<50	<50	<50	<50	<50
Reached Baseline at C50	--	--	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Gravimetric Heavy Hydrocarbons	µg/g	--	--	--	--	--	--	--	--
Moisture Content	%	--	4	5.6	7.4	7.3	4.9	13	8.6
TPgH (Gas C5-C10)	µg/g	--	--	--	--	--	--	--	--
TEH (Diesel, C10-C24)	µg/g	--	--	--	--	--	--	--	--
TPH (Gas/Diesel)	µg/g	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons (heavy oils)	µg/g	--	--	--	--	--	--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
Value	Parameters exceeds MOE (1998) criteria
m bgs	metres below ground surface
NA	Parameter not analyzed
RDL	Reported Detection Limit
--	Not available

Table 2-1A - Soil Analytical Results (Petroleum Hydrocarbons)

Data Source		MECP Table 1 Standard (R/P/I/I/C/C) [1]	WSP Remediation Program 2022/2023													
Sample Location			Remediation Validation - TP31													
Sample Description			VS-TP31-NW1 (removed)	VS-TP31-NW2 (removed)	VS-TP31-SW1 (removed)	VS-TP31-SW2	VS-TP31-EW1	VS-TP31-EW2	VS-TP31-EW3	VS-TP31-EW4	VS-TP31-WW1	VS-TP31-WW2	VS-TP31-F1	VS-TP31-F2	VS-TP31-F3	VS-TP31-F4
Date Sampled			2023-03-31	2023-04-19	2023-05-17	2023-06-01	2023-03-31	2023-04-19	2023-05-17	2023-06-01	2023-04-19	2023-06-01	2023-03-31	2023-04-19	2023-05-17	2023-06-05
Sample Depth (mbgs)	**Unit**		**0.6-0.7**	**0.9**	**1.7**	**0.9**	**1.1**	**1.5**	**1.6**	**0.5**	**2.4**	**1.8**	**1.9**	**2.0**	**2.1**	**1.1**
Parameter	**mbgs**															
Benzene	µg/g	0.02	**0.092**	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Toluene	µg/g	0.20	**0.32**	0.08	0.03	<0.020	<0.020	0.029	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Ethylbenzene	µg/g	0.05	0.035	0.025	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
o-Xylene	µg/g	--	0.082	0.092	0.034	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
p+m-Xylene	µg/g	--	0.17	0.11	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	
Xylenes (Total)	µg/g	0.05	**0.25**	**0.21**	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	
F1 (C6 to C10)	µg/g	25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
F1 (C6 to C10) minus BTEX	µg/g	25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
F2 (C10 to C16)	µg/g	10	<10	<10	10	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
F2 (C10 to C16) minus Naphthalene	µg/g	10	--	--	--	--	--	--	--	--	--	--	--	--	--	
F3 (C16 to C34)	µg/g	240	<50	88	**350**	<50	<50	55	<50	<50	<50	<50	<50	<50	<50	
F3 (C16 to C34) minus PAHs	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
F4 (C34 to C50)	µg/g	120	<50	110	**1000**	<50	<50	82	<50	56	<50	79	<50	<50	<50	
Reached Baseline at C50	--	--	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Gravimetric Heavy Hydrocarbons	µg/g	--	--	--	**2700**	--	--	--	--	--	--	--	--	--	--	
Moisture Content	%	--	12	15	15	24	22	23	20	18	19	13	15	12	26	
TPgH (Gas C5-C10)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TEH (Diesel, C10-C24)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
TPH (Gas/Diesel)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Petroleum Hydrocarbons (heavy oils)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
Value	Parameters exceeds MOE (1998) criteria
m bgs	metres below ground surface
NA	Parameter not analyzed
RDL	Reported Detection Limit
--	Not available

Table 2-1A - Soil Analytical Results (Petroleum Hydrocarbons)

Data Source		MECP Table 1 Standard (R/P/I/I/C/C) [1]	2020 Golder Phase Two ESA Test Pit Investigation														
Sample Location			Phase 7 West				Phase 7 East										
Sample Description			TP4-03 SA1	TP4-04 SA1	TP4-05 SA1	TP4-07 SA1	TP7-27 SA1	TP7-28 SA1	TP7-29 SA1	TP7-30 SA1	DUP2 (Field Duplicate of TP7-30 SA1)	TP7-31 SA2	TP7-32 SA1	TP7-33 SA2	TP7-34 SA2	TP7-35 SA1	TP7-36 SA1
Date Sampled			07/07/2020	07/07/2020	07/07/2020	07/07/2020	07/08/2020	07/08/2020	07/08/2020	07/08/2020	07/08/2020	07/08/2020	07/08/2020	07/08/2020	2020-07-09	2020-07-09	2020-07-09
Sample Depth (mbgs)	**Unit**		**0.6-0.8**	**0.0-0.5**	**0.5-0.7**	**0.4**	**1**	**0.9-1.0**	**1.0-2.0**	**0.10-1.85**	**0.10-1.85**	**1.8**	**0.5-0.65**	**1.4**	**0.40-1.35**	**0.0-0.8**	**0.0-0.9**
Parameter	**mbgs**																
Benzene	µg/g	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.20	<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
Ethylbenzene	µg/g	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
o-Xylene	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
p+m-Xylene	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes (Total)	µg/g	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
F1 (C6 to C10)	µg/g	25	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	88	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g	--	88	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	64	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Reached Baseline at C50	--	--	Yes	Yes	Yes	Yes	--	--	--	--	--	--	--	--	--	--	--
Gravimetric Heavy Hydrocarbons	µg/g	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%	--	20.9	10.9	4.8	10.1	27.70	7.20	5.90	3.70	8.00	10.20	6.80	12.50	24.40	14.60	8.60
TPgH (Gas C5-C10)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEH (Diesel, C10-C24)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH (Gas/Diesel)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons (heavy oils)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
Value	Parameters exceeds MOE (1998) criteria
m bgs	metres below ground surface
NA	Parameter not analyzed
RDL	Reported Detection Limit
--	Not available

Table 2-1A - Soil Analytical Results (Petroleum Hydrocarbons)

Data Source		MECP Table 1 Standard (R/P/I/I/C/C) [1]	Golder 2021 Phase Two ESA Test Pit Investigation													2020 Stockpile Investigation (removed)				
Sample Location			Phase 7 Central and East													SPD-SA3	SPD-SA4	SPD-SA5	SPD-SA6	SPD-SA7
Sample Description			TP21-10 SA1	TP21-11 SA1	TP21-12 SA2	TP21-13 SA1	TP21-14 SA1	TP21-15 SA1	TP21-16 SA1	TP21-17 SA2	DUP-1 of 21-17	TP21-18 SA1	TP21-19 SA2	TP21-20 SA2	TP21-21 SA2	SPD-SA3	SPD-SA4	SPD-SA5	SPD-SA6	SPD-SA7
Date Sampled			07/27/2021	07/27/2021	07/27/2021	07/27/2021	07/27/2021	07/27/2021	07/28/2021	07/28/2021	07/28/2021	07/28/2021	07/28/2021	07/28/2021	07/28/2021	2020-07-09	2020-07-09	2020-07-09	2020-07-09	2020-07-09
Sample Depth (mbgs)	**Unit**		**0.5**	**0.5**	**0.9**	**0.8**	**1.5**	**1**	**0.5**	**1**	**1**	**0.5**	**1.1**	**1**	**1.1**	**0.75**	**0.75**	**0.75**	**0.75**	**0.75**
Parameter	**mbgs**																			
Benzene	µg/g	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.20	<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	<0.05
Ethylbenzene	µg/g	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	<0.05	<0.05
o-Xylene	µg/g	--	<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	--	--	--	--	--
p+m-Xylene	µg/g	--	<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	--	--	--	--	--
Xylenes (Total)	µg/g	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	<0.05	<0.05
F1 (C6 to C10)	µg/g	25	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	<10	<10	<10	<10	<10	<10	**14**	<10	<10	10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g	10	<10	<10	<10	<10	<10	<10	**14**	<10	<10	10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	<50	<50	<50	<50	<50	<50	160	<50	<50	74	<50	<50	<50	<50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g	--	<50	<50	<50	<50	<50	<50	159	<50	<50	74	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
Reached Baseline at C50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gravimetric Heavy Hydrocarbons	µg/g	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	--	--	--	--	--
Moisture Content	%	--	13.7	13.4	14.7	7.1	10.5	9.2	12.8	9.3	8.2	12.6	3.7	6.1	6.2	26.2	23.8	25.9	26.5	23.8
TPgH (Gas C5-C10)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEH (Diesel, C10-C24)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH (Gas/Diesel)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons (heavy oils)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
Value	Parameters exceeds MOE (1998) criteria
m bgs	metres below ground surface
NA	Parameter not analyzed
RDL	Reported Detection Limit
--	Not available

Table 2-1B - Soil Analytical Results (PAHs)

Data Source		MECP Table 1 Standard (R/P/I/I/C/C) [1]	2022/2023 WSP Remediation																
Sample Location			Remediation Validation - BLD29			Remediation Validation - TP52													
Sample Description			VS-BLD29-NW1	VS-BLD29-DUP1 (Duplicate of VS-BLD29-NW1)	VS-BLD29-EW1	VS-TP52-SW1	VS-TP21-16-SW1	VS-TP52-SW2	VS-TP52-SW3	VS-TP52-EW1	VS-TP52-EW2	VS-TP52-DUP1	VS-TP52-EW3	VS-TP52-WW1	VS-TP52-WW2	VS-TP52-F1	VS-TP52-F2	VS-TP52-F3	VS-TP52-F4
Date Sampled			2022-11-10	2022-11-10	2022-11-10	2022-11-09	2022-12-01	2022-12-20	2023-03-23	2022-11-09	2023-03-14	2023-03-14	2023-03-22	2022-12-08	2023-03-14	2022-11-09	2022-11-09	2022-12-08	2023-03-22
Sample Depth (mbgs)			0.5	0.5	0.5	0.5	0.7	0.7	1.0-1.2	0.5	1.0-1.2	1.0-1.2	1.3-1.5	0.7	1.5-1.7	1.0	1.0	1.4-1.5	1.8
Parameter	**Unit**																		
Acenaphthene	µg/g	0.072	<0.0050	<0.0050	<0.0050	<0.050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Acenaphthylene	µg/g	0.093	0.011	0.0064	<0.0050	<0.050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Anthracene	µg/g	0.16	0.012	0.0062	<0.0050	<0.050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Benz(a)anthracene	µg/g	0.36	0.065	0.034	<0.0050	<0.050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.011	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Benzo(a)pyrene	µg/g	0.3	0.064	0.035	<0.0050	<0.050	<0.050	0.053	<0.0050	0.0081	<0.0050	<0.0050	<0.0050	0.013	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Benzo(b)fluoranthene	µg/g	0.47	0.1	0.058	<0.0050	<0.050	0.07	0.085	<0.0050	0.014	<0.0050	<0.0050	<0.0050	0.022	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Benzo(g,h,i)perylene	µg/g	0.68	0.051	0.03	<0.0050	<0.050	<0.050	<0.050	<0.0050	0.011	<0.0050	<0.0050	<0.0050	0.0097	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Benzo(k)fluoranthene	µg/g	0.48	0.039	0.02	<0.0050	<0.050	<0.050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0071	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Biphenyl	µg/g		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/g	2.8	0.056	0.031	<0.0050	<0.050	<0.050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.01	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Dibenz(a,h)anthracene	µg/g	0.1	0.013	0.007	<0.0050	<0.050	<0.050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Fluoranthene	µg/g	0.56	0.12	0.065	<0.0050	<0.050	0.1	0.074	<0.0050	0.0056	<0.0050	<0.0050	<0.0050	0.022	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Fluorene	µg/g	0.12	<0.0050	<0.0050	<0.0050	<0.050	<0.050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Indeno(1,2,3-cd)pyrene	µg/g	0.23	0.052	0.029	<0.0050	<0.050	<0.050	<0.050	<0.0050	0.011	<0.0050	<0.0050	<0.0050	0.011	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1-Methlynaphthalene	µg/g	0.59[2]	0.0067	<0.0050	<0.0050	<0.050	<0.050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
2-Methlynaphthalene	µg/g	0.59[2]	0.0065	<0.0050	<0.0050	<0.050	<0.050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1 and 2 Methlynaphthalene	µg/g	0.59	0.013	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071
Naphthalene	µg/g	0.09	<0.0050	<0.0050	<0.0050	<0.050	<0.050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Phenanthrene	µg/g	0.69	0.037	0.022	<0.0050	<0.050	<0.050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0079	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Pyrene	µg/g	1	0.099	0.054	<0.0050	<0.050	0.081	0.061	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.018	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050

Value	Laboratory detection limit above criteria
Value	Parameters exceeds Table 1 criteria.
--	Not available
NA	Not analyzed

(1) Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.

(2) The methylnapthalene standards are applicable to both 1-methylnapthalene and 2-methylnapthalene, with the provision that if both are detected, the sum of the two must not exceed the standard.

Table 2-1B - Soil Analytical Results (PAHs)

Data Source		MECP Table 1 Standard (R/P/I/I/C/C) [1]	2022/2023 WSP Remediation																				
Sample Location			Remedial Validation - TP32					Remedial Validation - TP57		Remedial Validation - TP31													
Sample Description			VS-TP32-NW1	VS-TP32-EW1	VS-TP32-F1	VS-TP32-DUP1 (Duplicate of VS-TP32-F1)	VS-TP32-F2	VS-TP57-NW1	VS-TP57-EW1	VS-TP31-NW1	VS-TP31-NW2	VS-TP31-SW1	VS-TP31-SW2	VS-TP31-EW1	VS-TP31-EW2	VS-TP31-EW3	VS-TP31-EW4	VS-TP31-WW1	VS-TP31-WW2	VS-TP31-F1	VS-TP31-F2	VS-TP31-F3	VS-TP31-F4
Date Sampled			2022-11-09	2022-11-09	2022-11-09	2022-11-09	2022-11-09	2022-11-09	2022-11-09	2023-03-31	2023-04-19	2023-05-17	2023-06-01	2023-03-31	2023-04-19	2023-05-17	2023-06-01	2023-04-19	2023-06-01	2023-03-31	2023-04-19	2023-05-17	2023-06-05
Sample Depth (mbgs)			0.5	0.5	0.5	0.5	0.5	1.5	1.5	0.6-0.7	0.9	1.7	0.9	1.1	1.5	1.6	0.5	2.4	1.8	1.9	2.0	2.1	1.1
Parameter	**Unit**																						
Acenaphthene	µg/g	0.072	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	**0.12**	<0.0050	<0.0050	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	<0.0050	
Acenaphthylene	µg/g	0.093	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.050	<0.0050	<0.0050	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	<0.0050	
Anthracene	µg/g	0.16	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	**0.3**	<0.0050	<0.0050	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	<0.0050	
Benz(a)anthracene	µg/g	0.36	<0.0050	0.011	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	**0.61**	0.067	<0.0050	--	<0.0050	0.015	<0.0050	0.0088	<0.0050	--	<0.0050	<0.0050	
Benzo(a)pyrene	µg/g	0.3	<0.0050	0.01	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	**0.52**	0.063	0.0056	--	<0.0050	0.014	<0.0050	0.0084	<0.0050	--	<0.0050	<0.0050	
Benzo(b)fluoranthene	µg/g	0.47	<0.0050	0.014	<0.0050	<0.0050	<0.0050	0.0076	<0.0050	--	**0.71**	0.1	0.01	--	0.083	0.029	<0.0050	0.016	<0.0050	--	0.063	0.0078	
Benzo(g,h,i)perylene	µg/g	0.68	<0.0050	0.0072	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	0.31	0.17	<0.0050	--	0.062	0.02	<0.0050	0.0088	<0.0050	--	<0.0050	<0.0050	
Benzo(k)fluoranthene	µg/g	0.48	<0.0050	0.0053	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	0.29	<0.0050	<0.0050	--	<0.050	0.0078	<0.0050	0.0052	<0.0050	--	<0.0050	<0.0050	
Biphenyl	µg/g		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
Chrysene	µg/g	2.8	<0.0050	0.0092	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	0.52	0.094	0.0065	--	0.058	0.019	<0.0050	0.01	<0.0050	--	<0.0050	0.0054	
Dibenz(a,h)anthracene	µg/g	0.1	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	0.086	<0.0050	<0.0050	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	<0.0050	
Fluoranthene	µg/g	0.56	0.007	0.023	<0.0050	<0.0050	<0.0050	0.0089	<0.0050	--	**1.5**	0.1	0.012	--	0.068	0.031	<0.0050	0.019	0.066	--	0.099	0.013	
Fluorene	µg/g	0.12	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	**0.16**	<0.0050	<0.0050	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	<0.0050	
Indeno(1,2,3-cd)pyrene	µg/g	0.23	<0.0050	0.0073	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	**0.3**	0.052	<0.0050	--	<0.0050	0.012	<0.0050	0.0068	<0.0050	--	<0.0050	<0.0050	
1-Methlynaphthalene	µg/g	0.59[2]	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	0.1	<0.0050	<0.0050	--	<0.0050	0.0061	<0.0050	<0.0050	<0.0050	--	<0.0050	<0.0050	
2-Methlynaphthalene	µg/g	0.59[2]	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	0.1	<0.0050	<0.0050	--	<0.0050	0.0055	<0.0050	<0.0050	<0.0050	--	<0.0050	<0.0050	
1 and 2 Methlynaphthalene	µg/g	0.59	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	--	0.2	<0.0071	<0.0071	--	<0.0071	0.012	<0.0071	<0.0071	<0.0071	--	<0.0071	<0.0071	
Naphthalene	µg/g	0.09	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	**0.098**	<0.050	<0.0050	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	<0.0050	<0.0050	
Phenanthrene	µg/g	0.69	<0.0050	0.013	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	--	**1.4**	0.24	<0.0050	--	0.081	0.028	<0.0050	0.017	0.06	--	0.06	0.0079	
Pyrene	µg/g	1	0.006	0.019	<0.0050	<0.0050	<0.0050	0.0077	<0.0050	--	**1.2**	0.2	0.0096	--	0.064	0.031	<0.0050	0.015	0.059	--	0.082	0.01	

Value	Laboratory detection limit above criteria
Value	Parameters exceeds Table 1 criteria.
--	Not available
NA	Not analyzed

(1) Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.

(2) The methylnapthalene standards are applicable to both 1-methylnapthalene and 2-methylnapthalene, with the provision that if both are detected, the sum of the two must not exceed the standard.

Table 2-1B - Soil Analytical Results (PAHs)

Data Source		MECP Table 1 Standard (R/P/I/I/C/C) [1]	2020 Golder Phase Two ESA Test Pit Investigation																
Sample Location			Phase 7 West				Not shown on map		Phase 7 East										
Sample Description			TP4-03 SA1	TP4-04 SA1	TP4-05 SA1	TP4-07 SA1	TP4-37A	TP4-37B	TP7-27 SA1	TP7-28 SA1	TP7-29 SA1	TP7-30 SA1	DUP2 (Field Duplicate of TP7-30 SA1)	TP7-31 SA2	TP7-32 SA1	TP7-33 SA2	TP7-34 SA2	TP7-35 SA1	TP7-36 SA1
Date Sampled			07/07/2020	07/07/2020	07/07/2020	07/07/2020	07/08/2020	07/08/2020	08-Jul-2020	08-Jul-2020	08-Jul-2020	08-Jul-2020	08-Jul-2020	08-Jul-2020	08-Jul-2020	08-Jul-2020	09-Jul-2020	09-Jul-2020	09-Jul-2020
Sample Depth (mbgs)			0.6-0.8	0.0-0.5	0.5-0.7	0.4	1.0	1.0	1.00	0.9-1.0	1.0-2.0	0.10-1.85	0.10-1.85	1.80	0.5-0.65	1.40	0.40-1.35	0.0-0.8	0.0-0.9
Parameter	**Unit**																		
Acenaphthene	µg/g	0.072	<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
Acenaphthylene	µg/g	0.093	<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
Anthracene	µg/g	0.16	<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
Benz(a)anthracene	µg/g	0.36	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.47	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	0.68	<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
Benzo(k)fluoranthene	µg/g	0.48	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Biphenyl	µg/g		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/g	2.8	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	<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
Fluoranthene	µg/g	0.56	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.22	<0.05	<0.05	<0.05	0.10	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	0.12	<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
Indeno(1,2,3-cd)pyrene	µg/g	0.23	<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
1-Methlynaphthalene	µg/g	0.59[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methlynaphthalene	µg/g	0.59[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1 and 2 Methlynaphthalene	µg/g	0.59	<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
Naphthalene	µg/g	0.09	<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
Phenanthrene	µg/g	0.69	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.11	<0.05	<0.05	<0.05	0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	1	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.05	<0.05	0.17	<0.05	<0.05	<0.05	0.08	<0.05	<0.05	<0.05	<0.05

Value	Laboratory detection limit above criteria
Value	Parameters exceeds Table 1 criteria.
--	Not available
NA	Not analyzed

(1) Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.

(2) The methylnapthalene standards are applicable to both 1-methylnapthalene and 2-methylnapthalene, with the provision that if both are detected, the sum of the two must not exceed the standard.

Table 2-1B - Soil Analytical Results (PAHs)

Data Source		MECP Table 1 Standard (R/P/I/I/C/C) [1]	Golder 2021 Phase Two ESA Test Pit Investigation													2020 Stockpile Investigation (removed)				
Sample Location			Phase 7 Central and East													SPD-SA3	SPD-SA4	SPD-SA5	SPD-SA6	SPD-SA7
Sample Description			TP21-10 SA1	TP21-11 SA1	TP21-12 SA2	TP21-13 SA1	TP21-14 SA1	TP21-15 SA1	TP21-16 SA1	TP21-17 SA2	DUP-1 of 21-17	TP21-18 SA1	TP21-19 SA2	TP21-20 SA2	TP21-21 SA2	SPD-SA3	SPD-SA4	SPD-SA5	SPD-SA6	SPD-SA7
Date Sampled			07/27/2021	07/27/2021	07/27/2021	07/27/2021	07/27/2021	07/27/2021	07/28/2021	07/28/2021	07/28/2021	07/28/2021	07/28/2021	07/28/2021	07/28/2021	2020-07-09	2020-07-09	2020-07-09	2020-07-09	2020-07-09
Sample Depth (mbgs)			0.50	0.50	0.90	0.80	1.50	1.00	0.50	1.00	1.00	0.50	1.10	1.00	1.10	0.75	0.75	0.75	0.75	0.75
Parameter	Unit																			
Acenaphthene	µg/g	0.072	<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	<0.05
Acenaphthylene	µg/g	0.093	<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	<0.05
Anthracene	µg/g	0.16	0.12	<0.05	<0.05	0.11	0.11	<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
Benz(a)anthracene	µg/g	0.36	**0.45**	<0.05	<0.05	0.19	0.19	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	**0.47**	<0.05	<0.05	0.16	0.16	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.47	**0.7**	<0.05	0.06	0.25	0.25	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	0.68	0.18	<0.05	<0.05	0.06	0.06	<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
Benzo(k)fluoranthene	µg/g	0.48	0.4	<0.05	<0.05	0.09	0.09	<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
Biphenyl	µg/g		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/g	2.8	0.54	<0.05	<0.05	0.2	0.2	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	<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	<0.05
Fluoranthene	µg/g	0.56	0.55	<0.05	0.08	0.39	0.39	<0.05	<0.05	0.11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.09	<0.05
Fluorene	µg/g	0.12	<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	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.23	0.22	<0.05	<0.05	0.06	0.06	<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
1-Methlynaphthalene	µg/g	0.59[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methlynaphthalene	µg/g	0.59[2]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1 and 2 Methlynaphthalene	µg/g	0.59	<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	<0.05
Naphthalene	µg/g	0.09	<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	<0.05
Phenanthrene	µg/g	0.69	0.08	<0.05	0.07	0.24	0.24	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	1	0.62	<0.05	0.07	0.36	0.36	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05

Value	Laboratory detection limit above criteria
Value	Parameters exceeds Table 1 criteria.
--	Not available
NA	Not analyzed

(1) Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.

(2) The methylnapthalene standards are applicable to both 1-methylnapthalene and 2-methylnapthalene, with the provision that if both are detected, the sum of the two must not exceed the standard.

Table 2-1C - Analytical Results (Metals and Inorganics)

Data Source			Remedial Validation - BLD 29			Remedial Validation - TP52													
Sample Location																			
Sample Description		**MECP Table 1 Standard (R/P/I/I/C/C) [1]**	**VS-BLD29-NW1**	**VS-BLD29-DUP1 (Duplicate of VS-BLD29-NW1)**	**VS-BLD29-EW1**	**VS-TP52-SW1**	**VS-TP21-16-SW1**	**VS-TP52-SW2**	**VS-TP52-SW3**	**VS-TP52-EW1**	**VS-TP52-EW2**	**VS-TP52-DUP1**	**VS-TP52-EW3**	**VS-TP52-WW1**	**VS-TP52-WW2**	**VS-TP52-F1**	**VS-TP52-F2**	**VS-TP52-F3**	**VS-TP52-F4**
Date Sampled			**2022-11-10**	**2022-11-10**	**2022-11-10**	**2022-11-09**	**2022-12-01**	**2022-12-20**	**2023-03-23**	**2022-11-09**	**2023-03-14**	**2023-03-14**	**2023-03-22**	**2022-12-08**	**2023-03-14**	**2022-11-09**	**2022-11-09**	**2022-12-08**	**2023-03-22**
Sample Depth (mbgs)			**0.5**	**0.5**	**0.5**	**0.5**	**0.7**	**0.7**	**1.0-1.2**	**0.5**	**1.0-1.2**	**1.0-1.2**	**1.3-1.5**	**0.7**	**1.5-1.7**	**1.0**	**1.0**	**1.4-1.5**	**1.8**
Parameter																			
Antimony	µg/g	1.3	0.28	<0.2	<0.2	0.21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Arsenic	µg/g	18	2.8	3.5	<1.0	1.4	1.5	2.2	2.9	1.3	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	<1.0
Barium	µg/g	220	120	150	25	99	100	110	**270**	69	82	64	78	67	61	88	32	180	19
Beryllium	µg/g	2.5	0.48	0.61	<0.2	0.37	0.4	0.42	1.1	0.28	0.36	0.3	0.36	0.34	0.34	0.43	<0.2	0.42	<0.2
Boron	µg/g	36	11	11	<5.0	<5.0	<5.0	<5.0	7.5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Boron (Hot Water Extractable)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/g	1.2	0.19	0.21	<0.1	0.15	0.21	0.22	0.35	0.24	<0.10	<0.1	<0.1	0.13	<0.1	<0.1	<0.1	<0.1	<0.1
Calcium	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (Total)	µg/g	70	20	20	6.5	30	32	27	**110**	18	18	15	20	22	17	24	7.9	28	11
Cobalt	µg/g	21	8.7	12	3	7.3	7.5	7.1	**27**	4.4	5.8	4.9	6.4	4.8	4.7	6.9	2.3	8.8	4
Copper	µg/g	92	15	17	6.7	18	17	18	47	19	12	13	20	7.8	7.9	11	4.2	17	7.7
Iron	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	µg/g	120	26	25	1.7	21	20	30	12	64	4.2	3.5	4.8	13	3.6	5	2.2	8	2.8
Magnesium	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	µg/g	2	0.53	0.62	<0.5	<0.5	<0.5	0.52	0.53	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.54	<0.5
Nickel	µg/g	82	18	22	4.7	19	20	16	75	12	9.8	9.5	13	10	8.9	15	6.1	20	6.6
Selenium	µg/g	1.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	µg/g	0.5	<0.2	0.22	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Sodium	µg/g	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	µg/g	1	0.22	0.24	<0.050	0.15	0.16	0.14	0.31	0.11	0.08	0.1	0.098	0.082	0.058	0.065	<0.050	0.1	<0.05
Tin	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uranium	µg/g	2.5	0.44	0.43	0.35	0.54	0.57	0.56	1.3	0.51	0.35	0.36	0.4	0.61	0.4	0.58	0.37	0.51	0.34
Vanadium	µg/g	86	23	25	14	34	36	33	**94**	22	26	25	35	29	26	29	8.2	33	18
Zinc	µg/g	290	41	41	11	60	63	59	99	57	17	18	29	34	17	33	8.5	41	10
Chromium, Hexavalent	µg/g	70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide, Free	µg/g	0.051	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/g	0.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Electrical Conductivity (2:1)	mS/cm	0.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium Adsorption Ratio	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH, 2:1 CaCl2 Extraction	pH Units	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
--	Not available
NA	Not analyzed
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.

Table 2-1C - Analytical Results (Metals and Inorganics)

Data Source			Phase 7 East						Phase 7 North		Phase 7 West												
Sample Location		**MECP Table 1 Standard (R/P/I/I/C/C)** [1]																					
Sample Description			**VS-TP32-NW1**	**VS-TP32-EW1**	**VS-TP32-WW1**	**VS-TP32-F1**	**VS-TP32-DUP1 (Duplicate of VS-TP32-F1)**	**VS-TP32-F2**	**VS-TP57-NW1**	**VS-TP57-EW1**	**VS-TP31-NW1**	**VS-TP31-NW2**	**VS-TP31-SW1**	**VS-TP31-SW2**	**VS-TP31-EW1**	**VS-TP31-EW2**	**VS-TP31-EW3**	**VS-TP31-EW4**	**VS-TP31-WW1**	**VS-TP31-WW2**	**VS-TP31-F2**	**VS-TP31-F3**	**VS-TP31-F4**
Date Sampled			**2022-11-09**	**2022-11-09**	**2022-11-14**	**2022-11-09**	**2022-11-09**	**2022-11-09**	**2022-11-09**	**2022-11-09**	**2023-03-31**	**2023-04-19**	**2023-05-17**	**2023-06-01**	**2023-03-31**	**2023-04-19**	**2023-05-05**	**2023-06-01**	**2023-04-19**	**2023-06-01**	**2023-04-19**	**2023-05-17**	**2023-06-05**
Sample Depth (mbgs)			**0.5**	**0.5**	**0.25**	**0.5**	**0.5**	**0.5**	**1.5**	**1.5**	**0.6-0.7**	**0.9**	**1.7**	**0.9**	**1.1**	**1.5**	**1.6**	**0.5**	**2.4**	**1.8**	**2.0**	**2.1**	**1.1**
Parameter																							
Antimony	µg/g	1.3	<0.2	0.26	--	<0.2	<0.2	<0.2	<0.2	<0.2	0.23	0.42	0.51	<0.2	--	0.54	<0.2	0.2	0.29	<0.2	<0.2	0.5	--
Arsenic	µg/g	18	<1.0	<1.0	--	<1.0	<1.0	<1.0	1.4	1.5	2.3	7.8	12	3.3	--	7.9	4.2	3.4	4.4	3.5	2.6	8.3	--
Barium	µg/g	220	37	46	--	38	39	24	56	54	120	120	140	130	--	**370**	130	100	170	95	64	130	--
Beryllium	µg/g	2.5	0.25	0.28	--	0.22	0.22	0.21	0.52	0.45	0.49	0.65	0.69	0.6	--	0.83	0.65	0.48	0.68	0.51	0.33	**3.8**	--
Boron	µg/g	36	<5.0	<5.0	--	<5.0	<5.0	<5.0	<5.0	<5.0	5.5	10	8.2	6.1	--	8.7	7.3	5.7	8.8	6.2	<5.0	11	--
Boron (Hot Water Extractable)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/g	1.2	<0.1	0.21	--	<0.1	<0.1	<0.1	0.27	0.15	0.22	0.41	0.23	0.37	--	0.36	0.31	0.33	0.28	0.17	0.14	0.26	--
Calcium	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (Total)	µg/g	70	14	14	--	12	11	9.7	22	21	32	21	14	21	--	18	21	20	19	22	14	30	--
Cobalt	µg/g	21	9.6	5.3	--	5.2	5.2	4.9	8.4	8.3	10	9.2	8.4	10	--	10	11	7.5	9	8.7	5.9	21	--
Copper	µg/g	92	17	11	--	12	11	9.3	11	12	19	20	21	17	--	25	23	19	20	17	13	36	--
Iron	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	µg/g	120	6.1	9.8	--	3	2.9	3.4	18	12	25	50	24	20	--	28	28	17	26	21	14	25	--
Magnesium	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	µg/g	2	0.57	<0.5	--	<0.5	<0.5	<0.5	0.79	0.87	0.52	0.99	1.9	1.6	--	**3.2**	1.7	1.5	1.8	0.96	0.75	**5.4**	--
Nickel	µg/g	82	11	9.3	--	8	7.6	7	16	18	22	21	18	21	--	22	26	17	21	19	12	59	--
Selenium	µg/g	1.5	<0.5	<0.5	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.66	1	<0.5	--	0.83	<0.5	<0.5	<0.5	<0.5	<0.5	0.77	--
Silver	µg/g	0.5	<0.2	<0.2	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	--	<0.2	<0.2	<0.2	<0.2	<0.2	0.22	<0.20	--
Sodium	µg/g	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	µg/g	1	0.077	0.086	--	0.063	0.069	<0.050	0.14	0.2	0.2	0.24	0.23	0.21	--	0.23	0.26	0.16	0.26	0.2	0.15	**2.1**	--
Tin	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uranium	µg/g	2.5	0.49	0.47	--	0.41	0.39	0.37	0.53	0.59	0.65	0.6	0.53	0.54	--	0.69	0.53	0.55	0.66	0.66	0.49	**7.1**	--
Vanadium	µg/g	86	28	22	--	21	21	17	32	32	35	23	21	27	--	32	25	25	26	28	21	**130**	--
Zinc	µg/g	290	22	22	--	13	16	13	41	39	81	82	46	50	--	70	46	77	47	45	39	50	--
Chromium, Hexavalent	µg/g	70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--
Cyanide, Free	µg/g	0.051	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--
Mercury	µg/g	0.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--
Electrical Conductivity (2:1)	mS/cm	0.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--
Sodium Adsorption Ratio	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--
pH, 2:1 CaCl2 Extraction	pH Units	--	--	--	7.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--		--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
--	Not available
NA	Not analyzed
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.

Table 2-1C - Analytical Results (Metals and Inorganics)

Data Source			2020 Golder Phase Two																				
Sample Location			Phase 7 Central					Phase 7 West				Not shown on map		Phase 7 East									
Sample Description		MECP Table 1 Standard (R/P/I/I/C/C) [1]	BH22-03 SA1	BH22-03 SA2	BH22-04 SA2	BH22-04 DUP1	BH22-04 SA7	TP4-03 SA1	TP4-04 SA1	TP4-05 SA1	TP4-07 SA1	TP4-37A	TP4-37B	TP7-27 SA1	TP7-28 SA1	TP7-29 SA1	TP7-30 SA1	DUP2 (Field Duplicate of TP7-30 SA1)	TP7-31 SA2	TP7-32 SA1	TP7-33 SA2	TP7-34 SA2	TP7-35 SA1	TP7-36 SA1
Date Sampled			07/12/2022	07/12/2022	07/11/2022	07/11/2022	07/11/2022	07/07/2020	07/07/2020	07/07/2020	07/07/2020	07/08/2020	07/08/2020	08-Jul-2020	08-Jul-2020	08-Jul-2020	08-Jul-2020	08-Jul-2020	08-Jul-2020	08-Jul-2020	08-Jul-2020	09-Jul-2020	09-Jul-2020	09-Jul-2020
Sample Depth (mbgs)			0-1.5	1.5-1.98	2.1-2.7	2.1-2.7	7-7.46	0.6-0.8	0.0-0.5	0.5-0.7	0.40	1.00	1.00	1.00	0.9-1.0	1.0-2.0	0.10-1.85	0.10-1.85	1.80	0.5-0.65	1.40	1.20	0.0-0.8	0.0-0.9
Parameter																								
Antimony	µg/g	1.3	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	2	4	2	2	2	2	3	1	3	2	2	4	3	3	<1	<1	2	4	<1	1	2	3
Barium	µg/g	220	**239**	106	**221**	106	**434**	**266**	61	19	88	**342**	**322**	86	113	98	21	20	80	91	76	63	123	102
Beryllium	µg/g	2.5	0.7	0.6	0.4	0.5	0.9	0.5	<0.5	<0.5	<0.5	0.7	0.8	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron	µg/g	36	8	9	5	22	10	<5	<5	<5	<5	5	7	6	<5	6	<5	<5	<5	6	<5	<5	5	10
Boron (Hot Water Extractable)	µg/g	--	0.12	0.18	0.13	0.59	1.1	0.14	0.21	<0.1	0.28	0.11	0.12	0.26	0.10	0.36	<0.10	<0.10	<0.10	0.29	<0.10	<0.10	0.14	0.18
Cadmium	µg/g	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Calcium	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (Total)	µg/g	70	59	28	58	29	**118**	**71**	16	13	23	45	47	23	33	26	9	7	29	19	16	15	29	17
Cobalt	µg/g	21	14.3	10.1	14	11.8	**27.1**	16	4	3	6	12	13	7	9	10	3	3	7	6	5	6	7	7
Copper	µg/g	92	30	18.7	30.1	19.1	57.2	34	9	3	11	27	29	18	20	18	7	7	14	14	11	12	21	13
Iron	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	µg/g	120	12	17	10	14	8	10	22	3	41	11	16	49	20	15	2	2	9	47	5	6	13	19
Magnesium	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	µg/g	2	0.6	0.9	0.8	0.7	1.2	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	0.6	0.5	0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	0.5
Nickel	µg/g	82	35	21	35	25	75	38	9	6	14	30	35	15	19	16	4	4	17	12	10	10	18	12
Selenium	µg/g	1.5	<0.8	<0.8	<0.8	<0.8	<0.8	0.4	0.5	<0.4	0.6	<0.4	0.4	0.5	<0.4	0.4	<0.4	<0.4	<0.4	0.7	<0.4	<0.4	0.7	0.5
Silver	µg/g	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Sodium	µg/g	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	µg/g	1	<0.5	<0.5	<0.5	<0.5	0.5	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Tin	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uranium	µg/g	2.5	0.67	0.53	0.75	0.52	2.27	0.8	0.6	0.5	0.5	0.7	0.7	0.6	0.6	0.6	<0.5	0.7	0.7	0.5	0.6	0.6	1.2	<0.5
Vanadium	µg/g	86	66.2	32.7	61.2	32.3	**125**	70	21	19	31	52	73	27	38	34	14	19	32	25	26	25	27	22
Zinc	µg/g	290	81	48	75	35	152	95	50	16	66	69	98	56	83	54	10	11	42	57	25	24	69	31
Chromium, Hexavalent	µg/g	70	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, Free	µg/g	0.051	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/g	0.27	0.2	0.14	0.14	0.22	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.13	0.17	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium Adsorption Ratio	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH, 2:1 CaCl2 Extraction	pH Units	--	--	--	--	--	--	--	--	--	--	--	--	7.42	--	--	--	--	--	--	--	--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
--	Not available
NA	Not analyzed
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.

Table 2-1C - Analytical Results (Metals and Inorganics)

Data Source			Golder 2021 Sampling Program													2020 Stockpile Sampling (removed)						
Sample Location			Phase 7 Central and East													SPD-SA1	SPD-SA2	SPD-SA3	SPD-SA4	SPD-SA5	SPD-SA6	SPD-SA7
Sample Description		MECP Table 1 Standard (R/P/I/I/C/C) [1]	TP21-10 SA1	TP21-11 SA1	TP21-12 SA2	TP21-13 SA1	TP21-14 SA1	TP21-15 SA1	TP21-16 SA1	TP21-17 SA2	DUP-1 of 21-17	TP21-18 SA1	TP21-19 SA2	TP21-20 SA2	TP21-21 SA2	SPD-SA1	SPD-SA2	SPD-SA3	SPD-SA4	SPD-SA5	SPD-SA6	SPD-SA7
Date Sampled			07/27/2021	07/27/2021	07/27/2021	07/27/2021	07/27/2021	07/27/2021	07/28/2021	07/28/2021	07/28/2021	07/28/2021	07/28/2021	07/28/2021	07/28/2021	07/08/2020	07/08/2020	07/09/2020	07/09/2020	07/09/2020	07/09/2020	07/09/2020
Sample Depth (mbgs)			0.5	0.5	0.9	0.8	1.5	1.0	0.5	1.0	1.0	0.5	1.1	1.0	1.1	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Parameter																						
Antimony	µg/g	1.3	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	--	--	--	--	--	--	--	--	--	--	--	--	--	2	2	2	2	1	2	2
Barium	µg/g	220	64.3	101	114	51.8	58.4	30.7	98.9	58.2	51.9	91.3	25.7	25.3	24.2	**374**	**246**	**348**	**416**	**317**	**381**	**327**
Beryllium	µg/g	2.5	0.4	0.6	0.7	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	1	0.5	0.8	1	0.7	0.8	0.9
Boron	µg/g	36	<5	8	12	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	5
Boron (Hot Water Extractable)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.28	0.14	0.26	0.15	<0.10	<0.10	0.34
Cadmium	µg/g	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Calcium	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (Total)	µg/g	70	22	30	33	16	14	10	32	18	17	33	8	8	7	**113**	**71**	**111**	**131**	**98**	**120**	**101**
Cobalt	µg/g	21	6.7	10.8	14.7	5.6	5.9	5.7	7.7	4.1	4.2	7.7	3.5	3.9	3.4	**21.8**	13.6	**21.4**	**26.7**	19.9	**25.6**	17.9
Copper	µg/g	92	12	18.2	25.7	9.1	12.1	9	18.2	6.5	8	16.8	8.3	7.5	7.8	57	37	50	59	49	59	45
Iron	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	µg/g	120	15	24	34	10	4	4	23	4	5	15	2	2	2	9	13	9	8	6	8	11
Magnesium	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum	µg/g	2	<0.5	1.1	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	0.6	<0.5
Nickel	µg/g	82	14	24	33	11	10	8	22	10	11	19	5	5	5	58	39	56	69	53	64	46
Selenium	µg/g	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	0.7	0.5	0.6	0.4	<0.4	0.5	0.9
Silver	µg/g	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Sodium	µg/g	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	µg/g	1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.4	0.4	0.5	0.4	0.5	0.4
Tin	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uranium	µg/g	2.5	0.6	0.66	0.67	<0.50	0.53	<0.50	0.54	0.54	0.53	0.62	0.56	<0.50	<0.50	1.7	0.8	1.1	1.4	0.9	1.2	2.1
Vanadium	µg/g	86	32.7	38.8	38.8	23.3	27.3	19.9	36.6	25.8	22.4	38.7	19.9	19.7	14.9	**102**	69	**100**	**119**	**90.0**	**113**	**94.0**
Zinc	µg/g	290	49	63	59	29	16	16	76	17	21	49	11	12	12	146	131	134	152	114	136	140
Chromium, Hexavalent	µg/g	70	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, Free	µg/g	0.051	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.57	--	--	--	--	--	--	--	--	--	--	--	--	--	0.133	0.143	0.098	0.057	0.124	0.104	0.11
Sodium Adsorption Ratio	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.208	0.841	0.277	0.179	0.443	0.394	0.193
pH, 2:1 CaCl2 Extraction	pH Units	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.46	7.64	7.2	7.09	7.42	7.49	7.32

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
--	Not available
NA	Not analyzed
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.

Table 2-2A - Soil Analytical Results (Petroleum Hydrocarbons)

Data Source			2015 DST Phase II ESA						2009 DST Phase II		2015 DST Phase II Update			2015 DST Phase II Update							2015 DST Phase II Update		
Sample Location			Building 3			Building 22								BLD 29							TP31		
Sample Description		MECP Table 1 Standard (R/P/I/I/C/C) [1]	TP3-1	TP3-2 S1	TP3-3 S2	BH22-4 SS1	TP22-4 S2	TP22-5 S1	TP26 SGS2	TP27 SGS2	TP29 SGS2	TP29 SGS3	TP29 SGS5	TP29-2 S3	TP29-4 S7	TP 29-5 S13	TP29-8 S16	TP29-10 S18	TP29-10 S19	TP29-12 S20	TP31 SGS2	TP31 SGS3	TP31 SGS5
Date Sampled	Unit		2004[3]	2004[3]	2004[3]	2004[2]	2004[3]	2004[3]	--	--	--[4]	--[4]	--[4]	2004[3]	2004[3]	2004[3]	2004[3]	2004[3]	2004[3]	2004[3]	--[4]	--[4]	--[4]
Sample Depth (mbgs)	mbgs		0 - 1	0 -2.3	0 -2.3	0.0-0.61	1.4-2.8	1.5-3.0	0.5-1.0	0.5-1.0	0.6	1	1.6	1.75	0.5	1.5	1.75	0.5	1.5	1.5	0.4	0.9	1.2
Parameter																							
Benzene	µg/g	0.02	0.002	0.003	0.001	--	--	--	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--
Toluene	µg/g	0.20	0.004	0.005	0.003	--	--	--	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	µg/g	0.05	<0.002	<0.002	<0.002	--	--	--	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--
o-Xylene	µg/g	--	<0.002	<0.002	<0.002	--	--	--	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--
p+m-Xylene	µg/g	--	<0.002	<0.002	<0.002	--	--	--	NA	NA	NA	NA	NA	--	--	--	--	--	--	--	--	--	--
Xylenes (Total)	µg/g	0.05	<0.002	<0.002	<0.002	--	--	--	--	--	NA	NA	NA	--	--	--	--	--	--	--	--	--	--
F1 (C6 to C10)	µg/g	25	NA	NA	NA	--	--	--	<20	<20	<20	<20	<20	--	--	--	--	--	--	--	<20	<20	<20
F1 (C6 to C10) minus BTEX	µg/g	25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
F2 (C10 to C16)	µg/g	10	NA	NA	NA	--	--	--	**40**	**2,100**	<10	<10	<10	--	--	--	--	--	--	--	**30**	**20**	**20**
F2 (C10 to C16) minus Naphthalene	µg/g	10	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
F3 (C16 to C34)	µg/g	240	NA	NA	NA	--	--	--	**1,000**	**23,000**	<10	<10	<10	--	--	--	--	--	--	--	30	30	30
F3 (C16 to C34) minus PAHs	µg/g	--	NA	NA	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
F4 (C34 to C50)	µg/g	120	NA	NA	NA	--	--	--	**3,500**	**24,000**	<10	<10	<10	--	--	--	--	--	--	--	30	10	50
Reached Baseline at C50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Gravimetric Heavy Hydrocarbons	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moisture Content	%	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPgH (Gas C5-C10)	µg/g	--	0.21	0.20	<0.2	<0.2	<5.0	7.60	--	--	--	--	--	16	<0.2	7	7	<0.2	<5.0	34	--	--	--
TEH (Diesel, C10-C24)	µg/g	--	<6.0	<6.0	<6.0	6.7	4,700	1,400	--	--	--	--	--	2,900	<6.0	590	860	<6.0	620	1,800	--	--	--
TPH (Gas/Diesel)	µg/g	--	<6.2	<6.2	<6.2	6.7	4,700	1,400	--	--	--	--	--	2,916	<6.2	597	867	<6.2	620	1,830	--	--	--
Petroleum Hydrocarbons (heavy oils)	µg/g	--	470	3,300	260	290	1,900	600	--	--	--	--	--	4,701	320	350	27,000	290	440	1,900	--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
Value	Parameters exceeds MOE (1998) criteria
m bgs	metres below ground surface
NA	Parameter not analyzed
RDL	Reported Detection Limit
--	Not available
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.
(2)	These samples were analyzed as part “Results of Intrusive Investigation, Building #3, Former CFB Rockcliffe, Ottawa”, prepared by Greenbank Environmental Ltd. and dated November 19, 2004, summarized in the DST 2009 Phase Two.
(3)	Soil samples were submitted for chemical analysis as part of a report titled “Results of Intrusive Investigation, Building #29, Former CFB Rockcliffe, Ottawa”, prepared by Environmental Management Solutions Inc. (EMS) and dated August 13, 2004, summarized in the DST 2009 Phase Two
(4)	No date was provided in the source report.
(5)	As noted in DST Remediation Report, all exploratory testpit samples were eventually excavated as part of the remedial activities
(6)	As noted in DST Remediation Report, exceedance remediated with confirmatory samples BLD 137 EW SS47, BLD 137 EW SS64, BLD 137 EW SS68 and BLD 137 EW SS76
(7)	As noted in DST Remediation Report, soil and bedrock were excavated. South wall mostly consisted of bedrock and no confirmatory soil samples could be collected at this location. Bedrock was free of visual and olfactory evidences of PHC contamination.

Table 2-2A - Soil Analytical Results (Petroleum Hydrocarbons)

Data Source			2009 DST Phase II			2009 DST Phase II ESA	2016 DST Soil and Groundwater Remediation - RSC 5							
Sample Location			TP 32			TP 52								
Sample Description		MECP Table 1 Standard (R/P/I/I/C/C) [1]	TP 32 SGS2	TP 32 SGS3	TP 32 SGS5	TP 52 SGS1	TP 52 FL SS9	TP 52 FL SS22	TP 52 FL SS25	TP 52 WL SS3	TP 52 WL SS4	TP 52 WL SS6	TP 52 WL SS9	TP 52 WL SS11
Date Sampled	Unit		--	--	--	--	28-Nov-2014	28-Nov-2014	28-Nov-2014	28-Nov-2014	28-Nov-2014	28-Nov-2014	28-Nov-2014	28-Nov-2014
Sample Depth (mbgs)	mbgs		0.1	0.5	1.2	0.0-0.4	0.6	0.6	0.6	0.39	0.14	0.48	0.22	0.19
Parameter														
Benzene	µg/g	0.02	NA	NA	NA	--	<0.02	<0.02	<0.02	<0.02	**0.05**	<0.02	<0.02	<0.02
Toluene	µg/g	0.20	NA	NA	NA	--	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02
Ethylbenzene	µg/g	0.05	NA	NA	NA	--	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
o-Xylene	µg/g	--	NA	NA	NA	--	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
p+m-Xylene	µg/g	--	NA	NA	NA	--	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Xylenes (Total)	µg/g	0.05	NA	NA	NA	--	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
F1 (C6 to C10)	µg/g	25	<20	<20	<20	<20	<10	<10	<10	<10	<10	<10	<10	<10
F1 (C6 to C10) minus BTEX	µg/g	25	--	--	--	--	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16)	µg/g	10	**20**	<10	<10	**5,100**	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g	10	--	--	--	--	--	--	--	--	--	--	--	--
F3 (C16 to C34)	µg/g	240	20	<10	<10	**30,000**	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34) minus PAHs	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--
F4 (C34 to C50)	µg/g	120	20	<10	<10	**17,000**	83	<10	<10	<10	<10	<10	<10	<10
Reached Baseline at C50	--	--	--	--	--	--	YES	YES	YES	YES	YES	YES	YES	YES
Gravimetric Heavy Hydrocarbons	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--
Moisture Content	%	--	--	--	--	--	--	--	--	--	--	--	--	--
TPgH (Gas C5-C10)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--
TEH (Diesel, C10-C24)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH (Gas/Diesel)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons (heavy oils)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
Value	Parameters exceeds MOE (1998) criteria
m bgs	metres below ground surface
NA	Parameter not analyzed
RDL	Reported Detection Limit
--	Not available
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.
(2)	These samples were analyzed as part “Results of Intrusive Investigation, Building #3, Former CFB Rockcliffe, Ottawa”, prepared by Greenbank Environmental Ltd. and dated November 19, 2004, summarized in the DST 2009 Phase Two.
(3)	Soil samples were submitted for chemical analysis as part of a report titled “Results of Intrusive Investigation, Building #29, Former CFB Rockcliffe, Ottawa”, prepared by Environmental Management Solutions Inc. (EMS) and dated August 13, 2004, summarized in the DST 2009 Phase Two
(4)	No date was provided in the source report.
(5)	As noted in DST Remediation Report, all exploratory testpit samples were eventually excavated as part of the remedial activities
(6)	As noted in DST Remediation Report, exceedance remediated with confirmatory samples BLD 137 EW SS47, BLD 137 EW SS64, BLD 137 EW SS68 and BLD 137 EW SS76
(7)	As noted in DST Remediation Report, soil and bedrock were excavated. South wall mostly consisted of bedrock and no confirmatory soil samples could be collected at this location. Bedrock was free of visual and olfactory evidences of PHC contamination.

Table 2-2A - Soil Analytical Results (Petroleum Hydrocarbons)

Data Source			2009 DST Phase II ESA		April 2016 Soil and Groundwater Remediation - Volume 5								
Sample Location		MECP Table 1 Standard (R/P/I/I/C/C) [1]	Building 22	Phase 7 North	BLD 3								
Sample Description			TP56 SGS1	TP57 SGS1	BLD 3 NW SS8	BLD 3 WW SS8	BLD 3 EW SS3	BLD 3 DUP1 (Dup. of EW SS3)	BLD 3 SW SS3	BLD 3 SW SS8	BLD 3 FL SS2	BLD 3 FL SS8	BLD 3 FL SS13
Date Sampled	Unit		--	--	27/11/2014	27/11/2014	28/11/2014	28/11/2014	28/11/2014	28/11/2014	28/11/2014	28/11/2014	28/11/2014
Sample Depth (mbgs)	mbgs		0.0-0.4	0.1-1.0	1.7	0.8	1.9	1.9	0.8	1.5	1.9	1.9	1.9
Parameter													
Benzene	µg/g	0.02	NA	--	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.20	NA	--	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	µg/g	0.05	NA	--	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
o-Xylene	µg/g	--	NA	--	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
p+m-Xylene	µg/g	--	NA	--	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Xylenes (Total)	µg/g	0.05	NA	--	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
F1 (C6 to C10)	µg/g	25	<20	<20	<10	<10	<10	<10	<10	<10	<10	<10	<10
F1 (C6 to C10) minus BTEX	µg/g	25	--	--	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16)	µg/g	10	**3,600**	10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g	10	--	--	--	--	--	--	--	--	--	--	--
F3 (C16 to C34)	µg/g	240	**20,000**	200	<10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34) minus PAHs	µg/g	--	--	--	--	--	--	--	--	--	--	--	--
F4 (C34 to C50)	µg/g	120	**12,000**	**560**	<10	<10	<10	<10	<10	<10	<10	<10	<10
Reached Baseline at C50	--	--	--	--	YES	YES	YES	YES	YES	YES	YES	YES	YES
Gravimetric Heavy Hydrocarbons	µg/g	--	--	--	--	--	--	--	--	--	--	--	--
Moisture Content	%	--	--	--	--	--	--	--	--	--	--	--	--
TPgH (Gas C5-C10)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--
TEH (Diesel, C10-C24)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--
TPH (Gas/Diesel)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons (heavy oils)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
Value	Parameters exceeds MOE (1998) criteria
m bgs	metres below ground surface
NA	Parameter not analyzed
RDL	Reported Detection Limit
--	Not available
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.
(2)	These samples were analyzed as part “Results of Intrusive Investigation, Building #3, Former CFB Rockcliffe, Ottawa”, prepared by Greenbank Environmental Ltd. and dated November 19, 2004, summarized in the DST 2009 Phase Two.
(3)	Soil samples were submitted for chemical analysis as part of a report titled “Results of Intrusive Investigation, Building #29, Former CFB Rockcliffe, Ottawa”, prepared by Environmental Management Solutions Inc. (EMS) and dated August 13, 2004, summarized in the DST 2009 Phase Two
(4)	No date was provided in the source report.
(5)	As noted in DST Remediation Report, all exploratory testpit samples were eventually excavated as part of the remedial activities
(6)	As noted in DST Remediation Report, exceedance remediated with confirmatory samples BLD 137 EW SS47, BLD 137 EW SS64, BLD 137 EW SS68 and BLD 137 EW SS76
(7)	As noted in DST Remediation Report, soil and bedrock were excavated. South wall mostly consisted of bedrock and no confirmatory soil samples could be collected at this location. Bedrock was free of visual and olfactory evidences of PHC contamination.

Table 2-2A - Soil Analytical Results (Petroleum Hydrocarbons)

Data Source			April 2016 Soil and Groundwater Remediation - Volume 5																
Sample Location			BLD22																
Sample Description		MECP Table 1 Standard (R/P/I/I/C/C) [1]	BLD22 HISS6	BLD22 IJSS3	BLD22 JKSS2	BLD22 KASS3	BLD22 ABSS18	BLD22 EFSS1	BLD22 GLSS11	BLD22 NOSS2	BLD22 POSS6	BLD22 RQSS2	BLD22 QPSS24	BLD22 SW CORNERSS1	BLD22 SW TP1	BLD22 WV SS8	BLD22 UT SS4	BLD22 YX SS12	BLD22 XW SS6	BLD22 DUP (Dup of BLD22 XW SS6)
Date Sampled	Unit		08/12/2014	08/12/2014	08/12/2014	09/12/2014	09/12/2014	10/12/2014	11/12/2014	18/12/2014	22/12/2014	13/01/2015	13/01/2015	14/01/2015	14/01/2015	20/01/2015	20/01/2015	22/01/2015	22/01/2015	22/01/2015
Sample Depth (mbgs)	mbgs		1.62	2.75	0.55	2.23	2.4	2	0.9	1.1	4	2.6	1.5	0.9	N/A	3	2.8	2.4	1.7	1.7
Parameter																				
Benzene	µg/g	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.20	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Ethylbenzene	µg/g	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
o-Xylene	µg/g	--	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
p+m-Xylene	µg/g	--	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Xylenes (Total)	µg/g	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
F1 (C6 to C10)	µg/g	25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F1 (C6 to C10) minus BTEX	µg/g	25	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16)	µg/g	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
F3 (C16 to C34)	µg/g	240	<10	<10	<10	<10	<10	<50	<10	<10	<10	<10	15	<10	<10	<10	<10	<10	<10	11
F3 (C16 to C34) minus PAHs	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
F4 (C34 to C50)	µg/g	120	<10	<10	<10	<10	<10	<50	48.00	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Reached Baseline at C50	--	--	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Gravimetric Heavy Hydrocarbons	µg/g	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPgH (Gas C5-C10)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEH (Diesel, C10-C24)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH (Gas/Diesel)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons (heavy oils)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
Value	Parameters exceeds MOE (1998) criteria
m bgs	metres below ground surface
NA	Parameter not analyzed
RDL	Reported Detection Limit
--	Not available
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.
(2)	These samples were analyzed as part “Results of Intrusive Investigation, Building #3, Former CFB Rockcliffe, Ottawa”, prepared by Greenbank Environmental Ltd. and dated November 19, 2004, summarized in the DST 2009 Phase Two.
(3)	Soil samples were submitted for chemical analysis as part of a report titled “Results of Intrusive Investigation, Building #29, Former CFB Rockcliffe, Ottawa”, prepared by Environmental Management Solutions Inc. (EMS) and dated August 13, 2004, summarized in the DST 2009 Phase Two
(4)	No date was provided in the source report.
(5)	As noted in DST Remediation Report, all exploratory testpit samples were eventually excavated as part of the remedial activities
(6)	As noted in DST Remediation Report, exceedance remediated with confirmatory samples BLD 137 EW SS47, BLD 137 EW SS64, BLD 137 EW SS68 and BLD 137 EW SS76
(7)	As noted in DST Remediation Report, soil and bedrock were excavated. South wall mostly consisted of bedrock and no confirmatory soil samples could be collected at this location. Bedrock was free of visual and olfactory evidences of PHC contamination.

Table 2-2A - Soil Analytical Results (Petroleum Hydrocarbons)

Data Source			2016 DST Soil and Groundwater Remediation - RSC 5								2009 DST Phase II ESA								
Sample Location			BLD 29								BLD 29		Phase 7 South	Phase 7 West	BLD 16		Phase 7 East	Phase 7 North	
Sample Description		MECP Table 1 Standard (R/P/I/I/C/C) [1]	BLD 29 NW SS8	BLD 29 NW DUP1 (Dup of BLD 29 NW SS8)	BLD 29 NW SS16	BLD 29 NW SS23	BLD 29 EW SS13	BLD 29 EW SS32	BLD 29 WW SS10	BLD 29 WW SS37	BHMW11 SS3	BHMW12 SS2	BHMW13 SS3	BHMW15 SS5	BHMW16 SS5	BHMW17 SS7	BHMW18 SS2	BHMW19 SS3	BHMW20 SS2
Date Sampled	**Unit**		**24-Nov-2014**	**24-Nov-2014**	**24-Nov-2014**	**24-Nov-2014**	**26-Nov-2014**	**01-Dec-2014**	**09-Dec-2014**	**15-Dec-2014**	**--**	**--**	**--[4]**	**--[4]**	**--**	**--**	**--**	**--**	**--**
Sample Depth (mbgs)	**mbgs**		**1**	**1**	**1.4**	**0.6**	**2.7**	**1**	**3.8**	**1.5**	**1.2-1.8**	**0.6-1.1**	**1.2-1.8**	**2.4-3.0**	**2.5-3.0**	**3.6-4.2**	**0.6-1**	**1.2-1.6**	**0.6-1.0**
Parameter																			
Benzene	µg/g	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.020	<0.02	<0.02	NA	*<0.05*	<0.05	<0.05	NA	NA	NA	*<0.05*	*<0.05*
Toluene	µg/g	0.20	<0.02	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	NA	<0.05	<0.05	<0.05	NA	NA	NA	<0.05	<0.05
Ethylbenzene	µg/g	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	NA	<0.05	<0.05	<0.05	NA	NA	NA	<0.05	<0.05
o-Xylene	µg/g	--	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	<0.02	<0.02	NA	<0.05	<0.05	<0.05	NA	NA	NA	<0.05	<0.05
p+m-Xylene	µg/g	--	<0.04	<0.04	<0.04	<0.04	<0.04	0.09	<0.04	<0.04	NA	<0.1	<0.1	<0.1	NA	NA	NA	<0.1	<0.1
Xylenes (Total)	µg/g	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	**0.11**	<0.04	<0.04	NA	--	<0.15	--	NA	NA	NA	<0.15	<0.15
F1 (C6 to C10)	µg/g	25	<10	<10	<10	<10	<10	<10	<10	<10	<20	<20	<20	**40**	<20	<20	<20	<20	<20
F1 (C6 to C10) minus BTEX	µg/g	25	<10	<10	<10	<10	<10	<10	<10	<10	--	--	--	--	--	--	--	--	--
F2 (C10 to C16)	µg/g	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	**2,200**	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
F3 (C16 to C34)	µg/g	240	<10	<10	<10	<10	<10	<50	<10	<10	<10	<10	<10	**930**	<10	<10	<10	<10	<10
F3 (C16 to C34) minus PAHs	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<10	--
F4 (C34 to C50)	µg/g	120	<10	<10	<10	<10	<10	<50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Reached Baseline at C50	--	--	YES	YES	YES	YES	YES	YES	YES	YES	--	--	--	Yes				--	--
Gravimetric Heavy Hydrocarbons	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Moisture Content	%	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPgH (Gas C5-C10)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEH (Diesel, C10-C24)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TPH (Gas/Diesel)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons (heavy oils)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
Value	Parameters exceeds MOE (1998) criteria
m bgs	metres below ground surface
NA	Parameter not analyzed
RDL	Reported Detection Limit
--	Not available
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.
(2)	These samples were analyzed as part “Results of Intrusive Investigation, Building #3, Former CFB Rockcliffe, Ottawa”, prepared by Greenbank Environmental Ltd. and dated November 19, 2004, summarized in the DST 2009 Phase Two.
(3)	Soil samples were submitted for chemical analysis as part of a report titled “Results of Intrusive Investigation, Building #29, Former CFB Rockcliffe, Ottawa”, prepared by Environmental Management Solutions Inc. (EMS) and dated August 13, 2004, summarized in the DST 2009 Phase Two
(4)	No date was provided in the source report.
(5)	As noted in DST Remediation Report, all exploratory testpit samples were eventually excavated as part of the remedial activities
(6)	As noted in DST Remediation Report, exceedance remediated with confirmatory samples BLD 137 EW SS47, BLD 137 EW SS64, BLD 137 EW SS68 and BLD 137 EW SS76
(7)	As noted in DST Remediation Report, soil and bedrock were excavated. South wall mostly consisted of bedrock and no confirmatory soil samples could be collected at this location. Bedrock was free of visual and olfactory evidences of PHC contamination.

Table 2-2A - Soil Analytical Results (Petroleum Hydrocarbons)

Data Source			2009 DST Phase II ESA								
Sample Location		MECP Table 1 Standard (R/P/I/I/C/C) [1]	BLD 22						Phase 7 Central	Phase 7 West	North Sector
Sample Description			BHMW21 SS4	BHMW22 SS4	BHMW22-1 SS1	BHMW22-2 SS3	BHMW22-3 SS5	BHMW22-5 SS4	BHMW23 SS4	BHMW24 SS1	North Sector
Date Sampled	Unit		--	--	2004 [3]	2004 [3]	2004 [3]	2004 [3]	22-Nov-2004	--	--
Sample Depth (mbgs)	mbgs		1.8-2.4	1.8-2.2	0.15-0.76	0.61-1.22	2.44-2.68	1.83-2.44	1.8-2.4	0.0-0.6	Composite
Parameter											
Benzene	µg/g	0.02	*<0.05*	*<0.05*	--	--	--	--	*<0.05*	NA	NA
Toluene	µg/g	0.20	<0.05	<0.05	--	--	--	--	<0.05	NA	NA
Ethylbenzene	µg/g	0.05	<0.05	<0.05	--	--	--	--	<0.05	NA	NA
o-Xylene	µg/g	--	<0.05	<0.05	--	--	--	--	<0.05	NA	NA
p+m-Xylene	µg/g	--	<0.1	<0.1	--	--	--	--	<0.1	NA	NA
Xylenes (Total)	µg/g	0.05	NA	NA	--	--	--	--	NA	NA	NA
F1 (C6 to C10)	µg/g	25	<20	<20	--	--	--	--	<20	<20	<20
F1 (C6 to C10) minus BTEX	µg/g	25	--	<10	--	--	--	--	<10	--	--
F2 (C10 to C16)	µg/g	10	<10	<10	--	--	--	--	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g	10	--	--	--	--	--	--	--	--	--
F3 (C16 to C34)	µg/g	240	20	<10	--	--	--	--	<10	30	<10
F3 (C16 to C34) minus PAHs	µg/g	--	--	--	--	--	--	--	--	--	--
F4 (C34 to C50)	µg/g	120	20	--	--	--	--	--	--	10	<10
Reached Baseline at C50	--	--	--	--	--	--	--	--	--	--	--
Gravimetric Heavy Hydrocarbons	µg/g	--	--	--	--	--	--	--	--	--	--
Moisture Content	%	--	--	--	--	--	--	--	--	--	--
TPgH (Gas C5-C10)	µg/g	--	--	--	18	<0.2	<0.2	7	--	--	--
TEH (Diesel, C10-C24)	µg/g	--	--	--	4,900	<6	300	2,800	--	--	--
TPH (Gas/Diesel)	µg/g	--	--	--	4,920	<6.2	300	2,800	--	--	--
Petroleum Hydrocarbons (heavy oils)	µg/g	--	--	--	2,300	640	250	1,300	--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
Value	Parameters exceeds MOE (1998) criteria
m bgs	metres below ground surface
NA	Parameter not analyzed
RDL	Reported Detection Limit
--	Not available
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.
(2)	These samples were analyzed as part “Results of Intrusive Investigation, Building #3, Former CFB Rockcliffe, Ottawa”, prepared by Greenbank Environmental Ltd. and dated November 19, 2004, summarized in the DST 2009 Phase Two.
(3)	Soil samples were submitted for chemical analysis as part of a report titled “Results of Intrusive Investigation, Building #29, Former CFB Rockcliffe, Ottawa”, prepared by Environmental Management Solutions Inc. (EMS) and dated August 13, 2004, summarized in the DST 2009 Phase Two
(4)	No date was provided in the source report.
(5)	As noted in DST Remediation Report, all exploratory testpit samples were eventually excavated as part of the remedial activities
(6)	As noted in DST Remediation Report, exceedance remediated with confirmatory samples BLD 137 EW SS47, BLD 137 EW SS64, BLD 137 EW SS68 and BLD 137 EW SS76
(7)	As noted in DST Remediation Report, soil and bedrock were excavated. South wall mostly consisted of bedrock and no confirmatory soil samples could be collected at this location. Bedrock was free of visual and olfactory evidences of PHC contamination.

Table 2-2B - Soil Analytical Results (PAHs)

Data Source		MECP Table 1 Standard (R/P/I/I/C/C) [1]	2009 DST Phase II ESA					2015 Phase Two Update							2009 DST Phase II ESA							2016 DST Soil and Groundwater Remediation - RSC 5							
Sample Location			BLD 29												TP31			TP32			TP 52								
Sample Description			TP26 SGS2	TP27 SGS2	TP29 SGS2	TP29 SGS3	TP29 SGS5	TP29-2 S3	TP29-4 S7	TP29-5WW S13	TP29-8 S16	TP29-10 S18	TP29-10 S19	TP29-12 S20	TP31 SGS2	TP31 SGS3	TP31 SGS5	TP32 SGS2	TP32 SGS3	TP32 SGS5	TP52 SGS1	TP 52 FL SS9	TP 52 FL SS22	TP 52 FL SS25	TP 52 WL SS3	TP 52 WL SS4	TP 52 WL SS6	TP 52 WL SS9	TP 52 WL SS11
Date Sampled			2009	2009	--[3]	--[3]	--[3]	2004[4]	2004[4]	2004[4]	2004[4]	2004[4]	2004[4]	2004[4]	--[3]	--[3]	--[3]	2009	2009	2009	2009	28-Nov-2014	28-Nov-2014	28-Nov-2014	28-Nov-2014	28-Nov-2014	28-Nov-2014	28-Nov-2014	28-Nov-2014
Sample Depth (mbgs)			0.5-1.0	0.5-1.0	0.6	1.0	1.6	1.75	0.5	1.5	1.75	0.5	1.5	1.5	0.4	0.9	1.2	0.1	0.50	1.2	0.0-0.4	0.6	0.6	0.6	0.39	0.14	0.48	0.22	0.19
Parameter																													
Acenaphthene	µg/g	0.072	<0.2	<0.02	<0.02	<0.02	<0.02	**0.09**	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.08	<0.0050	<0.0050	<0.0050	<0.0050	0.019	<0.0050	<0.0050	<0.0050
Acenaphthylene	µg/g	0.093	<0.2	<0.02	<0.02	<0.02	<0.02	**0.23**	<0.03	0.03	<0.03	<0.03	0.05	0.03	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.08	0.0067	<0.0050	0.013	<0.0050	0.0074	0.0091	0.0070	<0.0050
Anthracene	µg/g	0.16	<0.2	<0.02	<0.02	<0.02	<0.02	0.14	<0.02	<0.02	<0.02	0.04	0.02	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.08	<0.0050	<0.0050	0.0055	<0.0050	0.048	<0.0050	<0.0050	<0.0050
Benz(a)anthracene	µg/g	0.36	**0.5**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.15	<0.02	0.02	<0.02	<0.02	0.1	<0.02	<0.02	<0.02	<0.08	0.018	0.0058	0.026	0.0064	0.17	0.017	0.022	0.0095
Benzo(a)pyrene	µg/g	0.3	**0.7**	<0.02	<0.02	<0.02	<0.02	<0.01	0.01	0.01	0.04	0.12	0.01	0.01	<0.02	<0.02	0.08	<0.02	<0.02	<0.02	<0.08	0.019	0.0063	0.025	0.0069	0.13	0.020	0.020	0.01
Benzo(b)fluoranthene	µg/g	0.47	**1**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.03	0.16	<0.02	<0.02	<0.02	<0.02	0.08	<0.02	<0.02	<0.02	<0.08	0.027	0.0097	0.039	0.012	0.20	0.032	0.030	0.019
Benzo(g,h,i)perylene	µg/g	0.68	**5**	<0.02	<0.02	<0.02	<0.02	<0.01	0.01	0.01	0.02	0.07	0.01	0.01	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.08	0.014	0.0058	0.020	0.0069	0.082	0.017	0.015	0.0085
Benzo(k)fluoranthene	µg/g	0.48	0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	<0.02	0.04	<0.02	<0.02	<0.02	<0.08	0.0086	<0.0050	0.013	<0.0050	0.065	0.011	0.010	0.0055
Biphenyl	µg/g		1	<0.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.08	--	--	--	--	--	--	--	--
Chrysene	µg/g	2.8	1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.08	0.15	0.02	0.04	<0.02	<0.02	0.1	<0.02	<0.02	<0.02	<0.08	0.015	0.0068	0.026	0.0083	0.15	0.019	0.019	0.0095
Dibenz(a,h)anthracene	µg/g	0.1	**0.7**	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	**0.16**	<0.0050	<0.0050	0.0051	0.012	0.02	<0.0050	<0.0050	<0.0050
Fluoranthene	µg/g	0.56	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	0.31	0.02	0.04	0.02	<0.02	0.24	<0.02	<0.02	<0.02	<0.08	<0.034	0.011	0.047	<0.0050	0.41	0.033	0.043	0.012
Fluorene	µg/g	0.12	<0.2	<0.02	<0.02	<0.02	<0.02	**0.63**	<0.02	<0.02	0.02	<0.02	0.05	0.07	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.08	<0.0050	<0.0050	<0.0050	0.0074	0.020	<0.0050	<0.0050	<0.0050
Indeno(1,2,3-cd)pyrene	µg/g	0.23	**1**	<0.02	<0.02	<0.02	<0.02	<0.01	<0.01	<0.01	0.02	0.07	<0.01	0.01	<0.02	<0.02	0.06	<0.02	<0.02	<0.02	0.16	0.014	0.0063	0.022	<0.0050	0.089	0.018	0.016	0.0095
1-Methlynaphthalene	µg/g	0.59[2]	<0.2	<0.02	<0.02	<0.02	<0.02	NA	NA	NA	NA	NA	NA	NA	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.08	<0.005	<0.005	<0.0050	<0.0050	0.014	<0.0050	<0.0050	<0.0050
2-Methlynaphthalene	µg/g	0.59[2]	**1**	<0.02	<0.02	<0.02	<0.02	NA	NA	NA	NA	NA	NA	NA	0.04	<0.02	<0.02	<0.02	<0.02	<0.02	<0.08	<0.005	<0.005	<0.0050	<0.0050	0.013	<0.0050	<0.0050	<0.0050
1 and 2 Methlynaphthalene	µg/g	0.59	**1**	--	--	--	--	--	--	--	--	--	--	--	0.06	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/g	0.09	**0.5**	<0.02	<0.02	<0.02	<0.02	**0.18**	<0.03	<0.03	0.03	<0.03	0.06	0.07	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.08	<0.005	<0.005	<0.0050	<0.0050	0.0079	<0.0050	<0.0050	<0.0050
Phenanthrene	µg/g	0.69	**1.4**	<0.02	<0.02	<0.02	<0.02	**0.71**	0.02	0.02	0.02	0.21	0.06	0.03	0.02	<0.02	0.14	<0.02	<0.02	<0.02	<0.08	0.0076	<0.005	0.015	0.0051	0.23	0.012	0.0095	<0.0050
Pyrene	µg/g	1	0.7	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	0.08	0.27	0.03	0.09	0.02	<0.02	0.2	<0.02	<0.02	<0.02	<0.08	0.028	0.0092	0.037	0.010	0.32	0.028	0.034	0.012

Value	Laboratory detection limit above criteria
Value	Parameters exceeds Table 1 criteria.
--	Not available
NA	Not analyzed
2009	These samples were reported without a sampling date, but were reported in the DST 2009 Phase Two.

(1) Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.
(2) The methylnapthalene standards are applicable to both 1-methylnapthalene and 2-methylnapthalene, with the provision that if both are detected, the sum of the two must not exceed the standard.
(3) No date was provided in the source report.
(4) Soil samples were submitted for chemical analysis as part of a report titled “Results of Intrusive Investigation, Building #29, Former CFB Rockcliffe, Ottawa”, prepared by Environmental Management Solutions Inc. (EMS) and dated August 13, 2004, summarized in the DST 2009 Phase Two
(5) As noted in DST Remediation Report, exceedance remediated with interim sample BLD 137 FLSS2 and confirmatory samples BLD 137 NW SS46 and BLD 137 NW SS48
(6) As noted in DST Remediation Report, exceedance remediated with confirmation samples BLD 137 EW SS47, BLD 137 EW SS64, BLD 137 EW SS68, and BLD 137 EW SS76
(7) As noted in DST report, ledge was excavated down to bedrock, and exceedance remediated with confirmatory samples BLD 137 NW SS66 collected on the lower section of the north wall
(8) As noted in DST Remediation Report, exceedance remediated with interim samples BLD 137 WW SS38 (2017 DST Remediation Report)
(9) As noted in DST Remediation Report, exceedance remediated with interim samples BLD 137 WW SS46 (2017 DST Remediation Report)
(10) As noted in DST Remediation Report, exceedance remediated with confirmatory samples BLD 137 WW SS50 (2017 DST Remediation Report)
(11) As noted in DST Remediation Report, exceedance remediated with confirmatory sample BLD 126-2 SS30 (2017 DST Remediation Report)

Table 2-2B - Soil Analytical Results (PAHs)

Data Source		MECP Table 1 Standard (R/P/I/I/C/C) [1]	2009 DST Phase II ESA		2016 DST Soil and Groundwater Remediation - RSC 5							
Sample Location			Phase 7 Central	Phase 7 North	BLD 29							
Sample Description			TP56 SGS1	TP57 SGS1	BLD 29 NW SS8	BLD 29 NW DUP1 (Dup. of NW SS8)	BLD 29 NW SS16	BLD 29 NW SS23	BLD 29 EW SS13	BLD 29 EW SS32	BLD 29 WW SS10	BLD 29 WW SS17
Date Sampled			2009	2009	24-Nov-2014	24-Nov-2014	24-Nov-2014	24-Nov-2014	26-Nov-2014	01-Dec-2014	09-Dec-2014	09-Dec-2014
Sample Depth (mbgs)			0-0.4	0.1-1.0	1	1	1.4	0.60	2.7	1	3.8	0.4
Parameter												
Acenaphthene	µg/g	0.072	<0.08	<0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.013	<0.0050	<0.0050
Acenaphthylene	µg/g	0.093	<0.08	<0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.018	<0.0050	0.0052
Anthracene	µg/g	0.16	<0.08	0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.04	<0.0050	0.0052
Benz(a)anthracene	µg/g	0.36	<0.08	<0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.15	<0.0050	0.043
Benzo(a)pyrene	µg/g	0.3	<0.08	<0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.12	<0.0050	0.042
Benzo(b)fluoranthene	µg/g	0.47	<0.08	<0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.2	<0.0050	0.074
Benzo(g,h,i)perylene	µg/g	0.68	0.16	<0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.069	<0.0050	0.032
Benzo(k)fluoranthene	µg/g	0.48	<0.08	<0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.075	<0.0050	0.027
Biphenyl	µg/g		<0.08	<0.02		--	--	--	--	--	--	--
Chrysene	µg/g	2.8	<0.08	<0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.12	<0.0050	0.038
Dibenz(a,h)anthracene	µg/g	0.1	**0.16**	<0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.02	<0.0050	0.0085
Fluoranthene	µg/g	0.56	<0.08	<0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.29	<0.0050	0.066
Fluorene	µg/g	0.12	<0.08	<0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.014	<0.0050	<0.0050
Indeno(1,2,3-cd)pyrene	µg/g	0.23	0.16	0.04	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.078	<0.0050	0.035
1-Methlynaphthalene	µg/g	0.59[2]	<0.08	<0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
2-Methlynaphthalene	µg/g	0.59[2]	<0.08	<0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
1 and 2 Methlynaphthalene	µg/g	0.59	--	--	--	--	--	--	--	--	--	--
Naphthalene	µg/g	0.09	<0.08	<0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Phenanthrene	µg/g	0.69	<0.08	<0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.14	<0.0050	0.018
Pyrene	µg/g	1	<0.08	<0.02	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.23	<0.0050	0.058

Value	Laboratory detection limit above criteria
Value	Parameters exceeds Table 1 criteria.
--	Not available
NA	Not analyzed
2009	These samples were reported without a sampling date, but were reported in the DST 2009 Phase Two.

(1) Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.
(2) The methylnapthalene standards are applicable to both 1-methylnapthalene and 2-methylnapthalene, with the provision that if both are detected, the sum of the two must not exceed the standard.
(3) No date was provided in the source report.
(4) Soil samples were submitted for chemical analysis as part of a report titled “Results of Intrusive Investigation, Building #29, Former CFB Rockcliffe, Ottawa”, prepared by Environmental Management Solutions Inc. (EMS) and dated August 13, 2004, summarized in the DST 2009 Phase Two
(5) As noted in DST Remediation Report, exceedance remediated with interim sample BLD 137 FLSS2 and confirmatory samples BLD 137 NW SS46 and BLD 137 NW SS48
(6) As noted in DST Remediation Report, exceedance remediated with confirmation samples BLD 137 EW SS47, BLD 137 EW SS64, BLD 137 EW SS68, and BLD 137 EW SS76
(7) As noted in DST report, ledge was excavated down to bedrock, and exceedance remediated with confirmatory samples BLD 137 NW SS66 collected on the lower section of the north wall
(8) As noted in DST Remediation Report, exceedance remediated with interim samples BLD 137 WW SS38 (2017 DST Remediation Report)
(9) As noted in DST Remediation Report, exceedance remediated with interim samples BLD 137 WW SS46 (2017 DST Remediation Report)
(10) As noted in DST Remediation Report, exceedance remediated with confirmatory samples BLD 137 WW SS50 (2017 DST Remediation Report)
(11) As noted in DST Remediation Report, exceedance remediated with confirmatory sample BLD 126-2 SS30 (2017 DST Remediation Report)

Table 2-2B - Soil Analytical Results (PAHs)

Data Source		MECP Table 1 Standard (R/P/I/I/C/C) [1]	2009 DST Phase II ESA	2009 DST Phase II	2009 Phase Two ESA									2015 Phase Two ESA	
Sample Location			BLD 29		Phase 7 South	Phase 7 West	BLD 16		Phase 7 East	Phase 7 North		BHMW20	BLD 22		Phase 7 West
Sample Description			BHMW11 SS3	BHMW12 SS2	BHMW13 SS3	BHM15 SS5	BHMW16 SS5	BHMW17 SS7	BHMW18 SS2	BHMW19 SS3	BHMW20	BHMW20 SS2	BHMW21 SS4	BHMW 21	BHMW24 SS1
Date Sampled			2009	2009	2009	--[3]	2009	2009	2009	--	--	2009	2009	14-Mar-2014	--[3]
Sample Depth (mbgs)			1.2-1.8	0.6-1.1	1.2-1.8	2.4-3.0	2.4-3.0	3.6-4.2	0.6-1	1.2-1.6	0.6-1.0	0.6-1.0	1.8-2.4	--	0.0-0.6
Parameter															
Acenaphthene	µg/g	0.072	<0.02	<0.02	<0.02	**0.24**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.050	<0.02
Acenaphthylene	µg/g	0.093	<0.02	<0.02	<0.02	**0.2**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.055	<0.02
Anthracene	µg/g	0.16	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.050	<0.02
Benz(a)anthracene	µg/g	0.36	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.050	0.04
Benzo(a)pyrene	µg/g	0.3	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.010	0.02
Benzo(b)fluoranthene	µg/g	0.47	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.050	0.06
Benzo(g,h,i)perylene	µg/g	0.68	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.02	<0.02	<0.02	<0.050	0.02
Benzo(k)fluoranthene	µg/g	0.48	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.050	0.02
Biphenyl	µg/g		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	--	--	<0.02	<0.02	--	--
Chrysene	µg/g	2.8	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.050	0.04
Dibenz(a,h)anthracene	µg/g	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.050	<0.02
Fluoranthene	µg/g	0.56	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.050	0.06
Fluorene	µg/g	0.12	<0.02	<0.02	<0.02	**0.18**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.050	<0.02
Indeno(1,2,3-cd)pyrene	µg/g	0.23	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.050	0.02
1-Methlynaphthalene	µg/g	0.59[2]	<0.02	<0.02	<0.02	0.1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	--	0.04
2-Methlynaphthalene	µg/g	0.59[2]	<0.02	<0.02	<0.02	0.08	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	--	0.04
1 and 2 Methlynaphthalene	µg/g	0.59	--	--	--	--	--	--	--	<0.02	<0.02	--	--	<0.071	0.08
Naphthalene	µg/g	0.09	<0.02	<0.02	<0.02	**1.2**	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.050	0.04
Phenanthrene	µg/g	0.69	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.030	0.06
Pyrene	µg/g	1	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.050	0.06

Value	Laboratory detection limit above criteria
Value	Parameters exceeds Table 1 criteria.
--	Not available
NA	Not analyzed
2009	These samples were reported without a sampling date, but were reported in the DST 2009 Phase Two.
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.
(2)	The methylnapthalene standards are applicable to both 1-methylnapthalene and 2-methylnapthalene, with the provision that if both are detected, the sum of the two must not exceed the standard.
(3)	No date was provided in the source report.
(4)	Soil samples were submitted for chemical analysis as part of a report titled “Results of Intrusive Investigation, Building #29, Former CFB Rockcliffe, Ottawa”, prepared by Environmental Management Solutions Inc. (EMS) and dated August 13, 2004, summarized in the DST 2009 Phase Two
(5)	As noted in DST Remediation Report, exceedance remediated with interim sample BLD 137 FLSS2 and confirmatory samples BLD 137 NW SS46 and BLD 137 NW SS48
(6)	As noted in DST Remediation Report, exceedance remediated with confirmation samples BLD 137 EW SS47, BLD 137 EW SS64, BLD 137 EW SS68, and BLD 137 EW SS76
(7)	As noted in DST report, ledge was excavated down to bedrock, and exceedance remediated with confirmatory samples BLD 137 NW SS66 collected on the lower section of the north wall
(8)	As noted in DST Remediation Report, exceedance remediated with interim samples BLD 137 WW SS38 (2017 DST Remediation Report)
(9)	As noted in DST Remediation Report, exceedance remediated with interim samples BLD 137 WW SS46 (2017 DST Remediation Report)
(10)	As noted in DST Remediation Report, exceedance remediated with confirmatory samples BLD 137 WW SS50 (2017 DST Remediation Report)
(11)	As noted in DST Remediation Report, exceedance remediated with confirmatory sample BLD 126-2 SS30 (2017 DST Remediation Report)

Table 2-2C - Soil Analytical Results (Metals and Inorganics)

Data Source			2009 DST Phase II ESA																			
Sample Location			Building 12			Building 22			Phase 7 East						BLD 29		BLD 29					
Sample Description		MECP Table 1 Standard (R/P/I/I/C/C) [1]	TP 12-1S1	TP 12-2S1	TP12-3S1	TP22 SGS2	TP22 SGS3	TP22 SGS5	TP24 SGS2	TP24 SGS3	TP24 SGS5	TP25 SGS2	TP25 SGS3	TP25 SGS5	TP26 SGS2	TP27 SGS2	TP29-2 S3	TP29-4 S7	TP29-5WW S13	TP29-8 S16	TP29-10 S18	TP29-10 S19	TP29-12 S20
Date Sampled			2004[2]	2004[2]	2004[2]	2009	2009	2009	2009	2009	2009	2009	2009	2009	2009	2009	2004[3]	2004[3]	2004[3]	2004[3]	2004[3]	2004[3]	2004[3]
Sample Depth (mbgs)			0.01-1.65	0.0-1.0	0.0-1.0	0.1	0.6	1.2	0.1	0.7	1.6	0.30	0.60	1.00	0.5-1.0	0.5-1.0	1.75	0.5	1.5	1.75	0.5	1.5	1.5
Parameter	**Unit**																						
Antimony	µg/g	1.3	<0.8	<0.8	<0.8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	2.1	4.3	3.0	1	1	<1	<1	1	<1	1	2	1	<1	<1	0.5	6.5	2.0	1.0	1.2	6.6	1.0
Barium	µg/g	220	147	**273**	90.4	100	90	70	70	140	**330**	130	80	70	60	220	112	63.4	208	**459**	52.9	103	51.1
Beryllium	µg/g	2.5	0.6	0.4	0.7	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.4	0.5	0.9	0.9	0.4	0.5	0.7
Boron	µg/g	36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.352	0.132	0.344	0.240	0.243	0.330	0.584
Boron (Hot Water Extractable)	µg/g	--	0.388	0.396	0.296	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/g	1.2	0.2	0.6	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chromium (Total)	µg/g	70	19.5	32	24.6	30	30	15	10	10	55	25	20	15	15	25	17.6	16.6	40.5	**75.7**	16.4	22.9	19
Cobalt	µg/g	21	9.8	8.0	9.3	5	5	5	<5	5	15	10	10	5	<5	10	4.7	6.0	16,1	16.8	5.2	6.6	11.6
Copper	µg/g	92	16.4	29.4	18.5	15	15	10	5	5	35	15	10	10	5	15	17.2	18.7	29.9	41.4	15.0	18.6	21.3
Lead	µg/g	120	19.8	**188**	13.6	17	7	5	6	5	8	8	7	6	9	13	9.4	10.2	30.3	52.9	63.4	11.3	19.4
Molybdenum	µg/g	2	0.4	0.7	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.3	<0.3	0.9	<0.3	0.3	0.3	<0.4
Nickel	µg/g	82	20.2	26.1	20.8	15	15	10	15	30	30	15	15	10	15	15	18	16.9	51	69	14.5	20	<0.2
Selenium	µg/g	1.5	<0.4	<0.4	<0.4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	NA
Silver	µg/g	0.5	<0.2	<0.2	<0.2	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Sodium	µg/g	NA	--	--	--	<200	<200	<200	<200	<200	800	<1	<1	<1	<200	400	NA	NA	NA	NA	NA	NA	NA
Thallium	µg/g	1	<0.2	<0.2	<0.2	<1	<1	<1	<1	<1	<1	<5	<5	<5	<1	<1	<0.2	<0.2	0.6	0.4	<0.2	<0.2	<0.2
Tin	µg/g	--	--	--	--	<5	<5	<5	<5	<5	<5	--	--	--	<5	<5	NA	NA	NA	NA	NA	NA	NA
Uranium	µg/g	2.5	--	--	--	--	--	--	--	--	--	**40**	**30**	**30**	--	--	--	--	--	--	--	--	--
Vanadium	µg/g	86	23.0	41.1	27.9	30	20	30	10	10	70	40	40	20	20	30	21.2	22.0	37.9	70.7	17.0	30.4	14.3
Zinc	µg/g	290	41.3	**444**	33.1	80	80	20	<20	<20	80	--	--	--	<20	40.0	59.5	27.4	62.5	138.0	49.9	42.4	14.2
Chromium, Hexavalent	µg/g	70	<0.382	<0.382	<0.382	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide, Free	µg/g	0.051	<0.08	<0.08	<0.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/g	0.27	0.061	**0.431**	**0.302**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Electrical Conductivity (2:1)	mS/cm	0.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium Adsorption Ratio	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH, 2:1 CaCl2 Extraction	pH Units	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
--	Not available
NA	Not analyzed
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.
(2)	These samples were analyzed as part “Results of Intrusive Investigation, Building #12, Former CFB Rockcliffe, Ottawa”, prepared by Greenbank Environmental Ltd. and dated November 24, 2004, summarized in the DST 2009 Phase Two.
(3)	Soil samples were submitted for chemical analysis as part of a report titled “Results of Intrusive Investigation, Building #29, Former CFB Rockcliffe, Ottawa”, prepared by Environmental Management Solutions Inc. (EMS) and dated August 13, 2004, summarized in the DST 2009 Phase Two
(4)	No date was provided in the source report.

Table 2-2C - Soil Analytical Results (Metals and Inorganics)

Data Source		MECP Table 1 Standard (R/P/I/I/C/C) [1]	2015 DST Ph II ESA						2016 DST Soil and Groundwater Remediation - Volume 1											
Sample Location			BLD 29			TP 31														
Sample Description			TP29 SGS2	TP29 SGS3	TP29 SGS5	TP31 SGS2	TP31 SGS3	TP31 SGS5	TP31 STCKPL SS1	TP31 STCKPL SS2	TP31 STCKPL SS3	TP31 SS1	TP31 SS5	TP31 SS9	TP31 SS14	TP31 SS20	TP31 SS28	TP31 DUP1 (dup of TP31 SS28)	TP31 SS36	TP31 SS30
Date Sampled			--[4]	--[4]	--[4]	--[4]	--[4]	--[4]	2014-09-16	2014-09-16	2014-09-16	2014-09-16	2014-09-16	2014-09-16	2014-09-16	2014-09-16	2014-09-16	2014-09-16	2014-09-16	2014-09-16
Sample Depth (mbgs)			0.60	1.00	1.60	0.40	0.90	1.20	0.15	0.15	0.15	0.35	1.00	1.30	1.10	0.45	1.10	1.10	1.40	1.30
Parameter	**Unit**																			
Antimony	µg/g	1.3	<1	<1	<1	<1	<1	<1	<0.2	0.31	0.34	<0.2	<0.2	<0.2	0.25	<0.2	<0.2	<0.2	0.26	<0.2
Arsenic	µg/g	18	2	2	2	1	<1	<1	5.9	7.2	7.3	2.0	2.7	1.9	3.3	4.5	1.7	2.2	5.4	1.8
Barium	µg/g	220	80	100	130	70	20	30	54	100	100	77	88	57	78	120	72	89	83	75
Beryllium	µg/g	2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.30	0.46	0.49	0.49	0.30	0.30	0.45	0.60	0.47	0.51	0.40	0.29
Boron	µg/g	36	--	--	--	--	--	--	5.3	7.0	6.6	<5.0	5.5	<5.0	6.9	6.8	5.4	6.4	5.3	<5.0
Boron (Hot Water Extractable)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/g	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.13	0.14	0.17	0.11	0.14	<0.1	0.49	0.28	<0.1	0.23	0.14	0.13
Chromium (Total)	µg/g	70	25	30	30	15	<5	5	12	14	16	12	11	15	21	20	18	18	14	12
Cobalt	µg/g	21	5	10	10	5	<5	<5	7.6	7.5	7.9	5.8	5.0	5.7	7.1	9.2	7.1	9.6	6.5	5.3
Copper	µg/g	92	15	15	20	15	10	10	10	18	15	8.9	8.8	12	12	16	8.6	12	12	11
Lead	µg/g	120	23	31	46	22	2	10	28	25	34	7.4	13	6.4	18	22	11	12	15	13
Molybdenum	µg/g	2	<1	<1	<1	<1	<1	<1	**3.6**	**2.7**	**2.5**	0.54	0.75	<0.5	1.5	1.7	<0.5	0.61	1.4	0.69
Nickel	µg/g	82	15	20	20	15	<5	5	14	18	16	12	11	9.6	16	18	13	15	14	11
Selenium	µg/g	1.5	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Silver	µg/g	0.5	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.2	0.42	0.27	<0.2	<0.2	<0.2	<0.2	0.25	<0.2	<0.2	<0.2	<0.2
Sodium	µg/g	NA	<200	<200	<200	<200	<200	<200	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	µg/g	1	<1	<1	<1	<1	<1	<1	0.2	0.19	0.16	0.12	0.13	0.10	0.15	0.21	0.11	0.14	0.16	0.12
Tin	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Uranium	µg/g	2.5	--	--	--	--	--	--	0.57	0.51	0.55	0.20	0.40	0.47	0.48	0.49	0.39	0.39	0.51	0.48
Vanadium	µg/g	86	30	30	30	20	10	10	16	20	22	15	16	23	26	25	22	23	21	19
Zinc	µg/g	290	60	40	100	**520**	<20	**460**	37	43	55	22	32	19	280	56	35	38	42	39
Chromium, Hexavalent	µg/g	70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide, Free	µg/g	0.051	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/g	0.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Electrical Conductivity (2:1)	mS/cm	0.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium Adsorption Ratio	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH, 2:1 CaCl2 Extraction	pH Units	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
--	Not available
NA	Not analyzed
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.
(2)	These samples were analyzed as part “Results of Intrusive Investigation, Building #12, Former CFB Rockcliffe, Ottawa”, prepared by Greenbank Environmental Ltd. and dated November 24, 2004, summarized in the DST 2009 Phase Two.
(3)	Soil samples were submitted for chemical analysis as part of a report titled “Results of Intrusive Investigation, Building #29, Former CFB Rockcliffe, Ottawa”, prepared by Environmental Management Solutions Inc. (EMS) and dated August 13, 2004, summarized in the DST 2009 Phase Two
(4)	No date was provided in the source report.

Table 2-2C - Soil Analytical Results (Metals and Inorganics)

Data Source			2009 DST Phase II									April 2016 - Soil and Groundwater Remediation- Volume 5											
Sample Location			Phase 7 East						TP52	Phase 7 Central	Phase 7 North	BLD12											
Sample Description		MECP Table 1 Standard (R/P/I/I/C/C) (1)	TP32 SGS2	TP32 SGS3	TP32 SGS5	TP33 SGS2	TP33 SGS3	TP33 SGS5	TP52 SGS1	TP56 SGS1	TP 57 SGS1	BLD 12 FL SS10	BLD 12 FL SS14	BLD 12 FL SS38	BLD 12 FL SS27	BLD 12 WL SS1	BLD 12 WL SS9	BLD 12 WL SS18	BLD 12 WL SS23	BLD 12 WL SS33	BLD 12 DUP1 (Dup. of BLD12 WL SS33)	BLD 12 WL SS41	BLD 12 WL SS48
Date Sampled			2009	2009	2009	2009	2009	2009	2009	2009	2009	2-Dec-2014	2-Dec-2014	2-Dec-2014	2-Dec-2014	2-Dec-2014	2-Dec-2014	2-Dec-2014	2-Dec-2014	2-Dec-2014	2-Dec-2014	10-Dec-2014	15-Dec-2014
Sample Depth (mbgs)			0.1	0.5	1.2	0.6	0.9	1.50	0.0-0.4	0.0-0.4	0.1-1.0	1	1	1	1	0.30	0.75	0.10	0.85	0.60	0.60	0.40	0.65
Parameter	**Unit**																						
Antimony	µg/g	1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.20	<0.02	0.40	0.20	<0.2	<0.02	0.30	0.40	<0.2	<0.2	<0.20	0.20
Arsenic	µg/g	18	<1	<1	<1	2	<1	<1	<1	2.0	1	2	1	3	3	<1	1	2	3	<1	<1	2	5
Barium	µg/g	220	30	30	30	60	40	60	<10	<10	**300**	130	81	120	100	14	66	100	93	15	13	75	97
Beryllium	µg/g	2.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	0.3	0.4	0.4	0.5	<0.2	0.4	0.4	0.3	<0.2	<0.2	0.4	0.6
Boron	µg/g	36	--	--	--	--	--	--	--	--	--	<5	<5	5	<5	<5	<5	<5	<5	<5	<5	<5.0	<5
Boron (Hot Water Extractable)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/g	1.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.30	<0.1	0.20	0.30	<0.1	0.10	0.30	0.20	<0.1	<0.1	0.10	0.30
Chromium (Total)	µg/g	70	5	5	5	15	20	10	<5.0	<5	40	18	20	16	26	4	18	20	15	5	5	19	13
Cobalt	µg/g	21	<5	<5	<5	5	5	5	10	10.0	10	6.2	7.1	7.2	8.5	2.0	6.1	6.3	8.0	2.1	1.9	7.3	13
Copper	µg/g	92	<5	<5	<5	20	10	10	<5	5.0	25	12	9.8	16	17	3.7	11	16	15	4	0	13	30
Lead	µg/g	120	4	1	3	32	8	4	3	2	8	51	18	98	50	2	8	70	56	2	2	14	12
Molybdenum	µg/g	2	<1	<1	<1	<1	<1	<1	1	1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	0.70
Nickel	µg/g	82	10	10	10	10	10	10	60	65	30	12	13	14	18	3	11	13	13	3	3	15	22
Selenium	µg/g	1.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.50	<0.50	<0.50	0.5	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.50	0.6
Silver	µg/g	0.5	<0.3	<0.3	<0.3	0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.20	0.3
Sodium	µg/g	NA	<200	<200	<200	400	800	<200	<200	200	600	--	--	--	--	--	--	--	--	--	--	--	--
Thallium	µg/g	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.08	0.10	0.13	0.14	<0.05	0.09	0.11	0.14	<0.05	<0.05	0.17	0.26
Tin	µg/g	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	--	--	--	--	--	--	--	--	--	--	--	--
Uranium	µg/g	2.5	--	--	--	--	--	--	--	--	--	0.4	0.48	0.31	0.45	0.24	0.43	0.44	0.34	0.36	0.32	0.56	0.26
Vanadium	µg/g	86	<10	<10	10	20	30	20	<10	<10	5	24	29	25	33	13	27	26	23	14	13	27	18
Zinc	µg/g	290	20	<20	<20	100	40	<20	<20	<20	60	140	33	88	80	8	28	100	55	10	8	46	34
Chromium, Hexavalent	µg/g	70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyanide, Free	µg/g	0.051	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/g	0.27	--	--	--	--	--	--	--	--	--	0.1	<0.05	0.07	0.09	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	NA
Electrical Conductivity (2:1)	mS/cm	0.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Sodium Adsorption Ratio	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
pH, 2:1 CaCl2 Extraction	pH Units	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
--	Not available
NA	Not analyzed
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.
(2)	These samples were analyzed as part “Results of Intrusive Investigation, Building #12, Former CFB Rockcliffe, Ottawa”, prepared by Greenbank Environmental Ltd. and dated November 24, 2004, summarized in the DST 2009 Phase Two.
(3)	Soil samples were submitted for chemical analysis as part of a report titled “Results of Intrusive Investigation, Building #29, Former CFB Rockcliffe, Ottawa”, prepared by Environmental Management Solutions Inc. (EMS) and dated August 13, 2004, summarized in the DST 2009 Phase Two
(4)	No date was provided in the source report.

Table 2-2C - Soil Analytical Results (Metals and Inorganics)

Data Source		MECP Table 1 Standard (R/P/I/I/C/C) [1]	April 2016 - Soil and Groundwater Remediation- Volume 5								2009 DST Phase II ESA											2015 DST Phase II ESA	
Sample Location			BLD 29								BLD 29		Phase 7 South		Phase 7 West	BLD 16		Phase 7 East	Phase 7 North		BLD 22		Phase 7 West
Sample Description			BLD 29 NW SS8	BLD 29 NW DUP1 (Dup. of NW SS8)	BLD 29 NW SS16	BLD 29 NW SS23	BLD 29 EW SS13	BLD 29 EW SS32	BLD 29 WW SS10	BLD 29 WW SS17	BHMW11 SS3	BHMW12 SS2	BHMW13 SS3	BHMW13 SS3	BHMW15 SS5	BHMW16 SS5	BHMW17 SS7	BHMW18 SS2	BHMW19 SS3	BHMW20 SS1	BHMW21 SS3	BHMW21	BHMW24 SS1
Date Sampled			24-Nov-2014	24-Nov-2014	24-Nov-2014	24-Nov-2014	26-Nov-2014	2014-Dec-1	2014-Dec-9	2014-Dec-9	2009	2009	2009	--[4]	--[4]	2009	2009	2009	--	2009	2009	03/14/2014	--[4]
Sample Depth (mbgs)			1	1	1.4	0.60	2.7	1	3.8	0.4	1.2-1.8	0.6-1.2	1.2-2.8	1.2-1.8	2.4-3.0	2.5-3.0	3.6-4.2	0.6-1.0	1.2-1.6	0.6-1.0	1.8-2.4	--	0.0-0.6
Parameter	**Unit**																						
Antimony	µg/g	1.3	<0.20	<0.20	<0.20	<0.20	<0.2	0.21	<0.2	0.20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.50	<1
Arsenic	µg/g	18	<1.0	<1.0	<1.0	<1.0	<1	2.2	1	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	<1.0	2
Barium	µg/g	220	58	53	58	180	56	110	66	100	80	100	60	60	**430**	60	50	40	20	10	40	67	100
Beryllium	µg/g	2.5	0.2	0.4	0.3	0.58	<0.2	0.4	0.2	0.4	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	0.5
Boron	µg/g	36	<5.0	<5.0	<5.0	<5.0	10	9	<5	<5	--	--	--	--	--	--	--	--	--	--	--	34	--
Boron (Hot Water Extractable)	µg/g	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	µg/g	1.2	<0.10	<0.10	<0.10	0.14	<0.1	0.16	<0.1	0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.10	<0.5
Chromium (Total)	µg/g	70	14	18	15	36	3	13	14	32	15	<5	5	5	70	10	10	15	10	5	15	--	20
Cobalt	µg/g	21	6.0	4.6	5.9	13	5	7	5	8	<5	<5	<5	<5	15	5	<5	5	<5	<5	<5	<0.50	10
Copper	µg/g	92	11	8	12	15	9	10	8	15	10	<5	5	5	35	10	10	5	<5	5	<5	1.6	15
Lead	µg/g	120	3	5	5	24	3	23	4	15	5	3	5	5	12	7	3	4	3	8	5	<0.50	52
Molybdenum	µg/g	2	<0.50	<0.50	<0.50	<0.50	<0.5	0.67	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	1	<1	0.52	<1
Nickel	µg/g	82	10	9.7	9.6	20	8.3	14	12	20	10	10	10	10	40	10	10	10	10.0	20	10	<1.0	20
Selenium	µg/g	1.5	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50	<0.5	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<2.0	<1
Silver	µg/g	0.5	<0.20	<0.20	<0.20	<0.20	<0.2	<0.20	<0.2	<0.2	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.10	<0.3
Sodium	µg/g	NA	--	--	--	--	--	--	--	--	400	<200	<200	<200	1,200	200	400	<200	<200	<200	<200	41000	<200
Thallium	µg/g	1	0.11	0.09	0.09	0.22	0.09	0.15	0.10	0.16	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.050	<1
Tin	µg/g	--	--	--	--	--	--	--	--	--	--	<5	<5	--	--	<5	<5	<5	<5	<5	<5	--	--
Uranium	µg/g	2.5	0.4	1.0	0.5	0.6	0.4	0.4	0.4	0.5	<5	--	--	--	--	--	--	--	--	--	--	0.27	--
Vanadium	µg/g	86	23	23	24	49	19	15	16	34	20	<10	<10	<10	70	20	20	30	<10	<10	--	<0.50	20
Zinc	µg/g	290	23	16	17	52	13	32	21	51	<20	<20	<20	<20	80	<20	<20	<20	<20	<20	--	13	40
Chromium, Hexavalent	µg/g	70	--	--	--	--	--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	--
Cyanide, Free	µg/g	0.051	--	--	--	--	--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	--
Mercury	µg/g	0.27	--	--	--	--	--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	--
Electrical Conductivity (2:1)	mS/cm	0.57	--	--	--	--	--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	--
Sodium Adsorption Ratio	NA	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	--
pH, 2:1 CaCl2 Extraction	pH Units	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--	--	--	--	--	--	--

Value	Parameters exceeds Table 1 criteria.
Value	RDL exceeds Table 1 criteria
--	Not available
NA	Not analyzed
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use for Soil.
(2)	These samples were analyzed as part “Results of Intrusive Investigation, Building #12, Former CFB Rockcliffe, Ottawa”, prepared by Greenbank Environmental Ltd. and dated November 24, 2004, summarized in the DST 2009 Phase Two.
(3)	Soil samples were submitted for chemical analysis as part of a report titled “Results of Intrusive Investigation, Building #29, Former CFB Rockcliffe, Ottawa”, prepared by Environmental Management Solutions Inc. (EMS) and dated August 13, 2004, summarized in the DST 2009 Phase Two
(4)	No date was provided in the source report.

Table 3-1A: Groundwater Analytical Results - Petroleum Hydrocarbons (PHCs)

Sample Location	Unit	MECP Table 1 Site Standard (1)	RDL	BLD 29				West Southwest Phase 7									
Sample ID				29-2	BHMW-12	29-1	29-1	MW24-05	MW24-06	MW24-07	MW24-08	MW24-10	MW24-12	MW24-13	MW24-14	MW24-15	MW24-12
Sampling Program				2020 Phase Two ESA Sampling		2021 Phase Two ESA Sampling		2024 WSP Field Sampling									WSP Follow-up
Date Sampled				16-Jun-20	16-Jun-20	24-Jun-21	19-Nov-21	11-Jun-24	04-Jun-24	04-Jun-24	05-Jun-24	10-Jun-24	05-Jun-24	04-Jun-24	10-Jun-24	05-Jun-24	17-Jun-24
Benzene	µg/L	0.5	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	0.8	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Ethylbenzene	µg/L	0.5	0.10	<0.10	<0.10	<0.10	<0.10	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
o-Xylene	µg/L	NA		--	--	<0.10	<0.10	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
p+m-Xylene	µg/L	NA		--	--	<0.20	<0.20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Xylenes (Total)	µg/L	72	0.20	<0.20	<0.20	<0.20	<0.20	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Petroleum Hydrocarbons																	
F1 (C6 - C10)	µg/L	420	25.00	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25.00	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	100.00	<100	<100	<100	<100	<100	<100	<100	<100	<100	**710**	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	100.00	<100	<100	<100	<100	<200	<200	<200	<200	<200	**660**	<200	<200	<200	<200
F4 (C34 to C50)	µg/L	500	100.00	<100	<100	<100	<100	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
Reached Baseline at C50	NG			--	--	--	--	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Gravimetric Heavy Hydrocarbons	µg/L		500	--	--	--	--	--	--	--	--	--	--	--	--	--	--

RDL	Reported Detection Limit
--	Parameter not anlayzed
NA	Guideline or standard not defined
Value	Parameters exceeds Table 1 criteria.
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, All Types of Property Use for Groundwater.

Sample Location	Unit	MECP Table 1 Site Standard (1)	Building 29		West Southwest Phase 7								
Sample Description			29-1	29-1	MW24-05	MW24-06	MW24-07	MW24-08	MW24-10	MW24-12	MW24-13	MW24-14	MW24-15
Sampling Program			2021 Phase Two ESA Sampling		2024 WSP Field Sampling								
Date Sampled			24-Jun-21	19-Nov-21	11-Jun-24	04-Jun-24	04-Jun-24	05-Jun-24	10-Jun-24	05-Jun-24	04-Jun-24	10-Jun-24	05-Jun-24
Acenaphthene	µg/L	4.1	<0.20	<0.20	<0.050	<0.050	0.062	0.19	<0.050	<0.050	<0.050	<0.050	<0.050
Acenaphthylene	µg/L	1	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	µg/L	0.1	<0.10	<0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)anthracene	µg/L	0.2	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	µg/L	0.01	<0.01	<0.01	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090	<0.0090
Benzo(b)fluoranthene	µg/L	0.1	<0.10	<0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	µg/L	0.2	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	µg/L	0.1	<0.10	<0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Biphenyl	µg/L	NA	--	--	--	--	--	--	--	--	--	--	--
Chrysene	µg/L	0.1	<0.10	<0.10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	µg/L	0.2	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	µg/L	0.4	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	µg/L	120	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	µg/L	0.2	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1-Methylnaphthalene	µg/L	NA	--	--	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
2-Methylnaphthalene	µg/L	NA	--	--	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methylnaphthalene 2,(1-)*	µg/L	2	<0.20	<0.20	--	--	--	--	--	--	--	--	--
Naphthalene	µg/L	7	<0.20	<0.20	<0.050	<0.050	<0.050	0.058	<0.050	<0.050	<0.050	<0.050	<0.050
Phenanthrene	µg/L	0.1	<0.10	<0.10	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Pyrene	µg/L	0.2	<0.20	<0.20	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

RDL	Reported Detection Limit
--	Parameter not anlayzed
NA	Guideline or standard not defined
Value	Parameters exceeds Table 1 criteria.
(1)	Site Condition Standards, All Types of Property Use for Groundwater.

Table 3-2A: Groundwater Analytical Results - Petroleum Hydrocarbons (PHCs)

Sample Location				BLD 3		BLD 12	BLD 16				BLD 22										
Sample ID	Unit	MECP Table 1 Site Standard (1)	RDL	BHMW20-WGS1	BHMW20	BHMW11-WGS1	BHMW16-WGS1	BHMW17-WGS1	BHMW17-WGS1	BHMW18-WGS1	BHMW21 WGS1	BHMW22 WGS1	BHMW23-WGS1	BHMW 21	BHMW22-1	BHMW22-2	BHMW22-1	BHMW22-2	BHMW22	BHMW22	BHMW23	BHMW23	BHMW23
Sampling Program				2009 DST Phase II ESA	2016 DST Soil and Groundwater Remediation - RSC 5	2009 DST Phase II ESA								2015 Phase Two ESA	2016 DST Soil and Groundwater Remediation - RSC 5	2016 DST Soil and Groundwater Remediation - RSC 5	DST Follow Up	DST Follow Up	2015 Phase Two ESA	2016 DST Soil and Groundwater Remediation - RSC 5	2015 Phase Two ESA	2016 DST Soil and Groundwater Remediation - RSC 5	DST Follow Up
Date Sampled				**29-Nov-04**	**13-Mar-15**	**29-Nov-04**	**29-Nov-04**	**29-Nov-04**	**13-Dec-04**	**29-Nov-04**	**29-Nov-04**	**29-Nov-04**	**29-Nov-04**	**14-Mar-14**	**13-Mar-15**	**13-Mar-15**	**26-Apr-16**	**26-Apr-16**	**14-Mar-14**	**13-Mar-15**	**14-Mar-14**	**13-Mar-15**	**26-Apr-16**
Benzene	µg/L	0.5	0.20	<0.5	<0.20	--	--	--	<0.5	--	<0.5	<0.5	<0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	0.8	0.20	<0.5	<0.20	--	--	--	<0.5	--	<0.5	<0.5	<0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Ethylbenzene	µg/L	0.5	0.10	<0.5	<0.20	--	--	--	<0.5	--	<0.5	<0.5	<0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
o-Xylene	µg/L	NA		<1	<0.20	--	--	--	<1	--	<0.5	<1	<1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
p+m-Xylene	µg/L	NA		<0.5	<0.40	--	--	--	<0.5	--	<1	<0.5	<0.5	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Xylenes (Total)	µg/L	72	0.20	<1.5	<0.40	--	--	--	<1.5	--	<1.5	<1.5	<1.5	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Petroleum Hydrocarbons																							
F1 (C6 - C10)	µg/L	420	25.00	<200	<25	<200	<200	<200	<200	<200	<200	<200	<200	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25.00	--	<25	--	--	--	--	--	--	--	--	<25	<25	<25	<25	<25	<25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	100.00	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	**220**	<100	<100	<100	<100	<100	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	100.00	<100	<200	<100	<100	<100	<100	<100	<100	<100	<100	270	<200	<200	<200	<200	<200	<200	<200	<200	<200
F4 (C34 to C50)	µg/L	500	100.00	<100	<200	<100	<100	<100	<100	<100	<100	<100	<100	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
Reached Baseline at C50	NG			--	YES	--	--	--	--	--	--	--	--	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Gravimetric Heavy Hydrocarbons	µg/L		500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

RDL	Reported Detection Limit
G / S	Guideline / Standard
--	Parameter not analyzed
NA	Guideline or standard not defined
Value	Parameters exceeds Table 1 criteria.
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, All Types of Property Use for Groundwater.

Table 3-2A: Groundwater Analytical Results - Petroleum Hydrocarbons (PHCs)

Sample Location				BLD 29													TP 52	
Sample ID	Unit	MECP Table 1 Site Standard (1)	RDL	BHMW12-WGS1	BHMW12	BHMW12	BHMW12	BHMW12	BHMW29-1	BHMW 29-1	BHMW 29-1	BHMW 29-1	BHMW 29-1	BHMW 29-1	BHMW 29-1	BHMW29-2	BHMW29-2	BHMW52-1	DUP 2
Sampling Program				2009 DST Phase II	2015 Phase Two ESA	2015 Phase Two ESA	2016 DST Soil and Groundwater Remediation - RSC 5	DST Follow Up	2016 DST Soil and Groundwater Remediation - RSC 5	DST Follow Up	DST Follow Up	DST Follow Up	DST Follow Up	DST Follow Up	DST Follow Up	2016 DST Soil and Groundwater Remediation - RSC 5	DST Follow Up	2016 DST Soil and Groundwater Remediation - RSC 5	
Date Sampled				**29-Nov-04**	**14-Mar-14**	**19-Mar-14**	**02-Apr-15**	**26-Apr-16**	**13-Mar-15**	**22-Dec-15**	**21-Jan-16**	**28-Jan-16**	**25-Apr-16**	**05-May-16**	**24-Aug-17**	**13-Mar-15**	**26-Apr-16**	**13-Mar-15**	**13-Mar-15**
Benzene	µg/L	0.5	0.20	<0.5	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	µg/L	0.8	0.20	<0.5	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20	<0.20	<0.20
Ethylbenzene	µg/L	0.5	0.10	<0.5	<0.20	--	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20	<0.20	<0.20
o-Xylene	µg/L	NA		<0.5	<0.20	--	<0.20	<0.20	0.36	<0.20	<0.20	<0.20	<0.20	<0.50	<0.20	<0.20	<0.20	<0.20	<0.20
p+m-Xylene	µg/L	NA		<1	<0.40	--	<0.40	<0.40	0.63	<0.40	<0.40	<0.40	<0.40	<0.50	<0.40	<0.40	<0.40	<0.40	<0.40
Xylenes (Total)	µg/L	72	0.20	<1.5	<0.40	--	<0.40	<0.40	0.99	<0.40	<0.40	<0.40	<0.40	<0.50	<0.40	<0.40	<0.40	<0.40	<0.40
Petroleum Hydrocarbons																			
F1 (C6 - C10)	µg/L	420	25.00	<200	--	<25	<25	<25	<25	<25	<25	<25	<25	168	<25	<25	<25	<25	<25
F1 (C6 to C10) minus BTEX	µg/L	420	25.00	--	--	<25	<25	<25	<25	<25	<25	<25	<25	--	<25	<25	<25	<25	<25
F2 (C10 to C16)	µg/L	150	100.00	<100	--	**200**	<100	<100	**510**	**1400**	<100	**580**	**1500**	**6140**	**250**	<100	<100	<100	<100
F3 (C16 to C34)	µg/L	500	100.00	<100	--	<200	<100	<200	<200	<200	<200	<200	<200	**979**	<200	<200	<200	<200	<200
F4 (C34 to C50)	µg/L	500	100.00	<100	--	<200	<100	<200	<200	<200	<200	<200	<200	<100	<200	<200	<200	<200	<200
Reached Baseline at C50	NG			--	YES	YES	YES		YES	YES	YES	YES	YES		YES	YES	YES	YES	YES
Gravimetric Heavy Hydrocarbons	µg/L		500	--	--	--	--		--	--	--	--	--	--	--	--	--	--	--

RDL	Reported Detection Limit
G / S	Guideline / Standard
--	Parameter not analyzed
NA	Guideline or standard not defined
Value	Parameters exceeds Table 1 criteria.
(1)	Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, All Types of Property Use for Groundwater.

Table 3-2B: Groundwater Analytical Results - Polycyclic Aromatic Hydrocarbons (PAHs)

Sample Location	Unit	MECP Table 1 Site Standard (1)	BLD 3	BLD 12	BLD 16				BLD 22		BLD 29								TP52
Sample Description			**BHMW20-WGS1**	**BHMW11-WGS1**	**BHMW16-WGS1**	**BHMW17-WGS1**	**BHMW17-WGS1**	**BHMW18-WGS1**	**BHMW21-WGS1**	**BHMW 21**	**BHMW12-WGS1**	**BHMW 12**	**BHMW 12**	**BHMW 12**	**BHMW 29-1**	**BHMW 29-2**	**BHMW 29-1**	**BHMW 29-2**	**BHMW 52-1**
Sampling Program			2009 DST Phase II		2009 DST Phase II				2009 DST Phase II	2015 Phase Two ESA	2009 DST Phase II	2015 Phase Two ESA	2016 DST Soil and Groundwater Remediation - RSC 5	DST Follow Up	2016 DST Soil and Groundwater Remediation - RSC 5		DST Follow Up	DST Follow Up	2016 DST Soil and Groundwater Remediation - RSC 5
Date Sampled			29-Nov-04	29-Nov-04	29-Nov-04	29-Nov-04	13-Dec-04	29-Nov-04	29-Nov-04	14-Mar-14	29-Nov-04	19-Mar-14	02-Apr-15	26-Apr-16	31-Mar-15	31-Mar-15	26-Apr-16	26-Apr-16	31-Mar-15
Parameter																			
Acenaphthene	µg/L	4.1	<0.05	<0.05	0.3	<0.1	0.05	0.05	0.6	0.055	0.55	0.53	0.36	0.080	0.63	<0.050	0.085	<0.050	<0.050
Acenaphthylene	µg/L	1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	µg/L	0.1	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.050	<0.01	0.05	<0.050	<0.050	0.070	<0.050	<0.050	<0.050	<0.050
Benzo(a)anthracene	µg/L	0.2	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.050	<0.01	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	µg/L	0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.010	<0.01	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(b)fluoranthene	µg/L	0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	µg/L	0.2	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	µg/L	0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Biphenyl	µg/L	NA	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	--	0.1	--	--	<0.050	--	--	<0.050	<0.050	--
Chrysene	µg/L	0.1	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	µg/L	0.2	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	µg/L	0.4	<0.01	<0.01	<0.01	0.04	0.03	<0.01	<0.01	<0.050	<0.01	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	µg/L	120	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.050	<0.05	0.23	0.20	0.09	0.46	<0.050	<0.050	<0.050	<0.050
Indeno(1,2,3-cd)pyrene	µg/L	0.2	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1-Methylnaphthalene	µg/L	NA	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.050	<0.05	<0.050	<0.050	<0.050	2.7	<0.050	<0.050	<0.050	<0.050
2-Methylnaphthalene	µg/L	NA	<0.05	<0.05	0.05	<0.1	<0.05	0.15	<0.05	<0.050	<0.05	<0.050	<0.050	<0.050	<0.10	<0.050	<0.050	<0.050	<0.050
Methylnaphthalene 2,(1-)*	µg/L	2	--	--	--	--	--	--	--	<0.071	--	<0.071	<0.071	<0.071	**2.7**	<0.071	<0.071	<0.071	<0.071
Naphthalene	µg/L	7	<0.05	<0.05	0.35	0.1	<0.05	0.15	0.25	<0.050	0.75	<0.10	<0.20	<0.050	<0.50	<0.050	<0.050	<0.050	<0.050
Phenanthrene	µg/L	0.1	<0.05	<0.05	<0.05	<0.1	0.1	0.05	<0.05	<0.030	<0.05	<0.030	<0.030	<0.030	**0.15**	<0.030	<0.030	<0.030	<0.030
Pyrene	µg/L	0.2	<0.01	<0.01	<0.1	<0.02	<0.01	<0.01	<0.05	<0.050	<0.1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

RDL Reported Detection Limit
-- Parameter not anlayzed
NA Guideline or standard not defined
Value Parameters exceeds Table 1 criteria.
(1) Site Condition Standards, All Types of Property Use for Groundwater.

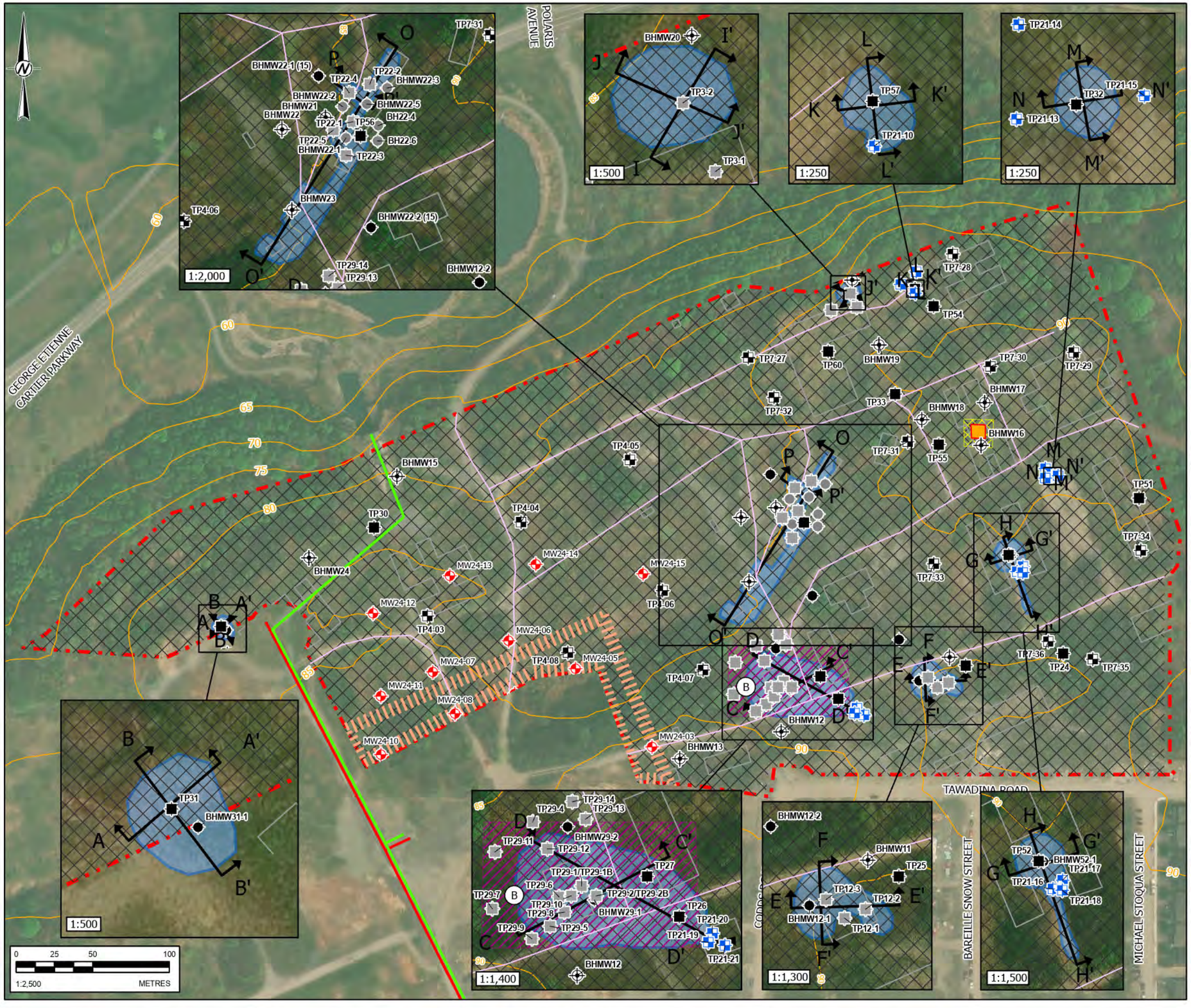
Table 3-2C: Groundwater Analytical Results - Metals

Sample Description			BLD 3	BLD 12	BLD 16				BLD22		BLD 29									
Sample ID			BHMW20-WGS1	BHMW11-WGS1	BHMW16-WGS1	BHMW17-WGS1	BHMW17-WGS1	BHMW18-WGS1	BHMW21-WGS1	BHMW 21	BHMW12-WGS1	BHMW 12	BHMW 12	BHMW 12	BHMW 12-1	BHMW 12-2	BHMW 29-1	BHMW 29-2	BHMW 29-1	BHMW 29-2
Sampling Program		MECP Table 1 Site Standard [1]	2009 DST Phase II ESA							April 2016 Soil and Groundwater Remediation - RSC 5	2009 DST Phase II	2015 Phase Two ESA	DST Follow Up	2016 DST Soil and Groundwater Remediation - RSC 5					DST Follow Up	DST Follow Up
Date Sampled			29-Nov-04	29-Nov-04	29-Nov-04	29-Nov-04	13-Dec-04	29-Nov-04	29-Nov-04	14-Mar-14	29-Nov-04	14-Mar-14	26-Apr-16	2-Apr-15	13-Mar-15	13-Mar-15	31-Mar-15	31-Mar-15	26-Apr-16	26-Apr-16
Parameters	**Units**																			
Aluminum	µg/L	NA	30	<10	<10	30	<10	20	<10	--	<10	--	--	--	--	--	--	--	--	---
Antimony	µg/L	2	<1	<1	<1	<1	<1	<1	<1	<0.50	<1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic	µg/L	13	<10	<10	<10	<10	<10	<10	<10	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Barium	µg/L	610	20	80	40	40	50	30	50	67	150	160	140	200	87	78	240	43	48	54
Beryllium	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<0.50	<1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Boron	µg/L	1700	100	<50	<50	<50	<50	550	<50	34	<50	26	26	32	24	41	80	28	110	31
Cadmium	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<0.10	<1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Calcium	µg/L	NA	84,000	32,000	92,000	34,000	60,000	58,000	80,000	--	90,000	--	--	--	--	--	--	--	--	--
Chromium	µg/L	11	<50	<50	<50	<50	<50	<50	<50	<5.0	<50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Cobalt	µg/L	4	<5	<5	<5	<5	<5	<5	<5	<0.50	<5	<0.50	1.2	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Copper	µg/L	5	<5	<5	<5	<5	<5	<5	<5	1.6	<5	1.3	<1.0	1.0	1.3	<1.0	<1.0	1.5	<1.0	1.0
Iron	µg/L	NA	<200	<200	--	<200	<200	<200	<200	--	200	--	--	--	--	--	--	--	--	--
Lead	µg/L	2	<1	<1	<1	<1	<1	<1	<1	<0.50	<1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50
Magnesium	µg/L	NA	16,000	7,600	18,000	5,400	7,000	19,000	9,400	--	21,000	--	--	--	--	--	--	--	--	--
Manganese	µg/L	NA	<50	<50	<50	<50	<50	<50	400	--	350	--	--	--	--	--	--	--	--	--
Molybdenum	µg/L	23	<5	5	<5	10	5	<5	<5	0.52	<5	<0.50	<0.50	<0.5	0.57	2.4	2.6	1.8	1.9	0.60
Nickel	µg/L	14	<5	<5	5	5	<5	<5	<5	<1.0	<5	<1.0	3.0	<1.0	<1.0	<1.0	1.3	<1.0	<1.0	<1.0
Mercury	µg/L	0.1	--	--	--	--	--	--	--	--	--	--	--	--	<0.00010	<0.00010	--	--	--	--
Potassium	µg/L	NA	4,600	4,800	3,400	4,200	4,000	6,600	2,000	--	2,200	--	--	--	--	--	--	--	--	--
Selenium	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<2.0	<5	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Silver	µg/L	0.3	<1	<1	<1	<1	<1	<1	<1	<0.10	<1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sodium	µg/L	490000	22,000	180,000	59,000	35,000	42,000	35,000	71,000	41000	30,000	16000	15000	44000	84000	120000	11000	46000	110000	19000
Thallium	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<0.050	<1	<0.050	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.05	<0.05
Tin	µg/L	NA	<10	<10	<10	<10	<10	<10	<10	--	<10	--	--	--	--	--	--	--	--	--
Uranium	µg/L	9	--	--	--	--	--	--	--	0.27	--	0.66	0.5	0.5	1.4	1.2	1.4	0.65	1.7	0.7
Vanadium	µg/L	4	<10	<10	<10	<10	<10	<10	<10	<0.50	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Zinc	µg/L	160	<20	<20	<20	40	<20	<20	<20	13	<20	18	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	7.0

RDL Reported Detection Limit
NA Guideline or standard not defined
-- Parameter not analyzed
Value Parameters exceeds Table 1 criteria.

(1) Ontario Reg 153/04 (2011) Table 1: Full Depth Background Site Condition Standards, All Types of Property Use for Groundwater.

Figures



KEY MAP

SCALE: 1:100,000

LEGEND

- BOREHOLE LOCATION (GREENBANK, 2004)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2009)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2020)
- TEST PIT LOCATION (GOLDER, 2021)
- TEST PIT LOCATION (GREENBANK, 2004)
- MONITORING WELL
- LOCATION OF POTENTIAL CONTAMINATING ACTIVITY
- GROUND SURFACE CONTOURS
- CROSS SECTION
- FORMER ROADWAYS AND ABANDONED WATER AND SEWER LINES
- SANITARY SEWER ALIGNMENT
- STORM SEWER ALIGNMENT
- LOCATION OF REMEDIATION AREAS
- HISTORICAL BUILDING FOOTPRINT
- FORMER FUEL STORAGE TANKS (PCA #28)
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY

APEC

- APEC 1
- APEC 2
- APEC 3
- APEC 4

Label	Description
B	Gasoline and Associated Products Storage in Fixed Tanks - Former fuel storage Tanks associated with former auto club in Building 29 as well as associated soil and groundwater impacts.

APEC	Description
1	Site wide poor quality fill (PCA#30)
2	Building 29: Former Auto Club (PCA#28)
3	Off-Site Fuel Stoage and known PHC contamination in groundwater at building 137 (PCS#28)
4	Former AST a Building 16 (PCA#28)

NOTE(S)

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
SITE PLAN WITH FORMER BUILDINGS AND AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

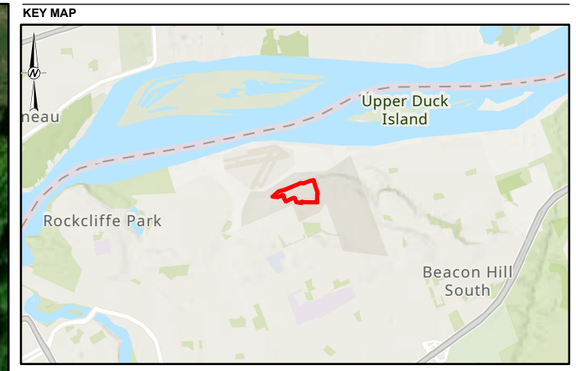
CONSULTANT
wsp

YYYY-MM-DD	2025-02-06
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0025	A	1

PATH: S:\Clients\Canada_Lands_Company\Waterridge_Village\69_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase_ESA\19124906-0027-HS-0000.aprx, PRINTED ON: AT: 2:28:26 PM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0

KEY MAP



SCALE: 1:100,000

LEGEND

- MONITORING WELL
- GROUND WATER CONTOUR (MARCH 14, 2015)
- INFERRED GROUNDWATER FLOW DIRECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY

0 25 50 100

1:2,500 METRES

NOTE(S)

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI, NASA, NGA, USGS, FEMA, SOURCES: ESRI, TOMTOM, GARMIN, FAO, NOAA, USGS, © OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
GROUNDWATER ELEVATION AND GROUNDWATER FLOW DIRECTION

CONSULTANT

YYYY-MM-DD	2025-02-06
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	0	2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25mm

PATH: S:\Clients\Canada Lands Company\Waterdge Village\99_PRO\19124906_CLC_Enviro\0027_Parcel 4_2 Phase\1_ESA\19124906-0027-HS-0000_fix.aprx PRINTED ON: AT: 1:09:11 PM

PLEASE REFER TO FIGURE 3A

PLEASE REFER TO FIGURE 3B

PLEASE REFER TO FIGURE 3B

PLEASE REFER TO FIGURE 3C

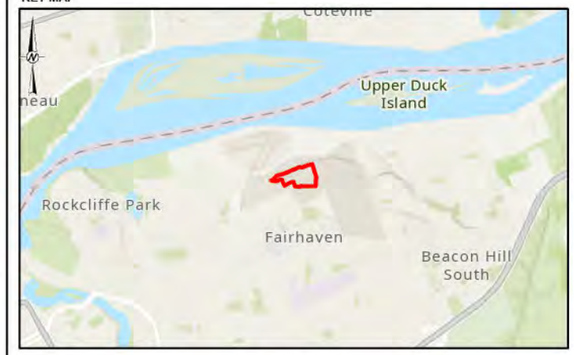
PLEASE REFER TO FIGURE 3D

PLEASE REFER TO FIGURE 3E

PLEASE REFER TO FIGURE 3E

PLEASE REFER TO FIGURE 3F

KEY MAP



SCALE: 1:100,000

LEGEND

- BOREHOLE LOCATION (GREENBANK, 2004)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2009)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2020)
- TEST PIT LOCATION (GOLDER, 2021)
- TEST PIT LOCATION (GREENBANK, 2004)
- MEETS MECP TABLE 1 STANDARDS
- EXCEEDS MECP TABLE 1 STANDARDS
- LOCATION OF POTENTIAL CONTAMINATING ACTIVITY
- CROSS SECTION
- FORMER FUEL STORAGE TANKS (PCA #28)
- HISTORICAL BUILDING FOOTPRINT
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY

APEC

- APEC 1
- APEC 2
- APEC 3
- APEC 4

0 25 50 100
1:2,500 METRES

NOTE(S)

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA, MAXAR
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
PETROLEUM HYDROCARBON SOIL SAMPLE LOCATIONS AND EXCEEDANCES

CONSULTANT

wsp

YYYY-MM-DD	2025-02-06
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	3

PATH: S:\Clients\Canada_Lands_Company\Waterdge_Village\09_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase_ESA\19124906-0027-HS-0001.aprx, PRINTED ON: AT 2:29:44 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

0

Chemical of Concern	MECP Table 1 Standards (ug/g)
PHC F2	10
PHC F3	240
PHC F4	120
TPH (g/d/ho)	NV

Sample ID	TP22-4 S2
Date Sampled	2004
Sample Depth	1.4-2.8
TPH (Gas/Diesel)	4,700
Petroleum Hydrocarbons (h/o)	1,900

Sample ID	BHMW22-5 SS4
Date Sampled	2004
Sample Depth	1.83-2.44
TPH (Gas/Diesel)	2,800
Petroleum Hydrocarbons (h/o)	1,300

Sample ID	TP22-01 SA3
Date Sampled	10/19/2022
Sample Depth	3.2-3.6
F4 (C34 to C50)	390

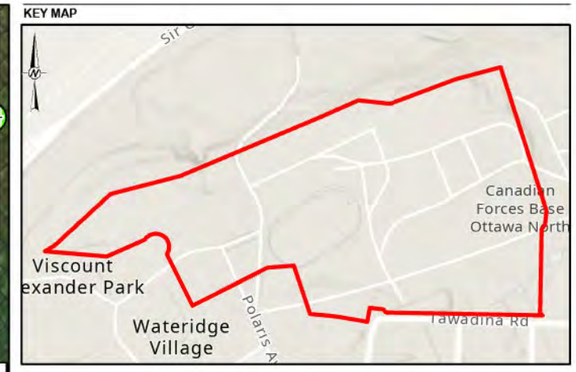
Sample ID	TP22-5 S1
Date Sampled	2004
Sample Depth	1.5-2.44
TPH (Gas/Diesel)	4,920
Petroleum Hydrocarbons (h/o)	2,300

Sample ID	TP56 SGS1
Date Sampled	NA
Sample Depth	0.0-0.4
F2 (C10 to C16)	3,600
F3 (C16 to C34)	20,000
F4 (C34 to C50)	12,000

Sample ID	BHMW22-1 SS4
Date Sampled	2004
Sample Depth	1.83-2.44
TPH (Gas/Diesel)	4,920
Petroleum Hydrocarbons (h/o)	2,300

Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)	Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
BHMW22-1 ss1	0.15-0.76	BLD22XWss6	1.7
BHMW22-2 ss3	0.61-1.22	BLD22WVss8	3
BMMW22-3 ss5	2.44-2.68	BLD22UTss4	2.8
BHMW22-5 ss4	1.83-2.44	BLD22RQss2	2.6
BH22-4 SS1	0-0.61	BLD22QPss24	1.5
BHMW21 ss4	1.8-2.4	BLD22POss6	4
BHMW22 ss4	1.8-2.2	BLD22NOss2	1.1
BHMW23 ss4	1.8-2.4	BLD22HIss6	1.62
BLD22ABss18	2.4	BLD22IJss3	2.75
BLD22GLss11	0.9	BLD22JKss2	0.55
BLD22XYss12	2.4	BLD22KAss3	2.33

KEY MAP



SCALE: 1:9,000

LEGEND

- BOREHOLE LOCATION (GREENBANK, 2004)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2009)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2020)
- TEST PIT LOCATION (GREENBANK, 2004)
- WALL VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- MEETS MECP TABLE 1 STANDARDS
- EXCEEDS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- PHASE TWO ESA PHC SOIL EXCEEDANCE
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC
- APEC 1

APEC	Description
1	Site wide poor quality fill (PCA#30)

NOTE(S)

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
PETROLEUM HYDROCARBON SOIL SAMPLE LOCATIONS AND EXCEEDANCES - BLD 22 REMEDIATION

CONSULTANT

YYYY-MM-DD	2025-02-14
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	3A

0 5 10 20 30 40
1:550 METRES

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\99_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase\ ESA\19124906-0027-HS-000X.aprx PRINTED ON: AT 10:55:15 AM

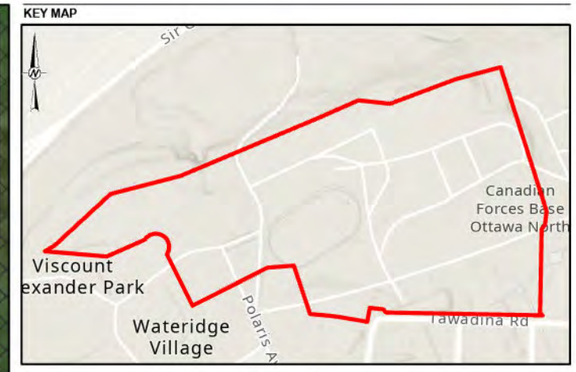
Chemical of Concern	MECP Table 1 Standards (ug/g)
PHC F2	10
PHC F3	240
PHC F4	120
TPH (g/d/ho)	NV

Sample ID	TP57 SGS1
Date Sampled	NA
Sample Depth	0.1-1.0
F4 (C34 to C50)	560

Sample ID	TP3-2 S1
Date Sampled	2004
Sample Depth	0-2.3
Petroleum Hydrocarbons (h/o)	3,300

Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
TP3-3 S2	1-2.3
TP3-1 S1	0-1
BHMW20 ss1	0.6-1
TP21-11 SA1	0.5
TP21-12 SA2	0.9
TP21-10 SA1	0.5
BLD3NWss8	1.7
BLD3EWss3	1.9
BLD3SWss3	0.8
BLD3SWss8	1.5
BLD3WWss8	0.8
BLD3FLss2	1.9
BLD3FLss8	1.9
BLD3FLss13	1.9
VSTP57-NW1	1.5
VSTP57-EW1	1.5

KEY MAP



SCALE: 1:9,000

LEGEND

- BOREHOLE/MONITORING WELL LOCATION (DST, 2009)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2021)
- TEST PIT LOCATION (GREENBANK, 2004)
- FLOOR VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL SAMPLE PASSED
- MEETS MECP TABLE 1 STANDARDS
- EXCEEDS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- PHASE TWO ESA PHC SOIL EXCEEDANCE
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC
- APEC 1

APEC	Description
1	Site wide poor quality fill (PCA#30)

NOTE(S)

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
PETROLEUM HYDROCARBON SOIL SAMPLE LOCATIONS AND EXCEEDANCES - BLD 3 AND TP57 REMEDIATION

CONSULTANT
wsp

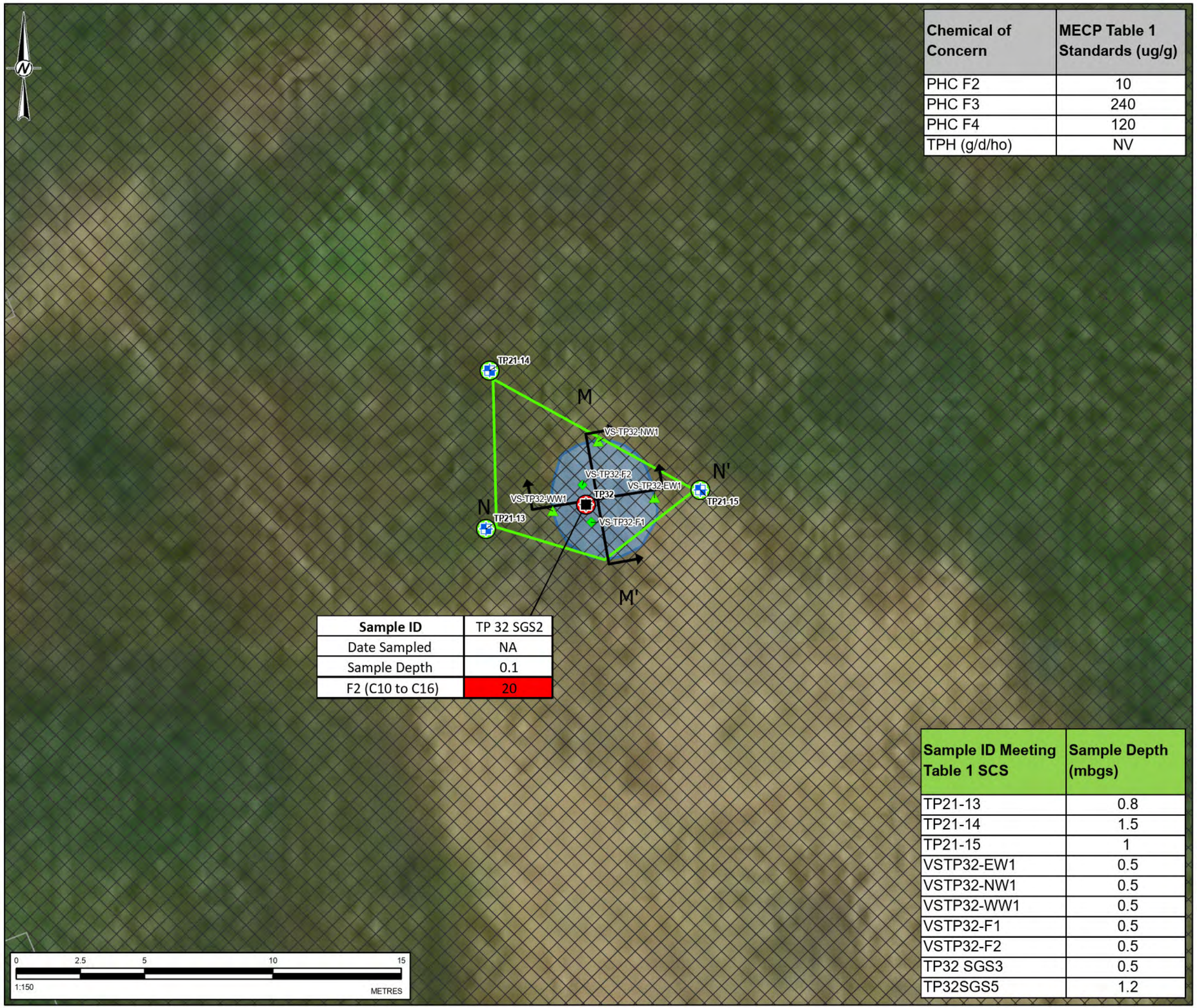
YYYY-MM-DD	2025-02-11
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	3B

0 5 10 20
1:200 METRES

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\69_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase\ ESA\19124906-0027-HS-000X.aprx PRINTED ON: AT 6:42:14 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



Chemical of Concern	MECP Table 1 Standards (ug/g)
PHC F2	10
PHC F3	240
PHC F4	120
TPH (g/d/ho)	NV

Sample ID	TP 32 SGS2
Date Sampled	NA
Sample Depth	0.1
F2 (C10 to C16)	20

Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
TP21-13	0.8
TP21-14	1.5
TP21-15	1
VSTP32-EW1	0.5
VSTP32-NW1	0.5
VSTP32-WW1	0.5
VSTP32-F1	0.5
VSTP32-F2	0.5
TP32 SGS3	0.5
TP32SGS5	1.2

KEY MAP

SCALE: 1:9,000

LEGEND

- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2021)
- FLOOR SAMPLE PASSED
- WALL SAMPLE PASSED
- MEETS MECP TABLE 1 STANDARDS
- EXCEEDS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- PHASE TWO ESA PHC SOIL EXCEEDANCE
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC
- APEC 1

APEC	Description
1	Site wide poor quality fill (PCA#30)

NOTE(S)

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
PETROLEUM HYDROCARBON SOIL SAMPLE LOCATIONS AND EXCEEDANCES - TP32 REMEDIATION

CONSULTANT

wsp

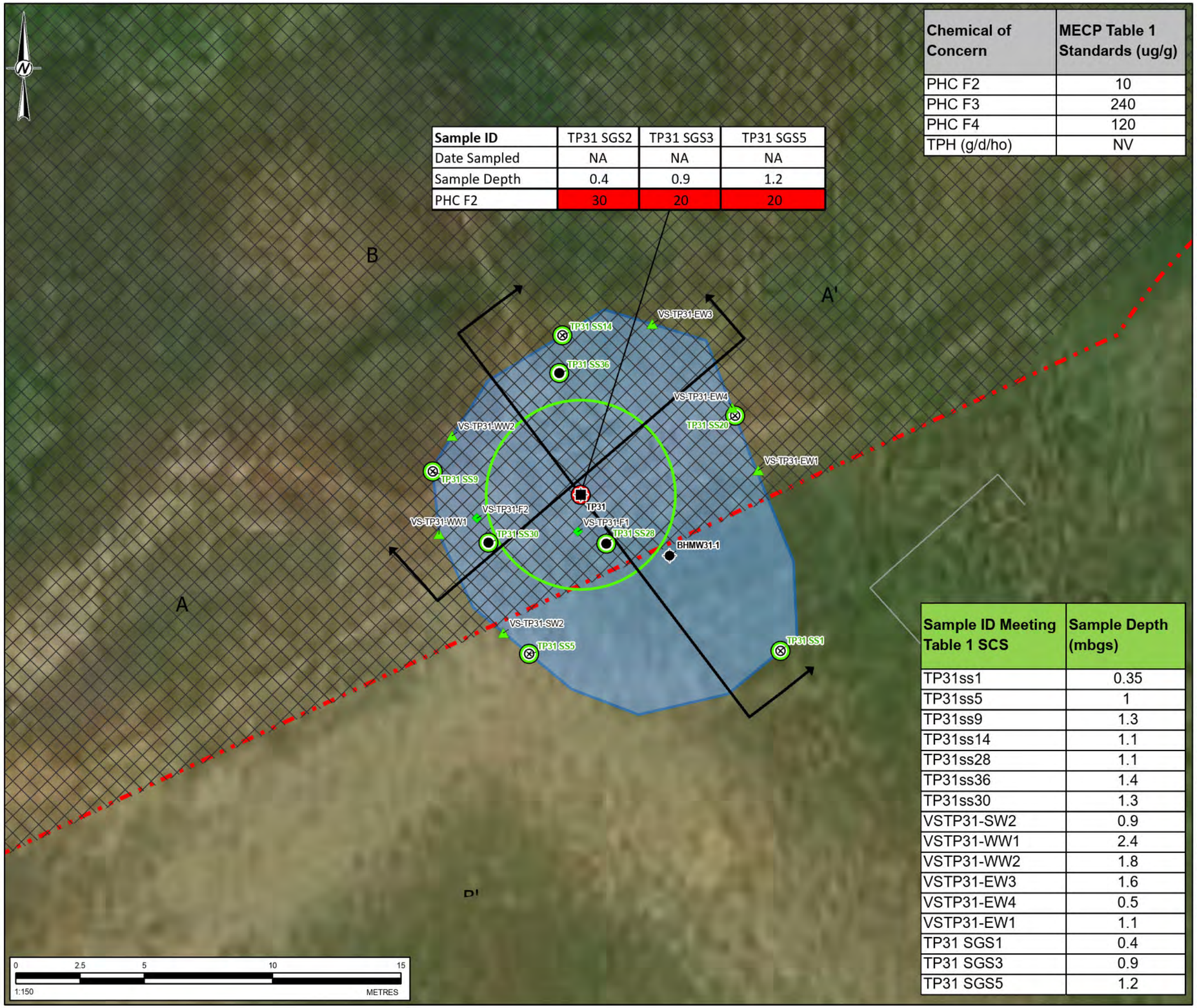
YYYY-MM-DD	2025-02-11
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	3C

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\99_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase_ESA\19124906-0027-HS-000X.aprx PRINTED ON: AT 6:43:12 PM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0

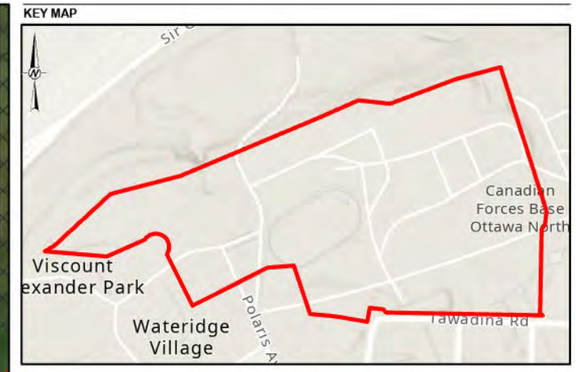
Sample ID	TP31 SGS2	TP31 SGS3	TP31 SGS5
Date Sampled	NA	NA	NA
Sample Depth	0.4	0.9	1.2
PHC F2	30	20	20

Chemical of Concern	MECP Table 1 Standards (ug/g)
PHC F2	10
PHC F3	240
PHC F4	120
TPH (g/d/ho)	NV



Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
TP31ss1	0.35
TP31ss5	1
TP31ss9	1.3
TP31ss14	1.1
TP31ss28	1.1
TP31ss36	1.4
TP31ss30	1.3
VSTP31-SW2	0.9
VSTP31-WW1	2.4
VSTP31-WW2	1.8
VSTP31-EW3	1.6
VSTP31-EW4	0.5
VSTP31-EW1	1.1
TP31 SGS1	0.4
TP31 SGS3	0.9
TP31 SGS5	1.2

KEY MAP



SCALE: 1:9,000

LEGEND

- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- FLOOR VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- FLOOR SAMPLE PASSED
- WALL SAMPLE PASSED
- MEETS MECP TABLE 1 STANDARDS
- EXCEEDS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- PHASE TWO ESA PHC SOIL EXCEEDANCE
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC
- APEC 1

APEC	Description
1	Site wide poor quality fill (PCA#30)

NOTE(S)

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
PETROLEUM HYDROCARBON SOIL SAMPLE LOCATIONS AND EXCEEDANCES - TP31 REMEDIATION

CONSULTANT
wsp

YYYY-MM-DD	2025-02-11
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	3D

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\69_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase_ESA\19124906-0027-HS-0004.aprx PRINTED ON: AT 6:43:55 PM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
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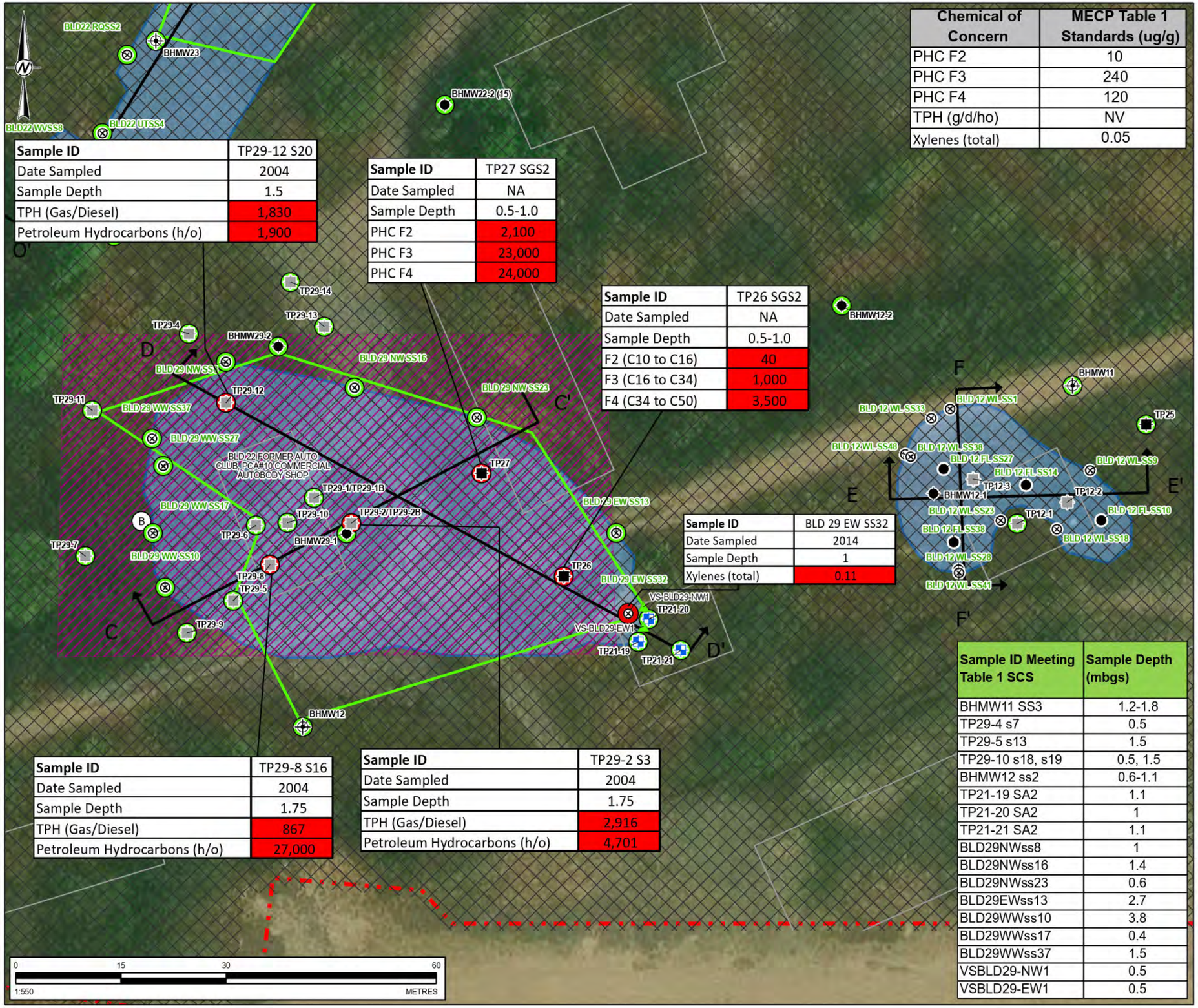


Sample ID	TP29-12 S20
Date Sampled	2004
Sample Depth	1.5
TPH (Gas/Diesel)	1,830
Petroleum Hydrocarbons (h/o)	1,900

Sample ID	TP27 SGS2
Date Sampled	NA
Sample Depth	0.5-1.0
PHC F2	2,100
PHC F3	23,000
PHC F4	24,000

Sample ID	TP26 SGS2
Date Sampled	NA
Sample Depth	0.5-1.0
F2 (C10 to C16)	40
F3 (C16 to C34)	1,000
F4 (C34 to C50)	3,500

Chemical of Concern	MECP Table 1 Standards (ug/g)
PHC F2	10
PHC F3	240
PHC F4	120
TPH (g/d/ho)	NV
Xylenes (total)	0.05

Sample ID	BLD 29 EW SS32
Date Sampled	2014
Sample Depth	1
Xylenes (total)	0.11

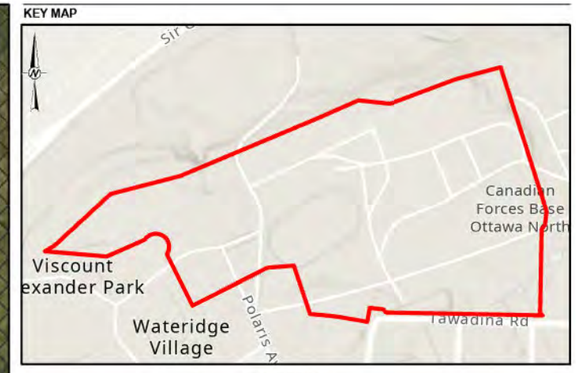
Sample ID	TP29-8 S16
Date Sampled	2004
Sample Depth	1.75
TPH (Gas/Diesel)	867
Petroleum Hydrocarbons (h/o)	27,000

Sample ID	TP29-2 S3
Date Sampled	2004
Sample Depth	1.75
TPH (Gas/Diesel)	2,916
Petroleum Hydrocarbons (h/o)	4,701

Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
BHMW11 SS3	1.2-1.8
TP29-4 s7	0.5
TP29-5 s13	1.5
TP29-10 s18, s19	0.5, 1.5
BHMW12 ss2	0.6-1.1
TP21-19 SA2	1.1
TP21-20 SA2	1
TP21-21 SA2	1.1
BLD29NWss8	1
BLD29NWss16	1.4
BLD29NWss23	0.6
BLD29EWss13	2.7
BLD29WWss10	3.8
BLD29WWss17	0.4
BLD29WWss37	1.5
VSBLD29-NW1	0.5
VSBLD29-EW1	0.5

0 15 30 60
1:550 METRES

KEY MAP



SCALE: 1:9,000

LEGEND

- BOREHOLE/MONITORING WELL LOCATION (DST, 2009)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2021)
- TEST PIT LOCATION (GREENBANK, 2004)
- FLOOR VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- LOCATION OF POTENTIAL CONTAMINATING ACTIVITY
- MEETS MECP TABLE 1 STANDARDS
- EXCEEDS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- PHASE TWO ESA PHC SOIL EXCEEDANCE
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC
- APEC 1
- APEC 2

Location	Description
B	Gasoline and Associated Products Storage in Fixed Tanks - Former fuel storage Tanks associated with former auto club in Building 29 as well as associated soil and groundwater impacts.

APEC	Description
1	Site wide poor quality fill (PCA#30)
2	Building 29: Former Auto Club (PCA#28)

NOTE(S)

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
PETROLEUM HYDROCARBON SOIL SAMPLE LOCATIONS AND EXCEEDANCES - BUILDING 29 REMEDIATION

CONSULTANT
wsp

YYYY-MM-DD	2025-02-11
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	3E

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\69_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase_ESA\19124906-0027-MS-0001.aprx PRINTED ON: AT: 6:49:23 PM

Chemical of Concern	MECP Table 1 Standards (ug/g)
PHC F2	10
PHC F3	240
PHC F4	120
TPH (g/d/ho)	NV
Benzene	0.02

Sample ID	TP 52 SGS1
Date Sampled	NA
Sample Depth	0.0-0.4
F2 (C10 to C16)	5,100
F3 (C16 to C34)	30,000
F4 (C34 to C50)	17,000

Sample ID	TP52 WL SS4
Date Sampled	2014
Sample Depth	0.14
Benzene	0.05

Sample ID	TP21-16 SA1
Date Sampled	07/28/2021
Sample Depth	0.5
F2 (C10 to C16)	14

H

H'

G

G'

TP 52 WL SS11
TP 52 WL SS9
TP 52 FL SS9
TP52
BHMW52-1
TP 52 FL SS22
TP 52 WL SS6
TP 52 WL SS3
TP 52 FL SS25
TP21-17
TP 52 WL SS4
VS-TP52-EW1
TP21-16
VS-TP52-F2
VS-TP52-F1
TP21-18
VS-TP52-WW1
VS-TP52-F3
TP52-WW2
TP52-EW2
VS-TP52-EW3
VS-TP52-F4
VS-TP52-SW3

Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
TP21-17 SA2	1
TP21-18 SA1	0.5
TP52WLss11	0.19
TP52WLss3	0.39
TP52WLss6	0.48
TP52WLss9	0.22
TP52FLss9	0.6
TP52FLss22	0.6
TP52FLss25	0.6
VSTP52-EW1	0.5
VSTP52-EW2	1-1.2
VSTP52-SW3	1-1.2
VSTP52-WW1	0.7
VSTP52-WW2	1.5-1.7
VSTP52-FL1	1
VSTP52-FL2	1
VSTP52-FL3	1.4-1.5
VSTP52-FL4	1.8

0 5 10 20 30
1:300 METRES

KEY MAP

SCALE: 1:9,000

LEGEND

- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2021)
- FLOOR VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- FLOOR SAMPLE PASSED
- WALL SAMPLE PASSED
- MEETS MECP TABLE 1 STANDARDS
- EXCEEDS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- PHASE TWO ESA PHC SOIL EXCEEDANCE
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC
- APEC 1

APEC	Description
1	Site wide poor quality fill (PCA#30)

NOTE(S)

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
PETROLEUM HYDROCARBON SOIL SAMPLE LOCATIONS AND EXCEEDANCES - TP52 REMEDIATION

CONSULTANT
wsp

YYYY-MM-DD	2025-02-11
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	3F

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\99_PROJ\19124906_CLC_Enviro\0027_Parcel_4_2_Phase_ESA\19124906-0027-HS-0004.aprx, PRINTED ON: AT 7:07:23 PM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm

PLEASE REFER TO FIGURE 4A

PLEASE REFER TO FIGURE 4B

PLEASE REFER TO FIGURE 4B

PLEASE REFER TO FIGURE 4C

PLEASE REFER TO FIGURE 4D

PLEASE REFER TO FIGURE 4E

PLEASE REFER TO FIGURE 4E

PLEASE REFER TO FIGURE 4F

0 25 50 100
1:2,500 METRES

KEY MAP

SCALE: 1:100,000

LEGEND

- BOREHOLE LOCATION (GREENBANK, 2004)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2009)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2020)
- TEST PIT LOCATION (GOLDER, 2021)
- TEST PIT LOCATION (GREENBANK, 2004)
- MEETS MECP TABLE 1 STANDARDS
- EXCEEDS MECP TABLE 1 STANDARDS
- CROSS SECTION
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY

NOTE(S)

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA, MAXAR
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
POLYCYCLIC AROMATIC HYDROCARBON SOIL SAMPLE LOCATIONS AND EXCEEDANCES

CONSULTANT
wsp

YYYY-MM-DD	2025-02-06
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	4

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: S:\Clients\Canada_Lands_Company\Waterridge_Village\69_PROJ\19124906_CLC_Enviro\0027_Parcel_4_5_Phase_ESA\19124906-0027-MS-002X.aprx, PRINTED ON: AT 2:35:41 PM

Chemical of Concern	MECP Table 1 Standards (ug/g)
Benz(a)anthracene	0.36
Benzo(a)pyrene	0.3
Benzo(b)fluoranthene	0.47
Benzo(g,h,i)perylene	0.68
Dibenz(a,h)anthracene	0.1
Indeno(1,2,3-cd)pyrene	0.23
1 and 2 Methlynaphthalene	0.59
Naphthalene	0.09
Phenanthrene	0.69

Sample ID	TP56SG1
Date Sampled	2009
Sample Depth	0.0-0.4
Dibenz(a,h)anthracene	0.16

Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
BHMW21 ss1, ss2	0.6-1, 1.8-2.4

KEY MAP

SCALE: 1:9,000

LEGEND

- BOREHOLE LOCATION (GREENBANK, 2004)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2009)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2020)
- TEST PIT LOCATION (GREENBANK, 2004)
- WALL VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- MEETS MECP TABLE 1 STANDARDS
- EXCEEDS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- PHASE TWO ESA PAH SOIL EXCEEDANCE
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC

- APEC 1

APEC	Description
1	Site wide poor quality fill (PCA#30)

NOTE(S)

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT

CLC LIMITED

PROJECT

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE

POLYCYCLIC AROMATIC HYDROCARBON SOIL SAMPLE LOCATIONS AND EXCEEDANCES - BUILDING 22 REMEDIATION

CONSULTANT

wsp

YYYY-MM-DD	2025-02-11
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

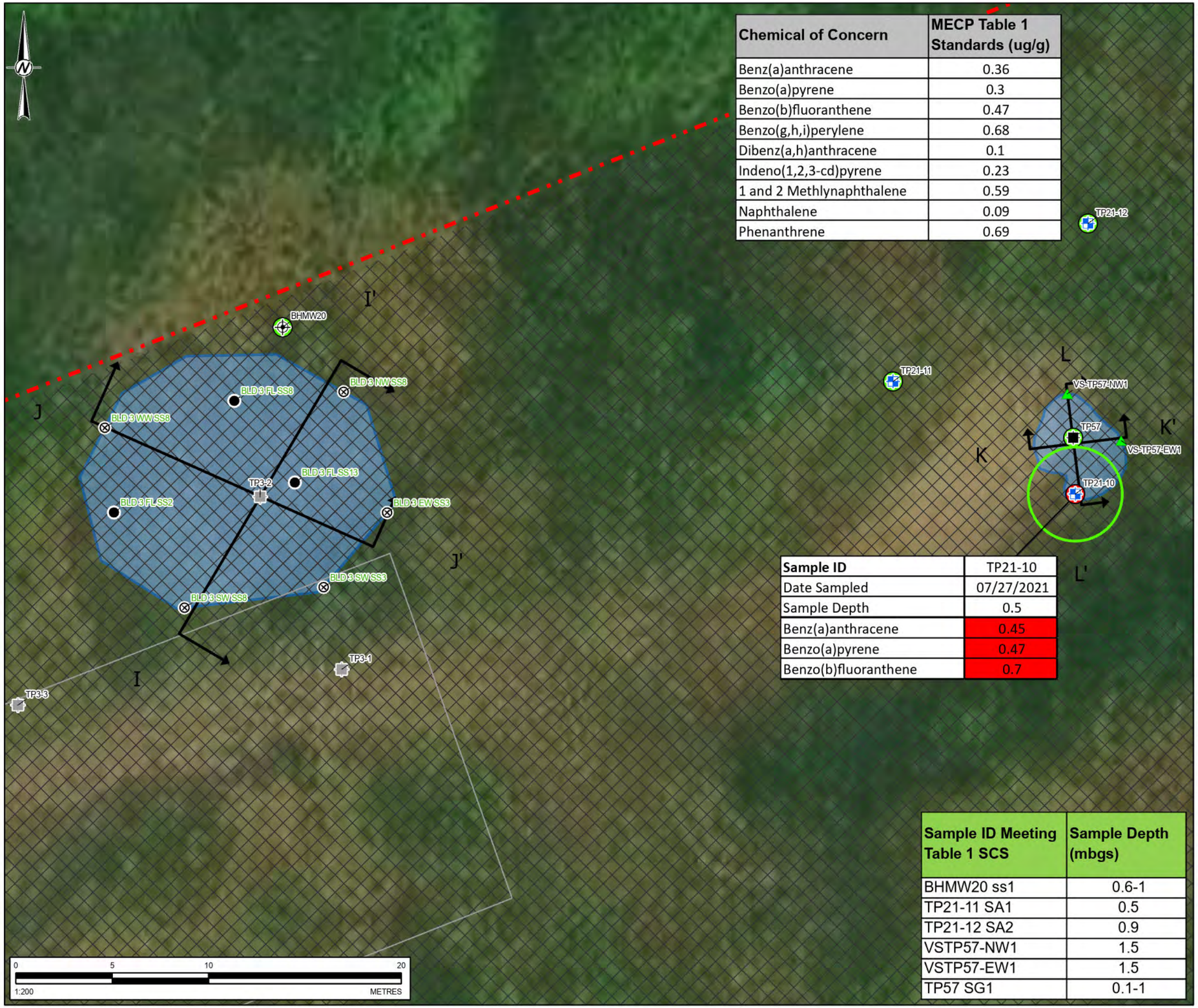
PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	4A

0 5 10 20 30 40
1:550 METRES

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\99_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase\ESA\19124906-0027-HS-000X.aprx, PRINTED ON: AT: 6:50:35 PM

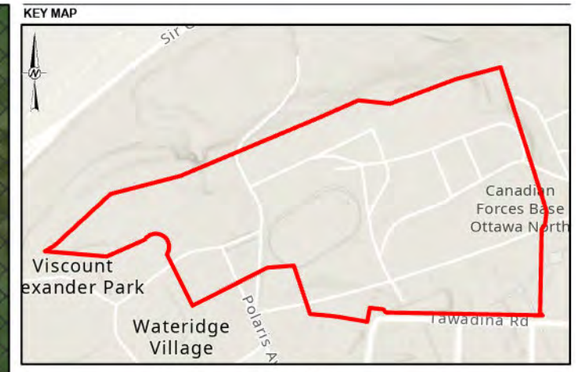
Chemical of Concern	MECP Table 1 Standards (ug/g)
Benz(a)anthracene	0.36
Benzo(a)pyrene	0.3
Benzo(b)fluoranthene	0.47
Benzo(g,h,i)perylene	0.68
Dibenz(a,h)anthracene	0.1
Indeno(1,2,3-cd)pyrene	0.23
1 and 2 Methlynaphthalene	0.59
Naphthalene	0.09
Phenanthrene	0.69



Sample ID	TP21-10
Date Sampled	07/27/2021
Sample Depth	0.5
Benz(a)anthracene	0.45
Benzo(a)pyrene	0.47
Benzo(b)fluoranthene	0.7

Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
BHMW20 ss1	0.6-1
TP21-11 SA1	0.5
TP21-12 SA2	0.9
VSTP57-NW1	1.5
VSTP57-EW1	1.5
TP57 SG1	0.1-1

KEY MAP



SCALE: 1:9,000

LEGEND

- BOREHOLE/MONITORING WELL LOCATION (DST, 2009)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2021)
- TEST PIT LOCATION (GREENBANK, 2004)
- FLOOR VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL SAMPLE PASSED
- MEETS MECP TABLE 1 STANDARDS
- EXCEEDS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- PHASE TWO ESA PAH SOIL EXCEEDANCE
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC

- APEC 1

APEC	Description
1	Site wide poor quality fill (PCA#30)

NOTE(S)

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
POLYCYCLIC AROMATIC HYDROCARBON SOIL SAMPLE LOCATIONS AND EXCEEDANCES - BUILDING 3 REMEDIATION

CONSULTANT

wsp

YYYY-MM-DD	2025-02-11
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

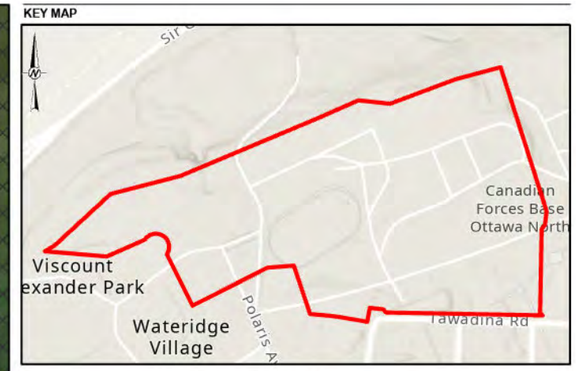
PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	4B

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\99_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase_ESA\19124906-0027-HS-000X.aprx, PRINTED ON: AT 6:51:38 PM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0

Chemical of Concern	MECP Table 1 Standards (ug/g)
Benz(a)anthracene	0.36
Benzo(a)pyrene	0.3
Benzo(b)fluoranthene	0.47
Benzo(g,h,i)perylene	0.68
Dibenz(a,h)anthracene	0.1
Indeno(1,2,3-cd)pyrene	0.23
1 and 2 Methlynaphthalene	0.59
Naphthalene	0.09
Phenanthrene	0.69

Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
TP21-13	0.8
TP21-14	1.5
TP21-15	1
VSTP32-EW1	0.5
VSTP32-NW1	0.5
VSTP32-WW1	0.5
VSTP32-F1	0.5
VSTP32-F2	0.5
TP32 SGS1	0.1
TP32 SGS3	0.5
TP32 SGS5	1.2

KEY MAP



SCALE: 1:9,000

LEGEND

- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2021)
- FLOOR SAMPLE PASSED
- WALL SAMPLE PASSED
- MEETS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC

- APEC 1

APEC	Description
1	Site wide poor quality fill (PCA#30)

NOTE(S)

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT

CLC LIMITED

PROJECT

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE

POLYCYCLIC AROMATIC HYDROCARBON SOIL SAMPLE LOCATIONS AND EXCEEDANCES - TP32 REMEDIATION

CONSULTANT

wsp

YYYY-MM-DD	2025-02-11
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

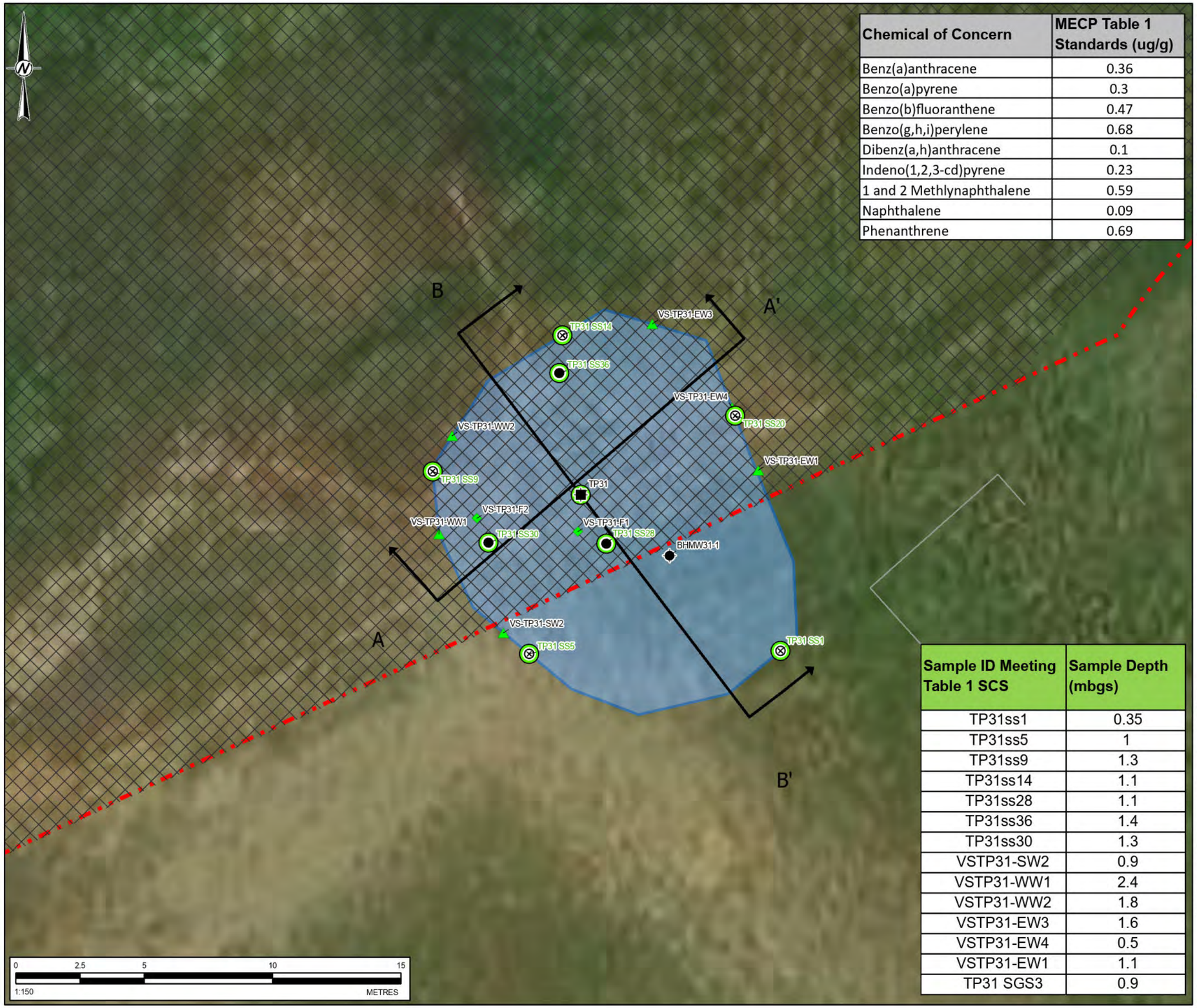
PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	4C

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\99_PROJ\19124906_CLC_Enviro\0027_Phase_4_2_Phase_ESA\19124906-0027-MS-000X.aprx, PRINTED ON: AT 6:52:29 PM

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

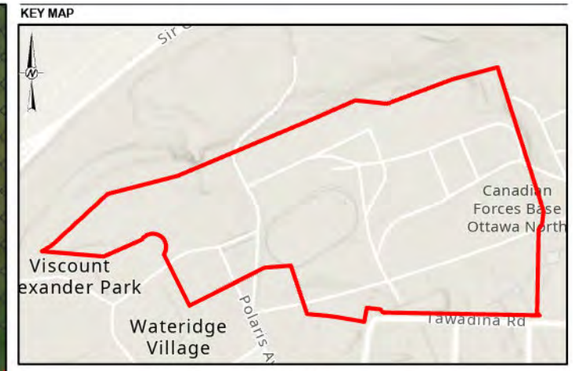
20mm
0

Chemical of Concern	MECP Table 1 Standards (ug/g)
Benz(a)anthracene	0.36
Benzo(a)pyrene	0.3
Benzo(b)fluoranthene	0.47
Benzo(g,h,i)perylene	0.68
Dibenz(a,h)anthracene	0.1
Indeno(1,2,3-cd)pyrene	0.23
1 and 2 Methlynaphthalene	0.59
Naphthalene	0.09
Phenanthrene	0.69



Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
TP31ss1	0.35
TP31ss5	1
TP31ss9	1.3
TP31ss14	1.1
TP31ss28	1.1
TP31ss36	1.4
TP31ss30	1.3
VSTP31-SW2	0.9
VSTP31-WW1	2.4
VSTP31-WW2	1.8
VSTP31-EW3	1.6
VSTP31-EW4	0.5
VSTP31-EW1	1.1
TP31 SGS3	0.9

KEY MAP



SCALE: 1:9,000

LEGEND

- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- FLOOR VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL SAMPLE PASSED
- FLOOR SAMPLE PASSED
- MEETS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC

- APEC 1

APEC	Description
1	Site wide poor quality fill (PCA#30)

NOTE(S)

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
POLYCYCLIC AROMATIC HYDROCARBON SOIL SAMPLE LOCATIONS AND EXCEEDANCES - TP31 REMEDIATION

CONSULTANT
wsp

YYYY-MM-DD	2025-02-11
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	4D

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\99_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase_ESA\19124906-0027-HS-000X.aprx, PRINTED ON: AT 6:58:36 PM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0

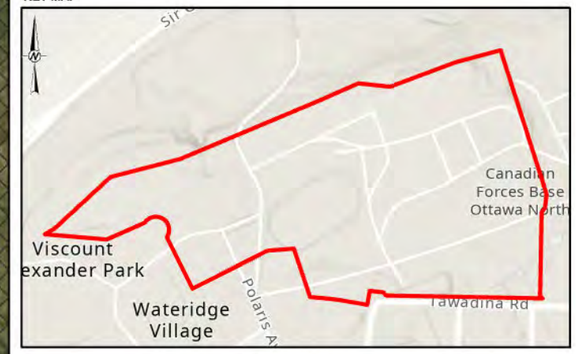
Sample ID	TP26 SGS2
Date Sampled	NA
Sample Depth	0.5-1.0
Benz(a)anthracene	0.5
Benzo(a)pyrene	0.7
Benzo(b)fluoranthene	1
Benzo(g,h,i)perylene	5
Dibenz(a,h)anthracene	0.7
Indeno(1,2,3-cd)pyrene	1
1 and 2 Methlynaphthalene	1
Naphthalene	0.5
Phenanthrene	1.4

Chemical of Concern	MECP Table 1 Standards (ug/g)
Benz(a)anthracene	0.36
Benzo(a)pyrene	0.3
Benzo(b)fluoranthene	0.47
Benzo(g,h,i)perylene	0.68
Dibenz(a,h)anthracene	0.1
Indeno(1,2,3-cd)pyrene	0.23
1 and 2 Methlynaphthalene	0.59
Naphthalene	0.09
Phenanthrene	0.69

Sample ID	TP29-2 SS3
Date Sampled	2004
Sample Depth	1.75
Indeno(1,2,3-cd)pyrene	0.63
Naphthalene	0.18
Phenanthrene	0.71

Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)	Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
TP27 SG2	0.5-1.0	TP21-21 SA2	1.1
BHMW11 SS3	1.2-1.8	BLD29NWss8	1
TP29-4 s7	0.5	BLD29NWss16	1.4
TP29-5 s13	1.5	BLD29NWss23	0.6
TP29-8 s16	1.75	BLD29EWss13	2.7
TP29-12 s20	1.5	BLD29WWss10	3.8
TP29-10 s18, s19	0.5, 1.5	BLD29WWss17	0.4
BHMW12 ss2	0.6-1.1	BLD29WWss37	1.5
TP21-19 SA2	1.1	VSBLD29-NW1	0.5
TP21-20 SA2	1	VSBLD29-EW1	0

KEY MAP



SCALE: 1:9,000

LEGEND

- BOREHOLE/MONITORING WELL LOCATION (DST, 2009)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2021)
- TEST PIT LOCATION (GREENBANK, 2004)
- FLOOR VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL SAMPLE PASSED
- LOCATION OF POTENTIAL CONTAMINATING ACTIVITY
- MEETS MECP TABLE 1 STANDARDS
- EXCEEDS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- PHASE TWO ESA PAH SOIL EXCEEDANCE
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC

- APEC 1
- APEC 2

Location	Description
B	Gasoline and Associated Products Storage in Fixed Tanks - Former fuel storage Tanks associated with former auto club in Building 29 as well as associated soil and groundwater impacts.

APEC	Description
1	Site wide poor quality fill (PCA#30)
2	Building 29: Former Auto Club (PCA#28)

NOTE(S)

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
POLYCYCLIC AROMATIC HYDROCARBON SOIL SAMPLE LOCATIONS AND EXCEEDANCES - BUILDING 29 AND BUILDING 12 REMEDIATION

CONSULTANT
wsp

YYYY-MM-DD	2025-02-11
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	4E

0 15 30 60
1:550 METRES

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

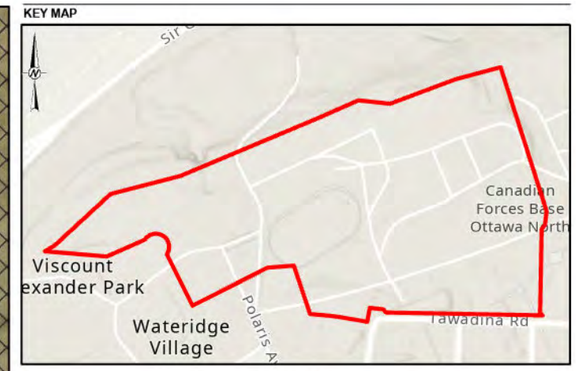
PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\99_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase_ESA\19124906-0027-HS-002R.aprx, PRINTED ON: AT: 6:56:38 PM

Sample ID	TP52 SGS1
Date Sampled	2009
Sample Depth	0.0-0.4
Dibenz(a,h)anthracene	0.16

Chemical of Concern	MECP Table 1 Standards (ug/g)
Benz(a)anthracene	0.36
Benzo(a)pyrene	0.3
Benzo(b)fluoranthene	0.47
Benzo(g,h,i)perylene	0.68
Dibenz(a,h)anthracene	0.1
Indeno(1,2,3-cd)pyrene	0.23
1 and 2 Methlynaphthalene	0.59
Naphthalene	0.09
Phenanthrene	0.69

Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
TP21-16 SA1	0.5
TP21-17 SA2	1
TP21-18 SA1	0.5
TP52WLss11	0.19
TP52WLss3	0.39
TP52WLss4	0.14
TP52WLss6	0.48
TP52WLss9	0.22
TP52FLss9	0.6
TP52FLss22	0.6
TP52FLss25	0.6
VSTP52-EW1	0.5
VSTP52-EW2	1-1.2
VSTP52-SW3	1-1.2
VSTP52-WW1	0.7
VSTP52-WW2	1.5-1.7
VSTP52-FL1	1
VSTP52-FL2	1
VSTP52-FL3	1.4-1.5
VSTP52-FL4	1.8

KEY MAP



SCALE: 1:9,000

LEGEND

- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2021)
- FLOOR VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- FLOOR SAMPLE PASSED
- WALL SAMPLE PASSED
- MEETS MECP TABLE 1 STANDARDS
- EXCEEDS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- PHASE TWO ESA PAH SOIL EXCEEDANCE
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15
- APEC
- APEC 1

APEC	Description
1	Site wide poor quality fill (PCA#30)

NOTE(S)

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
POLYCYCLIC AROMATIC HYDROCARBON SOIL SAMPLE LOCATIONS AND EXCEEDANCES - TP52 REMEDIATION

CONSULTANT

YYYY-MM-DD	2025-02-14
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	4F

0 5 10 20 30
1:300 METRES

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\99_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase_ESA\19124906-0027-HS-000X.aprx, PRINTED ON: AT: 10:53:27 AM

PLEASE REFER TO FIGURE 5A

PLEASE REFER TO FIGURE 5B

PLEASE REFER TO FIGURE 5B

PLEASE REFER TO FIGURE 5C

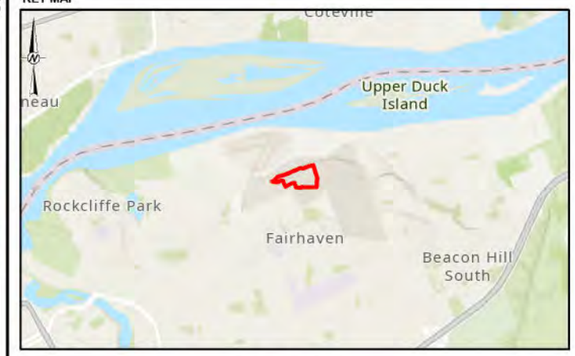
PLEASE REFER TO FIGURE 5D

PLEASE REFER TO FIGURE 5E

PLEASE REFER TO FIGURE 5E

PLEASE REFER TO FIGURE 5F

KEY MAP



SCALE: 1:100,000

LEGEND

- BOREHOLE LOCATION (GREENBANK, 2004)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2009)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2020)
- TEST PIT LOCATION (GOLDER, 2021)
- TEST PIT LOCATION (GREENBANK, 2004)
- MEETS MECP TABLE 1 STANDARDS
- MEETS MECP TABLE 1 EXCLUDING NATURALLY OCCURRING METALS
- EXCEEDS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 4-2 AND 7 SITE BOUNDARY
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15
- PHASE TWO ESA METAL SOIL EXCEEDANCE

APEC

- APEC 1
- APEC 2
- APEC 3
- APEC 4

APEC	Description
1	Site wide poor quality fill (PCA#30)
2	Building 29: Former Auto Club (PCA#28)
3	Off-Site Fuel Stoage and known PHC contamination in groundwater at building 137 (PCS#28)
4	Former AST a Building 16 (PCA#28)

NOTE(S)

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA, MAXAR
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
METALS SOIL SAMPLE LOCATIONS AND EXCEEDANCES

CONSULTANT

YYYY-MM-DD	2025-02-10
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

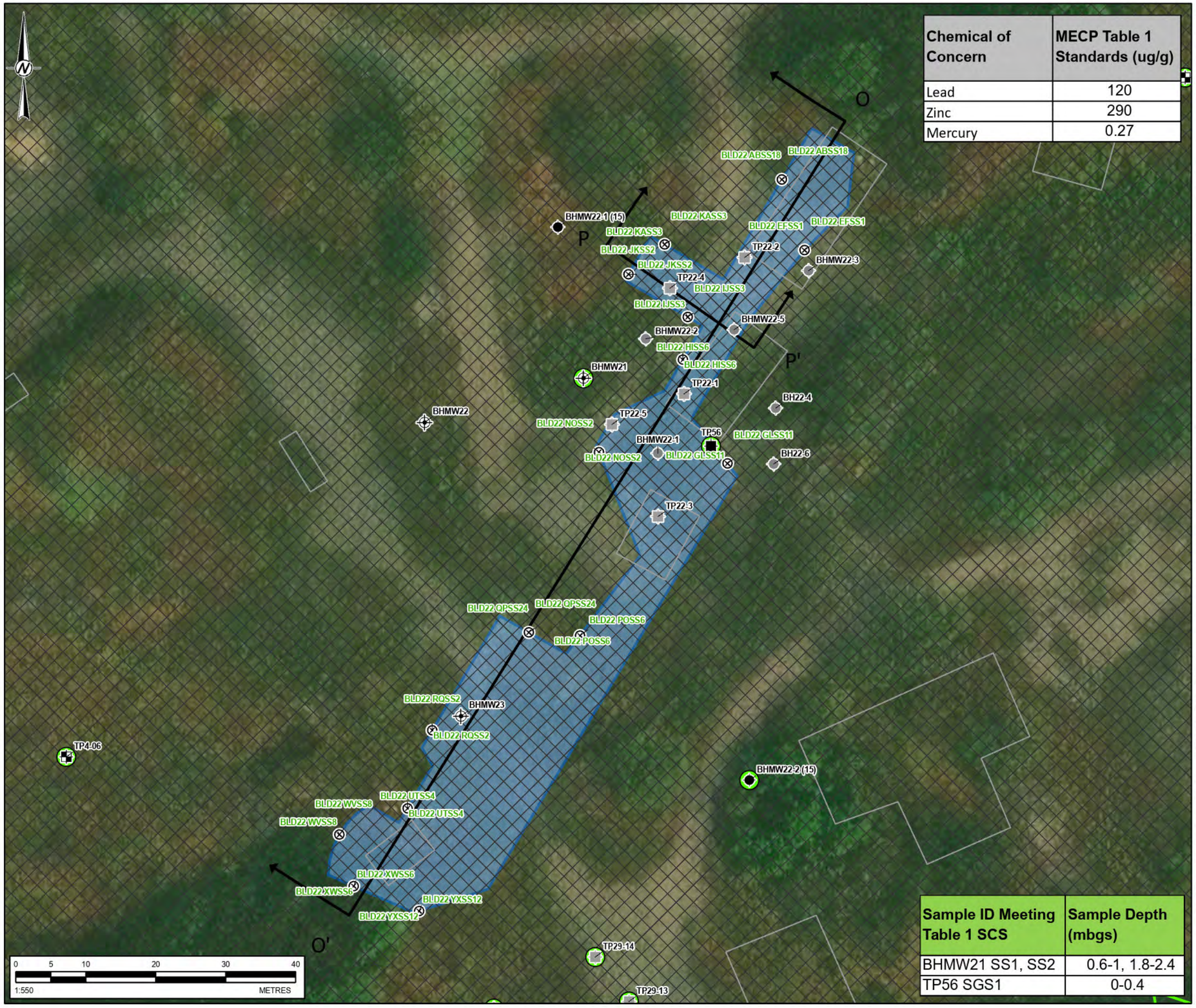
PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	5

0 25 50 100
1:2,500 METRES

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

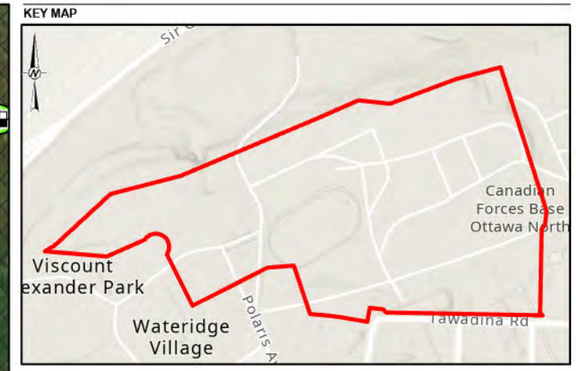
PATH: S:\Clients\Canada_Lands_Company\Waterridge_Village\09_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase_ESA\19124906-0027-HS-0000r.aprx, PRINTED ON: AT: 12:30:54 PM

Chemical of Concern	MECP Table 1 Standards (ug/g)
Lead	120
Zinc	290
Mercury	0.27



Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
BHMW21 SS1, SS2	0.6-1, 1.8-2.4
TP56 SGS1	0-0.4

KEY MAP



SCALE: 1:9,000

LEGEND

- BOREHOLE LOCATION (GREENBANK, 2004)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2009)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2020)
- TEST PIT LOCATION (GREENBANK, 2004)
- WALL VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- MEETS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC

- APEC 1

APEC	Description
1	Site wide poor quality fill (PCA#30)

NOTE(S)

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
METALS SOIL SAMPLE LOCATIONS AND EXCEEDANCES - BLD 22 REMEDIATION

CONSULTANT

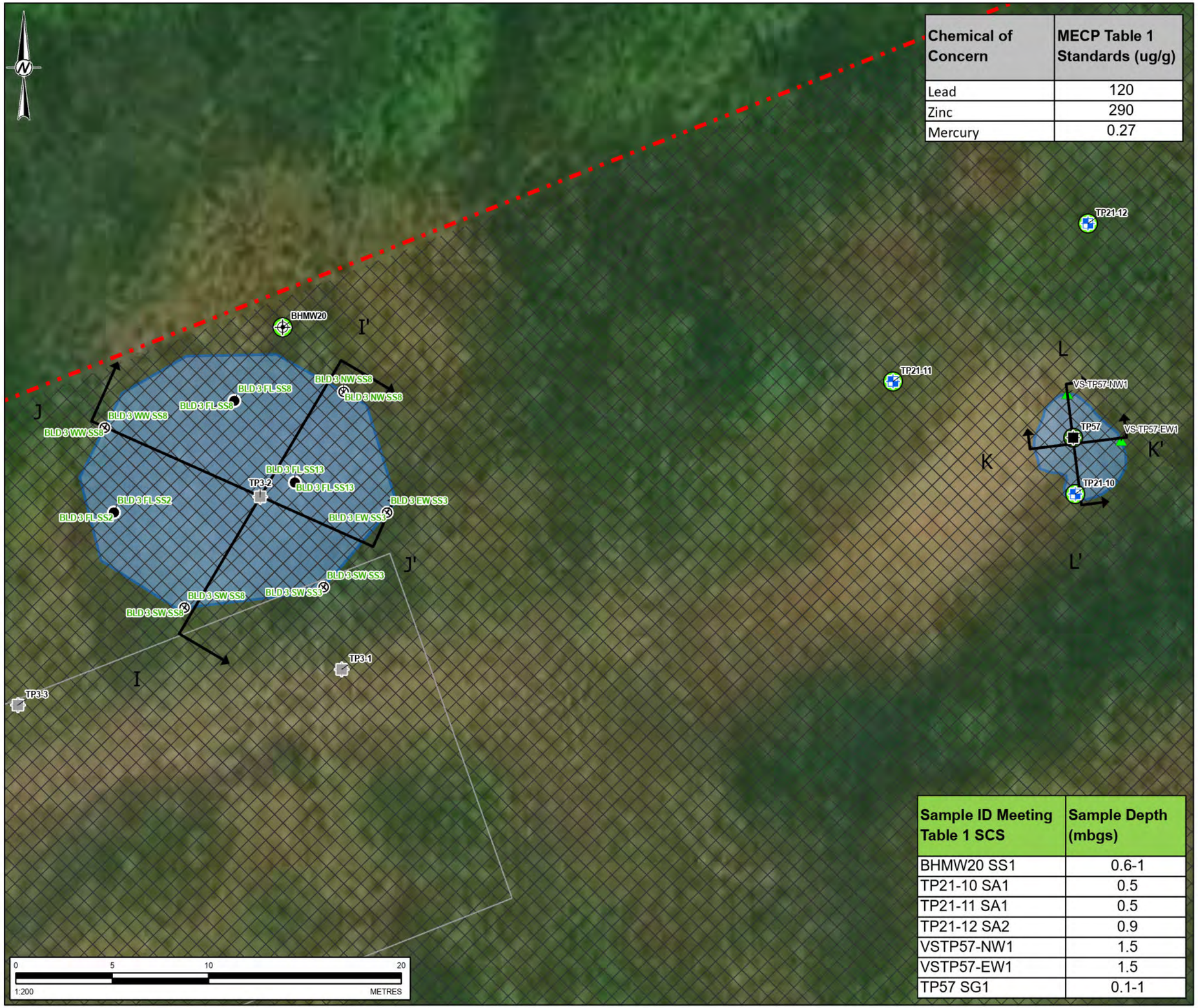
wsp

YYYY-MM-DD	2025-02-14
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	5A

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\69_PROJ\19124906_CLC_Enviro\0027_Parcel_4.2_Phase_ESA\19124906-0027-MS-000X.aprx, PRINTED ON: AT 10:37:23 AM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0

Chemical of Concern	MECP Table 1 Standards (ug/g)
Lead	120
Zinc	290
Mercury	0.27



KEY MAP

SCALE: 1:9,000

LEGEND

- BOREHOLE/MONITORING WELL LOCATION (DST, 2009)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2021)
- TEST PIT LOCATION (GREENBANK, 2004)
- FLOOR VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL SAMPLE PASSED
- MEETS MECP TABLE 1 STANDARDS
- MEETS MECP TABLE 1 EXCLUDING NATURALLY OCCURRING METALS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC
- APEC 1

Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
BHMW20 SS1	0.6-1
TP21-10 SA1	0.5
TP21-11 SA1	0.5
TP21-12 SA2	0.9
VSTP57-NW1	1.5
VSTP57-EW1	1.5
TP57 SG1	0.1-1

APEC	Description
1	Site wide poor quality fill (PCA#30)

NOTE(S)

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
METALS SOIL SAMPLE LOCATIONS AND EXCEEDANCES - BLD 3 AND TP57 REMEDIATION

CONSULTANT
wsp

YYYY-MM-DD	2025-02-14
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

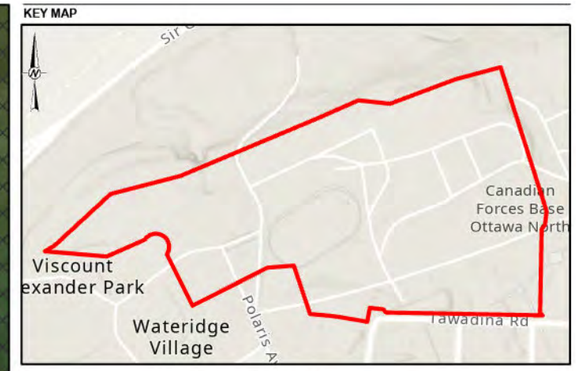
PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	5B

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\99_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase\II_ESA\19124906-0027-HS-000X.aprx, PRINTED ON: AT: 10:38:50 AM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0

Chemical of Concern	MECP Table 1 Standards (ug/g)
Lead	120
Zinc	290
Mercury	0.27

Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
TP21-13	0.8
TP21-14	1.5
TP21-15	1
VSTP32-EW1	0.5
VSTP32-NW1	0.5
VSTP32-F1	0.5
VSTP32-F2	0.5
TP32 SGS1	0.1
TP32 SGS3	0.5
TP32SGS5	1.2

KEY MAP



SCALE: 1:9,000

LEGEND

- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2021)
- FLOOR SAMPLE PASSED
- WALL SAMPLE PASSED
- MEETS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC

- APEC 1

APEC	Description
1	Site wide poor quality fill (PCA#30)

NOTE(S)

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
METALS SOIL SAMPLE LOCATIONS AND EXCEEDANCES - TP32 REMEDIATION

CONSULTANT
wsp

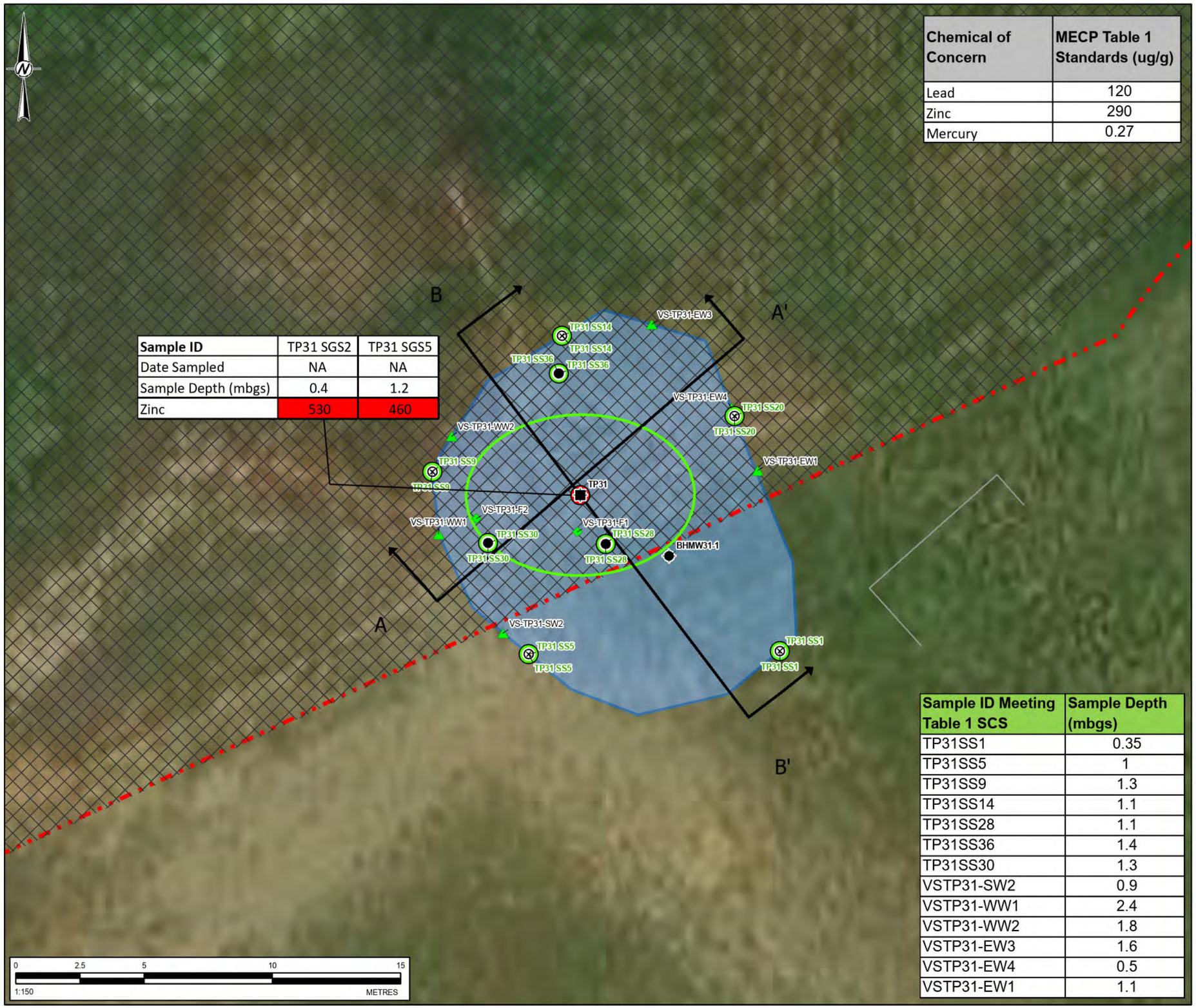
YYYY-MM-DD	2025-02-14
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	5C

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\99_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase_ESA\19124906-0027-HS-0000r.aprx, PRINTED ON: AT: 10:40:44 AM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm
0

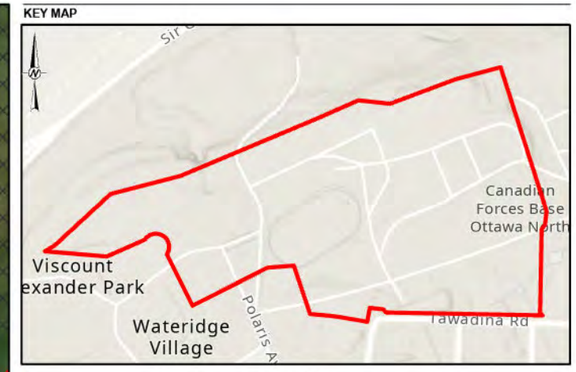
Chemical of Concern	MECP Table 1 Standards (ug/g)
Lead	120
Zinc	290
Mercury	0.27

Sample ID	TP31 SGS2	TP31 SGS5
Date Sampled	NA	NA
Sample Depth (mbgs)	0.4	1.2
Zinc	530	460



Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
TP31SS1	0.35
TP31SS5	1
TP31SS9	1.3
TP31SS14	1.1
TP31SS28	1.1
TP31SS36	1.4
TP31SS30	1.3
VSTP31-SW2	0.9
VSTP31-WW1	2.4
VSTP31-WW2	1.8
VSTP31-EW3	1.6
VSTP31-EW4	0.5
VSTP31-EW1	1.1

KEY MAP



SCALE: 1:9,000

LEGEND

- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- FLOOR VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- FLOOR SAMPLE PASSED
- WALL SAMPLE PASSED
- MEETS MECP TABLE 1 STANDARDS
- EXCEEDS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- PHASE TWO ESA METAL SOIL EXCEEDANCE
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC
- APEC 1

APEC	Description
1	Site wide poor quality fill (PCA#30)

NOTE(S)

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

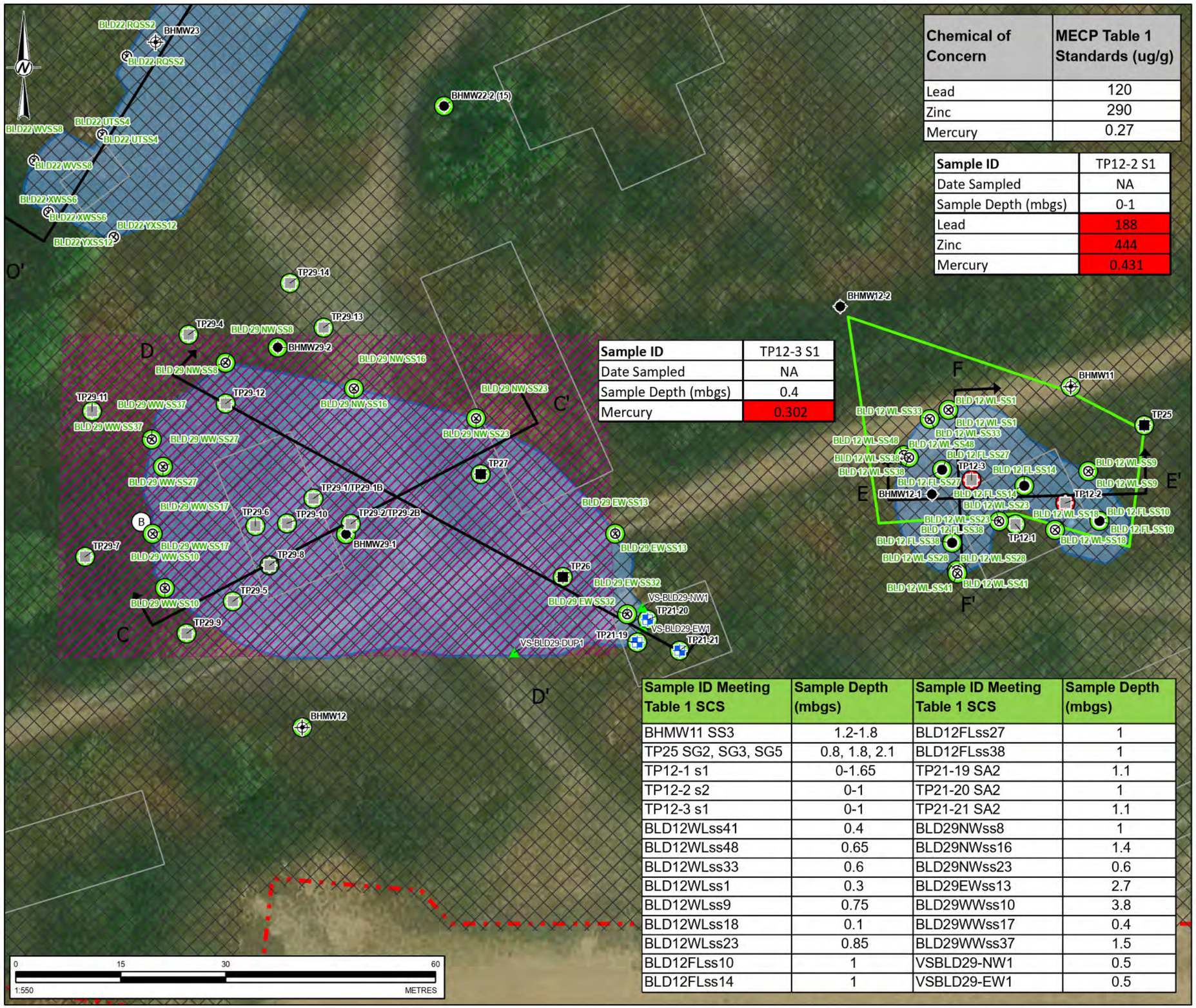
TITLE
METALS SOIL SAMPLE LOCATIONS AND EXCEEDANCES - TP31 REMEDIATION

CONSULTANT
wsp

YYYY-MM-DD	2025-02-14
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	5D

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\69_PROJ\19124906_CLC_Enviro\0027_Parcel_4_2_Phase_ESA\19124906-0027-HS-0004.aprx PRINTED ON: AT 10:43:21 AM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm



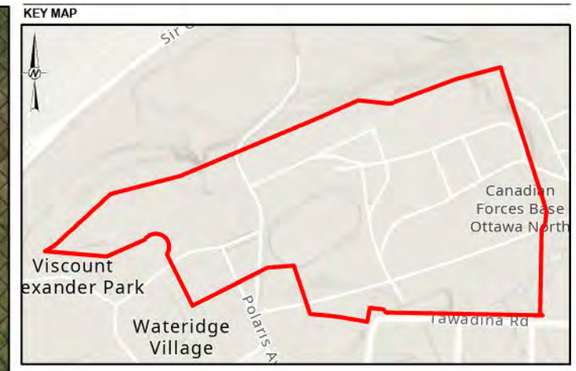
Chemical of Concern	MECP Table 1 Standards (ug/g)
Lead	120
Zinc	290
Mercury	0.27

Sample ID	TP12-2 S1
Date Sampled	NA
Sample Depth (mbgs)	0-1
Lead	188
Zinc	444
Mercury	0.431

Sample ID	TP12-3 S1
Date Sampled	NA
Sample Depth (mbgs)	0.4
Mercury	0.302

Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)	Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
BHMW11 SS3	1.2-1.8	BLD12FLss27	1
TP25 SG2, SG3, SG5	0.8, 1.8, 2.1	BLD12FLss38	1
TP12-1 s1	0-1.65	TP21-19 SA2	1.1
TP12-2 s2	0-1	TP21-20 SA2	1
TP12-3 s1	0-1	TP21-21 SA2	1.1
BLD12WLss41	0.4	BLD29NWss8	1
BLD12WLss48	0.65	BLD29NWss16	1.4
BLD12WLss33	0.6	BLD29NWss23	0.6
BLD12WLss1	0.3	BLD29EWss13	2.7
BLD12WLss9	0.75	BLD29WWss10	3.8
BLD12WLss18	0.1	BLD29WWss17	0.4
BLD12WLss23	0.85	BLD29WWss37	1.5
BLD12FLss10	1	VSBLD29-NW1	0.5
BLD12FLss14	1	VSBLD29-EW1	0.5

KEY MAP



SCALE: 1:9,000

LEGEND

- BOREHOLE/MONITORING WELL LOCATION (DST, 2009)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2021)
- TEST PIT LOCATION (GREENBANK, 2004)
- FLOOR VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL SAMPLE PASSED
- MEETS MECP TABLE 1 STANDARDS
- MEETS MECP TABLE 1 EXCLUDING NATURALLY OCCURRING METALS
- EXCEEDS MECP TABLE 1 STANDARDS
- LOCATION OF POTENTIAL CONTAMINATING ACTIVITY
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- HISTORICAL BUILDING FOOTPRINT
- PHASE TWO ESA METAL SOIL EXCEEDANCE
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC

- APEC 1
- APEC 2

Location	Description
B	Gasoline and Associated Products Storage in Fixed Tanks - Former fuel storage Tanks associated with former auto club in Building 29 as well as associated soil and groundwater impacts.

APEC	Description
1	Site wide poor quality fill (PCA#30)
2	Building 29: Former Auto Club (PCA#28)

NOTE(S)

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
METALS SOIL SAMPLE LOCATIONS AND EXCEEDANCES - BLD 29 AND BLD 12 REMEDIATION

CONSULTANT
wsp

YYYY-MM-DD	2025-02-14
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	5E

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\69_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase\ii_ESA\19124906-0027-HS-002K.aprx PRINTED ON: AT: 10:46:18 AM
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm

Chemical of Concern	MECP Table 1 Standards (ug/g)
Lead	120
Zinc	290
Mercury	0.27

H

H'

G

G'

TP 52 WL-SS11
TP 52 WL-SS9
TP 52 FL-SS9
TP52
BHMW52-1
TP 52 FL-SS22
TP 52 FL-SS25
TP 52 WL-SS3
TP21-17
TP 52 WL-SS6
TP 52 WL-SS4
TP21-16
VS-TP52-EW1
VS-TP52-F2
TP21-18
VS-TP52-F1
VS-TP52-WW1
VS-TP52-F3
TP52-WW2
TP52-EW2
VS-TP52-EW3
VS-TP52-F4
VS-TP52-SW3

Sample ID Meeting Table 1 SCS	Sample Depth (mbgs)
TP21-17 SA2	1
TP21-18 SA1	0.5
VSTP52-EW1	0.5
VSTP52-EW2	1-1.2
VSTP52-SW3	1-1.2
VSTP52-WW1	0.7
VSTP52-WW2	1.5-1.7
VSTP52-FL1	1
VSTP52-FL2	1
VSTP52-FL3	1.4-1.5
VSTP52-FL4	1.8
TP52 SGS1	0-0.4

0 5 10 20 30
1:300 METRES

KEY MAP

SCALE: 1:9,000

LEGEND

- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2021)
- FLOOR VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- WALL VERIFICATION SAMPLE FROM 2014/15 REMEDIATION
- FLOOR SAMPLE PASSED
- WALL SAMPLE PASSED
- MEETS MECP TABLE 1 STANDARDS
- CROSS SECTION
- HISTORICAL BUILDING FOOTPRINT
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15

APEC
- APEC 1

APEC	Description
1	Site wide poor quality fill (PCA#30)

NOTE(S)

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, ESRI COMMUNITY MAPS CONTRIBUTORS, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, US CENSUS BUREAU, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
METALS SOIL SAMPLE LOCATIONS AND EXCEEDANCES - TP52 REMEDIATION

CONSULTANT

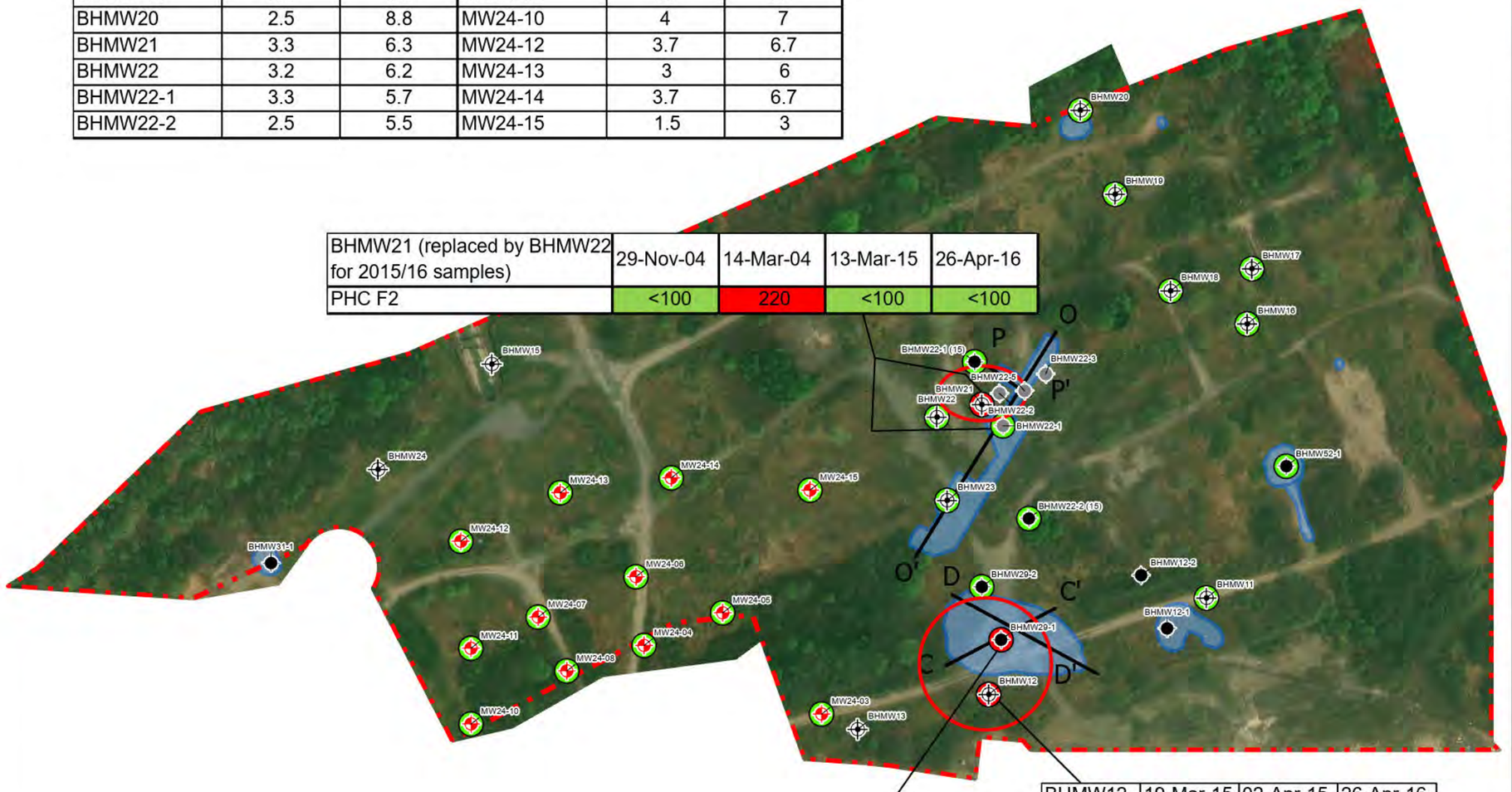
YYYY-MM-DD	2025-02-14
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	5F

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

PATH: S:\Clients\Canada_Lands_Company\Wateridge_Village\99_PROJ\19124906_CLC_Enviro\0027_Parcel_4_2_Phase_EEA\19124906-0027-HS-002X.aprx, PRINTED ON: AT: 10:47:31 AM

Monitoring Well	Screen Interval (mbgs)		Monitoring Well	Screen Interval (mbgs)	
BHMW11	4.4	6.1	BHMW23	3.2	6
BHMW12	3.6	6.6	BHMW29-1	2.8	4.9
BHMW12-1	2.4	4.8	BHMW29-2	2.8	5.8
BHMW12-2	4.3	7.3	BHMW52-1	3.8	6.8
BHMW16	4.5	6.1	MW24-05	4	7
BHMW17	2	5	MW24-06	1	3.8
BHMW18	3.2	6.2	MW24-07	2.4	5.5
BHMW-19	3.2	6.2	MW24-08	3.7	6.7
BHMW20	2.5	8.8	MW24-10	4	7
BHMW21	3.3	6.3	MW24-12	3.7	6.7
BHMW22	3.2	6.2	MW24-13	3	6
BHMW22-1	3.3	5.7	MW24-14	3.7	6.7
BHMW22-2	2.5	5.5	MW24-15	1.5	3



BHMW21 (replaced by BHMW22 for 2015/16 samples)	29-Nov-04	14-Mar-04	13-Mar-15	26-Apr-16
PHC F2	<100	220	<100	<100

BHMW12	19-Mar-15	02-Apr-15	26-Apr-16
PHC F2	200	<100	<100

BHMW29-1	13-Mar-15	22-Dec-15	21-Jan-16	28-Jan-16	21-Apr-16	24-Aug-17	16-Jun-20	24-Jun-21	19-Nov-21
PHC F2	510	1400	<100	580	1,500	250	<100	<100	<100
PHC F3	<200	<200	<200	<200	979	<200	<100	<100	<100

KEY MAP

SCALE: 1:100,000

LEGEND

- BOREHOLE LOCATION (GREENBANK, 2004)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2009)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- MONITORING WELL
- MEETS MECP TABLE 1 STANDARDS
- EXCEEDS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- PHASE TWO ESA GROUNDWATER IMPACTS
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15
- SAMPLEEXCEEDANCES - PAH SELECTION

0 25 50 100

1:2,500 METRES

NOTE(S)

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
PHCs ANALYSIS AND EXCEEDANCES IN GROUNDWATER

CONSULTANT

wsp

YYYY-MM-DD	2025-02-06
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	6

PATH: G:\Clients\Canada_Lands_Company\Waterridge_Village\69_PRO\19124906_CLC_Enviro\0027_Parcel_4_2_Phase\ii_ESA\19124906-0027-rd5-0000.aprx PRINTED ON: AT: 2:39:45 PM
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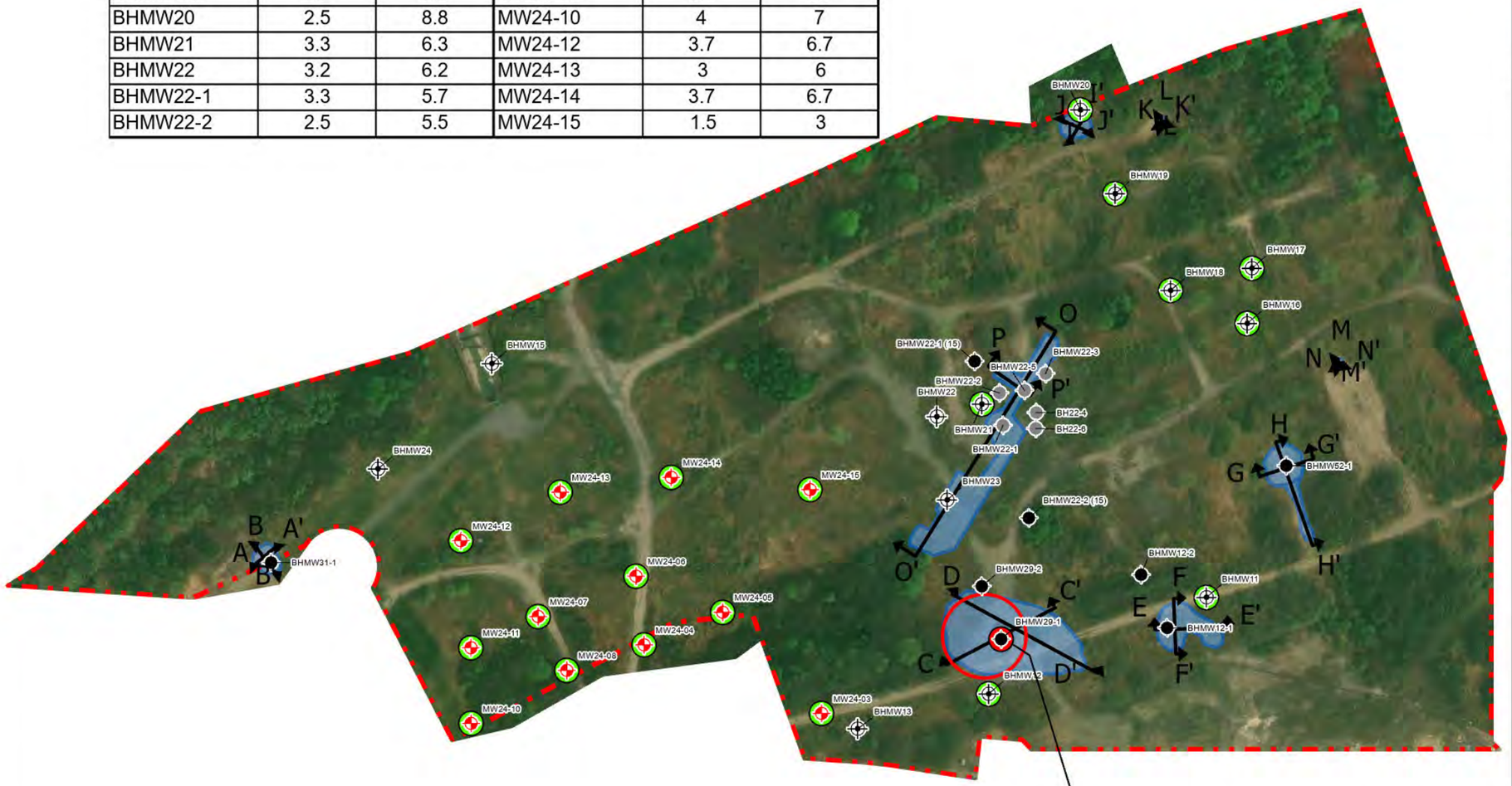
25mm
0

Monitoring Well	Screen Interval (mbgs)		Monitoring Well	Screen Interval (mbgs)	
BHMW11	4.4	6.1	BHMW23	3.2	6
BHMW12	3.6	6.6	BHMW29-1	2.8	4.9
BHMW12-1	2.4	4.8	BHMW29-2	2.8	5.8
BHMW12-2	4.3	7.3	BHMW52-1	3.8	6.8
BHMW16	4.5	6.1	MW24-05	4	7
BHMW17	2	5	MW24-06	1	3.8
BHMW18	3.2	6.2	MW24-07	2.4	5.5
BHMW-19	3.2	6.2	MW24-08	3.7	6.7
BHMW20	2.5	8.8	MW24-10	4	7
BHMW21	3.3	6.3	MW24-12	3.7	6.7
BHMW22	3.2	6.2	MW24-13	3	6
BHMW22-1	3.3	5.7	MW24-14	3.7	6.7
BHMW22-2	2.5	5.5	MW24-15	1.5	3



BHMW29-1	31-Mar-15	25-Apr-16	24-Jun-21	19-Nov-21
Napthalene	2.7	<0.071	<0.2	<0.2
Phenanthrene	0.15	<0.03	<0.1	<0.1

0 25 50 100
1:2,500 METRES

KEY MAP

SCALE: 1:100,000

LEGEND

- BOREHOLE LOCATION (GREENBANK, 2004)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2009)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- MONITORING WELL
- MEETS MECP TABLE 1 STANDARDS
- EXCEEDS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY
- LOCATION OF PREVIOUS REMEDIATION COMPLETED IN 2014/15
- PHASE TWO ESA PAH GROUNDWATER EXCEEDANCES

NOTE(S)

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: MAXAR, MICROSOFT, CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
PAHs ANALYSIS AND EXCEEDANCES IN GROUNDWATER

CONSULTANT
wsp

YYYY-MM-DD	2025-02-06
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	7

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

Monitoring Well	Screen Interval (mbgs)		Monitoring Well	Screen Interval (mbgs)	
BHMW11	4.4	6.1	BHMW23	3.2	6
BHMW12	3.6	6.6	BHMW29-1	2.8	4.9
BHMW12-1	2.4	4.8	BHMW29-2	2.8	5.8
BHMW12-2	4.3	7.3	BHMW52-1	3.8	6.8
BHMW16	4.5	6.1	MW24-05	4	7
BHMW17	2	5	MW24-06	1	3.8
BHMW18	3.2	6.2	MW24-07	2.4	5.5
BHMW-19	3.2	6.2	MW24-08	3.7	6.7
BHMW20	2.5	8.8	MW24-10	4	7
BHMW21	3.3	6.3	MW24-12	3.7	6.7
BHMW22	3.2	6.2	MW24-13	3	6
BHMW22-1	3.3	5.7	MW24-14	3.7	6.7
BHMW22-2	2.5	5.5	MW24-15	1.5	3

0 25 50 100

1:2,500 METRES

KEY MAP

SCALE: 1:100,000

LEGEND

- BOREHOLE LOCATION (GREENBANK, 2004)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2009)
- BOREHOLE/MONITORING WELL LOCATION (DST, 2015)
- TEST PIT LOCATION (DST, 2009)
- TEST PIT LOCATION (GOLDER, 2020)
- TEST PIT LOCATION (GOLDER, 2021)
- TEST PIT LOCATION (GREENBANK, 2004)
- MONITORING WELL
- MEETS MECP TABLE 1 STANDARDS
- CROSS SECTION
- PHASE 7 PHASE ONE/TWO AND RSC PROPERTY

NOTE(S)

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER OPEN GOVERNMENT LICENCE - NOVA SCOTIA
2. BASE MAP: CITY OF OTTAWA, PROVINCE OF ONTARIO, VILLE DE GATINEAU, ESRI CANADA, ESRI, TOMTOM, GARMIN, SAFEGRAPH, GEOTECHNOLOGIES, INC, METI/NASA, USGS, EPA, NPS, USDA, NRCAN, PARKS CANADA, ESRI, NASA, NGA, USGS, FEMA, MAXAR
3. COORDINATE SYSTEM: NAD 1983 CSRS MTM 9

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ENVIRONMENTAL SITE ASSESSMENT, WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE
METALS ANALYSIS AND EXCEEDANCES IN GROUNDWATER

CONSULTANT

wsp

YYYY-MM-DD	2025-02-06
DESIGNED	MS
PREPARED	MS
REVIEWED	SC
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0027	A	8

PATH: S:\Clients\Canada_Lands_Company\Waterridge_Village\69_PROJ\19124906_CLC_Enviro\0027_Parcel_A_2_Phase_ESA\19124906-0027-HS-0000.aprx, PRINTED ON: AT 2:32:14 PM
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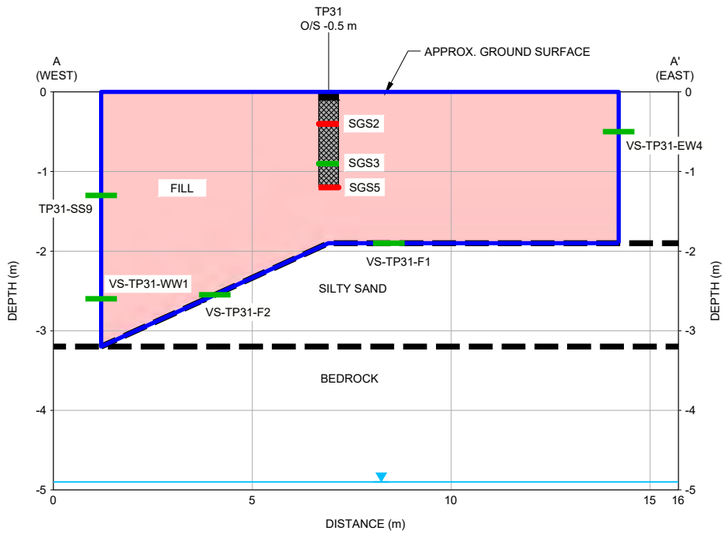
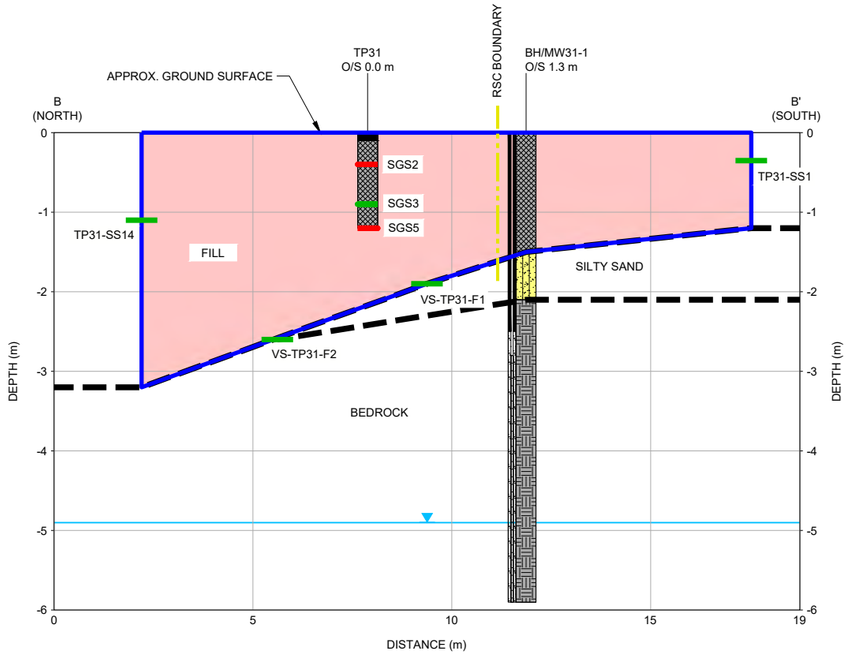


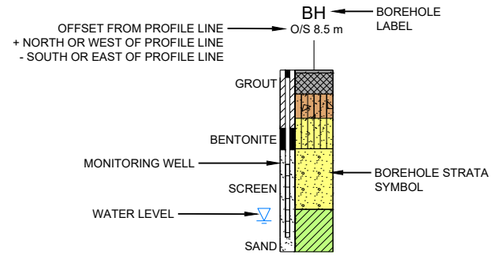


LEGEND

- 2014/2015 REMEDIATION LIMIT (REMOVED)
- PHASE TWO ESA LIMIT OF SOIL EXCEEDANCES
- GROUNDWATER TABLE (MARCH 2015)

SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SILTY SAND
- BEDROCK



ANALYTICAL LEGEND

- SOIL SAMPLE EXCEEDS MECP TABLE 1 STANDARDS
- SOIL SAMPLE MEETS MECP TABLE 1 STANDARDS

NOTE(S)

1. FOR DETAILED STRATIGRAPHY SEE RECORD OF BOREHOLE LOGS.
2. FOR CROSS-SECTION LOCATION SEE FIGURE 1.
3. MECP TABLE 1 STANDARDS = SITE CONDITION STANDARDS LISTED IN TABLE 1 OF THE MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS DOCUMENT "SOIL, GROUND WATER AND SEDIMENT STANDARDS FOR USE UNDER PART XV.1 OF THE ENVIRONMENTAL PROTECTION ACT", DATED APRIL 15, 2011, TABLE 1: FULL DEPTH BACKGROUND SITE CONDITION STANDARDS FOR RESIDENTIAL / PARKLAND / INSTITUTIONAL / INDUSTRIAL / COMMERCIAL / COMMUNITY PROPERTY USE FOR SOIL.

0 0.5 1
1:30 VERTICAL METRES

0 2.5 5
1:150 HORIZONTAL METRES

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ESA CONCEPTUAL SITE MODEL
WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE
OTTAWA, ONTARIO

TITLE
ANALYTICAL RESULTS FOR METALS IN SOIL (CROSS-SECTIONS A-A' & B-B')

CONSULTANT

YYYY-MM-DD	2025-01-17
DESIGNED	KH
PREPARED	MM/SJL
REVIEWED	SJL
APPROVED	SC

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0025	A	9A

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
0 25 mm
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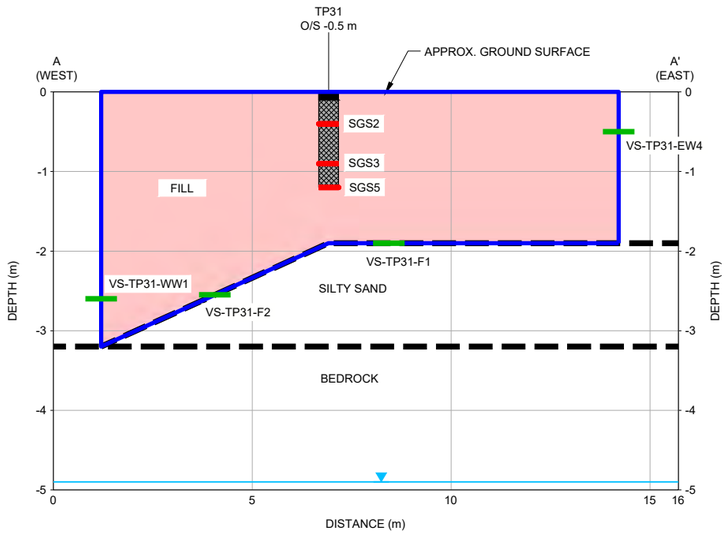
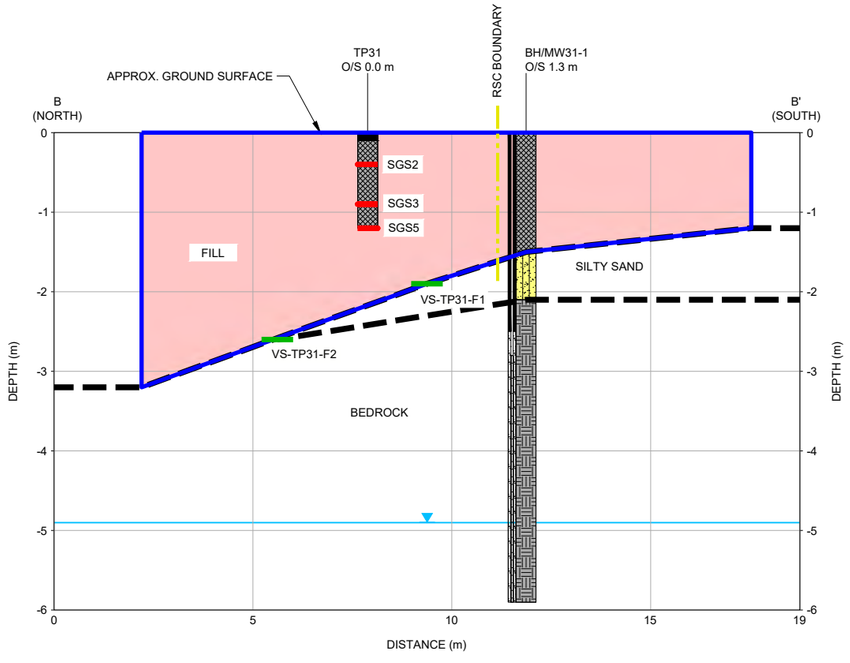


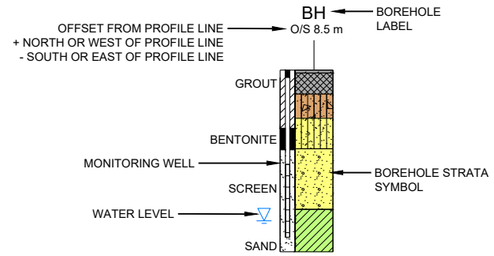


LEGEND

- 2014/2015 REMEDIATION LIMIT (REMOVED)
- PHASE TWO ESA LIMIT OF SOIL EXCEEDANCES
- GROUNDWATER TABLE (MARCH 2015)

SOIL STRATIGRAPHY

- ASPHALT
- FILL
- SILTY SAND
- BEDROCK



ANALYTICAL LEGEND

- SOIL SAMPLE EXCEEDS MECP TABLE 1 STANDARDS
- SOIL SAMPLE MEETS MECP TABLE 1 STANDARDS

NOTE(S)

1. FOR DETAILED STRATIGRAPHY SEE RECORD OF BOREHOLE LOGS.
2. FOR CROSS-SECTION LOCATION SEE FIGURE 1.
3. MECP TABLE 1 STANDARDS = SITE CONDITION STANDARDS LISTED IN TABLE 1 OF THE MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS DOCUMENT "SOIL, GROUND WATER AND SEDIMENT STANDARDS FOR USE UNDER PART XV.1 OF THE ENVIRONMENTAL PROTECTION ACT", DATED APRIL 15, 2011, TABLE 1: FULL DEPTH BACKGROUND SITE CONDITION STANDARDS FOR RESIDENTIAL / PARKLAND / INSTITUTIONAL / INDUSTRIAL / COMMERCIAL / COMMUNITY PROPERTY USE FOR SOIL.

0 0.5 1
1:30 VERTICAL METRES

0 2.5 5
1:150 HORIZONTAL METRES

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ESA CONCEPTUAL SITE MODEL
WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE
OTTAWA, ONTARIO

TITLE
ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS IN SOIL (CROSS-SECTIONS A-A' & B-B')

CONSULTANT

YYYY-MM-DD	2025-01-17
DESIGNED	KH
PREPARED	MM/SJL
REVIEWED	SJL
APPROVED	SC

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0025	A	9B

Path: \\corp.pbwan.net\CA\CAMIS30\0\CTX_Data\SIM\Clients\Canada_Lands_Company\Wateridge_Village\99_PROJ\19124906_CLC_Enviro\0025_Parcel I_4_2_PhaseII_ESA\ | Last Edited By: wds_stephen.labute Date: 2025-02-14 Time:2:39:29 PM | Printed By: wds_stephen.labute Date: 2025-02-14 Time:2:39:52 PM
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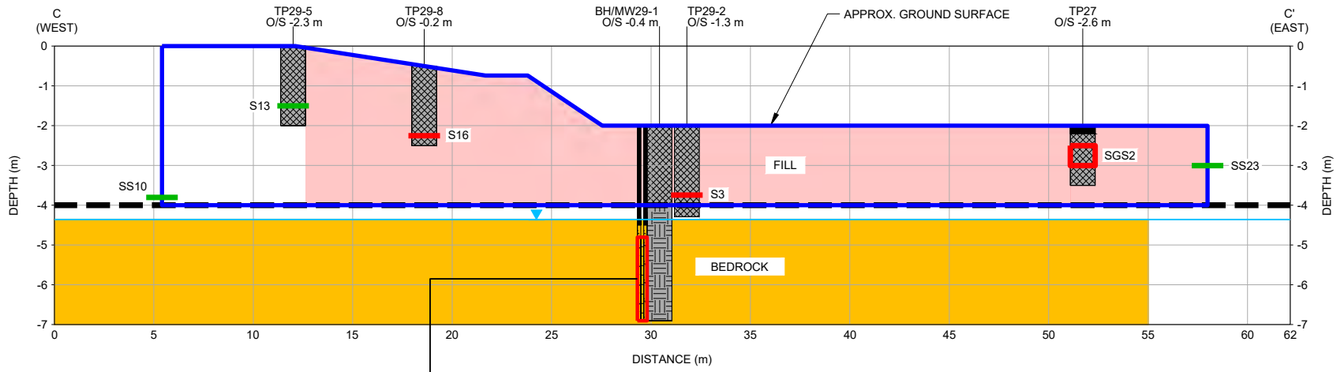
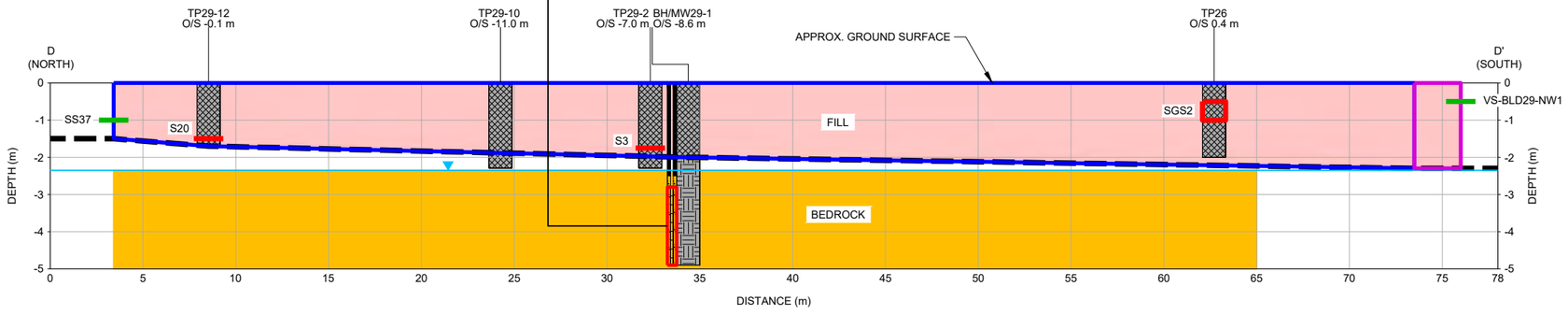
25 mm
0



BHMW29-1	13-Mar-15	22-Dec-15	21-Jan-16	28-Jan-16	21-Apr-16	24-Aug-17	16-Jun-20	24-Jun-21	19-Nov-21
PHC F2 (ug/L)	510	1400	<100	580	1,500	250	<100	<100	<100
PHC F3 (ug/L)	<200	<200	<200	<200	979	<200	<100	<100	<100

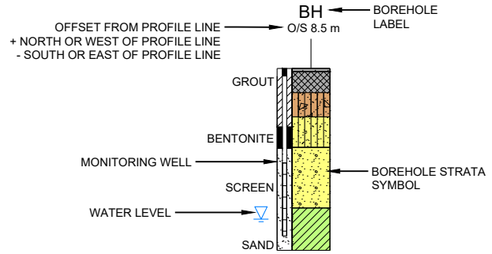


LEGEND

- 2014/2015 REMEDIATION LIMIT (REMOVED)
- 2022 REMEDIATION LIMIT (REMOVED)
- PHASE TWO ESA LIMIT OF SOIL EXCEEDANCES
- PHASE TWO ESA LIMIT OF GROUNDWATER EXCEEDANCES
- GROUNDWATER TABLE (MARCH 2015)

SOIL STRATIGRAPHY

- ASPHALT
- FILL
- BEDROCK



ANALYTICAL LEGEND

- SOIL SAMPLE EXCEEDS MECP TABLE 1 STANDARDS
- SOIL SAMPLE MEETS MECP TABLE 1 STANDARDS

NOTE(S)

1. FOR DETAILED STRATIGRAPHY SEE RECORD OF BOREHOLE LOGS.
2. FOR CROSS-SECTION LOCATION SEE FIGURE 1.
3. MECP TABLE 1 STANDARDS = SITE CONDITION STANDARDS LISTED IN TABLE 1 OF THE MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS DOCUMENT "SOIL, GROUND WATER AND SEDIMENT STANDARDS FOR USE UNDER PART XV.1 OF THE ENVIRONMENTAL PROTECTION ACT", DATED APRIL 15, 2011, TABLE 1: FULL DEPTH BACKGROUND SITE CONDITION STANDARDS FOR RESIDENTIAL / PARKLAND / INSTITUTIONAL / INDUSTRIAL / COMMERCIAL / COMMUNITY PROPERTY USE FOR SOIL.

0 2.5 5
1:150 VERTICAL METRES

0 5 10
1:300 HORIZONTAL METRES

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ESA CONCEPTUAL SITE MODEL
WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE
OTTAWA, ONTARIO

TITLE
ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS IN SOIL AND GROUNDWATER AT BLD 29 REMEDIATION (CROSS-SECTIONS C-C' & D-D')

CONSULTANT

YYYY-MM-DD	2025-01-17
DESIGNED	KH
PREPARED	MM/SJL
REVIEWED	SJL
APPROVED	SC

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0025	A	10A

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25 mm

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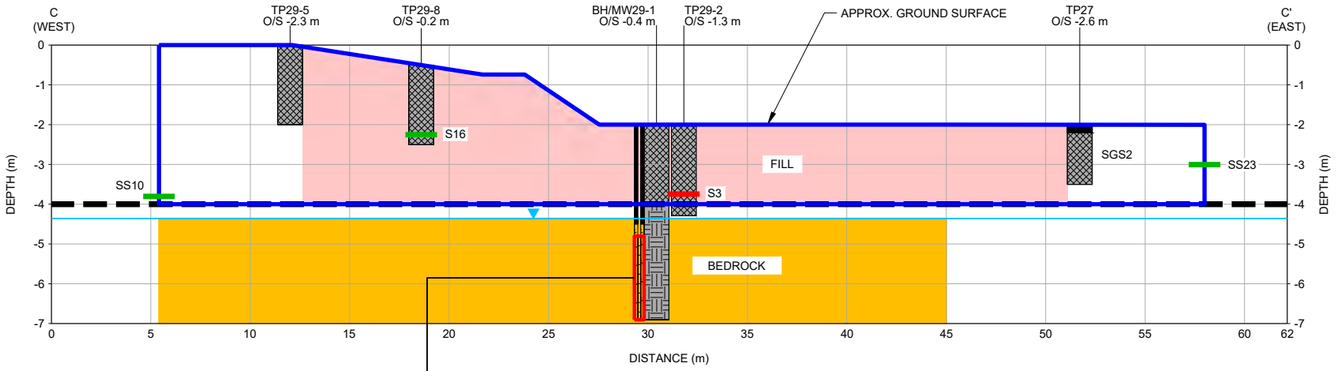
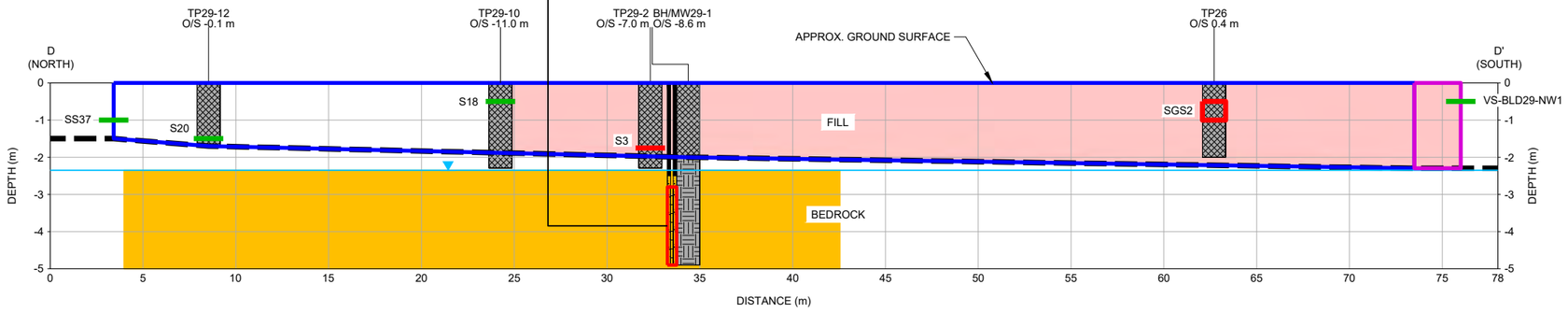


BHMW29-1	31-Mar-15	25-Apr-16	24-Jun-21	19-Nov-21
Napthalene (ug/L)	2.7	<0.071	<0.2	<0.2
Phenanthrene (ug/L)	0.15	<0.03	<0.1	<0.1

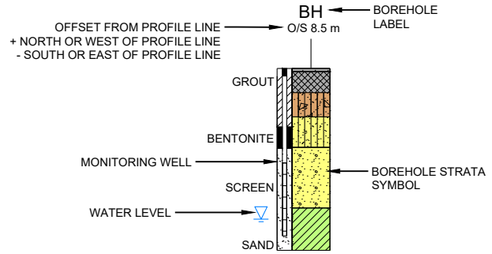


LEGEND

- 2014/2015 REMEDIATION LIMIT (REMOVED)
- 2022 REMEDIATION LIMIT (REMOVED)
- PHASE TWO ESA LIMIT OF SOIL EXCEEDANCES
- PHASE TWO ESA LIMIT OF GROUNDWATER EXCEEDANCES
- GROUNDWATER TABLE (MARCH 2015)

SOIL STRATIGRAPHY

- ASPHALT
- FILL
- BEDROCK



ANALYTICAL LEGEND

- SOIL SAMPLE EXCEEDS MECP TABLE 1 STANDARDS
- SOIL SAMPLE MEETS MECP TABLE 1 STANDARDS

NOTE(S)

1. FOR DETAILED STRATIGRAPHY SEE RECORD OF BOREHOLE LOGS.
2. FOR CROSS-SECTION LOCATION SEE FIGURE 1.
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0 2.5 5
1:150 VERTICAL METRES

0 5 10
1:300 HORIZONTAL METRES

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ESA CONCEPTUAL SITE MODEL
WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE
OTTAWA, ONTARIO

TITLE
ANALYTICAL RESULTS FOR POLYCYCLIC AROMATIC HYDROCARBONS IN SOIL AND GROUNDWATER AT BLD 29 REMEDIATION (CROSS-SECTIONS C-C' & D-D')

CONSULTANT

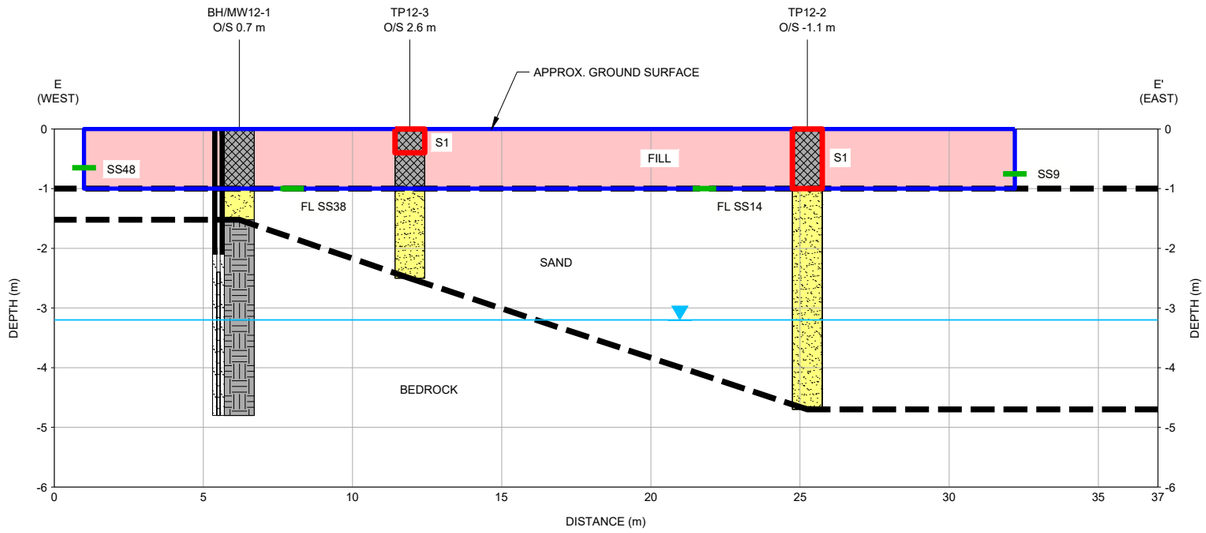
YYYY-MM-DD	2025-01-17
DESIGNED	KH
PREPARED	MM/SJL
REVIEWED	SJL
APPROVED	SC

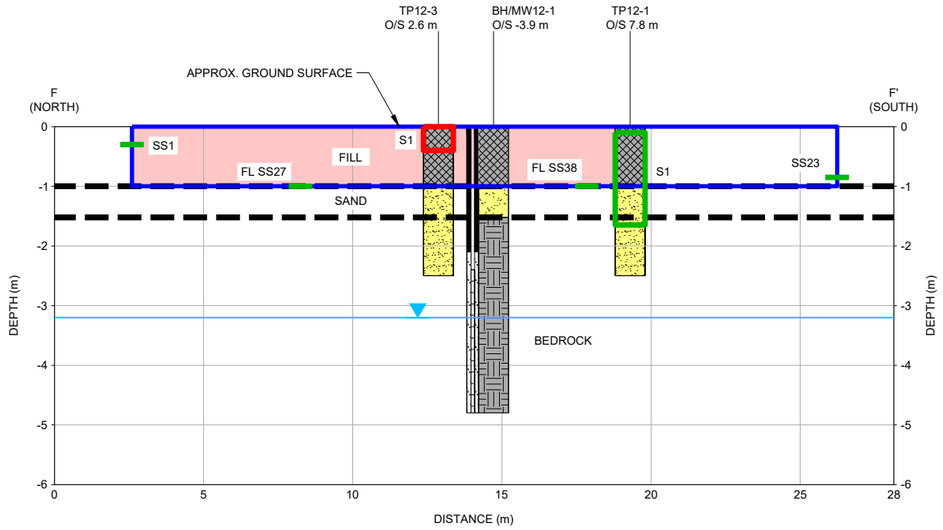
PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0025	A	10B

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25 mm

Path: \\corp.pbwan.net\CACAMIS300\CTX_Data\SIM\Clients\Canada_Lands_Company\Wateridge_Village(99)_PRO\A19124906_CLC_Enviro\0025_Parcel_4_2_Phase\Ⅱ_ESA\ | File Name: 19124906-0025-HS-00010B.dwg | Last Edited By: wds_stephen.labute Date: 2025-02-14 Time:2:47:56 PM | Printed By: wds_stephen.labute Date: 2025-02-14 Time:2:48:18 PM



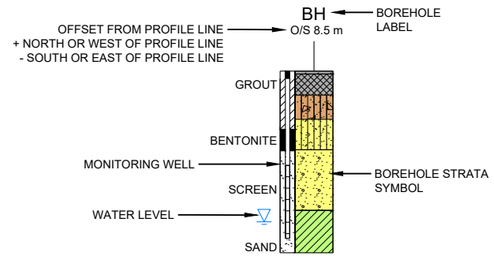


LEGEND

- 2014/2015 REMEDIATION LIMIT (REMOVED)
- PHASE TWO ESA LIMIT OF SOIL EXCEEDANCES
- GROUNDWATER TABLE (MARCH 2015)

SOIL STRATIGRAPHY

- FILL
- SAND
- BEDROCK



ANALYTICAL LEGEND

- SOIL SAMPLE EXCEEDS MECP TABLE 1 STANDARDS
- SOIL SAMPLE MEETS MECP TABLE 1 STANDARDS

NOTE(S)

1. FOR DETAILED STRATIGRAPHY SEE RECORD OF BOREHOLE LOGS.
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0 2.5 5
1:100 VERTICAL METRES

0 5 10
1:200 HORIZONTAL METRES

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ESA CONCEPTUAL SITE MODEL
WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE
OTTAWA, ONTARIO

TITLE
ANALYTICAL RESULTS FOR METALS IN SOIL AT BLD 12 REMEDIATION (CROSS-SECTIONS E-E' & F-F')

CONSULTANT

YYYY-MM-DD	2025-01-17
DESIGNED	KH
PREPARED	MM/SJL
REVIEWED	SJL
APPROVED	SC

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0025	A	11

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm

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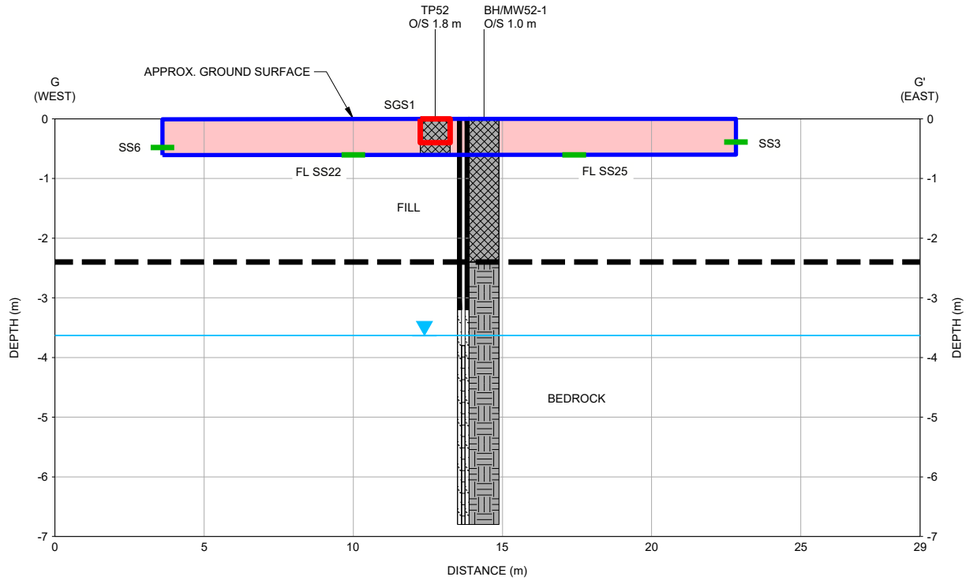
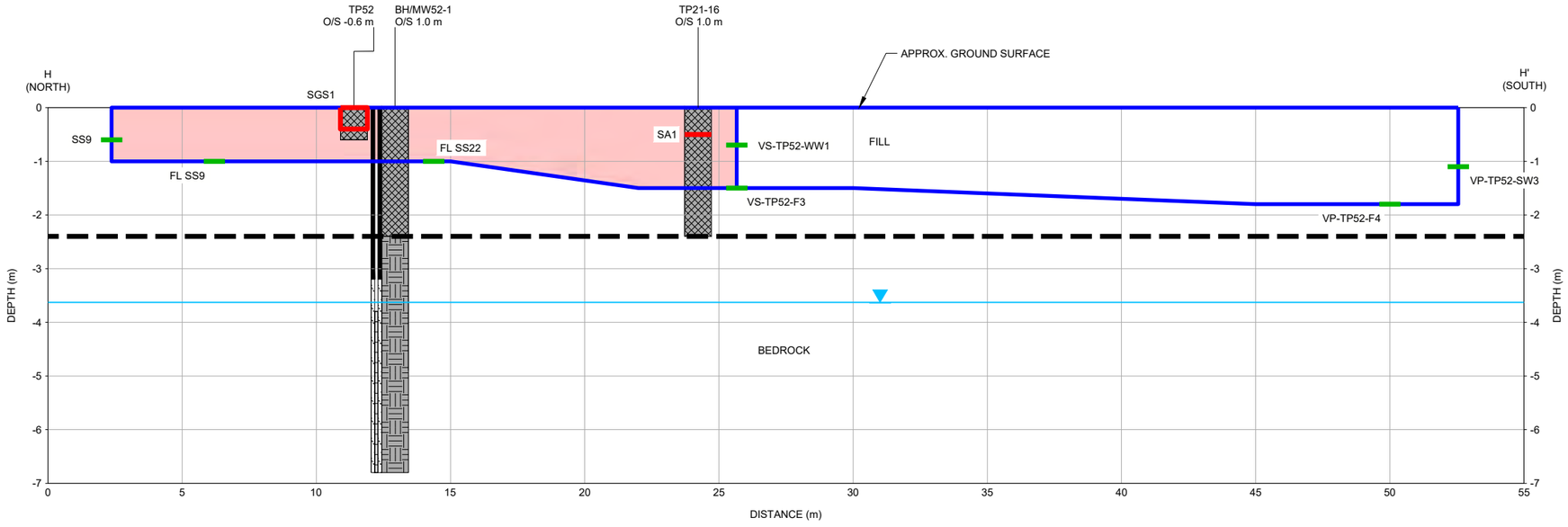


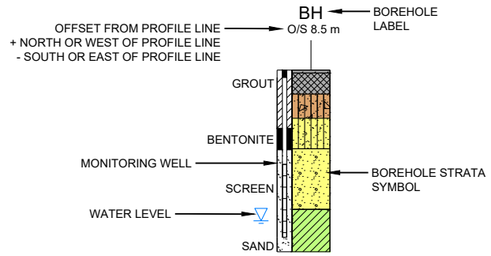


LEGEND

- 2014/2015 REMEDIATION LIMIT (REMOVED)
- PHASE TWO ESA LIMIT OF SOIL EXCEEDANCES
- GROUNDWATER TABLE (MARCH 2015)

SOIL STRATIGRAPHY

- FILL
- BEDROCK



ANALYTICAL LEGEND

- SOIL SAMPLE EXCEEDS MECP TABLE 1 STANDARDS
- SOIL SAMPLE MEETS MECP TABLE 1 STANDARDS

NOTE(S)

1. FOR DETAILED STRATIGRAPHY SEE RECORD OF BOREHOLE LOGS.
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0 2.5 5
1:100 VERTICAL METRES

0 5 10
1:200 HORIZONTAL METRES

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ESA CONCEPTUAL SITE MODEL
WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE
OTTAWA, ONTARIO

TITLE
ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS IN SOIL (CROSS-SECTIONS G-G' & H-H')

CONSULTANT

YYYY-MM-DD	2025-01-17
DESIGNED	KH
PREPARED	MM/SJL
REVIEWED	SJL
APPROVED	SC

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0025	A	12A

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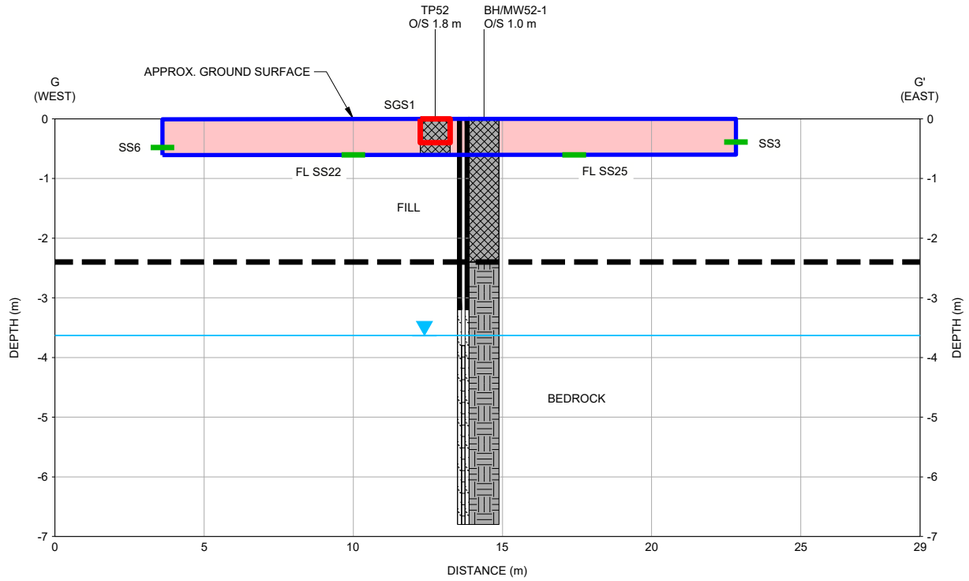
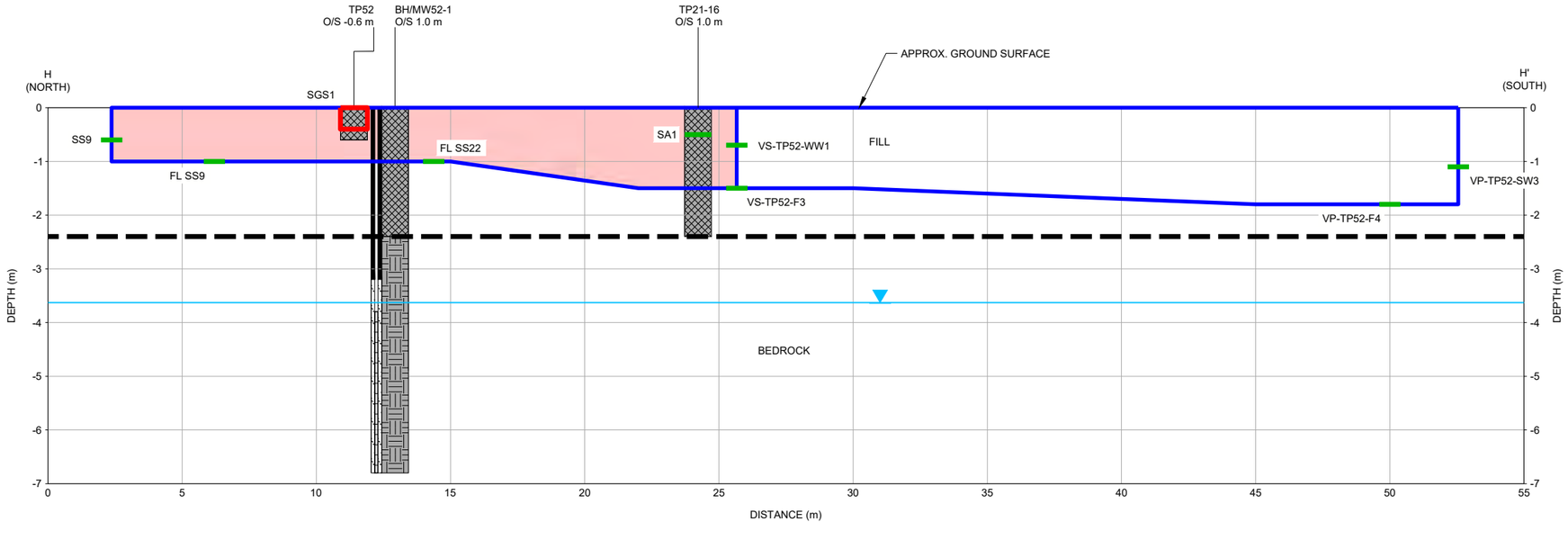
25 mm
0



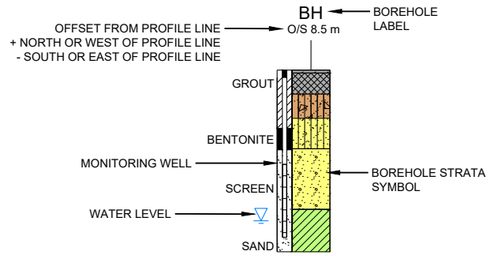


LEGEND

- 2014/2015 REMEDIATION LIMIT (REMOVED)
- PHASE TWO ESA LIMIT OF SOIL EXCEEDANCES
- GROUNDWATER TABLE (MARCH 2015)

SOIL STRATIGRAPHY

- FILL
- BEDROCK



ANALYTICAL LEGEND

- SOIL SAMPLE EXCEEDS MECP TABLE 1 STANDARDS
- SOIL SAMPLE MEETS MECP TABLE 1 STANDARDS

NOTE(S)

1. FOR DETAILED STRATIGRAPHY SEE RECORD OF BOREHOLE LOGS.
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0 2.5 5
1:100 VERTICAL METRES

0 5 10
1:200 HORIZONTAL METRES

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ESA CONCEPTUAL SITE MODEL
WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE
OTTAWA, ONTARIO

TITLE
ANALYTICAL RESULTS FOR POLYCYCLIC AROMATIC HYDROCARBONS IN SOIL (CROSS-SECTIONS G-G' & H-H')

CONSULTANT

YYYY-MM-DD	2025-01-17
DESIGNED	KH
PREPARED	MM/SJL
REVIEWED	SJL
APPROVED	SC

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0025	A	12B

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm

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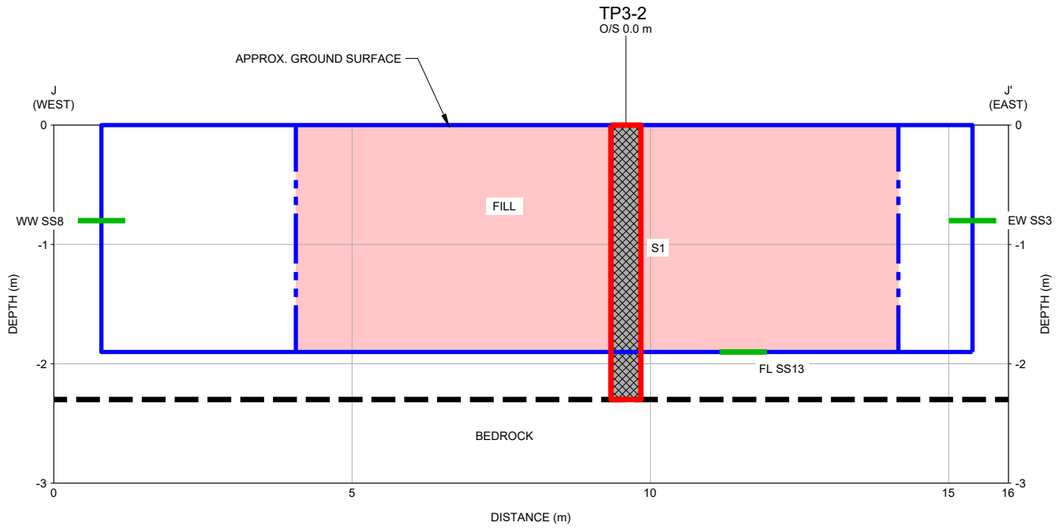
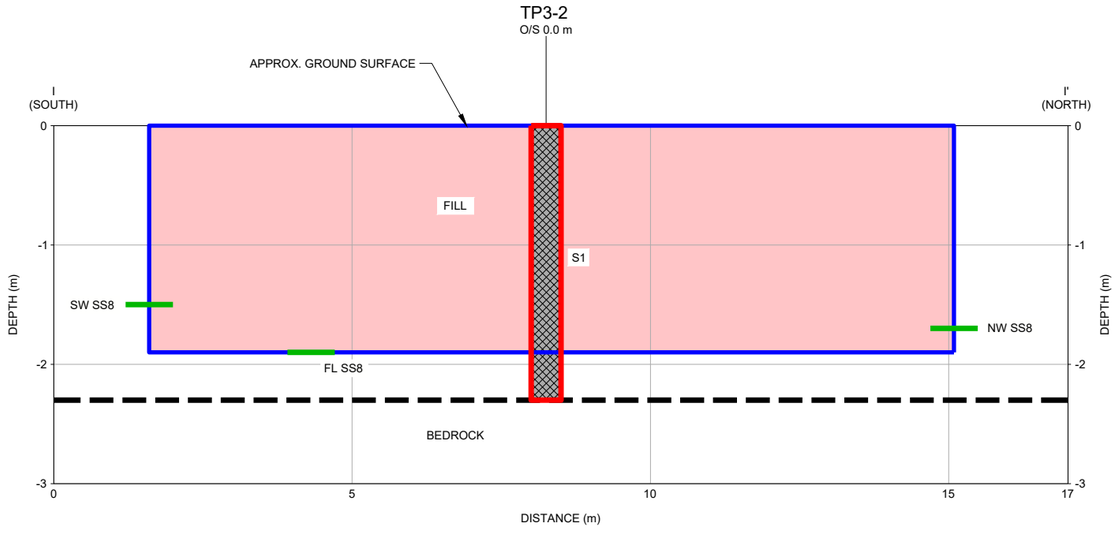


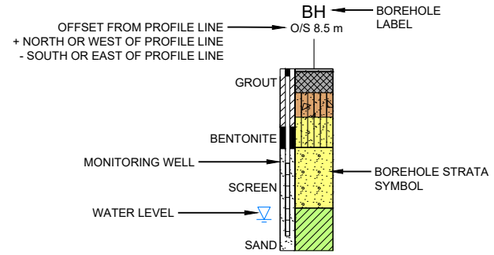


LEGEND

- 2014/2015 REMEDIATION LIMIT (REMOVED)
- PHASE TWO ESA LIMIT OF SOIL EXCEEDANCES
- GROUNDWATER TABLE (MARCH 2015)
- INFERRED PHASE TWO ESA DELINEATION

SOIL STRATIGRAPHY

- FILL



ANALYTICAL LEGEND

- SOIL SAMPLE EXCEEDS MECP TABLE 1 STANDARDS
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NOTE(S)

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0 1 2
1:50 VERTICAL METRES

0 2.5 5
1:100 HORIZONTAL METRES

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ESA CONCEPTUAL SITE MODEL
WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE
OTTAWA, ONTARIO

TITLE
ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS IN SOIL (CROSS-SECTIONS I-I' & J-J')

CONSULTANT

YYYY-MM-DD	2025-01-17
DESIGNED	KH
PREPARED	MM/SJL
REVIEWED	SJL
APPROVED	SC

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0025	A	13

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25 mm

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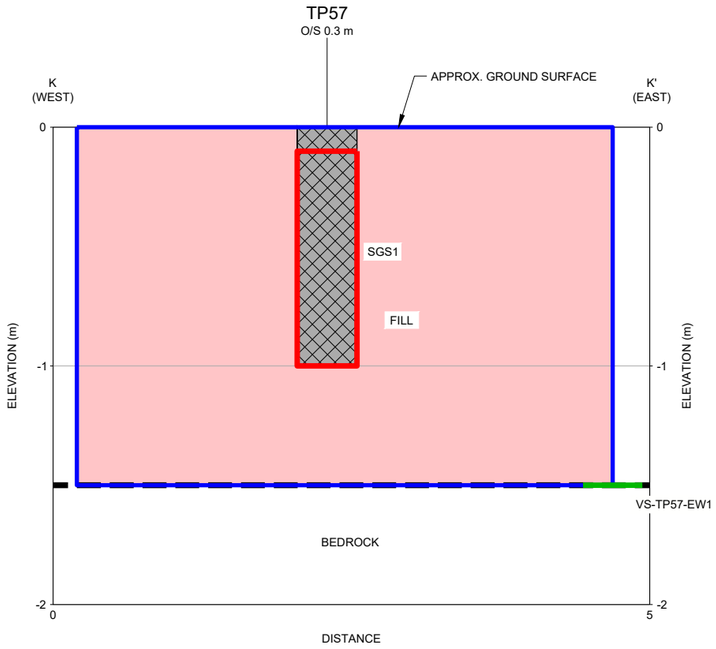
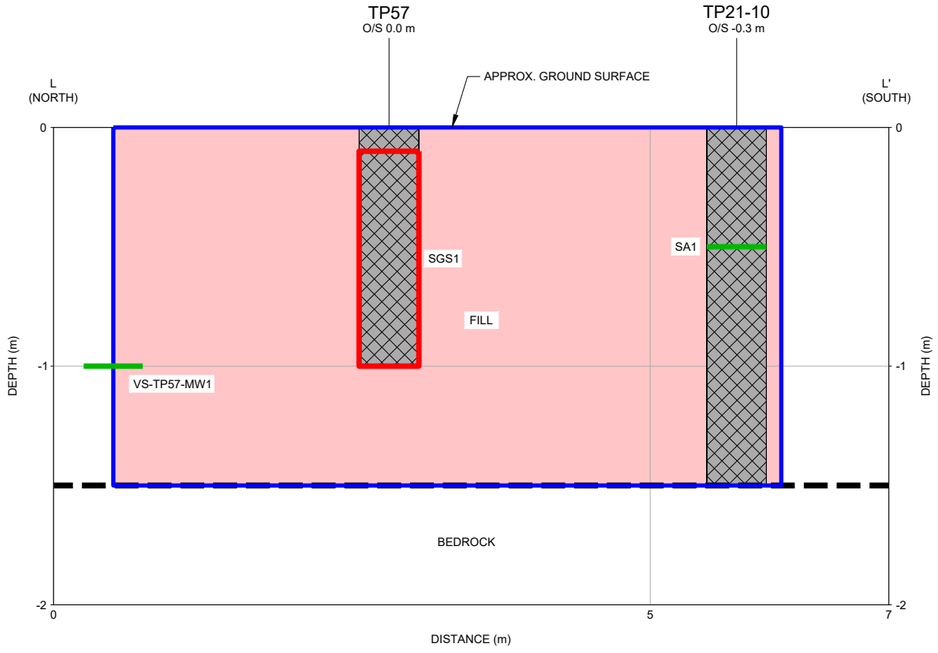


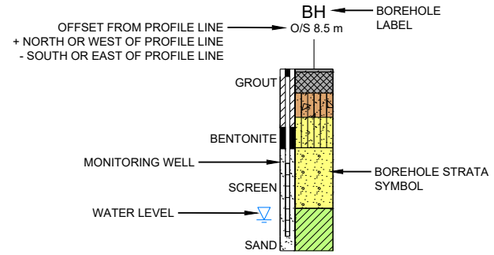


LEGEND

- 2014/2015 REMEDIATION LIMIT (REMOVED)
- PHASE TWO ESA LIMIT OF SOIL EXCEEDANCES
- GROUNDWATER TABLE (MARCH 2015)

SOIL STRATIGRAPHY

- FILL



ANALYTICAL LEGEND

- SOIL SAMPLE EXCEEDS MECP TABLE 1 STANDARDS
- SOIL SAMPLE MEETS MECP TABLE 1 STANDARDS

NOTE(S)

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0 0.5 1
1:25 VERTICAL METRES

0 1 2
1:50 HORIZONTAL METRES

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ESA CONCEPTUAL SITE MODEL
WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE
OTTAWA, ONTARIO

TITLE
ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS IN SOIL (CROSS-SECTIONS K-K' & L-L')

CONSULTANT

YYYY-MM-DD	2025-01-17
DESIGNED	KH
PREPARED	MM/SJL
REVIEWED	SJL
APPROVED	SC

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0025	A	14

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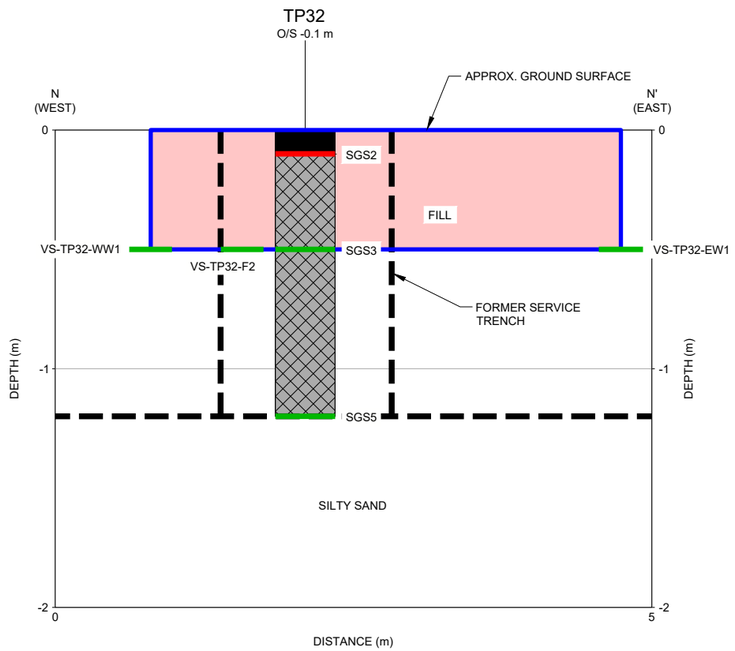
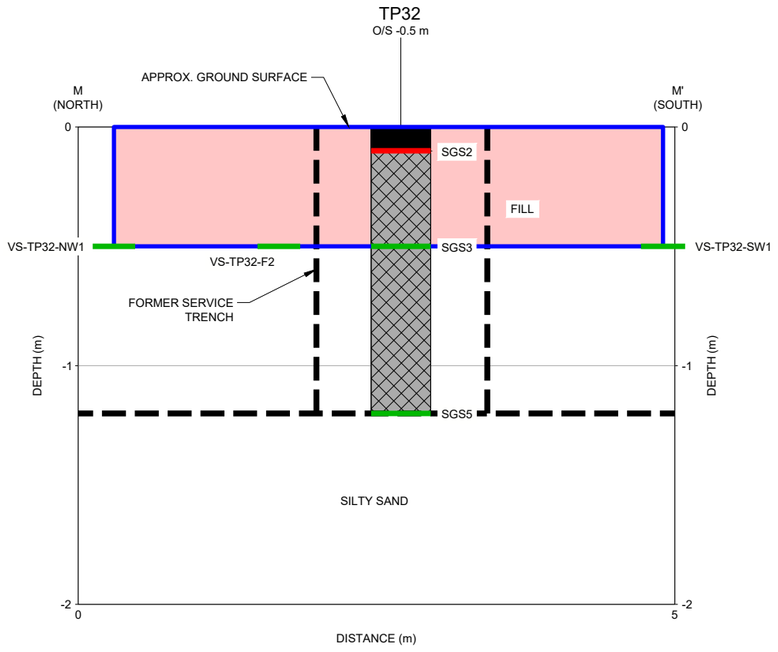
0 25 mm



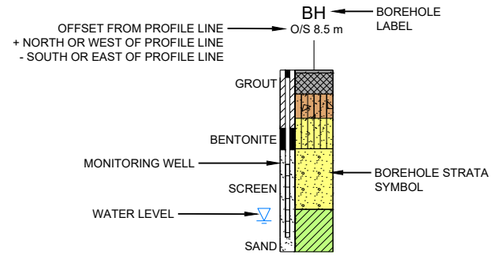


LEGEND

- 2014/2015 REMEDIATION LIMIT (REMOVED)
- PHASE TWO ESA LIMIT OF SOIL EXCEEDANCES
- GROUNDWATER TABLE (MARCH 2015)

SOIL STRATIGRAPHY

- ASPHALT
- FILL



ANALYTICAL LEGEND

- SOIL SAMPLE EXCEEDS MECP TABLE 1 STANDARDS
- SOIL SAMPLE MEETS MECP TABLE 1 STANDARDS

NOTE(S)

1. FOR DETAILED STRATIGRAPHY SEE RECORD OF BOREHOLE LOGS.
2. FOR CROSS-SECTION LOCATION SEE FIGURE 1.
3. MECP TABLE 1 STANDARDS = SITE CONDITION STANDARDS LISTED IN TABLE 1 OF THE MINISTRY OF ENVIRONMENT, CONSERVATION AND PARKS DOCUMENT "SOIL, GROUND WATER AND SEDIMENT STANDARDS FOR USE UNDER PART XV.1 OF THE ENVIRONMENTAL PROTECTION ACT", DATED APRIL 15, 2011, TABLE 1: FULL DEPTH BACKGROUND SITE CONDITION STANDARDS FOR RESIDENTIAL / PARKLAND / INSTITUTIONAL / INDUSTRIAL / COMMERCIAL / COMMUNITY PROPERTY USE FOR SOIL.

0 0.5 1
1:25 VERTICAL METRES

0 1 2
1:50 HORIZONTAL METRES

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ESA CONCEPTUAL SITE MODEL
WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE
OTTAWA, ONTARIO

TITLE
ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS IN SOIL (CROSS-SECTIONS M-M' & N-N')

CONSULTANT

YYYY-MM-DD	2025-01-17
DESIGNED	KH
PREPARED	MM/SJL
REVIEWED	SJL
APPROVED	SC

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0025	A	15

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25 mm

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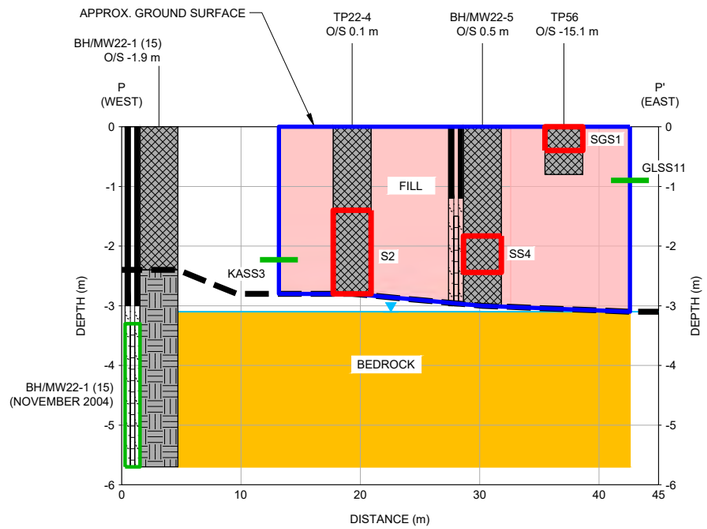
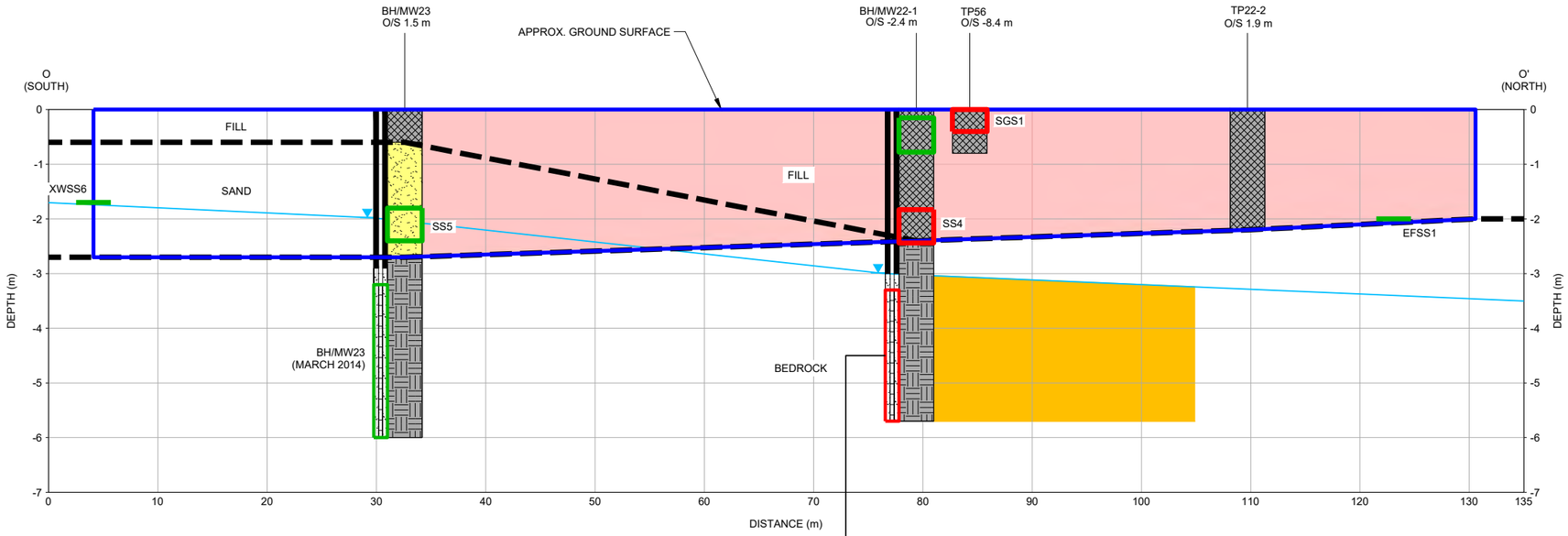




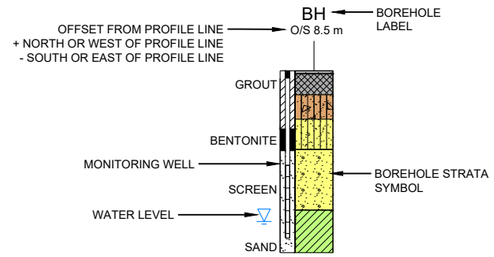
BHMW22-1 (2015/16)/replaced BHMW21(2004)	29-Nov-04	14-Mar-04	13-Mar-15	26-Apr-16
PHC F2 (ug/L)	<100	220	<100	<100

LEGEND

- 2014/2015 REMEDIATION LIMIT (REMOVED)
- PHASE TWO ESA LIMIT OF SOIL EXCEEDANCES
- PHASE TWO ESA LIMIT OF GROUNDWATER EXCEEDANCES
- GROUNDWATER TABLE (MARCH 2015)

SOIL STRATIGRAPHY

- FILL
- SAND
- BEDROCK



ANALYTICAL LEGEND

- SOIL SAMPLE EXCEEDS MECP TABLE 1 STANDARDS
- SOIL SAMPLE MEETS MECP TABLE 1 STANDARDS

NOTE(S)

1. FOR DETAILED STRATIGRAPHY SEE RECORD OF BOREHOLE LOGS.
2. FOR CROSS-SECTION LOCATION SEE FIGURE 1.
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0 2.5 5
1:100 VERTICAL METRES

0 10 20
1:500 HORIZONTAL METRES

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ESA CONCEPTUAL SITE MODEL
WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE
OTTAWA, ONTARIO

TITLE
ANALYTICAL RESULTS FOR PETROLEUM HYDROCARBONS IN SOIL AND GROUNDWATER AT BLD 22 REMEDIATION (CROSS-SECTIONS O-O' & P-P')

CONSULTANT

YYYY-MM-DD	2025-01-17
DESIGNED	KH
PREPARED	MM/SJL
REVIEWED	SJL
APPROVED	SC

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0025	A	16A

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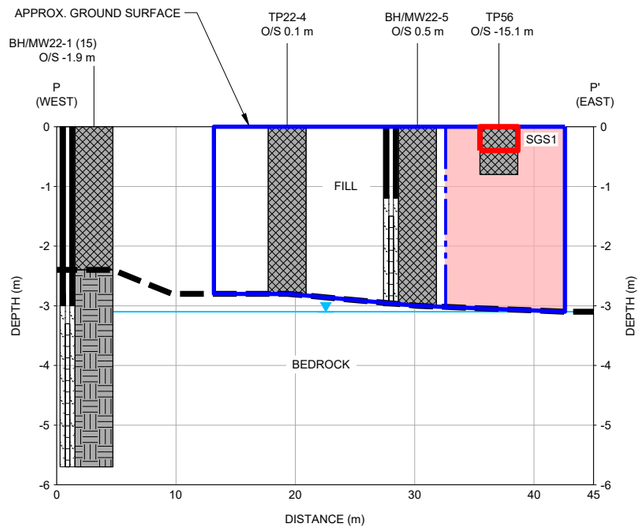
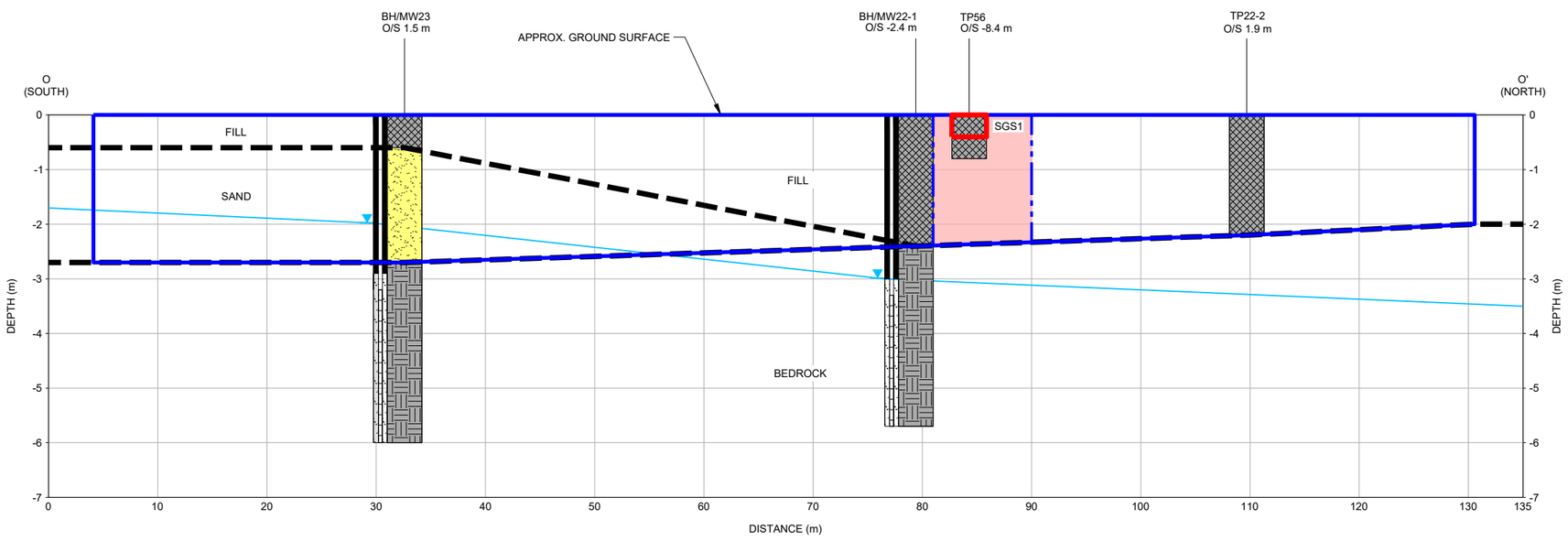
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25 mm



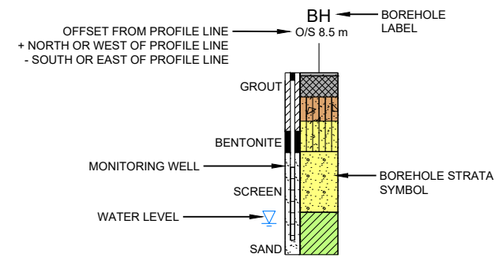


LEGEND

- 2014/2015 REMEDIATION LIMIT (REMOVED)
- PHASE TWO ESA LIMIT OF SOIL EXCEEDANCES
- GROUNDWATER TABLE (MARCH 2015)
- INFERRED PHASE TWO ESA DELINEATION

SOIL STRATIGRAPHY

- FILL
- SAND
- BEDROCK



ANALYTICAL LEGEND

- SOIL SAMPLE EXCEEDS MECP TABLE 1 STANDARDS
- SOIL SAMPLE MEETS MECP TABLE 1 STANDARDS

NOTE(S)

1. FOR DETAILED STRATIGRAPHY SEE RECORD OF BOREHOLE LOGS.
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0 2.5 5
1:100 VERTICAL METRES

0 10 20
1:500 HORIZONTAL METRES

CLIENT
CLC LIMITED

PROJECT
PHASE TWO ESA CONCEPTUAL SITE MODEL
WATERIDGE VILLAGE PHASE 7, PART OF 1076 HEMLOCK PRIVATE
OTTAWA, ONTARIO

TITLE
ANALYTICAL RESULTS FOR POLYCYCLIC AROMATIC HYDROCARBONS IN SOIL AT BLD 22 REMEDIATION (CROSS-SECTIONS O-O' & P-P')

CONSULTANT

YYYY-MM-DD	2025-01-17
DESIGNED	KH
PREPARED	MM/SJL
REVIEWED	SJL
APPROVED	SC

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0025	A	16B

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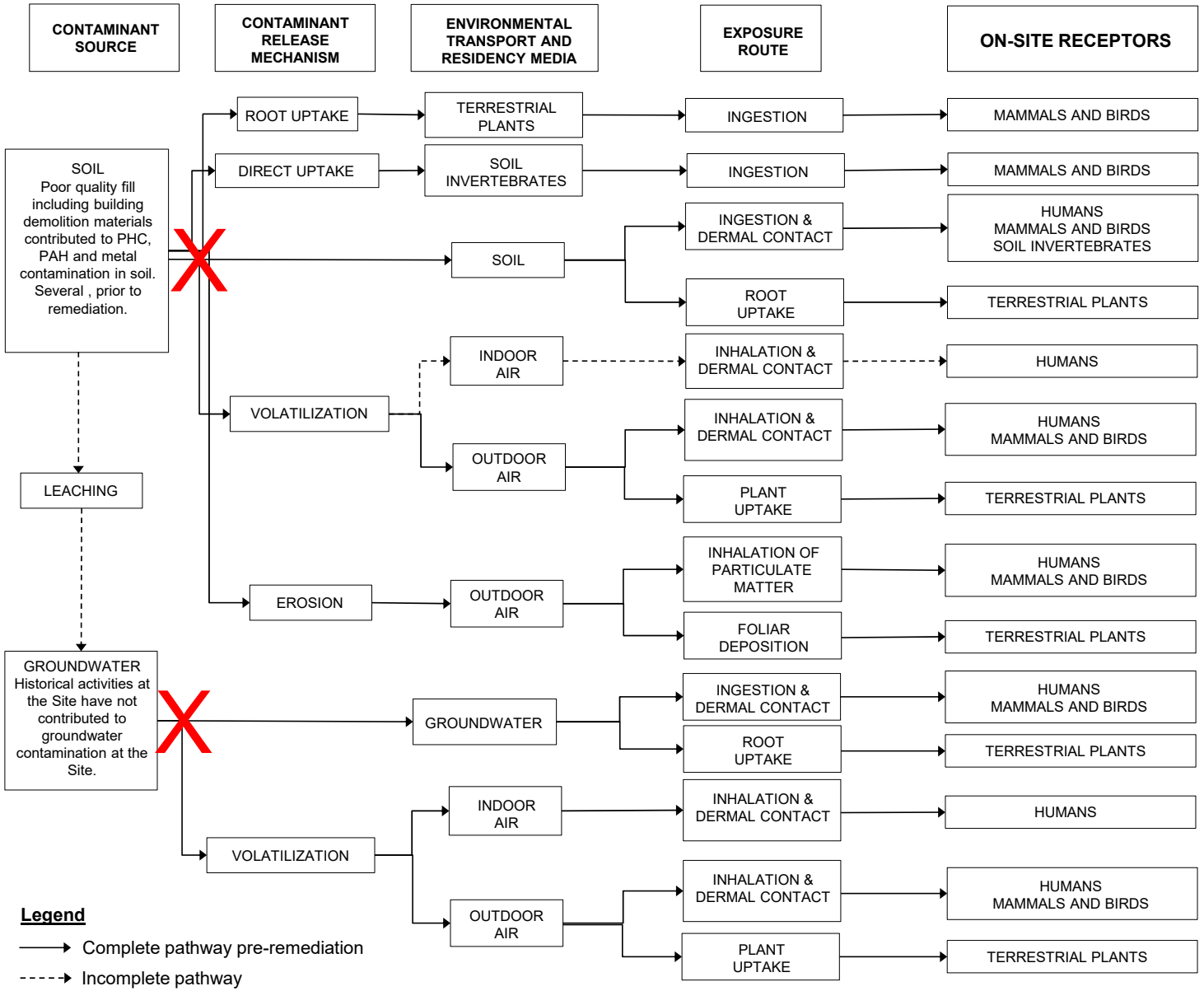
IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25 mm

Potential Receptor Pathways, RSC , Phase 7 Wateridge Village, Ottawa, Ontario

FIGURE 17



Notes:

1. This diagram indicates all potential pathways which were considered to have the potential to result in exposure of contaminants by receptors at the Site pre-remediation.
2. Remediation at the Site consisted of the excavation of contaminated soil and on treatment of groundwater.
3. Post-remediation all soil and groundwater related pathways are considered incomplete. As such, contaminated soil and groundwater is no longer present at the Site, denoted by the "X".

Date: February 2025

Project Number: 19124906

CAD: SAC

CKD: KPH

APPENDIX A

Survey Plan

Phase One, Two and RSC Property

Phase One, Two and RSC Property

DETAIL Scale 1:100

PIN 04273 - 1225
PART 1 PLAN 4R-29378 below 46.00 metres
SUBJECT TO EASEMENT INST. OC1771382 below 46.00 metres
PART 1 PLAN 4R-29367
SUBJECT TO EASEMENT INST.'S OC1755039 & OC2498617

LOT 23 CONCESSION I (OTTAWA FRONT) (GLOUCESTER)

REGISTERED PLAN 4M-1718
BLOCK 2
PIN 04273-1228

PART 7 PLAN 4R-35292 above 46.00 metres
PART 8 PLAN 4R-35292 above 46.00 metres
SUBJECT TO EASEMENT INST. OC1771382
PART 9 PLAN 4R-35292 above 46.00 metres
PART 10 PLAN 4R-35292 above 46.00 metres
SUBJECT TO EASEMENT INST. OC1771382

PART 8 PLAN 4R-34409 above 46.00 metres
SUBJECT TO EASEMENT INST.'S OC1755039, OC2498617 & OC2465477
PART 16 PLAN 4R-34409 below 46.00 metres
SUBJECT TO EASEMENT INST.'S OC1755039, OC2498617, OC2465477 & OC1771382
PART 7 PLAN 4R-34409 above 46.00 metres
SUBJECT TO EASEMENT INST.'S OC1755039 & OC2498617
PART 15 PLAN 4R-34409 below 46.00 metres
SUBJECT TO EASEMENT INST.'S OC1755039, OC2498617 & OC1771382
PART 13 PLAN 4R-35292 above 46.00 metres
PART 14 PLAN 4R-35292 below 46.00 metres
SUBJECT TO EASEMENT INST. OC1771382

PART 4 PLAN 4R-34409 above 46.00 metres
SUBJECT TO EASEMENT INST. OC2465402
PART 12 PLAN 4R-34409 below 46.00 metres
SUBJECT TO EASEMENT INST.'S OC1771382 & OC2465402

chemin Codd's Road PIN 04273-0847

PART 3 PLAN 4R-34409 above 46.00 metres
PART 11 PLAN 4R-34409 below 46.00 metres
SUBJECT TO EASEMENT INST. OC1771382
PART 2 PLAN 4R-35292 above 46.00 metres
PART 6 PLAN 4R-35292 below 46.00 metres
SUBJECT TO EASEMENT INST. OC1771382

BLOCK 14 0.30 RESERVE
PIN 04273-1220
PART 1 PLAN 4R-29378 below 46.00 metres
SUBJECT TO EASEMENT INST. OC1771382 below 46.00 metres

BLOCK 15 0.30 RESERVE PIN 04273-1344 PART 4 PLAN 4R-29378 SUBJECT TO EASEMENT INST. OC1771382 below 46.00 metres

REGISTERED PLAN 4M-1651

PART 4 PLAN 4R-17478 SUBJECT TO EASEMENT INST. OC438827
PART 3 PLAN 4R-17478 SUBJECT TO EASEMENT INST. OC438827
PART 6 PLAN 4R-17940
PART 23 PLAN 4R-32282
PART 1 PLAN 4R-32282
PART 22 PLAN 4R-32282
PART 1 PLAN 5R-9396
PART 1 PLAN 4R-24915
PART 1 PLAN 4R-29378 (BELOW ELEVATION 46.00 METRES) SUBJECT TO EASEMENT INST. OC1771382 (BELOW ELEVATION 46.00 METRES)
PART 1 PLAN 4R-29367 SUBJECT TO EASEMENT INST.'S OC1755039 AND OC2498617
PART 8 PLAN 4R-34409 ABOVE 46.00 METRES SUBJECT TO EASEMENT INST.'S OC1755039, OC2498617 & OC2465477
PART 16 PLAN 4R-34409 BELOW 46.00 METRES SUBJECT TO EASEMENT INST.'S OC1755039, OC2498617, OC2465477 & OC1771382
PART 5 PLAN 4R-34409 (ABOVE ELEVATION 46.00 METRES) PART 13 PLAN 4R-34409 (BELOW ELEVATION 46.00 METRES)
PART 6 PLAN 4R-34409 (ABOVE ELEVATION 46.00 METRES) PART 14 PLAN 4R-34409 (BELOW ELEVATION 46.00 METRES)
PART 1 PLAN 4R-34409 (ABOVE ELEVATION 46.00 METRES) PART 9 PLAN 4R-34409 (BELOW ELEVATION 46.00 METRES)
PART 2 PLAN 4R-34409 (ABOVE ELEVATION 46.00 METRES) PART 10 PLAN 4R-34409 (BELOW ELEVATION 46.00 METRES)
PART 3 PLAN 4R-29367 SUBJECT TO EASEMENT INST.'S OC1755039 & OC2498617
PART 7 PLAN 4R-29367 SUBJECT TO EASEMENT INST.'S OC1755039 & OC2498617
PART 1 PLAN 4R-29378 SUBJECT TO EASEMENT INST. OC1771382 BELOW ELEVATION 46.00 METRES
PART 2 PLAN 4R-29378 BELOW ELEVATION 46.00 METRES SUBJECT TO EASEMENT INST. OC1771382 BELOW ELEVATION 46.00 METRES
PART 2 PLAN 4R-29367 SUBJECT TO EASEMENT INST.'S OC1755039 AND OC2498617
PART 3 PLAN 4R-30488
BLOCK 15 0.30 RESERVE PIN 04273-0844 PART 2 PLAN 4R-29378 BELOW ELEVATION 46.00 METRES SUBJECT TO EASEMENT INST. OC1771382 BELOW ELEVATION 46.00 METRES
BLOCK 15 0.30 RESERVE PIN 04273-0844 PART 1 PLAN 4R-29378 BELOW ELEVATION 46.00 METRES SUBJECT TO EASEMENT INST. OC1771382 BELOW ELEVATION 46.00 METRES
BLOCK 1 PIN 04273-1227
BLOCK 2 PIN 04273-1228
BLOCK 3 PIN 04273-1229
BLOCK 6 PIN 04273-1232
BLOCK 7 PIN 04273-1231
BLOCK 14 0.30 RESERVE PIN 04273-1220
Osprey Street
rue Winnisk Street
Tawadina Road 0851
LOT 22
LOT 23
PIN 04273 - 0432
PIN 04273 - 1227
PIN 04273 - 1231
PIN 04273 - 1232
PIN 04273 - 1225

PLAN OF SURVEY OF
PART OF LOTS 22 and 23
CONCESSION 1 (OTTAWA FRONT)
Geographic Township of Gloucester
CITY OF OTTAWA
Surveyed by Annis , O'Sullivan , Vollebekk Ltd.

Scale 1 : 1250
50 37.5 25 12.5 0 25 50 Metres
Metric
DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

Surveyor's Certificate
I CERTIFY THAT :
1. This survey and plan are correct and in accordance with the Surveys Act, the Surveyors Act and the Land Titles Act and the regulations made under them.
2. The survey was completed on the 9th day of October, 2024.

October 10,2024 — Date
A. J. Broxham — Andrew J. Broxham, Ontario Land Surveyor

NOTES AND LEGEND

–□–	Denotes	Survey Monument Planted
–■–	"	Survey Monument Found
SIB	"	Standard Iron Bar
SSIB	"	Short Standard Iron Bar
IB	"	Iron Bar
CP	"	Concrete Pin
(AOG)	"	Annis, O'Sullivan, Vollebekk Ltd.
(P1)	"	Registered Plan 4M-1651
(P2)	"	Plan 4R-35292
(P3)	"	Plan 4R-29378
(P4)	"	Registered Plan 4M-1718
(P5)	"	(AOG) Plan, September 27, 2021

Bearings are grid, derived from the northerly limit of Tawadina Road, Registered Plan 4M-1718 shown to be N 90°00'00" E thereon, and are referred to MTM Zone 9 (76°30' West Longitude) NAD-83 (original).

SITE AREA = 16.7174 Hectares

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
V-90421
THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR In accordance with Regulation 1026, Section 29 (3).

ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
14 Concourse Gate, Suite 500
Nepean, Ont. K2E 7S6
Phone: (613) 727-0850 / Fax: (613) 727-1079
Email: ltecrec@ltecrec.com
Ontario Land Surveyors
Job No. 21IBI-20 CLC PI LI 22 23 CI OF GL Ph 6 7 0 F NV 0

APPENDIX B

Phase Two ESA Record of Test Pits

Test Pit ID	Date	Soil Unit	Sample Name	Sample Depth (mbgs)	Description
TP4-03	07/07/2020	Fill (0.0-0.80 mbgs)	SA1	0.6	Dark to medium grey brown silt with some clay and gravel
		Native (0.80-1.20 mbgs)	SA2	1.0	Weathered orange/brown silty sand with clasts/inclusions noted
		Native (1.20-1.75 mbgs)	--	--	Light yellow, grey brown sand with some inclusions/weathered clasts
		Bedrock (1.75-1.80 mbgs)	--	--	BEDROCK - Refusal on bedrock.
TP4-04	07/07/2020	Fill (0.0-0.50 mbgs)	SA1	0.0-0.5	Dark grey/brown sand with silt and trace gravel (sub-angular to angular)
		Fill (0.5-0.80 mbgs)	SA2	0.0-0.8	Light yellow/beige sand
		Utility encountered 0.8 mbgs)	--	--	UTILITY - Utility encountered at approximately 0.80 mbgs, potentially an asbestos sewer pipe.
TP4-05	07/07/2020	Fill (0.0-0.40 mbgs)	--	--	Asphalt and granular material
		Fill (0.4-0.50 mbgs)	--	--	Dark brown sand
		Fill (0.5-0.85 mbgs)	SA1	0.6-0.7	Medium brown sand
		Native (0.85-1.0)	SA2	0.85-1.0	Light brown sand with darker lenses of reddish brown sand.
TP4-07	07/08/2020	Topsoil/fill (0.0-0.65 mbgs)	SA1	0.4	Dark brown sand with some silt and trace gravel.
		Fractured bedrock (0.65-N/A mbgs)	--	--	Fractured bedrock
TP7-27	07/08/2020	Topsoil (0.0-0.6 mbgs)	--	--	TOPSOIL - Silty sand, brown.
		Fill (0.60-1.50 mbgs)	SA1	1.0	FILL - Fine sand with cobbles and debris composed of angular, large limestone fragments; organic odour.
		Utility encountered (1.50 mbgs)	--	--	UTILITY - Utility encountered at approximately 1.50 mbgs, potentially a decommissioned water main connecting to a nearby fire hydrant.
TP7-28	07/08/2020	Topsoil (0.0-0.2 mbgs)	--	--	TOPSOIL - Silty sand with gravel; brown.
		Fill (0.2 -1.2 mbgs)	SA1	~0.9-1.0	FILL - Gravelly sand with pieces of concrete (larger than 1.0 x 0.5 m) comprising between 50-60% of the material, some metal rebar in concrete and bricks (~5-10%).
		Weathered bedrock (1.2-1.5 mbgs)	SA2	1.3	FRACTURED BEDROCK - Fractured, weathered, limestone with staining from iron and seams of silty sand; dark orange or red brown; moist.
TP7-29	07/08/2020	Fill (0.0-1.0 mbgs)	--	--	FILL - Sand with cobbles and gravel; light to medium brown.
		Fill (1.0-2.0 mbgs)	SA1	1.0-1.5	FILL - Sand and gravel with boulders (~25%) and debris including bricks (~15-20%), pipes (~5% between 5-10 units greater than 1m) and wire at a depth of ~1.0 to 1.5 m; medium brown.
TP7-30	07/08/2020	Topsoil (0.0-0.1 mbgs)	--	--	TOPSOIL - Silty sand; brown.
		Fill (0.10-1.85 mbgs)	SA1 / DUP2	1.0	FILL - Fine sand; brown; dry to moist.
		Gravel (1.85-1.90 mbgs)	--	--	GRAVEL shelf.
		Native (1.90-2.30 mbgs)	SA2	1.9	SAND - Fine sand with some gravel (weathered pebbles etc.); medium brown.
TP7-31	07/08/2020	Fill (0.0-1.0 mbgs)	SA1	1.0	FILL - Sand and gravel (~50%) and boulders or cobbles of subangular to angular rocks; transitions from lighter sand to slightly darker sand at ~1.0 mbgs; medium to fine; light brown.
		Fill (1.0-1.9 mbgs)	SA2	1.8	FILL - Sand and gravel; seams of silt; medium to coarse; medium brown; slightly moist.
		Weathered bedrock (1.9 mbgs)	--	--	BEDROCK - Refusal on bedrock.

Completed by: RM, PJ
Checked by:KPH

Test Pit ID	Date	Soil Unit	Sample Name	Sample Depth (mbgs)	Description
TP7-32	07/08/2020	Fill (0.0-0.65 mbgs)	SA1	0.5-0.6	FILL - Sand with silt and gravel; fine; dark brown.
		Native (0.65-1.15)	SA2	1.0-1.1	SAND AND GRAVEL - Sandy material with some fractured rock bed composed of weathered limestone and sand; fine; medium orangey red brown.
		Bedrock (1.15 mbgs)	--	--	BEDROCK - Refusal on bedrock.
TP7-33	07/08/2020	Fill (0.0-0.5 mbgs)	--	--	FILL - Gravel with some sand.
		Fill (0.5-1.2 mbgs)	SA1	0.7	FILL - Sand fill with some gravel and cobbles; transitions from medium brown, medium to fine sand at ~1.2 m.
		Fill (1.2-1.6 mbgs)	SA2	1.4	FILL - Sand fill with some gravel and cobbles; grey fine to very fine sand with cobbles (10-15%).
		Utility encountered (1.6 mbgs)	--	--	UTILITY - Utility encountered at approximately 1.60 mbgs; old water main (decommissioned).
TP7-34	07/09/2020	Fill (0.0-0.3 mbgs)	--	--	FILL - Sand and gravel; fine; light beige; dry.
		Fill (0.3-0.4 mbgs)	SA1	0.3	FILL - Gravel; coarse; dark.
		Fill (0.40-1.35 mbgs)	SA2	1.2	FILL - Sand; brown to grey; with gravel and cobbles; 10-25% debris including brick, 30x50 cm flat metal sheet and large chunks of concrete.
		Native (1.35-1.55 mbgs)	SA3	1.4-1.5	SAND, fine grained, trace rounded fine gravel; grey-brown; moist; compact.
TP7-35	07/09/2020	Fill (0.0-0.8 mbgs)	SA1	0.5-0.6	FILL - Sandy silt to silty sand with some gravel (fine to coarse) and cobbles; seams of light yellow brown fine sand.
		Native (0.8-0.9 mbgs)	--	--	SILTY CLAY; grey with orange oxide staining; clasts of fine gravel.
TP7-36	07/09/2020	Fill (0.0-0.9 mbgs)	SA1	0.7	FILL - Sand with some gravel and cobbles/boulders of which 10% are ~30 cm x 30 cm; debris (trace brick); old cable line potentially lined with asbestos.
		Bedrock (0.90-0.95 mbgs)	--	--	BEDROCK - Refusal on rock at 0.9 to 0.95 m.

Notes: TP = Test Pit
SA = Sample
mbgs = meters below ground surface

Test Pit ID	Date	Soil Unit	Sample Name	Sample Depth (mbgs)	Description
TP21-10	07/20/2021	Topsoil (0.0-015 mbgs)	--	--	Brown silty sand with organic matter
		Native (0.15-1.70 mbgs)	SA1/SA2	0.5/1.5	Brown silty sand w trace gravel and clay
		Bedrock (1.70 mbgs)	--	--	BEDROCK - Refusal on bedrock.
TP21-11	07/20/2020	Topsoil (0.0-0.20 mbgs)	--	--	Brown silty sand with organic matter.
		Fill (0.2-1.5 mbgs)	SA1/SA2	0.5/1.5	Brown silty sand, trace gravel/cobbles/boulders
		Bedrock (1.50 mbgs)	--	--	BEDROCK - Refusal on bedrock.
T21-12	07/20/2020	Topsoil (0.0-0.20 mbgs)	--	--	Brown silty sand with gravel.
		Fill (0.2-0.90 mbgs)	SA1/SA2	0.4/0.9	Brown silty sand with gravel, some cobbles and boulders.
		Bedrock (0.90 mbgs)	--	--	BEDROCK - Refusal on bedrock.
TP21-13	07/20/2020	Topsoil (0.0-0.10 mbgs)	--	--	Brown silty sand with organic matter.
		Fill (0.10-0.85 mbgs)	SA1	0.8	Grey silty sand, trace gravel and cobbles
		Fill (0.85-1.5 mbgs)	SA2	1.5	Brown silty sand, trace gravel/cobbles/boulders.
TP21-14	07/20/2020	Topsoil (0.0-0.15 mbgs)	--	--	TOPSOIL - Brown Silty sand with organic matter.
		Fill (0.15-1.0 mbgs)	SA1	0.9	Grey silty sand, trace gravel/cobbles
		Fill (1.0-1.5 mbgs)	SA2	1.5	Brown silty sand, trace gravel/cobbles/boulders
TP21-15	07/20/2020	Topsoil (0.0-0.15 mbgs)	--	--	TOPSOIL - Silty sand with organic matter.
		Fill (0.15 -1.1 mbgs)	SA1	~0.9-1.0	Grey silty sand, trace gravel.
		Fill (1.1-1.5 mbgs)	SA2	1.5	Brown silty sand, trace gravel, cobbles.
TP21-16	07/20/2020	Fill (0.0-0.10 mbgs)	--	--	FILL - Sand with cobbles and gravel; light to medium brown.
		Fill (0.10-0.7mbgs)	SA1	0.5	Brown silty sand with gravel.
		Fill (0.70-1.2mbgs)	SA2	1	Dark brown silty sand with gravel and cobbles.
		Fill (1.2-1.5mbgs)	SA3	1.5	Light brown silty sand, trace gravel.
TP21-17	07/20/2020	Topsoil (0.0-0.1 mbgs)	--	--	TOPSOIL - Dark brown silty sand with organic matter.
		Fill (0.10-0.80 mbgs)	SA1	0.5	FILL - Brown silty sand with gravel.
		Fill (0.8-1.30 mbgs)	SA2	1	Dark brown silty sand with trace gravel and organic matter.
		Native (1.30-1.50 mbgs)	SA3	1.5	Light brown silty sand with trace gravel.
TP21-18	07/20/2020	Topsoil (0.0-0.10 mbgs)	--	--	TOPSOIL - Dark brown silty sand with organic matter.
		Fill (0.1-0.8 mbgs)	SA1	0.5	Dark brown silty sand with gravel.

Test Pit ID	Date	Soil Unit	Sample Name	Sample Depth (mbgs)	Description
		Fill (0.8-1.1 mbgs)	SA2	1	Light brown silty sand, trace gravel.
		(1.1-1.5 mbgs)	SA3	1.5	Red/brown silty sand.
TP21-19	07/20/2020	Topsoil (0.0-0.15 mbgs)	SA1	0.5	TOPSOIL - Dark brown silty sand with organic matter.
		Native (0.15-1.1)	SA2	1.1	Brown sand.
TP21-20	07/20/2020	Topsoil (0.0-0.1 mbgs)	--	--	TOPSOIL - Dark brown silty sand with organic matter.
		Native (0.1-1.0 mbgs)	SA1/SA2	0.5/1.0	Brown sand.
TP21-21	07/20/2020	Topsoil (0.0-0.1 mbgs)	--	--	TOPSOIL - Dark brown silty sand with organic matter.
		Native (0.1-1.1 mbgs)	SA1/SA2	0.5/1.1	Brown sand.

Notes: TP = Test Pit
SA = Sample
mbgs = meters below ground surface

APPENDIX C

Phase Two ESA Record of Boreholes

PROJECT: CA0056058.4204

LOCATION: N ; E

RECORD OF BOREHOLE: MW24-02

BORING DATE: May 17, 2024

DRILL RIG:

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (40 80 120 160) nat V. + Q - ● rem V. ⊕ U - ○	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W WI (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		90.88							
0		Overburden		0.00							
				89.97							
		Limestone Bedrock		0.91							
2											Bentonite
4											
6											Silica Sand
8											50 mm Diam. PVC #10 Slot Screen
				81.73							
		END OF BOREHOLE		9.15							
10		Note(s):									
		1. Groundwater level in screen measured at 7.66 m (Elev. 83.22 m) on May 29, 2024.									
12											
14											
16											
18											
20											

DEPTH SCALE

1 : 100

LOGGED:

CHECKED:

GTA-BHS 001 S:\CLIENTS\CANADA_LANDS_COMPANY\WATERIDGE_VILLAGE\02_DATA\GINT\WATERIDGE_VILLAGE.GPJ GAL-MIS.GDT 11/14/25

PROJECT: CA0056058.4204

LOCATION: N ; E

RECORD OF BOREHOLE: MW24-03

BORING DATE: May 17, 2024

DRILL RIG:

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (40 80 120 160) nat V. + Q - ● rem V. ⊕ U - ○	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		92.07							
		Overburden		0.00							
				91.00							
		Limestone Bedrock		1.07							Bentonite
2											
4											
6											
8											Silica Sand
10				81.70							50 mm Diam. PVC #10 Slot Screen
		END OF BOREHOLE		10.37							
12		Note(s):									
		1. Groundwater level in screen measured at 9.76 m (Elev. 82.31 m) on May 29, 2024.									
14											
16											
18											
20											

DEPTH SCALE

1 : 100

LOGGED:

CHECKED:

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PROJECT: CA0056058.4204

LOCATION: N ; E

RECORD OF BOREHOLE: MW24-04

BORING DATE: May 16, 2024

DRILL RIG:

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (40 80 120 160)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W WI) (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		84.45							
		Overburden		0.00							Bentonite
2				82.02							
		Limestone Bedrock		2.43							Silica Sand
4											
6				78.05							50 mm Diam. PVC #10 Slot Screen
		END OF BOREHOLE		6.40							
8		Note(s):									
		1. Groundwater level in screen measured at 2.82 m (Elev. 81.63 m) on May 29, 2024.									
10											
12											
14											
16											
18											
20											

DEPTH SCALE

1 : 100

LOGGED:

CHECKED:

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PROJECT: CA0056058.4204

LOCATION: N ; E

RECORD OF BOREHOLE: MW24-05

BORING DATE: May 16, 2024

DRILL RIG:

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (40 80 120 160) nat V. + Q - ● rem V. ⊕ U - ○	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl; 20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		82.84							
		Overburden		0.00							Bentonite
2				80.41							
		Limestone Bedrock		2.43							Silica Sand
4											
											50 mm Diam. PVC #10 Slot Screen
6											
8											Silica Sand
10				72.17							Bentonite
		END OF BOREHOLE		10.67							
12		Note(s):									
		1. Groundwater level in screen measured at 3.17 m (Elev. 80.61 m) on June 5, 2024.									
14											
16											
18											
20											

DEPTH SCALE

1 : 100

LOGGED:

CHECKED:

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PROJECT: CA0056058.4204

LOCATION: N ; E

RECORD OF BOREHOLE: MW24-06

BORING DATE: May 15, 2024

DRILL RIG:

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (40 80 120 160) nat V. + rem V. ⊕ Q - ● U - ○	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl; 20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		83.58							
		Overburden		0.00							Bentonite Silica Sand 50 mm Diam. PVC #10 Slot Screen
2											
				79.77							
4		END OF BOREHOLE Note(s): 1. Groundwater level in screen measured at 1.60 m (Elev. 82.90 m) on June 5, 2024.		3.81							
6											
8											
10											
12											
14											
16											
18											
20											

DEPTH SCALE

1 : 100

LOGGED:

CHECKED:

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PROJECT: CA0056058.4204

LOCATION: N ; E

RECORD OF BOREHOLE: MW24-07

BORING DATE: May 14, 2024

DRILL RIG:

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (40 80 120 160)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl) (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		84.39							
		Overburden		0.00							Bentonite
				82.56							
2		Limestone Bedrock		1.83							Silica Sand
4				78.90							50 mm Diam. PVC #10 Slot Screen
		END OF BOREHOLE		5.49							
6		Note(s):									
		1. Groundwater level in screen measured at 3.10 m (Elev. 81.95 m) on June 5, 2024.									
8											
10											
12											
14											
16											
18											
20											

DEPTH SCALE

1 : 100

LOGGED:

CHECKED:

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PROJECT: CA0056058.4204

LOCATION: N ; E

RECORD OF BOREHOLE: MW24-08

BORING DATE: May 16, 2024

DRILL RIG:

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (40 80 120 160) nat V. + Q - ● rem V. ⊕ U - ○	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl; 20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		84.73							
		Overburden		0.00							Bentonite
2				82.30							
		Limestone Bedrock		2.43							Silica Sand
4											
											50 mm Diam. PVC #10 Slot Screen
6				78.02							
		END OF BOREHOLE		6.71							
8		Note(s):									
		1. Groundwater level in screen measured at 3.38 m (Elev. 82.20 m) on June 5, 2024.									
10											
12											
14											
16											
18											
20											

DEPTH SCALE

1 : 100

LOGGED:

CHECKED:

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PROJECT: CA0056058.4204

LOCATION: N ; E

RECORD OF BOREHOLE: MW24-10

BORING DATE: May 14, 2024

DRILL RIG:

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (40 80 120 160) nat V. + rem V. ⊕ Q - ● U - ○	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W Wl (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		GROUND SURFACE		85.55							
0		Overburden		0.00							
				84.94							
		Limestone Bedrock		0.61							
2											Bentonite
4											Silica Sand
6											50 mm Diam. PVC #10 Slot Screen
				78.54							
		END OF BOREHOLE		7.01							
8		Note(s):									
		1. Groundwater level in screen measured at 5.02 m (Elev. 81.31 m) on June 5, 2024.									
10											
12											
14											
16											
18											
20											

DEPTH SCALE

1 : 100

LOGGED:

CHECKED:

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PROJECT: CA0056058.4204

LOCATION: N ; E

RECORD OF BOREHOLE: MW24-12

BORING DATE: May 14, 2024

DRILL RIG:

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (40 80 120 160) nat V. + Q - ● rem V. ⊕ U - ○	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W WI (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		84.34							
		Overburden		0.00							Bentonite
				82.67							
2		Limestone Bedrock		1.67							
											Silica Sand
4											
											50 mm Diam. PVC #10 Slot Screen
6				77.63							
		END OF BOREHOLE		6.71							
		Note(s):									
8		1. Groundwater level in screen measured at 3.37 m (Elev. 81.72 m) on June 5, 2024.									
10											
12											
14											
16											
18											
20											

DEPTH SCALE

1 : 100

LOGGED:

CHECKED:

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PROJECT: CA0056058.4204

LOCATION: N ; E

RECORD OF BOREHOLE: MW24-13

BORING DATE: May 14, 2024

DRILL RIG:

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (nat V. + Q - ● / rem V. ⊕ U - ○) (40 80 120 160)	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W Wl) (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		83.53							
		Overburden		0.00							Bentonite
2				81.24							
		Limestone Bedrock		2.29							Silica Sand
4											
											50 mm Diam. PVC #10 Slot Screen
6				77.43							
		END OF BOREHOLE		6.10							
8		Note(s):									
		1. Groundwater level in screen measured at 3.32 m (Elev. 80.93 m) on June 5, 2024.									
10											
12											
14											
16											
18											
20											

DEPTH SCALE

1 : 100

LOGGED:

CHECKED:

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PROJECT: CA0056058.4204

LOCATION: N ; E

RECORD OF BOREHOLE: MW24-14

BORING DATE: May 14, 2024

DRILL RIG:

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (40 80 120 160) nat V. + Q - ● rem V. ⊕ U - ○	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT (Wp W WI; 20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		82.09							
		Overburden		0.00							Bentonite
2				79.35							
		Limestone Bedrock		2.74							Silica Sand
4											
6				75.38							50 mm Diam. PVC #10 Slot Screen
		END OF BOREHOLE		6.71							
8		Note(s):									
		1. Groundwater level in screen measured at 3.17 m (Elev. 79.82 m) on June 5, 2024.									
10											
12											
14											
16											
18											
20											

DEPTH SCALE

1 : 100

LOGGED:

CHECKED:

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PROJECT: CA0056058.4204

LOCATION: N ; E

RECORD OF BOREHOLE: MW24-15

BORING DATE: May 16, 2024

DRILL RIG:

SHEET 1 OF 1

DATUM: Geodetic

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE: DESCRIPTION	STRATA PLOT	ELEV. / DEPTH (m)	SAMPLES: NUMBER	SAMPLES: TYPE	SAMPLES: BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m (20 40 60 80) / SHEAR STRENGTH Cu, kPa (40 80 120 160) nat V. + Q - ● rem V. ⊕ U - ○	HYDRAULIC CONDUCTIVITY, k, cm/s (10^{-6} 10^{-5} 10^{-4} 10^{-3}) / WATER CONTENT PERCENT Wp W WI (20 40 60 80)	ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
0		GROUND SURFACE		82.49							
		Overburden		0.00							Bentonite; Silica Sand; 50 mm Diam. PVC #10 Slot Screen
2				79.44							
		END OF BOREHOLE		3.05							
4		Note(s): 1. Groundwater level in screen measured at 0.76 m (Elev. 82.52 m) on June 5, 2024.									
6											
8											
10											
12											
14											
16											
18											
20											

DEPTH SCALE

1 : 100

LOGGED:

CHECKED:

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APPENDIX D

Laboratory Certificates of Analysis

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: GOLDER ASSOCIATES LTD
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600
ATTENTION TO: Keith Holmes
PROJECT: 19124906
AGAT WORK ORDER: 20Z624793
SOIL ANALYSIS REVIEWED BY: Jacky Zhu, Spectroscopy Technician
TRACE ORGANICS REVIEWED BY: Oksana Gushyla, Trace Organics Lab Supervisor
DATE REPORTED: Jul 23, 2020
PAGES (INCLUDING COVER): 34
VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days following analysis, unless expressly agreed otherwise in writing. Please contact your Client Project Manager if you require additional sample storage time.*
- *AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.*
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- *The test results reported herewith relate only to the samples as received by the laboratory.*
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Certificate of Analysis

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

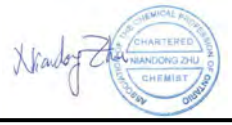
O. Reg. 153(511) - All Metals (Soil)

DATE RECEIVED: 2020-07-14

DATE REPORTED: 2020-07-23

SAMPLE DESCRIPTION:				TP4-01 SA1	TP4-02 SA1	TP4-03 SA1	TP4-04 SA1	TP4-05 SA1	TP4-07 SA1	TP4-09 SA1	TP4-10 SA1
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00
Parameter	Unit	G / S	RDL	1271650	1271695	1271696	1271697	1271698	1271699	1271700	1271701
Antimony	µg/g	7.5	0.8	1.1	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	4	2	2	3	1	3	2	1
Barium	µg/g	390	2	164	120	266	61	19	88	218	**404**
Beryllium	µg/g	4	0.5	0.5	<0.5	0.5	<0.5	<0.5	<0.5	0.5	0.5
Boron	µg/g	120	5	12	5	<5	<5	<5	<5	5	<5
Boron (Hot Water Extractable)	µg/g	1.5	0.10	0.17	0.27	0.14	0.21	<0.10	0.28	0.22	0.17
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	160	5	23	29	71	16	13	23	63	111
Cobalt	µg/g	22	0.5	6.8	8.6	15.6	3.9	3.3	6.3	13.6	21.0
Copper	µg/g	140	1	34	15	34	9	3	11	29	38
Lead	µg/g	120	1	67	10	10	22	3	41	11	10
Molybdenum	µg/g	6.9	0.5	1.3	<0.5	<0.5	<0.5	<0.5	0.6	0.6	<0.5
Nickel	µg/g	100	1	17	17	38	9	6	14	34	52
Selenium	µg/g	2.4	0.4	0.6	<0.4	0.4	0.5	<0.4	0.6	0.4	0.6
Silver	µg/g	20	0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/g	1	0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	0.5
Uranium	µg/g	23	0.5	0.8	0.7	0.8	0.6	0.5	0.5	0.9	1.3
Vanadium	µg/g	86	1	27	38	70	21	19	31	63	**100**
Zinc	µg/g	340	5	154	45	95	50	16	66	84	159
Chromium, Hexavalent	µg/g	8	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Mercury	µg/g	0.27	0.10	0.13	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - All Metals (Soil)

DATE RECEIVED: 2020-07-14

DATE REPORTED: 2020-07-23

SAMPLE DESCRIPTION:				TP4-11 SA1	TP4-12 SA1	TP4-13 SA1	TP7-29 SA1	TP7-30 SA1	TP7-31 SA2	TP7-32 SA1	TP7-33 SA2
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00
Parameter	Unit	G / S	RDL	1271702	1271703	1271704	1271705	1271738	1271739	1271740	1271741
Antimony	µg/g	7.5	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	1	4	3	3	<1	2	4	<1
Barium	µg/g	390	2	161	117	242	98	21	80	91	76
Beryllium	µg/g	4	0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Boron	µg/g	120	5	5	9	<5	6	<5	<5	6	<5
Boron (Hot Water Extractable)	µg/g	1.5	0.10	0.19	0.35	0.26	0.36	<0.10	<0.10	0.29	<0.10
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	160	5	32	23	59	26	9	29	19	16
Cobalt	µg/g	22	0.5	10.0	8.5	12.3	9.6	2.7	7.3	5.7	5.0
Copper	µg/g	140	1	21	30	38	18	7	14	14	11
Lead	µg/g	120	1	6	38	24	15	2	9	47	5
Molybdenum	µg/g	6.9	0.5	<0.5	0.8	1.1	0.5	<0.5	<0.5	0.9	<0.5
Nickel	µg/g	100	1	19	16	31	16	4	17	12	10
Selenium	µg/g	2.4	0.4	<0.4	0.7	0.6	0.4	<0.4	<0.4	0.7	<0.4
Silver	µg/g	20	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/g	1	0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Uranium	µg/g	23	0.5	0.6	0.5	0.9	0.6	<0.5	0.7	0.5	0.6
Vanadium	µg/g	86	1	41	28	56	34	14	32	25	26
Zinc	µg/g	340	5	44	45	106	54	10	42	57	25
Chromium, Hexavalent	µg/g	8	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

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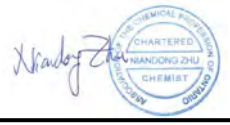

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Certificate of Analysis

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - All Metals (Soil)

DATE RECEIVED: 2020-07-14

DATE REPORTED: 2020-07-23

SAMPLE DESCRIPTION:				TP7-34 SA2	TP7-35 SA1	TP7-36 SA1	TP4-37A	TP4-37B	TP4-15 SA1	TP4-16 SA1	TP6A-17 SA1
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00
Parameter	**Unit**	**G / S**	**RDL**	**1271742**	**1271743**	**1271744**	**1271745**	**1271746**	**1271749**	**1271750**	**1271751**
Antimony	µg/g	7.5	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	1	2	3	2	2	4	3	2
Barium	µg/g	390	2	63	123	102	342	322	74	99	81
Beryllium	µg/g	4	0.5	<0.5	<0.5	<0.5	0.7	0.8	<0.5	<0.5	<0.5
Boron	µg/g	120	5	<5	5	10	5	7	7	14	<5
Boron (Hot Water Extractable)	µg/g	1.5	0.10	<0.10	0.14	0.18	0.11	0.12	0.27	0.14	0.11
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	160	5	15	29	17	45	47	18	18	25
Cobalt	µg/g	22	0.5	5.9	6.7	7.0	12.2	12.9	7.8	6.7	7.0
Copper	µg/g	140	1	12	21	13	27	29	18	13	12
Lead	µg/g	120	1	6	13	19	11	16	87	10	8
Molybdenum	µg/g	6.9	0.5	<0.5	<0.5	0.5	<0.5	<0.5	1.0	<0.5	<0.5
Nickel	µg/g	100	1	10	18	12	30	35	15	11	13
Selenium	µg/g	2.4	0.4	<0.4	0.7	0.5	<0.4	0.4	0.4	0.4	<0.4
Silver	µg/g	20	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/g	1	0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Uranium	µg/g	23	0.5	0.6	1.2	<0.5	0.7	0.7	<0.5	<0.5	0.5
Vanadium	µg/g	86	1	25	27	22	52	73	26	20	33
Zinc	µg/g	340	5	24	69	31	69	98	79	24	34
Chromium, Hexavalent	µg/g	8	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

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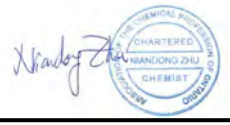

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Certificate of Analysis

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - All Metals (Soil)

DATE RECEIVED: 2020-07-14

DATE REPORTED: 2020-07-23

SAMPLE DESCRIPTION:				TP6A-20 SA1	TP6B-21 SA2	TP6B-22 SA1	TP6B-24 SA1	TP6B-25 SA1	TP6B-26 SA1	TP7-27 SA1	TP7-28 SA1
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00
Parameter	Unit	G / S	RDL	1271752	1271753	1271754	1271755	1271756	1271757	1271758	1271759
Antimony	µg/g	7.5	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	2	3	2	4	1	3	4	3
Barium	µg/g	390	2	356	256	77	112	49	228	86	113
Beryllium	µg/g	4	0.5	0.7	<0.5	0.6	<0.5	<0.5	0.7	0.5	<0.5
Boron	µg/g	120	5	<5	5	6	5	<5	5	6	<5
Boron (Hot Water Extractable)	µg/g	1.5	0.10	0.14	<0.10	<0.10	0.14	<0.10	0.11	0.26	0.10
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	160	5	104	56	18	19	12	54	23	33
Cobalt	µg/g	22	0.5	20.6	11.5	6.2	5.4	5.9	13.7	7.0	9.3
Copper	µg/g	140	1	46	22	6	31	14	30	18	20
Lead	µg/g	120	1	13	10	7	24	8	20	49	20
Molybdenum	µg/g	6.9	0.5	0.5	0.8	<0.5	0.5	<0.5	<0.5	0.6	0.5
Nickel	µg/g	100	1	52	48	11	13	9	29	15	19
Selenium	µg/g	2.4	0.4	0.4	0.4	0.5	<0.4	<0.4	0.4	0.5	<0.4
Silver	µg/g	20	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/g	1	0.4	0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Uranium	µg/g	23	0.5	1.1	0.6	<0.5	0.7	0.7	0.7	0.6	0.6
Vanadium	µg/g	86	1	**101**	43	25	26	21	60	27	38
Zinc	µg/g	340	5	126	40	31	187	26	199	56	83
Chromium, Hexavalent	µg/g	8	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.13	0.17

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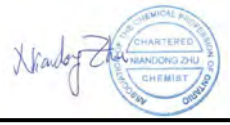

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Certificate of Analysis

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - All Metals (Soil)

DATE RECEIVED: 2020-07-14

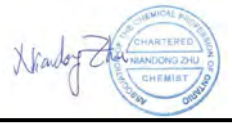
DATE REPORTED: 2020-07-23

		SAMPLE DESCRIPTION:		DUP2
		SAMPLE TYPE:		Soil
		DATE SAMPLED:		2020-07-08 12:00
Parameter	Unit	G / S	RDL	1271830
Antimony	µg/g	7.5	0.8	<0.8
Arsenic	µg/g	18	1	<1
Barium	µg/g	390	2	20
Beryllium	µg/g	4	0.5	<0.5
Boron	µg/g	120	5	<5
Boron (Hot Water Extractable)	µg/g	1.5	0.10	<0.10
Cadmium	µg/g	1.2	0.5	<0.5
Chromium	µg/g	160	5	7
Cobalt	µg/g	22	0.5	3.1
Copper	µg/g	140	1	7
Lead	µg/g	120	1	2
Molybdenum	µg/g	6.9	0.5	<0.5
Nickel	µg/g	100	1	4
Selenium	µg/g	2.4	0.4	<0.4
Silver	µg/g	20	0.2	<0.2
Thallium	µg/g	1	0.4	<0.4
Uranium	µg/g	23	0.5	0.7
Vanadium	µg/g	86	1	19
Zinc	µg/g	340	5	11
Chromium, Hexavalent	µg/g	8	0.2	<0.2
Mercury	µg/g	0.27	0.10	<0.10

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

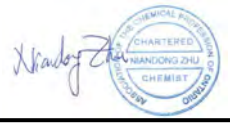
O. Reg. 153(511) - Metals & Inorganics (Soil)

DATE RECEIVED: 2020-07-14

DATE REPORTED: 2020-07-23

SAMPLE DESCRIPTION:				SPD-SA1	SPD-SA2	SPD-SA3	SPD-SA4	SPD-SA5	SPD-SA6	SPD-SA7
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2020-07-08 12:00	2020-07-08 12:00	2020-07-09 12:00	2020-07-09 12:00	2020-07-09 12:00	2020-07-09 12:00	2020-07-09 12:00
Parameter	Unit	G / S	RDL	1271747	1271748	1271760	1271761	1271762	1271763	1271764
Antimony	µg/g	7.5	0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8	<0.8
Arsenic	µg/g	18	1	2	2	2	2	1	2	2
Barium	µg/g	390	2	374	246	348	**416**	317	381	327
Beryllium	µg/g	4	0.5	1.0	0.5	0.8	1.0	0.7	0.8	0.9
Boron	µg/g	120	5	5	<5	<5	<5	<5	<5	5
Boron (Hot Water Extractable)	µg/g	1.5	0.10	0.28	0.14	0.26	0.15	<0.10	<0.10	0.34
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	160	5	113	71	111	131	98	120	101
Cobalt	µg/g	22	0.5	21.8	13.6	21.4	**26.7**	19.9	**25.6**	17.9
Copper	µg/g	140	1	57	37	50	59	49	59	45
Lead	µg/g	120	1	9	13	9	8	6	8	11
Molybdenum	µg/g	6.9	0.5	<0.5	0.5	<0.5	<0.5	<0.5	0.6	<0.5
Nickel	µg/g	100	1	58	39	56	69	53	64	46
Selenium	µg/g	2.4	0.4	0.7	0.5	0.6	0.4	<0.4	0.5	0.9
Silver	µg/g	20	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	µg/g	1	0.4	0.5	<0.4	0.4	0.5	0.4	0.5	0.4
Uranium	µg/g	23	0.5	1.7	0.8	1.1	1.4	0.9	1.2	2.1
Vanadium	µg/g	86	1	**102**	69	**100**	**119**	**90**	**113**	**94**
Zinc	µg/g	340	5	146	131	134	152	114	136	140
Chromium, Hexavalent	µg/g	8	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyanide, Free	µg/g	0.051	0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Mercury	µg/g	0.27	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Electrical Conductivity (2:1)	mS/cm	0.7	0.005	0.133	0.143	0.098	0.057	0.124	0.104	0.110
Sodium Adsorption Ratio	NA	5	NA	0.208	0.841	0.277	0.179	0.443	0.394	0.193
pH, 2:1 CaCl2 Extraction	pH Units	5.0-9.0	NA	7.46	7.64	7.20	7.09	7.42	7.49	7.32

Certified By:



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AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - Metals & Inorganics (Soil)

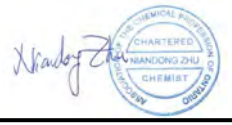
DATE RECEIVED: 2020-07-14 **DATE REPORTED: 2020-07-23**

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

1271747-1271764 EC was determined on the DI water extract obtained from the 2:1 leaching procedure (2 parts DI water:1 part soil). pH was determined on the 0.01M CaCl2 extract prepared at 2:1 ratio. SAR is a calculated parameter.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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Certificate of Analysis

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - ORPs (Soil)

DATE RECEIVED: 2020-07-14

DATE REPORTED: 2020-07-23

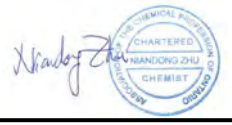
				SAMPLE DESCRIPTION:	TP4-15 SA1	TP6A-17 SA1	TP6B-21 SA2	TP7-27 SA1
				SAMPLE TYPE:	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00
Parameter	Unit	G / S	RDL		1271749	1271751	1271753	1271758
pH, 2:1 CaCl2 Extraction	pH Units		NA		7.54	7.28	7.62	7.42

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

1271749-1271758 pH was determined on the 0.01M CaCl2 extract obtained from 2:1 leaching procedure (2 parts extraction fluid:1 part wet soil).

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2020-07-14

DATE REPORTED: 2020-07-23

		SAMPLE DESCRIPTION:		TP4-01 SA1	TP4-02 SA1	TP4-03 SA1	TP4-04 SA1	TP4-05 SA1	TP4-07 SA1	TP4-09 SA1	TP4-10 SA1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00
Parameter	**Unit**	**G / S**	**RDL**	**1271650**	**1271695**	**1271696**	**1271697**	**1271698**	**1271699**	**1271700**	**1271701**
Naphthalene	µg/g	0.6	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.15	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	7.9	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	62	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	6.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.67	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	0.06
Pyrene	µg/g	78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	0.05
Benz(a)anthracene	µg/g	0.5	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	7	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.38	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	6.6	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	0.99	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	11.4	13.2	20.9	10.9	4.8	10.1	14.6	26.6
Surrogate	**Unit**	**Acceptable Limits**									
Naphthalene-d8	%	50-140		67	61	78	62	86	71	82	64
Acenaphthene-d10	%	50-140		84	81	77	81	91	75	92	82
Chrysene-d12	%	50-140		74	74	80	77	116	76	100	75

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2020-07-14

DATE REPORTED: 2020-07-23

		SAMPLE DESCRIPTION:		TP4-11 SA1	TP4-12 SA1	TP4-13 SA1	TP7-29 SA1	TP7-30 SA1	TP7-31 SA2	TP7-32 SA1	TP7-33 SA2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00
Parameter	**Unit**	**G / S**	**RDL**	**1271702**	**1271703**	**1271704**	**1271705**	**1271738**	**1271739**	**1271740**	**1271741**
Naphthalene	µg/g	0.6	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.15	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	7.9	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	62	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	6.2	0.05	<0.05	<0.05	0.05	0.11	<0.05	<0.05	0.05	<0.05
Anthracene	µg/g	0.67	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.05	0.07	<0.05	0.12	0.22	<0.05	<0.05	0.10	<0.05
Pyrene	µg/g	78	0.05	0.06	<0.05	0.10	0.17	<0.05	<0.05	0.08	<0.05
Benz(a)anthracene	µg/g	0.5	0.05	<0.05	<0.05	0.05	0.09	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	7	0.05	<0.05	<0.05	0.07	0.09	<0.05	<0.05	0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05	0.06	0.08	<0.05	<0.05	0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05	<0.05	0.09	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05	0.05	0.07	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.38	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	6.6	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	0.99	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	18.4	5.9	11.4	5.9	3.7	10.2	6.8	12.5
Surrogate	**Unit**	**Acceptable Limits**									
Naphthalene-d8	%	50-140		67	79	78	78	85	74	71	91
Acenaphthene-d10	%	50-140		84	82	79	79	94	88	71	113
Chrysene-d12	%	50-140		78	96	76	85	93	91	77	94

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2020-07-14

DATE REPORTED: 2020-07-23

		SAMPLE DESCRIPTION:		TP7-34 SA2	TP7-35 SA1	TP7-36 SA1	TP4-37A	TP4-37B	SPD-SA1	SPD-SA2	TP4-15 SA1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00
Parameter	**Unit**	**G / S**	**RDL**	**1271742**	**1271743**	**1271744**	**1271745**	**1271746**	**1271747**	**1271748**	**1271749**
Naphthalene	µg/g	0.6	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.15	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	7.9	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	62	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	6.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.67	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05
Pyrene	µg/g	78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	<0.05
Benz(a)anthracene	µg/g	0.5	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	7	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.38	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	6.6	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	0.99	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	24.4	14.6	8.6	23.7	22.3	24.9	23.7	8.8
Surrogate	**Unit**	**Acceptable Limits**									
Naphthalene-d8	%	50-140		91	77	74	77	74	73	73	79
Acenaphthene-d10	%	50-140		93	79	86	87	82	76	78	82
Chrysene-d12	%	50-140		101	79	91	91	88	78	78	84

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2020-07-14

DATE REPORTED: 2020-07-23

		SAMPLE DESCRIPTION:		TP4-16 SA1	TP6A-17 SA1	TP6A-20 SA1	TP6B-21 SA2	TP6B-22 SA1	TP6B-24 SA1	TP6B-25 SA1	TP6B-26 SA1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00
Parameter	**Unit**	**G / S**	**RDL**	**1271750**	**1271751**	**1271752**	**1271753**	**1271754**	**1271755**	**1271756**	**1271757**
Naphthalene	µg/g	0.6	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.15	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	7.9	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	62	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	6.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.67	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.5	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	7	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.78	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.38	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	6.6	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	0.99	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	8.2	8.1	21.5	11.1	7.5	4.8	5.3	12.7
Surrogate	**Unit**	**Acceptable Limits**									
Naphthalene-d8	%	50-140		81	105	85	70	95	73	76	74
Acenaphthene-d10	%	50-140		86	70	78	72	70	87	85	92
Chrysene-d12	%	50-140		86	73	75	82	74	72	70	81

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2020-07-14

DATE REPORTED: 2020-07-23

				SAMPLE DESCRIPTION:	TP7-27 SA1	TP7-28 SA1	SPD-SA3	SPD-SA4	SPD-SA5	SPD-SA6	SPD-SA7	DUP2
				SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2020-07-08 12:00	2020-07-08 12:00	2020-07-09 12:00	2020-07-09 12:00	2020-07-09 12:00	2020-07-09 12:00	2020-07-09 12:00	2020-07-08 12:00
Parameter	**Unit**	**G / S**	**RDL**		**1271758**	**1271759**	**1271760**	**1271761**	**1271762**	**1271763**	**1271764**	**1271830**
Naphthalene	µg/g	0.6	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.15	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	7.9	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	62	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	6.2	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.67	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.69	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	0.09	<0.05	<0.05
Pyrene	µg/g	78	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	0.08	<0.05	<0.05
Benz(a)anthracene	µg/g	0.5	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	7	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.78	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.78	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.38	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	6.6	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	0.99	0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1		27.7	7.2	26.2	23.8	25.9	26.5	23.8	8.0
Surrogate	**Unit**	**Acceptable Limits**										
Naphthalene-d8	%	50-140			93	82	72	85	84	78	84	71
Acenaphthene-d10	%	50-140			78	95	83	95	97	88	97	83
Chrysene-d12	%	50-140			83	80	85	102	99	93	92	89

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

1271650-1271830 Results are based on the dry weight of the soil.
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)

DATE RECEIVED: 2020-07-14 **DATE REPORTED: 2020-07-23**

		SAMPLE DESCRIPTION:		TP4-01 SA1	TP4-02 SA1	TP4-03 SA1	TP4-04 SA1	TP4-05 SA1	TP4-07 SA1	TP4-09 SA1	TP4-10 SA1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00
Parameter	**Unit**	**G / S**	**RDL**	**1271650**	**1271695**	**1271696**	**1271697**	**1271698**	**1271699**	**1271700**	**1271701**
Benzene	µg/g	0.21	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	2.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	3.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 to C10)	µg/g	55	5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	55	5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	98	10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	300	50	<50	<50	88	<50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	88	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	2800	50	<50	<50	64	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	2800	50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	11.4	13.2	20.9	10.9	4.8	10.1	14.6	26.6
Surrogate	**Unit**	**Acceptable Limits**									
Terphenyl	%	60-140		77	109	74	103	107	86	86	62

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AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)

DATE RECEIVED: 2020-07-14

DATE REPORTED: 2020-07-23

		SAMPLE DESCRIPTION:		TP4-11 SA1	TP4-12 SA1	TP4-13 SA1	TP7-29 SA1	TP7-30 SA1	TP7-31 SA2	TP7-32 SA1	TP7-33 SA2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2020-07-07 12:00	2020-07-07 12:00	2020-07-07 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00
Parameter	**Unit**	**G / S**	**RDL**	**1271702**	**1271703**	**1271704**	**1271705**	**1271738**	**1271739**	**1271740**	**1271741**
Benzene	µg/g	0.21	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	2.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	3.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 to C10)	µg/g	55	5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	55	5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	98	10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	300	50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	2800	50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	2800	50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	18.4	5.9	11.4	5.9	3.7	10.2	6.8	12.5
Surrogate	**Unit**	**Acceptable Limits**									
Terphenyl	%	60-140		82	102	97	80	112	75	120	64

Certified By:

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AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)

DATE RECEIVED: 2020-07-14

DATE REPORTED: 2020-07-23

		SAMPLE DESCRIPTION:		TP7-34 SA2	TP7-35 SA1	TP7-36 SA1	TP4-37A	TP4-37B	SPD-SA1	SPD-SA2	TP4-15 SA1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00
Parameter	**Unit**	**G / S**	**RDL**	**1271742**	**1271743**	**1271744**	**1271745**	**1271746**	**1271747**	**1271748**	**1271749**
Benzene	µg/g	0.21	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	2.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	3.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 to C10)	µg/g	55	5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	55	5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	98	10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	300	50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	2800	50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	2800	50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	24.4	14.6	8.6	23.7	22.3	24.9	23.7	8.8
Surrogate	**Unit**	**Acceptable Limits**									
Terphenyl	%	60-140		80	112	120	99	128	114	121	74

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PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)

DATE RECEIVED: 2020-07-14

DATE REPORTED: 2020-07-23

		SAMPLE DESCRIPTION:		TP4-16 SA1	TP6A-17 SA1	TP6A-20 SA1	TP6B-21 SA2	TP6B-22 SA1	TP6B-24 SA1	TP6B-25 SA1	TP6B-26 SA1
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00	2020-07-08 12:00
Parameter	**Unit**	**G / S**	**RDL**	**1271750**	**1271751**	**1271752**	**1271753**	**1271754**	**1271755**	**1271756**	**1271757**
Benzene	µg/g	0.21	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	2.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	3.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 to C10)	µg/g	55	5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	55	5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	98	10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	300	50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	2800	50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	2800	50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	8.2	8.1	21.5	11.1	7.5	4.8	5.3	12.7
Surrogate	**Unit**	**Acceptable Limits**									
Terphenyl	%	60-140		110	120	110	101	120	70	70	80

Certified By:

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AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)

DATE RECEIVED: 2020-07-14 **DATE REPORTED: 2020-07-23**

		SAMPLE DESCRIPTION:		TP7-27 SA1	TP7-28 SA1	SPD-SA3	SPD-SA4	SPD-SA5	SPD-SA6	SPD-SA7	DUP2
		SAMPLE TYPE:		Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
		DATE SAMPLED:		2020-07-08 12:00	2020-07-08 12:00	2020-07-09 12:00	2020-07-09 12:00	2020-07-09 12:00	2020-07-09 12:00	2020-07-09 12:00	2020-07-08 12:00
Parameter	**Unit**	**G / S**	**RDL**	**1271758**	**1271759**	**1271760**	**1271761**	**1271762**	**1271763**	**1271764**	**1271830**
Benzene	µg/g	0.21	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	2.3	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	3.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 to C10)	µg/g	55	5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	55	5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	98	10	<10	<10	<10	<10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	300	50	<50	<50	<50	<50	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	<50	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	2800	50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	2800	50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	27.7	7.2	26.2	23.8	25.9	26.5	23.8	8.0
Surrogate	**Unit**	**Acceptable Limits**									
Terphenyl	%	60-140		74	75	72	70	70	75	80	72

Certified By:

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AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)

DATE RECEIVED: 2020-07-14 **DATE REPORTED: 2020-07-23**

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Soil - Residential/Parkland/Institutional Property Use - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

1271650-1271830 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

Guideline Violation

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
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CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Keith Holmes

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
1271701	TP4-10 SA1	ON T3 S RPI CT	O. Reg. 153(511) - All Metals (Soil)	Barium	µg/g	390	404
1271701	TP4-10 SA1	ON T3 S RPI CT	O. Reg. 153(511) - All Metals (Soil)	Vanadium	µg/g	86	100
1271747	SPD-SA1	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Vanadium	µg/g	86	102
1271752	TP6A-20 SA1	ON T3 S RPI CT	O. Reg. 153(511) - All Metals (Soil)	Vanadium	µg/g	86	101
1271760	SPD-SA3	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Vanadium	µg/g	86	100
1271761	SPD-SA4	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Barium	µg/g	390	416
1271761	SPD-SA4	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Cobalt	µg/g	22	26.7
1271761	SPD-SA4	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Vanadium	µg/g	86	119
1271762	SPD-SA5	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Vanadium	µg/g	86	90
1271763	SPD-SA6	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Cobalt	µg/g	22	25.6
1271763	SPD-SA6	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Vanadium	µg/g	86	113
1271764	SPD-SA7	ON T3 S RPI CT	O. Reg. 153(511) - Metals & Inorganics (Soil)	Vanadium	µg/g	86	94

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

Soil Analysis

RPT Date: Jul 23, 2020			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - All Metals (Soil)															
Antimony	1271650	1271650	1.1	1.0	NA	< 0.8	124%	70%	130%	107%	80%	120%	108%	70%	130%
Arsenic	1271650	1271650	4	4	NA	< 1	110%	70%	130%	101%	80%	120%	100%	70%	130%
Barium	1271650	1271650	164	162	1.2%	< 2	108%	70%	130%	108%	80%	120%	107%	70%	130%
Beryllium	1271650	1271650	0.5	0.5	NA	< 0.5	86%	70%	130%	103%	80%	120%	88%	70%	130%
Boron	1271650	1271650	12	12	NA	< 5	89%	70%	130%	93%	80%	120%	81%	70%	130%
Boron (Hot Water Extractable)	1271650	1271650	0.17	0.18	NA	< 0.10	89%	60%	140%	95%	70%	130%	95%	60%	140%
Cadmium	1271650	1271650	<0.5	<0.5	NA	< 0.5	104%	70%	130%	100%	80%	120%	104%	70%	130%
Chromium	1271650	1271650	23	24	NA	< 5	95%	70%	130%	101%	80%	120%	106%	70%	130%
Cobalt	1271650	1271650	6.8	7.2	5.7%	< 0.5	90%	70%	130%	99%	80%	120%	94%	70%	130%
Copper	1271650	1271650	34	37	8.5%	< 1	91%	70%	130%	100%	80%	120%	96%	70%	130%
Lead	1271650	1271650	67	65	3.0%	< 1	106%	70%	130%	105%	80%	120%	102%	70%	130%
Molybdenum	1271650	1271650	1.3	1.4	NA	< 0.5	105%	70%	130%	107%	80%	120%	105%	70%	130%
Nickel	1271650	1271650	17	19	11.1%	< 1	90%	70%	130%	96%	80%	120%	93%	70%	130%
Selenium	1271650	1271650	0.6	0.6	NA	< 0.4	131%	70%	130%	98%	80%	120%	100%	70%	130%
Silver	1271650	1271650	0.2	0.2	NA	< 0.2	100%	70%	130%	98%	80%	120%	95%	70%	130%
Thallium	1271650	1271650	<0.4	<0.4	NA	< 0.4	110%	70%	130%	100%	80%	120%	99%	70%	130%
Uranium	1271650	1271650	0.8	0.7	NA	< 0.5	110%	70%	130%	99%	80%	120%	102%	70%	130%
Vanadium	1271650	1271650	27	29	7.1%	< 1	101%	70%	130%	96%	80%	120%	100%	70%	130%
Zinc	1271650	1271650	154	164	6.3%	< 5	96%	70%	130%	102%	80%	120%	109%	70%	130%
Chromium, Hexavalent	1271741	1271741	<0.2	<0.2	NA	< 0.2	90%	70%	130%	85%	80%	120%	94%	70%	130%
Mercury	1271650	1271650	0.13	0.13	NA	< 0.10	107%	70%	130%	100%	80%	120%	104%	70%	130%

Comments: QA Qualifier for metals - Selenium: For a multi-element scan for lab control standards and matrix spikes, up to 10% of analytes may exceed the quoted limits by up to 10% absolute and it is considered acceptable.

O. Reg. 153(511) - Metals & Inorganics (Soil)															
Antimony	1271747	1271747	<0.8	<0.8	NA	< 0.8	135%	70%	130%	104%	80%	120%	108%	70%	130%
Arsenic	1271747	1271747	2	2	NA	< 1	108%	70%	130%	100%	80%	120%	95%	70%	130%
Barium	1271747	1271747	374	378	1.1%	< 2	101%	70%	130%	100%	80%	120%	94%	70%	130%
Beryllium	1271747	1271747	1.0	0.8	NA	< 0.5	98%	70%	130%	101%	80%	120%	110%	70%	130%
Boron	1271747	1271747	5	5	NA	< 5	79%	70%	130%	101%	80%	120%	97%	70%	130%
Boron (Hot Water Extractable)	1271747	1271747	0.28	0.18	NA	< 0.10	92%	60%	140%	103%	70%	130%	93%	60%	140%
Cadmium	1271747	1271747	<0.5	<0.5	NA	< 0.5	106%	70%	130%	101%	80%	120%	100%	70%	130%
Chromium	1271747	1271747	113	118	4.3%	< 5	92%	70%	130%	95%	80%	120%	103%	70%	130%
Cobalt	1271747	1271747	21.8	22.7	4.0%	< 0.5	88%	70%	130%	95%	80%	120%	85%	70%	130%
Copper	1271747	1271747	57	55	3.6%	< 1	85%	70%	130%	99%	80%	120%	78%	70%	130%
Lead	1271747	1271747	9	9	0.0%	< 1	107%	70%	130%	108%	80%	120%	103%	70%	130%
Molybdenum	1271747	1271747	<0.5	<0.5	NA	< 0.5	105%	70%	130%	101%	80%	120%	97%	70%	130%
Nickel	1271747	1271747	58	59	1.7%	< 1	87%	70%	130%	91%	80%	120%	95%	70%	130%
Selenium	1271747	1271747	0.7	0.6	NA	< 0.4	130%	70%	130%	94%	80%	120%	90%	70%	130%

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

Soil Analysis (Continued)

RPT Date: Jul 23, 2020			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
Silver	1271747	1271747	<0.2	<0.2	NA	< 0.2	98%	70%	130%	99%	80%	120%	92%	70%	130%
Thallium	1271747	1271747	0.5	0.5	NA	< 0.4	102%	70%	130%	100%	80%	120%	98%	70%	130%
Uranium	1271747	1271747	1.7	1.6	NA	< 0.5	106%	70%	130%	102%	80%	120%	100%	70%	130%
Vanadium	1271747	1271747	102	106	3.8%	< 1	97%	70%	130%	94%	80%	120%	84%	70%	130%
Zinc	1271747	1271747	146	145	0.7%	< 5	97%	70%	130%	99%	80%	120%	115%	70%	130%
Chromium, Hexavalent	1271761	1271761	<0.2	<0.2	NA	< 0.2	90%	70%	130%	85%	80%	120%	94%	70%	130%
Cyanide, Free	1271760	1271760	<0.040	<0.040	NA	< 0.040	102%	70%	130%	99%	80%	120%	93%	70%	130%
Mercury	1271747	1271747	<0.10	<0.10	NA	< 0.10	103%	70%	130%	99%	80%	120%	105%	70%	130%
Electrical Conductivity (2:1)	1271747	1271747	0.133	0.134	0.7%	< 0.005	101%	80%	120%						
Sodium Adsorption Ratio	1271747	1271747	0.208	0.208	0.0%	NA									
pH, 2:1 CaCl2 Extraction	1271761	1271761	7.09	7.03	0.8%	NA	100%	80%	120%						

Comments: NA signifies Not Applicable.
If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.
QA Qualifier for metals - Antimony: For a multi-element scan for lab control standards and matrix spikes, up to 10% of analytes may exceed the quoted limits by up to 10% absolute and it is considered acceptable.

Certified By:

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis

RPT Date: Jul 23, 2020			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)															
Benzene	1271745	1271745	< 0.02	< 0.02	NA	< 0.02	82%	50%	140%	85%	60%	130%	83%	50%	140%
Toluene	1271745	1271745	< 0.05	< 0.05	NA	< 0.05	99%	50%	140%	112%	60%	130%	96%	50%	140%
Ethylbenzene	1271745	1271745	< 0.05	< 0.05	NA	< 0.05	85%	50%	140%	90%	60%	130%	90%	50%	140%
Xylenes (Total)	1271745	1271745	< 0.05	< 0.05	NA	< 0.05	92%	50%	140%	88%	60%	130%	94%	50%	140%
F1 (C6 to C10)	1271745	1271745	< 5	< 5	NA	< 5	108%	60%	140%	99%	60%	140%	91%	60%	140%
F2 (C10 to C16)	1271745	1271745	< 10	< 10	NA	< 10	118%	60%	140%	104%	60%	140%	72%	60%	140%
F3 (C16 to C34)	1271745	1271745	< 50	< 50	NA	< 50	97%	60%	140%	117%	60%	140%	89%	60%	140%
F4 (C34 to C50)	1271745	1271745	< 50	< 50	NA	< 50	90%	60%	140%	117%	60%	140%	98%	60%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	107%	50%	140%	97%	50%	140%	70%	50%	140%
Acenaphthylene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	103%	50%	140%	109%	50%	140%	79%	50%	140%
Acenaphthene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	96%	50%	140%	108%	50%	140%	79%	50%	140%
Fluorene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	106%	50%	140%	111%	50%	140%	81%	50%	140%
Phenanthrene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	111%	50%	140%	108%	50%	140%	85%	50%	140%
Anthracene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	103%	50%	140%	113%	50%	140%	89%	50%	140%
Fluoranthene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	112%	50%	140%	105%	50%	140%	97%	50%	140%
Pyrene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	107%	50%	140%	105%	50%	140%	95%	50%	140%
Benz(a)anthracene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	98%	50%	140%	93%	50%	140%	80%	50%	140%
Chrysene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	100%	50%	140%	108%	50%	140%	95%	50%	140%
Benzo(b)fluoranthene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	100%	50%	140%	99%	50%	140%	97%	50%	140%
Benzo(k)fluoranthene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	92%	50%	140%	90%	50%	140%	94%	50%	140%
Benzo(a)pyrene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	108%	50%	140%	97%	50%	140%	102%	50%	140%
Indeno(1,2,3-cd)pyrene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	84%	50%	140%	79%	50%	140%	76%	50%	140%
Dibenz(a,h)anthracene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	85%	50%	140%	78%	50%	140%	86%	50%	140%
Benzo(g,h,i)perylene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	83%	50%	140%	81%	50%	140%	82%	50%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)															
F2 (C10 to C16)	1271830	1271830	< 10	< 10	NA	< 10	100%	60%	140%	114%	60%	140%	99%	60%	140%
F3 (C16 to C34)	1271830	1271830	< 50	< 50	NA	< 50	101%	60%	140%	119%	60%	140%	90%	60%	140%
F4 (C34 to C50)	1271830	1271830	< 50	< 50	NA	< 50	95%	60%	140%	91%	60%	140%	85%	60%	140%
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)															
Benzene	1271830	1271830	< 0.02	< 0.02	NA	< 0.02	86%	50%	140%	89%	60%	130%	92%	50%	140%
Toluene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	89%	50%	140%	92%	60%	130%	108%	50%	140%
Ethylbenzene	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	91%	50%	140%	100%	60%	130%	89%	50%	140%
Xylenes (Total)	1271830	1271830	< 0.05	< 0.05	NA	< 0.05	88%	50%	140%	100%	60%	130%	90%	50%	140%
F1 (C6 to C10)	1271830	1271830	< 5	< 5	NA	< 5	94%	60%	140%	109%	60%	140%	100%	60%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

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Results relate only to the items tested. Results apply to samples as received.

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

Trace Organics Analysis (Continued)

RPT Date: Jul 23, 2020			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

Certified By:

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QA Violation

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

ATTENTION TO: Keith Holmes

RPT Date: Jul 23, 2020

PARAMETER	Sample Id	Sample Description	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
				Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - All Metals (Soil)											
Selenium	1271650	TP4-01 SA1	131%	70%	130%	98%	80%	120%	100%	70%	130%

Comments: QA Qualifier for metals - Selenium: For a multi-element scan for lab control standards and matrix spikes, up to 10% of analytes may exceed the quoted limits by up to 10% absolute and it is considered acceptable.

O. Reg. 153(511) - Metals & Inorganics (Soil)											
Antimony	1271747	SPD-SA1	135%	70%	130%	104%	80%	120%	108%	70%	130%

Comments: NA signifies Not Applicable.
If RPD value is NA, the results of the duplicates are less than 5x the RDL and the RPD will not be calculated.
QA Qualifier for metals - Antimony: For a multi-element scan for lab control standards and matrix spikes, up to 10% of analytes may exceed the quoted limits by up to 10% absolute and it is considered acceptable.

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Antimony	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Arsenic	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron (Hot Water Extractable)	MET-93-6104	modified from EPA 6010D and MSA PART 3, CH 21	ICP/OES
Cadmium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cobalt	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Copper	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Lead	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Selenium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium, Hexavalent	INOR-93-6068	modified from EPA 3060 and EPA 7196	SPECTROPHOTOMETER
Mercury	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cyanide, Free	INOR-93-6052	modified from ON MOECC E3015 and SM 4500-CN- I	TECHNICON AUTO ANALYZER
Electrical Conductivity (2:1)	INOR-93-6036	modified from MSA PART 3, CH 14 and SM 2510 B	EC METER
Sodium Adsorption Ratio	INOR-93-6007	McKeague 4.12 & 3.26 & EPA SW-846 6010C	ICP/OES
pH, 2:1 CaCl2 Extraction	INOR-93-6031	modified from EPA 9045D and MCKEAGUE 3.11	PH METER

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	ORG-91-5106	Tier 1 Method	BALANCE
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene-d10	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene-d12	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzene	VOL-91-5009	modified from EPA 5035C and EPA 8260D	(P&T)GC/MS
Toluene	VOL-91-5009	modified from EPA SW-846 5035C & 8260D	P&T GC/MS
Ethylbenzene	VOL-91-5009	modified from EPA SW-846 5035C & 8260D	P&T GC/MS
Xylenes (Total)	VOL-91-5009	modified from EPA SW-846 5035C & 8260D	P&T GC/MS
F1 (C6 to C10)	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID

Results relate only to the items tested. Results apply to samples as received.

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http://www.agatlabs.com

Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 20Z624793

PROJECT: 19124906

ATTENTION TO: Keith Holmes

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
F3 (C16 to C34) minus PAHs	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Moisture Content	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories
5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Laboratory Use Only

Work Order #: 2026247 93

Cooler Quantity: two - onice (melted)

Arrival Temperatures: See attached.

Custody Seal Intact: ☐ Yes ☐ No ☐ N/A

Notes:

Report Information:

Company: Golder

Contact: Keith Holmes

Address:

Phone: Fax:

Reports to be sent to:

1. Email: kholmes@golder.com

2. Email:

Project Information:

Project: 19124906

Site Location:

Sampled By: KM

AGAT Quote #: 337349 PO:

Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company:

Contact:

Address:

Email:

Regulatory Requirements:

(Please check all applicable boxes)

☐ Regulation 558

☒ Regulation 153/04
Table 3 (Indicate One)
☐ Ind/Com
☒ Res/Park
☐ Agriculture

Soil Texture (Check One)
☒ Coarse
☐ Fine

☐ Excess Soils R406
Table (Indicate One)
Sample from APEC?
☐ Yes
☐ No
☐ Stockpile ☐ In-situ

☐ Sewer Use
☐ Sanitary ☐ Storm
(Region)
☐ CCME
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
(Indicate One)

Is this submission for a Record of Site Condition? ☒ Yes ☐ No

Report Guideline on Certificate of Analysis ☐ Yes ☒ No

Turnaround Time (TAT) Required:

Regular TAT ☒ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT

*TAT is exclusive of weekends and statutory holidays

For 'Same Day' analysis, please contact your AGAT CPM

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI, DOC (Y/N)	O. Reg 153: Metals & Inorganics (Incl. EC/SAR)	Metals - ICPMS, ☒ CrVI, ☒ Hg, ☒ HWSB	BTEX, F1-F4 PHCs, Analyze F4G if required ☒ Yes ☐ No	PAHs	PCBs	VOC	Landfill Disposal Characterization TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	Excess Soils SPLP Rainwater Leach ☐ Metals ☐ VOCs ☐ SVOCs	Excess Soils Characterization Package pH, ICPMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
TP4-01 SA1	7/7/20	12:00 AM PM	3	S			X	X	X	X							
TP4-02 SA1	"	" AM PM	"	"			"	"	"	"							
TP4-03 SA1		AM PM															
TP4-04 SA1		AM PM															
TP4-05 SA1		AM PM															
TP4-07 SA1		AM PM															
TP4-09 SA1		AM PM															
TP4-10 SA1		AM PM															
TP4-11 SA1		AM PM															
TP4-12 SA1		AM PM															
TP4-13 SA1		AM PM															

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Keith Holmes	13/07/20	16h00	[illegible]	2020/07/14	11h06
UPS to FedEx	2020/07/14	16h00	SMR AM	July 15/20	10:20 am
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page 1 of 4

Nº: T 106448

Document ID: DIV-78-1511-017

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Date Issued: April 23, 2020

AGAT Laboratories
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Mississauga, ON
L4Z 1Y2
www.agatlabs.com · webearth.agatlabs.com
P: 905.712.5100 · F: 905.712.5122

Chain of Custody Record

Laboratory Use Only
Arrival Temperature: 2.0°
AGAT WO #: 20762479 3
Lab Temperature:
Notes:

Client Information
Company:
Contact:
Address:
Phone: Fax:
Project: PO:
AGAT Quotation #:
Please note, if quotation number is not provided, client will be billed full price for analysis.

Regulatory Requirements
- [x] Regulation 153/04 (reg. 511 Amend.) — Table 3 (Indicate one)
  - [ ] Ind/Com
  - [x] Res/Park
  - [ ] Agriculture
- Soil Texture (check one): [x] Coarse [ ] Fine
- [ ] Sewer Use — Region (Indicate one)
  - [ ] Sanitary
  - [ ] Storm
- [ ] Regulation 558
- [ ] CCME
- [ ] Other (specify)
- [ ] Prov. Water Quality Objectives (PWQO)
- [ ] None

Turnaround Time Required (TAT) Required*
Regular TAT
- [x] 5 to 7 Working Days

Rush TAT (please provide prior notification)
Rush Surcharges Apply
- [ ] 3 Working Days
- [ ] 2 Working Days
- [ ] 1 Working Day

OR
Date Required (Rush surcharges may apply):

*TAT is exclusive of weekends and statutory holidays

Invoice To
Same: Yes ☐ No ☐
Company:
Contact:
Address:

Is this a drinking water sample? (potable water intended for human consumption) ☐ Yes ☐ No
If "Yes", please use the *Drinking Water Chain of Custody Form*

Is this submission for a **Record of Site Condition**? ☐ Yes ☐ No

Legend Matrix
GW Ground Water **O** Oil
SW Surface Water **P** Paint
SD Sediment **S** Soil

Report Information – reports to be sent to:
1. Name:
   Email:
2. Name:
   Email:

Sample Identification	Date Sampled	Time Sampled	Sample Matrix	# of Containers	Comments Site/Sample Information	Metals and Inorganics	Metal Scan 153	Hydride Forming Metals	Client Custom Metals	ORPs: ☐ HWS ☐ Cl- ☐ CN- ☐ EC ☐ FOC ☐ Cr+6- ☐ SAR ☒ Hg ☐ pH ☐ NO_3/NO_2 ☐ N- Total	Nutrients: ☐ TP ☐ NH_3 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_2/NO_3	VOC: ☐ VOC ☐ THM ☒ BTEX	CCME Fractions 1 to 4	ABNs	PAHs	Chlorophenols	PCBs	Organochlorine Pesticides	TCLP Metals/Inorganics	Sewer Use
TP7-29 SA1	07/08/20	17:00	S	3		X	X			X		X	X		X				
TP7-30 SA1																			
TP7-31 SA2																			
TP7-32 SA1																			
TP7-33 SA2																			
TP7-34 SA2																			
TP7-35 SA1																			
TP7-36 SA1																			
TP4-37 A																			
TP4-37 B																			
SPD-SA1																			
SPD-SA2																			

No Inorganics on TP samples only
SPD Sample

Samples Relinquished By (Print Name and Sign):	Date/Time	Samples Received By (Print Name and Sign):	Date/Time
Kayla Holmes	17/07/20 13:30	VB	2020/07/14 11h00
Samples Relinquished By (Print Name and Sign):	Date/Time	Samples Received By (Print Name and Sign):	Date/Time
VB	2020/07/14 16h00	SIMRAN	July 15/20

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Page 2 of 4
N°: 42721

Document ID: DIV-73-1311-0[illegible]

AGAT Laboratories
5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Laboratory Use Only
Work Order #: 2026024793
Cooler Quantity: ~~2~~ 3
Arrival Temperatures:
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes:

Report Information:
Company:
Contact:
Address:
Phone: Fax:
Reports to be sent to:
1. Email:
2. Email:

Regulatory Requirements: ☐ No Regulatory Requirement
(Please check all applicable boxes)

☑ Regulation 153/04
Table 3 (Indicate One)
☐ Ind/Com
☒ Res/Park
☐ Agriculture
Soil Texture (Check One)
☑ Coarse
☐ Fine

☐ Sewer Use
☐ Sanitary
☐ Storm
Region (Indicate One)
☐ MISA

☐ Regulation 558
☐ CCME
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
(Indicate One)

Is this submission for a **Record of Site Condition?** ☑ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☒ No

Turnaround Time (TAT) Required:
Regular TAT ☑ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply):
Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*
For 'Same Day' analysis, please contact your AGAT CPM

Project Information:
Project:
Site Location:
Sampled By:
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis

Invoice Information:
Bill To Same: Yes ☐ No ☐
Company:
Contact:
Address:
Email:

Sample Matrix Legend
B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI (Y/N)	O. Reg 153: Metals and Inorganics (☐ All Metals ☐ 153 Metals (excl. Hydrides) ☐ Hydride Metals ☒ 153 Metals (Incl. Hydrides))	O. Reg 153: ORPs (☐ B-HWS ☐ Cl ☐ CN ☐ Cr⁶⁺ ☐ EC ☐ FOC ☐ Hg ☐ pH ☐ SAR)	O. Reg 153: Full Metals Scan	O. Reg 153: Regulation/Custom Metals	O. Reg 153: Nutrients (☐ TP ☐ NH_3 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_3+NO_2)	O. Reg 153: Volatiles (☐ VOC ☒ BTEX ☐ THM)	O. Reg 153: PHCs F1 - F4	O. Reg 153: ABNs	O. Reg 153: PAHs	O. Reg 153: PCBs (☐ Total ☐ Aroclors)	O. Reg 153: Organochlorine Pesticides	O. Reg 153: TCLP (☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs)	O. Reg 153: Sewer Use	pH
TP4-15 SA1	8/07/20	12:00	3	S			X	X					X	X				X	X
TP4-16 SA1																			X
TP6A-17 SA1																			X
TP6A-20 SA1																			X
TP6B-21 SA2																			X
TP6B-22 SA1																			
TP6B-24 SA1																			
TP6B-25 SA1																			
TP6B-26 SA1																			
TP7-27 SA1																			X
TP3-28 SA1																			

Samples Relinquished By (Print Name and Sign): Kedra Holmes	Date: 7/6/20	Time: 3:30	Samples Received By (Print Name and Sign): VD/ID	Date: 2020/07/14	Time: 11h06
Samples Relinquished By (Print Name and Sign): VD/ID to FedEx	Date: 2020/07/14	Time: 16h00	Samples Received By (Print Name and Sign): SIMRAN July 15/20 10:20am	Date:	Time:
Samples Relinquished By (Print Name and Sign):	Date:	Time:	Samples Received By (Print Name and Sign):	Date:	Time:

Page 3 of 4
№: T085407

Document ID: Div 78 1511 015

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AGAT Laboratories

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Mississauga, ON
L4Z 1Y2
www.agatlabs.com · webearth.agatlabs.com

P: 905.712.5100 · F: 905.712.5122

Chain of Custody Record

Laboratory Use Only

Arrival Temperature:
AGAT WO #: 2076247 93
Lab Temperature:
Notes:

Client Information

Company:
Contact:
Address:
Phone: Fax:
Project: PO:
AGAT Quotation #:

Please note, if quotation number is not provided, client will be billed full price for analysis.

Regulatory Requirements

☐ Regulation 153/04 (reg. 511 Amend.)
Table ____ *Indicate one*
☐ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture *(check one)*
☐ Coarse ☐ Fine

☐ Sewer Use
Region ____ *Indicate one*
☐ Sanitary
☐ Storm

☐ Regulation 558
☐ CCME
☐ Other *(specify)*
☐ Prov. Water Quality Objectives (PWQO)
☐ None

Turnaround Time Required (TAT) Required*

Regular TAT
☐ 5 to 7 Working Days

Rush TAT (please provide prior notification)
Rush Surcharges Apply
☐ 3 Working Days
☐ 2 Working Days
☐ 1 Working Day

OR

Date Required (Rush surcharges may apply):

*TAT is exclusive of weekends and statutory holidays

Invoice To

Same: Yes ☐ No ☐
Company:
Contact:
Address:

Is this a drinking water sample?
(potable water intended for human consumption)
☐ Yes ☐ No
If "Yes", please use the *Drinking Water Chain of Custody Form*

Is this submission for a **Record of Site Condition**?
☐ Yes ☐ No

Legend Matrix

GW Ground Water **O** Oil
SW Surface Water **P** Paint
SD Sediment **S** Soil

Report Information – reports to be sent to:

1. Name:
   Email:
2. Name:
   Email:

Sample Identification	Date Sampled	Time Sampled	Sample Matrix	# of Containers	Comments Site/Sample Information	Metals and Inorganics	Metal Scan 153 (complete)	Hydride Forming Metals	Client Custom Metals	ORPs: ☐ HWS ☐ Cl- ☐ CN- ☐ EC ☐ FOC ☐ Cr+6 ☐ SAR ☐ Hg ☐ pH ☐ N- Total ☐ NO_3/NO_2	Nutrients: ☐ TP ☐ NH_4 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_3/NO_2	VOC: ☐ VOC ☐ THM ☐ BTEX	CCME Fractions 1 to 4	ABNs	PAHs	Chlorophenols	PCBs	Organochlorine Pesticides	TCLP Metals/Inorganics	Sewer Use
SPD-SA4	9/07/20	12:00	S	3		X				X			X		X					
SPD-SA4																				
SPD-SA5																				
SPD-SA6																				
SPD-SA7																				
DUP2	7/08/20	12:00	S	3			X						X		X					

Samples Relinquished By (Print Name and Sign):	Date/Time	Samples Received By (Print Name and Sign):	Date/Time
			2020/07/14 11:00
Samples Relinquished By (Print Name and Sign):	Date/Time	Samples Received By (Print Name and Sign):	Date/Time
UPS to FedEx	2020/07/14 16:00	SIMRAN	July 15/20 10:20 am

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Page 4 of 4

N°: 42722

Document ID: DIV-CoC-18112008

Date Issued: May 11, 2018

AGAT Laboratories

Sample Temperature Log

Client: Golden

COC# or Work Order #: 207624793

# of Coolers: two - ice (melted)

# of Submissions: one

	Arrival Temperatures - Branch/Driver	Arrival Temperatures - Laboratory
Cooler #1:	11.7 / 12.5 / 12.2	6.6 / 6.7 / 6.8
Cooler #2:	14.4 / 14.5 / 14.1	7.2 / 6.8 / 7.5
Cooler #3:	/ /	/ /
Cooler #4:	/ /	/ /
Cooler #5:	/ /	/ /
Cooler #6:	/ /	/ /
Cooler #7:	/ /	/ /
Cooler #8	/ /	/ /
Cooler #9:	/ /	/ /
Cooler #10:	/ /	/ /
IR Gun ID:	1439003407	
Taken By:	Linda B	SIMRAN
Date (yyyy/mm/dd):	2020/07/14	2020/07/15
Time:	11 : 06 AM / PM	10 : 20 AM / PM

Instructions for use of this form: 1) complete all fields of info including total # of coolers and # of submissions rec'd, 2) photocopy and place in each submission prior to giving a WO#, 3) Proceed as normal, write the WO# and scan (please make sure to scan along with the COC)

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
http://www.agatlabs.com

CLIENT NAME: GOLDER ASSOCIATES LTD
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600
ATTENTION TO: Tony Lyon
PROJECT: 19124906 (Phase 7)
AGAT WORK ORDER: 21Z783056
SOIL ANALYSIS REVIEWED BY: Nivine Basily, Inorganics Report Writer
TRACE ORGANICS REVIEWED BY: Neli Popnikolova, Senior Chemist
DATE REPORTED: Aug 11, 2021
PAGES (INCLUDING COVER): 16
VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

Member of: Association of Professional Engineers and Geoscientists of Alberta (APEGA)
Western Enviro-Agricultural Laboratory Association (WEALA)
Environmental Services Association of Alberta (ESAA)

AGAT Laboratories is accredited to ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA) and/or Standards Council of Canada (SCC) for specific tests listed on the scope of accreditation. AGAT Laboratories (Mississauga) is also accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA) for specific drinking water tests. Accreditations are location and parameter specific. A complete listing of parameters for each location is available from www.cala.ca and/or www.scc.ca. The tests in this report may not necessarily be included in the scope of accreditation. Measurement Uncertainty is not taken into consideration when stating conformity with a specified requirement.

AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21Z783056

PROJECT: 19124906 (Phase 7)

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Tony Lyon

SAMPLING SITE:CLC

SAMPLED BY:Aaron Bradshaw

O. Reg. 153(511) - Metals (Excluding Hydrides) (Soil)

DATE RECEIVED: 2021-08-03

DATE REPORTED: 2021-08-11

SAMPLE DESCRIPTION:				TP21-10 SA1	TP21-11 SA1	TP21-12 SA2	TP21-13 SA1	TP21-14 SA1	TP21-15 SA1	TP21-16 SA1	TP21-17 SA2
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2021-07-27 08:00	2021-07-27 08:15	2021-07-27 08:30	2021-07-27 09:00	2021-07-27 09:15	2021-07-27 09:45	2021-07-28 08:00	2021-07-28 09:00
Parameter	Unit	G / S	RDL	2812443	2812449	2812450	2812451	2812452	2812453	2812468	2812469
Barium	µg/g	220	2.0	64.3	101	114	51.8	58.4	30.7	98.9	58.2
Beryllium	µg/g	2.5	0.4	0.4	0.6	0.7	<0.4	<0.4	<0.4	<0.4	<0.4
Boron	µg/g	36	5	<5	8	12	<5	<5	<5	<5	<5
Cadmium	µg/g	1.2	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	5	22	30	33	16	14	10	32	18
Cobalt	µg/g	21	0.5	6.7	10.8	14.7	5.6	5.9	5.7	7.7	4.1
Copper	µg/g	92	1.0	12.0	18.2	25.7	9.1	12.1	9.0	18.2	6.5
Lead	µg/g	120	1	15	24	34	10	4	4	23	4
Molybdenum	µg/g	2	0.5	<0.5	1.1	2.0	<0.5	<0.5	<0.5	<0.5	<0.5
Nickel	µg/g	82	1	14	24	33	11	10	8	22	10
Silver	µg/g	0.5	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Uranium	µg/g	2.5	0.50	0.60	0.66	0.67	<0.50	0.53	<0.50	0.54	0.54
Vanadium	µg/g	86	0.4	32.7	38.8	38.8	23.3	27.3	19.9	36.6	25.8
Zinc	µg/g	290	5	49	63	59	29	16	16	76	17

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 21Z783056

PROJECT: 19124906 (Phase 7)

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Tony Lyon

SAMPLING SITE:CLC

SAMPLED BY:Aaron Bradshaw

O. Reg. 153(511) - Metals (Excluding Hydrides) (Soil)

DATE RECEIVED: 2021-08-03

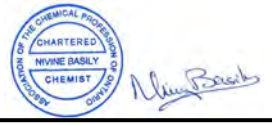
DATE REPORTED: 2021-08-11

				SAMPLE DESCRIPTION:	TP21-18 SA1	TP21-19 SA2	TP21-20 SA2	TP21-21 SA2	DUP-1
				SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2021-07-28 08:30	2021-07-28 09:30	2021-07-28 10:00	2021-07-28 10:30	2021-07-28 09:00
Parameter	Unit	G / S	RDL		2812470	2812471	2812472	2812473	2812481
Barium	µg/g	220	2.0		91.3	25.7	25.3	24.2	51.9
Beryllium	µg/g	2.5	0.4		<0.4	<0.4	<0.4	<0.4	<0.4
Boron	µg/g	36	5		<5	<5	<5	<5	<5
Cadmium	µg/g	1.2	0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Chromium	µg/g	70	5		33	8	8	7	17
Cobalt	µg/g	21	0.5		7.7	3.5	3.9	3.4	4.2
Copper	µg/g	92	1.0		16.8	8.3	7.5	7.8	8.0
Lead	µg/g	120	1		15	2	2	2	5
Molybdenum	µg/g	2	0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Nickel	µg/g	82	1		19	5	5	5	11
Silver	µg/g	0.5	0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Thallium	µg/g	1	0.5		<0.5	<0.5	<0.5	<0.5	<0.5
Uranium	µg/g	2.5	0.50		0.62	0.56	<0.50	<0.50	0.53
Vanadium	µg/g	86	0.4		38.7	19.9	19.7	14.9	22.4
Zinc	µg/g	290	5		49	11	12	12	21

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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AGAT WORK ORDER: 21Z783056

PROJECT: 19124906 (Phase 7)

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Tony Lyon

SAMPLING SITE:CLC

SAMPLED BY:Aaron Bradshaw

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2021-08-03

DATE REPORTED: 2021-08-11

SAMPLE DESCRIPTION:				TP21-10 SA1	TP21-11 SA1	TP21-12 SA2	TP21-13 SA1	TP21-14 SA1	TP21-15 SA1	TP21-16 SA1	TP21-17 SA2
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2021-07-27 08:00	2021-07-27 08:15	2021-07-27 08:30	2021-07-27 09:00	2021-07-27 09:15	2021-07-27 09:45	2021-07-28 08:00	2021-07-28 09:00
Parameter	Unit	G / S	RDL	2812443	2812449	2812450	2812451	2812452	2812453	2812468	2812469
Naphthalene	µg/g	0.09	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.093	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	0.072	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	0.12	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	0.69	0.05	0.08	<0.05	0.07	0.24	<0.05	<0.05	0.07	<0.05
Anthracene	µg/g	0.16	0.05	0.12	<0.05	<0.05	0.11	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.56	0.05	0.55	<0.05	0.08	0.39	<0.05	<0.05	0.11	<0.05
Pyrene	µg/g	1	0.05	0.62	<0.05	0.07	0.36	<0.05	<0.05	0.09	<0.05
Benz(a)anthracene	µg/g	0.36	0.05	0.45	<0.05	<0.05	0.19	<0.05	<0.05	0.06	<0.05
Chrysene	µg/g	2.8	0.05	0.54	<0.05	<0.05	0.20	<0.05	<0.05	0.07	<0.05
Benzo(b)fluoranthene	µg/g	0.47	0.05	0.70	<0.05	0.06	0.25	<0.05	<0.05	0.09	<0.05
Benzo(k)fluoranthene	µg/g	0.48	0.05	0.40	<0.05	<0.05	0.09	<0.05	<0.05	0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05	0.47	<0.05	<0.05	0.16	<0.05	<0.05	0.06	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.46	0.05	0.22	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	0.68	0.05	0.18	<0.05	<0.05	0.06	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	0.59	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1	13.7	13.4	14.7	7.1	10.5	9.2	12.8	9.3
Surrogate	Unit	Acceptable Limits									
Naphthalene-d8	%	50-140		98	98	110	110	89	98	102	85
Acridine-d9	%	50-140		86	85	81	82	101	101	98	98
Terphenyl-d14	%	50-140		115	84	93	108	85	85	118	101

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 21Z783056

PROJECT: 19124906 (Phase 7)

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Tony Lyon

SAMPLING SITE:CLC

SAMPLED BY:Aaron Bradshaw

O. Reg. 153(511) - PAHs (Soil)

DATE RECEIVED: 2021-08-03

DATE REPORTED: 2021-08-11

				SAMPLE DESCRIPTION:	TP21-18 SA1	TP21-19 SA2	TP21-20 SA2	TP21-21 SA2	DUP-1
				SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2021-07-28 08:30	2021-07-28 09:30	2021-07-28 10:00	2021-07-28 10:30	2021-07-28 09:00
Parameter	Unit	G / S	RDL		2812470	2812471	2812472	2812473	2812481
Naphthalene	µg/g	0.09	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthylene	µg/g	0.093	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Acenaphthene	µg/g	0.072	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Fluorene	µg/g	0.12	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Phenanthrene	µg/g	0.69	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Anthracene	µg/g	0.16	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Fluoranthene	µg/g	0.56	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Pyrene	µg/g	1	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Benz(a)anthracene	µg/g	0.36	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Chrysene	µg/g	2.8	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(b)fluoranthene	µg/g	0.47	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(k)fluoranthene	µg/g	0.48	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(a)pyrene	µg/g	0.3	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.46	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Dibenz(a,h)anthracene	µg/g	0.1	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Benzo(g,h,i)perylene	µg/g	0.68	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
1 and 2 Methlynaphthalene	µg/g	0.59	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Moisture Content	%		0.1		12.6	3.7	6.1	6.2	8.2
Surrogate	Unit	Acceptable Limits							
Naphthalene-d8	%	50-140			<1	98	98	98	98
Acridine-d9	%	50-140			<1	85	101	85	85
Terphenyl-d14	%	50-140			<1	96	85	96	96

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2812443-2812481 Results are based on the dry weight of the soil.
Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: NPopowkolof

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Certificate of Analysis

AGAT WORK ORDER: 21Z783056

PROJECT: 19124906 (Phase 7)

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Tony Lyon

SAMPLING SITE:CLC

SAMPLED BY:Aaron Bradshaw

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)

DATE RECEIVED: 2021-08-03

DATE REPORTED: 2021-08-11

SAMPLE DESCRIPTION:				TP21-10 SA1	TP21-11 SA1	TP21-12 SA2	TP21-13 SA1	TP21-14 SA1	TP21-15 SA1	TP21-16 SA1	TP21-17 SA2
SAMPLE TYPE:				Soil	Soil	Soil	Soil	Soil	Soil	Soil	Soil
DATE SAMPLED:				2021-07-27 08:00	2021-07-27 08:15	2021-07-27 08:30	2021-07-27 09:00	2021-07-27 09:15	2021-07-27 09:45	2021-07-28 08:00	2021-07-28 09:00
Parameter	Unit	G / S	RDL	2812443	2812449	2812450	2812451	2812452	2812453	2812468	2812469
Benzene	µg/g	0.02	0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.2	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	µg/g		0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	0.05	0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 - C10)	µg/g	25	5	<5	<5	<5	<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5	<5	<5	<5	<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10	<10	<10	<10	<10	<10	<10	14	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10	<10	<10	<10	<10	<10	<10	14	<10
F3 (C16 to C34)	µg/g	240	50	<50	<50	<50	<50	<50	<50	160	<50
F3 (C16 to C34) minus PAHs	µg/g		50	<50	<50	<50	<50	<50	<50	159	<50
F4 (C34 to C50)	µg/g	120	50	<50	<50	<50	<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	50	NA	NA	NA	NA	NA	NA	NA	NA
Moisture Content	%		0.1	13.7	13.4	14.7	7.1	10.5	9.2	12.8	9.3
Surrogate	Unit	Acceptable Limits									
Toluene-d8	% Recovery	60-140		96	79	82	121	76	101	106	78
Terphenyl	%	60-140		93	107	96	100	107	80	100	87

Certified By:

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AGAT WORK ORDER: 21Z783056

PROJECT: 19124906 (Phase 7)

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Tony Lyon

SAMPLING SITE:CLC

SAMPLED BY:Aaron Bradshaw

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)

DATE RECEIVED: 2021-08-03

DATE REPORTED: 2021-08-11

				SAMPLE DESCRIPTION:	TP21-18 SA1	TP21-19 SA2	TP21-20 SA2	TP21-21 SA2	DUP-1
				SAMPLE TYPE:	Soil	Soil	Soil	Soil	Soil
				DATE SAMPLED:	2021-07-28 08:30	2021-07-28 09:30	2021-07-28 10:00	2021-07-28 10:30	2021-07-28 09:00
Parameter	Unit	G / S	RDL		2812470	2812471	2812472	2812473	2812481
Benzene	µg/g	0.02	0.02		<0.02	<0.02	<0.02	<0.02	<0.02
Toluene	µg/g	0.2	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Ethylbenzene	µg/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
m & p-Xylene	µg/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05
o-Xylene	µg/g		0.05		<0.05	<0.05	<0.05	<0.05	<0.05
Xylenes (Total)	µg/g	0.05	0.05		<0.05	<0.05	<0.05	<0.05	<0.05
F1 (C6 - C10)	µg/g	25	5		<5	<5	<5	<5	<5
F1 (C6 to C10) minus BTEX	µg/g	25	5		<5	<5	<5	<5	<5
F2 (C10 to C16)	µg/g	10	10		10	<10	<10	<10	<10
F2 (C10 to C16) minus Naphthalene	µg/g		10		10	<10	<10	<10	<10
F3 (C16 to C34)	µg/g	240	50		74	<50	<50	<50	<50
F3 (C16 to C34) minus PAHs	µg/g		50		74	<50	<50	<50	<50
F4 (C34 to C50)	µg/g	120	50		<50	<50	<50	<50	<50
Gravimetric Heavy Hydrocarbons	µg/g	120	50		NA	NA	NA	NA	NA
Moisture Content	%		0.1		12.6	3.7	6.1	6.2	8.2
Surrogate	Unit	Acceptable Limits							
Toluene-d8	% Recovery	60-140			90	110	104	114	112
Terphenyl	%	60-140			120	96	71	102	94

Certified By:

Results relate only to the items tested. Results apply to samples as received.

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Certificate of Analysis

AGAT WORK ORDER: 21Z783056

PROJECT: 19124906 (Phase 7)

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Tony Lyon

SAMPLING SITE:CLC

SAMPLED BY:Aaron Bradshaw

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)

DATE RECEIVED: 2021-08-03

DATE REPORTED: 2021-08-11

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 1: Full Depth Background Site Condition Standards - Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2812443-2812481 Results are based on sample dry weight.
The C6-C10 fraction is calculated using toluene response factor.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By: N Popowkolof

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Exceedance Summary

AGAT WORK ORDER: 21Z783056

PROJECT: 19124906 (Phase 7)

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Tony Lyon

SAMPLEID	SAMPLE TITLE	GUIDELINE	ANALYSIS PACKAGE	PARAMETER	UNIT	GUIDEVALUE	RESULT
2812443	TP21-10 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PAHs (Soil)	Benz(a)anthracene	µg/g	0.36	0.45
2812443	TP21-10 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PAHs (Soil)	Benzo(a)pyrene	µg/g	0.3	0.47
2812443	TP21-10 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PAHs (Soil)	Benzo(b)fluoranthene	µg/g	0.47	0.70
2812443	TP21-10 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)	Benzo(a)anthracene	µg/g	0.36	0.45
2812443	TP21-10 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)	Benzo(a)pyrene	µg/g	0.3	0.47
2812443	TP21-10 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)	Benzo(b)fluoranthene	µg/g	0.47	0.70
2812451	TP21-13 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)	Benzo(a)pyrene	µg/g	0.3	0.6
2812468	TP21-16 SA1	ON T1 S RPI/ICC	O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)	F2 (C10 to C16)	µg/g	10	14

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD
PROJECT: 19124906 (Phase 7)
SAMPLING SITE:CLC

AGAT WORK ORDER: 21Z783056
ATTENTION TO: Tony Lyon
SAMPLED BY:Aaron Bradshaw

Soil Analysis

RPT Date: Aug 11, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - Metals (Excluding Hydrides) (Soil)															
Barium	2812443	2812443	64.3	65.1	1.2%	< 2.0	97%	70%	130%	100%	80%	120%	99%	70%	130%
Beryllium	2812443	2812443	0.4	<0.4	NA	< 0.4	110%	70%	130%	92%	80%	120%	98%	70%	130%
Boron	2812443	2812443	<5	<5	NA	< 5	95%	70%	130%	102%	80%	120%	94%	70%	130%
Cadmium	2812443	2812443	<0.5	<0.5	NA	< 0.5	111%	70%	130%	104%	80%	120%	100%	70%	130%
Chromium	2812443	2812443	22	22	NA	< 5	110%	70%	130%	102%	80%	120%	94%	70%	130%
Cobalt	2812443	2812443	6.7	6.7	0.0%	< 0.5	109%	70%	130%	100%	80%	120%	100%	70%	130%
Copper	2812443	2812443	12.0	11.4	5.1%	< 1.0	94%	70%	130%	100%	80%	120%	91%	70%	130%
Lead	2812443	2812443	15	14	6.9%	< 1	108%	70%	130%	98%	80%	120%	92%	70%	130%
Molybdenum	2812443	2812443	<0.5	<0.5	NA	< 0.5	116%	70%	130%	111%	80%	120%	109%	70%	130%
Nickel	2812443	2812443	14	14	0.0%	< 1	107%	70%	130%	103%	80%	120%	100%	70%	130%
Silver	2812443	2812443	<0.5	<0.5	NA	< 0.5	113%	70%	130%	104%	80%	120%	99%	70%	130%
Thallium	2812443	2812443	<0.5	<0.5	NA	< 0.5	112%	70%	130%	102%	80%	120%	99%	70%	130%
Uranium	2812443	2812443	0.60	0.57	NA	< 0.50	118%	70%	130%	100%	80%	120%	100%	70%	130%
Vanadium	2812443	2812443	32.7	32.3	1.2%	< 0.4	121%	70%	130%	102%	80%	120%	102%	70%	130%
Zinc	2812443	2812443	49	46	6.3%	< 5	100%	70%	130%	96%	80%	120%	87%	70%	130%

Comments: NA Signifies Not Applicable.
Duplicate NA: results are under 5X the RDL and will not be calculated.

Certified By:

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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD
PROJECT: 19124906 (Phase 7)
SAMPLING SITE:CLC

AGAT WORK ORDER: 21Z783056
ATTENTION TO: Tony Lyon
SAMPLED BY:Aaron Bradshaw

Trace Organics Analysis

RPT Date: Aug 11, 2021			DUPLICATE				REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD	Method Blank	Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Soil)															
Benzene	2812663		<0.02	<0.02	NA	< 0.02	95%	60%	140%	112%	60%	140%	103%	60%	140%
Toluene	2812663		<0.05	0.05	NA	< 0.05	97%	60%	140%	95%	60%	140%	109%	60%	140%
Ethylbenzene	2812663		<0.05	<0.05	NA	< 0.05	97%	60%	140%	117%	60%	140%	99%	60%	140%
m & p-Xylene	2812663		<0.05	<0.05	NA	< 0.05	117%	60%	140%	100%	60%	140%	103%	60%	140%
o-Xylene	2812663		<0.05	<0.05	NA	< 0.05	87%	60%	140%	92%	60%	140%	88%	60%	140%
F1 (C6 - C10)	2812663		<5	<5	NA	< 5	98%	60%	140%	99%	60%	140%	103%	60%	140%
F2 (C10 to C16)	2821610		< 10	< 10	NA	< 10	112%	60%	140%	100%	60%	140%	108%	60%	140%
F3 (C16 to C34)	2821610		< 50	< 50	NA	< 50	110%	60%	140%	108%	60%	140%	114%	60%	140%
F4 (C34 to C50)	2821610		< 50	< 50	NA	< 50	93%	60%	140%	90%	60%	140%	115%	60%	140%
O. Reg. 153(511) - PAHs (Soil)															
Naphthalene	2808244		< 0.01	< 0.01	0.0%	< 0.05	89%	50%	140%	102%	50%	140%	101%	50%	140%
Acenaphthylene	2808244		< 0.05	< 0.05	0.0%	< 0.05	85%	50%	140%	87%	50%	140%	85%	50%	140%
Acenaphthene	2808244		< 0.05	< 0.05	0.0%	< 0.05	96%	50%	140%	95%	50%	140%	96%	50%	140%
Fluorene	2808244		< 0.05	< 0.05	0.0%	< 0.05	85%	50%	140%	84%	50%	140%	85%	50%	140%
Phenanthrene	2808244		< 0.04	< 0.04	0.0%	< 0.05	96%	50%	140%	95%	50%	140%	84%	50%	140%
Anthracene	2808244		< 0.05	< 0.05	0.0%	< 0.05	85%	50%	140%	84%	50%	140%	85%	50%	140%
Fluoranthene	2808244		< 0.05	< 0.05	0.0%	< 0.05	96%	50%	140%	95%	50%	140%	96%	50%	140%
Pyrene	2808244		< 0.05	< 0.05	0.0%	< 0.05	102%	50%	140%	98%	50%	140%	98%	50%	140%
Benz(a)anthracene	2808244		< 0.05	< 0.05	0.0%	< 0.05	85%	50%	140%	85%	50%	140%	85%	50%	140%
Chrysene	2808244		< 0.05	< 0.05	0.0%	< 0.05	96%	50%	140%	81%	50%	140%	85%	50%	140%
Benzo(b)fluoranthene	2808244		< 0.05	< 0.05	0.0%	< 0.05	85%	50%	140%	85%	50%	140%	96%	50%	140%
Benzo(k)fluoranthene	2808244		< 0.05	< 0.05	0.0%	< 0.05	96%	50%	140%	96%	50%	140%	85%	50%	140%
Benzo(a)pyrene	2808244		< 0.05	< 0.05	0.0%	< 0.05	85%	50%	140%	85%	50%	140%	96%	50%	140%
Indeno(1,2,3-cd)pyrene	2808244		< 0.05	< 0.05	0.0%	< 0.05	96%	50%	140%	96%	50%	140%	85%	50%	140%
Dibenz(a,h)anthracene	2808244		< 0.05	< 0.05	0.0%	< 0.05	84%	50%	140%	95%	50%	140%	84%	50%	140%
Benzo(g,h,i)perylene	2808244		< 0.01	< 0.01	0.0%	< 0.05	102%	50%	140%	85%	50%	140%	95%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By: N Popowkolof

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 21Z783056

PROJECT: 19124906 (Phase 7)

ATTENTION TO: Tony Lyon

SAMPLING SITE:CLC

SAMPLED BY:Aaron Bradshaw

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Soil Analysis			
Barium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Beryllium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Boron	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cadmium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Chromium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Cobalt	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Copper	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Lead	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Molybdenum	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Nickel	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Silver	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Thallium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Uranium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Vanadium	MET-93-6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS
Zinc	MET 93 -6103	modified from EPA 3050B and EPA 6020B and ON MOECC	ICP-MS

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 21Z783056

PROJECT: 19124906 (Phase 7)

ATTENTION TO: Tony Lyon

SAMPLING SITE:CLC

SAMPLED BY:Aaron Bradshaw

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluorene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benz(a)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Chrysene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
1 and 2 Methlynaphthalene	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5106	modified from EPA 3570 and EPA 8270E	GC/MS
Moisture Content	VOL-91-5009	CCME Tier 1 Method	BALANCE
Benzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Toluene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Ethylbenzene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
m & p-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
o-Xylene	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
Xylenes (Total)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/MS
F1 (C6 - C10)	VOL-91-5009	modified from CCME Tier 1 Method	(P&T)GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5009	modified from CCME Tier 1 Method	P&T GC/FID
Toluene-d8	VOL-91-5009	modified from EPA SW-846 5030C & 8260D	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F3 (C16 to C34)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 21Z783056

PROJECT: 19124906 (Phase 7)

ATTENTION TO: Tony Lyon

SAMPLING SITE:CLC

SAMPLED BY:Aaron Bradshaw

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
F3 (C16 to C34) minus PAHs	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
F4 (C34 to C50)	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5009	modified from CCME Tier 1 Method	BALANCE
Terphenyl	VOL-91-5009	modified from CCME Tier 1 Method	GC/FID

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OTTAWA

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Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Laboratory Use Only
Work Order #: 21783056
Cooler Quantity: 1
Arrival Temperatures: 3.8 | 3.7 | 3.3
Custody Seal Intact: ☐Yes ☐No ☐N/A
Notes: ON10 85 76 73

Report Information:
Company: Golder
Contact: Tony Lyon
Address:
Phone: Fax:
Reports to be sent to:
1. Email: alyon@golder.com
2. Email:

Regulatory Requirements: ☐ No Regulatory Requirement
(Please check all applicable boxes)
☑ Regulation 153/04 — Table 1 (Indicate One) — ☐ Ind/Com ☐ Res/Park ☐ Agriculture — Soil Texture (Check One): ☑ Coarse ☐ Fine
☐ Sewer Use — ☐ Sanitary ☐ Storm — Region (Indicate One) ☐ MISA
☐ Regulation 558 ☐ CCME ☐ Prov. Water Quality Objectives (PWQO) ☐ Other (Indicate One)

Turnaround Time (TAT) Required:
Regular TAT ☑ 5 to 7 Business Days
Rush TAT (Rush Surcharges Apply)
☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day
OR Date Required (Rush Surcharges May Apply):
Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*
For 'Same Day' analysis, please contact your AGAT CPM

Project Information:
Project: 19124906 (Phase 7)
Site Location: CLC
Sampled By: Aaron Bradshaw
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Is this submission for a **Record of Site Condition?** ☑ Yes ☐ No
Report Guideline on Certificate of Analysis ☑ Yes ☐ No

Invoice Information: Bill To Same: Yes ☑ No ☐
Company:
Contact:
Address:
Email:

Sample Matrix Legend
B Biota
GW Ground Water
O Oil
P Paint
S Soil
SD Sediment
SW Surface Water

Sample Identification		Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y/N	Field Filtered - Metals, Hg, CrVI	O. Reg 153: Metals and Inorganics (153)	☐ All Metals ☐ 153 Metals (excl. Hydrides)	☐ Hydride Metals ☐ 153 Metals (incl. Hydrides)	ORPs: ☐ B-HWS ☐ Cl ☐ CN ☐ Cr^{6+} ☐ EC ☐ FOC ☐ Hg ☐ pH ☐ SAR	Full Metals Scan	Regulation/Custom Metals	Nutrients: ☐ TP ☐ NH_3 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_3+NO_2	Volatiles: ☐ VOC ☑ BTEX ☐ THM	PHCs F1 - F4	ABNs	PAHs	PCBs: ☐ Total ☐ Aroclors	Organochlorine Pesticides	TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	Sewer Use
TP21-10	SA1	Jul 27, 21	8:00	3	Soil		N/A		✓							✓	✓		✓			
TP21-11	SA1	"	8:15	3					✓							✓	✓		✓			
TP21-12	SA2	"	8:30	3					✓							✓	✓		✓			
TP21-13	SA1	"	9:00	3					✓							✓	✓		✓			
TP21-14	SA1	"	9:15	3					✓							✓	✓		✓			
TP21-15	SA1	"	9:45	3					✓							✓	✓		✓			
TP21-16	SA1	Jul 28, 21	8:00	3					✓							✓	✓		✓			
TP21-17	SA2	"	9:00	3					✓							✓	✓		✓			
TP21-18	SA1	"	8:30	3					✓							✓	✓		✓			
TP21-19	SA2	"	930	3					✓							✓	✓		✓			
TP21-20	SA2	"	10:00	3					✓					3		✓	✓		✓			

Samples Relinquished By (Print Name and Sign)	Date	Time	Samples Received By (Print Name and Sign)	Date	Time
Tony Lyon	Aug 3, '21	13:00	Jeff Sals	21/8/4	1400
			Simai		850

Page 1 of 2
N°: T071324

AGAT Laboratories
5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:

Company:
Contact:
Address: see page 1
Phone: Fax:
Reports to be sent to:
1. Email:
2. Email:

Project Information:

Project:
Site Location:
Sampled By:
AGAT Quote #: PO:
Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes ☐ No ☐

Company:
Contact:
Address:
Email:

Regulatory Requirements: ☐ No Regulatory Requirement

(Please check all applicable boxes)

☐ Regulation 153/04
Table _____ *Indicate One*
☐ Ind/Com
☐ Res/Park
☐ Agriculture
Soil Texture *(Check One)*
☐ Coarse
☐ Fine

☐ Sewer Use
☐ Sanitary
☐ Storm
Region _____ *Indicate One*
☐ MISA

☐ Regulation 558
☐ CCME
☐ Prov. Water Quality Objectives (PWQO)
☐ Other
_____ *Indicate One*

Is this submission for a **Record of Site Condition?** ☐ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☐ Yes ☐ No

Laboratory Use Only

Work Order #:
Cooler Quantity: 1
Arrival Temperatures: ~~3.8~~ | ~~3.7~~ | ~~3.5~~
Custody Seal Intact: ☐ Yes ☐ No ☐ N/A
Notes:

Turnaround Time (TAT) Required:

Regular TAT ☐ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI (Y/N)	O. Reg 153: Metals and Hydrides (153)	All Metals ☐ 153 Metals (excl. Hydrides)	Hydride Metals ☐ 153 Metals (incl. Hydrides)	ORPs: ☐ B-HWS ☐ Cl ☐ CN ☐ Cr^{6+} ☐ EC ☐ FOC ☐ Hg ☐ pH ☐ SAR	Full Metals Scan	Regulation/Custom Metals	Nutrients: ☐ TP ☐ NH_3 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_3+NO_2	Volatiles: ☐ VOC ☐ BTEX ☐ THM	PHCs F1 - F4	ABNs	PAHs	PCBs: ☐ Total ☐ Aroclors	Organochlorine Pesticides	TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	Sewer Use
TP21-21 SA2	Jul 28, 21	10:30	3	Soil		NA	✓							✓	✓		✓			
DUP-1	Jul 28, '21	900	3	Soil			✓							✓	✓		✓			

Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
Tony Lyn	Aug 3, 21	13:00	Juliet Jones	SA 21	1407
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time
			Simon	21/8/4	850
Samples Relinquished By (Print Name and Sign):	Date	Time	Samples Received By (Print Name and Sign):	Date	Time

Page 2 of 2

N°: T 071325

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CLIENT NAME: GOLDER ASSOCIATES LTD
1931 ROBERTSON ROAD
OTTAWA, ON K2H5B7
(613) 592-9600

ATTENTION TO: Tony Lyon

PROJECT: 19124906

AGAT WORK ORDER: 21Z832960

TRACE ORGANICS REVIEWED BY: Inga Kuzmina, Trace Organics Lab Manager

DATE REPORTED: Nov 30, 2021

PAGES (INCLUDING COVER): 8

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.

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Western Enviro-Agricultural Laboratory Association (WEALA)
Environmental Services Association of Alberta (ESAA)

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AGAT Laboratories

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Certificate of Analysis

AGAT WORK ORDER: 21Z832960

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Tony Lyon

SAMPLING SITE:Phase 7

SAMPLED BY:S.Olthof

O. Reg. 153(511) - PAHs (Water)

DATE RECEIVED: 2021-11-22

DATE REPORTED: 2021-11-30

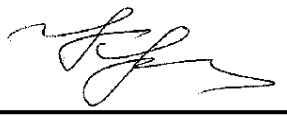
				SAMPLE DESCRIPTION:	29-1
				SAMPLE TYPE:	Water
				DATE SAMPLED:	2021-11-19 10:30
Parameter	Unit	G / S	RDL		3239961
Naphthalene	µg/L	1400	0.20		<0.20
Acenaphthylene	µg/L	1.8	0.20		<0.20
Acenaphthene	µg/L	600	0.20		<0.20
Fluorene	µg/L	400	0.20		<0.20
Phenanthrene	µg/L	580	0.10		<0.10
Anthracene	µg/L	2.4	0.10		<0.10
Fluoranthene	µg/L	130	0.20		<0.20
Pyrene	µg/L	68	0.20		<0.20
Benzo(a)anthracene	µg/L	4.7	0.20		<0.20
Chrysene	µg/L	1	0.10		<0.10
Benzo(b)fluoranthene	µg/L	0.75	0.10		<0.10
Benzo(k)fluoranthene	µg/L	0.4	0.10		<0.10
Benzo(a)pyrene	µg/L	0.81	0.01		<0.01
Indeno(1,2,3-cd)pyrene	µg/L	0.2	0.20		<0.20
Dibenz(a,h)anthracene	µg/L	0.52	0.20		<0.20
Benzo(g,h,i)perylene	µg/L	0.2	0.20		<0.20
2-and 1-methyl Naphthalene	µg/L	1800	0.20		<0.20
Sediment					No
Surrogate	Unit	Acceptable Limits			
Naphthalene-d8	%	50-140			104
Acridine-d9	%	50-140			78
Terphenyl-d14	%	50-140			88

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3239961 Note: The result for Benzo(b)Fluoranthene is the total of the Benzo(b)&(j)Fluoranthene isomers because the isomers co-elute on the GC column.
2- and 1-Methyl Naphthalene is a calculated parameter. The calculated value is the sum of 2-Methyl Naphthalene and 1-Methyl Naphthalene. The calculated parameter is non-accredited. The parameters that are components of the calculation are accredited.
Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



Results relate only to the items tested. Results apply to samples as received.

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Certificate of Analysis

AGAT WORK ORDER: 21Z832960

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Tony Lyon

SAMPLING SITE:Phase 7

SAMPLED BY:S.Olthof

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Water)

DATE RECEIVED: 2021-11-22

DATE REPORTED: 2021-11-30

		SAMPLE DESCRIPTION:		29-1
		SAMPLE TYPE:		Water
		DATE SAMPLED:		2021-11-19 10:30
Parameter	Unit	G / S	RDL	3239961
Benzene	µg/L	44	0.20	<0.20
Toluene	µg/L	18000	0.20	<0.20
Ethylbenzene	µg/L	2300	0.10	<0.10
m & p-Xylene	µg/L		0.20	<0.20
o-Xylene	µg/L		0.10	<0.10
Xylenes (Total)	µg/L	4200	0.20	<0.20
F1 (C6-C10)	µg/L	750	25	<25
F1 (C6 to C10) minus BTEX	µg/L	750	25	<25
F2 (C10 to C16)	µg/L	150	100	<100
F2 (C10 to C16) minus Naphthalene	µg/L		100	<100
F3 (C16 to C34)	µg/L	500	100	<100
F3 (C16 to C34) minus PAHs	µg/L		100	<100
F4 (C34 to C50)	µg/L	500	100	<100
Gravimetric Heavy Hydrocarbons	µg/L		500	NA
Sediment				No
Surrogate	Unit	Acceptable Limits		
Toluene-d8	% Recovery	60-140		108
Terphenyl	% Recovery	60-140		69

Certified By:

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Certificate of Analysis

AGAT WORK ORDER: 21Z832960

PROJECT: 19124906

CLIENT NAME: GOLDER ASSOCIATES LTD

ATTENTION TO: Tony Lyon

SAMPLING SITE:Phase 7

SAMPLED BY:S.Olthof

O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Water)

DATE RECEIVED: 2021-11-22

DATE REPORTED: 2021-11-30

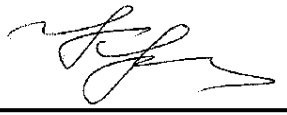
Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to Table 3: Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition - Non-Potable Ground Water - All Types of Property Uses - Coarse Textured Soils
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

3239961 The C6-C10 fraction is calculated using toluene response factor.
Xylenes total is a calculated parameter. The calculated value is the sum of m&p-Xylene and o-Xylene.
C6–C10 (F1 minus BTEX) is a calculated parameter. The calculated value is F1 minus BTEX.
The calculated parameters are non-accredited. The parameters that are components of the calculation are accredited.
The C10 - C16, C16 - C34, and C34 - C50 fractions are calculated using the average response factor for n-C10, n-C16, and n-C34.
Gravimetric Heavy Hydrocarbons are not included in the Total C16-C50 and are only determined if the chromatogram of the C34 - C50 hydrocarbons indicates that hydrocarbons >C50 are present.
The chromatogram has returned to baseline by the retention time of nC50.
Total C6 - C50 results are corrected for BTEX and PAH contributions.
C>10 – C16 (F2- Naphthalene) is a calculated parameter. The calculated value is F2 - Naphthalene.
C>16 - C34 (F3-PAH) is a calculated parameter. The calculated value is F3-PAH (PAH: sum of Phenanthrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Fluoranthene, Dibenzo(a,h)anthracene, Indeno(1,2,3-c,d)pyrene and Pyrene).
This method complies with the Reference Method for the CWS PHC and is validated for use in the laboratory.
nC10, nC16 and nC34 response factors are within 10% of their average.
C50 response factor is within 70% of nC10 + nC16 + nC34 average.
Linearity is within 15%.
Extraction and holding times were met for this sample.

Sediment parameter is comment only based on visual inspection of the sample prior to extraction and is not an accredited test.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



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Quality Assurance

CLIENT NAME: GOLDER ASSOCIATES LTD
AGAT WORK ORDER: 21Z832960
PROJECT: 19124906
ATTENTION TO: Tony Lyon
SAMPLING SITE:Phase 7
SAMPLED BY:S.Olthof

Trace Organics Analysis

RPT Date: Nov 30, 2021

PARAMETER	Batch	Sample Id	DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
			Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper
O. Reg. 153(511) - PHCs F1 - F4 (with PAHs) (Water)															
Benzene	3238893		<0.20	<0.20	NA	< 0.20	103%	60%	140%	118%	60%	140%	81%	60%	140%
Toluene	3238893		<0.20	<0.20	NA	< 0.20	113%	60%	140%	112%	60%	140%	74%	60%	140%
Ethylbenzene	3238893		<0.10	<0.10	NA	< 0.10	105%	60%	140%	106%	60%	140%	86%	60%	140%
m & p-Xylene	3238893		<0.20	<0.20	NA	< 0.20	92%	60%	140%	105%	60%	140%	98%	60%	140%
o-Xylene	3238893		<0.10	<0.10	NA	< 0.10	105%	60%	140%	111%	60%	140%	74%	60%	140%
F1 (C6-C10)	3238893		<25	<25	NA	< 25	88%	60%	140%	86%	60%	140%	95%	60%	140%
F2 (C10 to C16)	3232796		< 100	< 100	NA	< 100	103%	60%	140%	112%	60%	140%	85%	60%	140%
F3 (C16 to C34)	3232796		< 100	< 100	NA	< 100	102%	60%	140%	113%	60%	140%	76%	60%	140%
F4 (C34 to C50)	3232796		< 100	< 100	NA	< 100	106%	60%	140%	116%	60%	140%	85%	60%	140%
O. Reg. 153(511) - PAHs (Water)															
Naphthalene	3227991		< 0.0003	< 0.0003	NA	< 0.20	105%	50%	140%	78%	50%	140%	77%	50%	140%
Acenaphthylene	3227991		< 0.00011	< 0.00011	NA	< 0.20	98%	50%	140%	82%	50%	140%	107%	50%	140%
Acenaphthene	3227991		< 0.00010	< 0.00010	NA	< 0.20	105%	50%	140%	71%	50%	140%	81%	50%	140%
Fluorene	3227991		< 0.0002	< 0.0002	NA	< 0.20	86%	50%	140%	92%	50%	140%	92%	50%	140%
Phenanthrene	3227991		< 0.00011	< 0.00011	NA	< 0.10	98%	50%	140%	88%	50%	140%	85%	50%	140%
Anthracene	3227991		< 0.00007	< 0.00007	NA	< 0.10	85%	50%	140%	93%	50%	140%	78%	50%	140%
Fluoranthene	3227991		< 0.00012	< 0.00012	NA	< 0.20	99%	50%	140%	96%	50%	140%	93%	50%	140%
Pyrene	3227991		< 0.00012	< 0.00012	NA	< 0.20	78%	50%	140%	96%	50%	140%	99%	50%	140%
Benzo(a)anthracene	3227991		< 0.00008	< 0.00008	NA	< 0.20	96%	50%	140%	94%	50%	140%	96%	50%	140%
Chrysene	3227991		< 0.00005	< 0.00005	NA	< 0.10	86%	50%	140%	114%	50%	140%	84%	50%	140%
Benzo(b)fluoranthene	3227991		< 0.00003	< 0.00003	NA	< 0.10	92%	50%	140%	76%	50%	140%	92%	50%	140%
Benzo(k)fluoranthene	3227991		< 0.00006	< 0.00006	NA	< 0.10	98%	50%	140%	92%	50%	140%	78%	50%	140%
Indeno(1,2,3-cd)pyrene	3227991		< 0.00003	< 0.00003	NA	< 0.20	92%	50%	140%	108%	50%	140%	105%	50%	140%
Dibenz(a,h)anthracene	3227991		< 0.00009	< 0.00009	NA	< 0.20	95%	50%	140%	75%	50%	140%	72%	50%	140%
Benzo(g,h,i)perylene	3227991		< 0.00006	< 0.00006	NA	< 0.20	91%	50%	140%	85%	50%	140%	105%	50%	140%

Comments: When the average of the sample and duplicate results is less than 5x the RDL, the Relative Percent Difference (RPD) will be indicated as Not Applicable (NA).

Certified By:

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Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 21Z832960

PROJECT: 19124906

ATTENTION TO: Tony Lyon

SAMPLING SITE:Phase 7

SAMPLED BY:S.Olthof

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Trace Organics Analysis			
Naphthalene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acenaphthylene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acenaphthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Fluorene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Phenanthrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(a)anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Chrysene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(b)fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(k)fluoranthene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(a)pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Indeno(1,2,3-cd)pyrene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Dibenz(a,h)anthracene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Benzo(g,h,i)perylene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
2-and 1-methyl Naphthalene	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Naphthalene-d8	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Acridine-d9	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Terphenyl-d14	ORG-91-5105	modified from EPA 3510C and EPA 8270E	GC/MS
Sediment			
Benzene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
Toluene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
Ethylbenzene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
m & p-Xylene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
o-Xylene	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
Xylenes (Total)	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
F1 (C6-C10)	VOL-91-5010	modified from MOE PHC-E3421	P&T GC/FID
F1 (C6 to C10) minus BTEX	VOL-91-5010	modified from MOE PHC-E3421	P&T GC/FID
Toluene-d8	VOL-91-5010	modified from MOE PHC-E3421	(P&T)GC/MS
F2 (C10 to C16)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F2 (C10 to C16) minus Naphthalene	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F3 (C16 to C34)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID

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Method Summary

CLIENT NAME: GOLDER ASSOCIATES LTD

AGAT WORK ORDER: 21Z832960

PROJECT: 19124906

ATTENTION TO: Tony Lyon

SAMPLING SITE:Phase 7

SAMPLED BY:S.Olthof

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
F3 (C16 to C34) minus PAHs	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
F4 (C34 to C50)	VOL-91-5010	modified from MOE PHC-E3421	GC/FID
Gravimetric Heavy Hydrocarbons	VOL-91-5010	modified from MOE PHC-E3421	BALANCE
Terphenyl	VOL-91-5010	modified from MOE PHC-E3421	GC/FID

Results relate only to the items tested. Results apply to samples as received.

AGAT Laboratories

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Laboratory Use Only

Work Order #: 21Z832960

Cooler Quantity: one-ice packs

Arrival Temperatures: 5.9 | 5.5 | 5.7
3.2 | 3.4 | 3.6

Custody Seal Intact: ☐ Yes ☑ No ☐ N/A

Notes: on ice pack

Report Information:

Company: GAL
Contact: Tony Lyon
Address:
Phone: 613 296 9746 Fax:

Reports to be sent to:
1. Email: anthony-lyon@golder.com
2. Email: solthof@golder.com

Regulatory Requirements:

☐ No Regulatory Requirement

(Please check all applicable boxes)

☑ Regulation 153/04
Table 3 (Indicate One)
☐ Ind/Com
☑ Res/Park
☐ Agriculture

Soil Texture (Check One)
☐ Coarse
☐ Fine

☐ Sewer Use
☐ Sanitary
☐ Storm

Region _____ (Indicate One)

☐ MISA

☐ Regulation 558
☐ CCME
☐ Prov. Water Quality Objectives (PWQO)
☐ Other

_____ (Indicate One)

Turnaround Time (TAT) Required:

Regular TAT ☑ 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

☐ 3 Business Days ☐ 2 Business Days ☐ Next Business Day

OR Date Required (Rush Surcharges May Apply):

Please provide prior notification for rush TAT
**TAT is exclusive of weekends and statutory holidays*

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: 19124906
Site Location: Phase 7
Sampled By: S. Olthof
AGAT Quote #: PO:

Please note: If quotation number is not provided, client will be billed full price for analysis

Is this submission for a **Record of Site Condition?** ☑ Yes ☐ No

Report Guideline on *Certificate of Analysis* ☑ Yes ☐ No

Invoice Information:

Bill To Same: Yes ☒ No ☐

Company:
Contact:
Address:
Email:

Sample Matrix Legend

B	Biota
GW	Ground Water
O	Oil
P	Paint
S	Soil
SD	Sediment
SW	Surface Water

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Field Filtered - Metals, Hg, CrVI (Y/N)	O. Reg 153: Metals and Inorganics (☐ All Metals ☐ 153 Metals (excl. Hydrides) ☐ 153 Metals (Incl. Hydrides) ☐ Hydride Metals)	ORPs: ☐ B-HWS ☐ Cl ☐ CN ☐ Cr^{6+} ☐ EC ☐ FOC ☐ Hg ☐ pH ☐ SAR	Full Metals Scan	Regulation/Custom Metals	Nutrients: ☐ TP ☐ NH_3 ☐ TKN ☐ NO_3 ☐ NO_2 ☐ NO_3+NO_2	Volatiles: ☐ VOC ☐ BTEX ☐ THM	PHCs F1 - F4	ABNs	PAHs	PCBs: ☐ Total ☐ Aroclors	Organochlorine Pesticides	TCLP: ☐ M&I ☐ VOCs ☐ ABNs ☐ B(a)P ☐ PCBs	Sewer Use						Potentially Hazardous or High Concentration (Y/N)
29-1	19 Nov 21	1030	7	GW		N							X		X											

Samples Relinquished By (Print Name and Sign): Sam Olthof	Date: 19 Nov 21	Time: 1730	Samples Received By (Print Name and Sign): COURTNEY GRIFFITH C. Griffith	Date: Nov 22/21	Time: 07h55
Samples Relinquished By (Print Name and Sign):	Date: Nov. 22/21	Time: 16h00	Samples Received By (Print Name and Sign):	Date: NOV 23	Time: 8:30
Samples Relinquished By (Print Name and Sign):	Date:	Time:	Samples Received By (Print Name and Sign):	Date:	Time:

Page 1 of 1

N°: T 091583

Document ID: DW-78-1511-010

Pink Copy - Client | Yellow Copy - AGAT | White Copy - AGAT

Date Revised: March 27, 2019

Your Project #: 19124906
Site Location: CLC WATERIDGE
Your C.O.C. #: 901449-21-01

Attention: Tony Lyon

Golder Associates Ltd
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2022/12/09
Report #: R7424184
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2AB418
Received: 2022/12/08, 16:50

Sample Matrix: Soil
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum (1)	3	N/A	2022/12/09	CAM SOP-00301	EPA 8270D m
Petroleum Hydro. CCME F1 & BTEX in Soil (1, 2)	3	N/A	2022/12/09	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 3)	3	2022/12/09	2022/12/09	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS (1)	3	2022/12/09	2022/12/09	CAM SOP-00447	EPA 6020B m
Moisture (1)	3	N/A	2022/12/09	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM) (1)	3	2022/12/09	2022/12/09	CAM SOP-00318	EPA 8270D m

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8
(2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.
(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your Project #: 19124906
Site Location: CLC WATERIDGE
Your C.O.C. #: 901449-21-01

Attention: Tony Lyon

Golder Associates Ltd
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2022/12/09
Report #: R7424184
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2AB418
Received: 2022/12/08, 16:50

Encryption Key

Katherine Szozda
Project Manager
09 Dec 2022 17:57:45

Please direct all questions regarding this Certificate of Analysis to:
Katherine Szozda, Project Manager
Email: Katherine.Szozda@bureauveritas.com
Phone# (613)274-0573 Ext:7063633

==========

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

Bureau Veritas Job #: C2AB418
Report Date: 2022/12/09

Golder Associates Ltd
Client Project #: 19124906
Site Location: CLC WATERIDGE
Sampler Initials: JL

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID			UNN416	UNN417	UNN418	UNN418		
Sampling Date			2022/12/08 14:45	2022/12/08 15:00	2022/12/08 15:45	2022/12/08 15:45		
COC Number			901449-21-01	901449-21-01	901449-21-01	901449-21-01		
	UNITS	Criteria	VS-TP52-WW1	VS-TP52-F3	VS-ST-F2	VS-ST-F2 Lab-Dup	RDL	QC Batch
Metals								
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	<0.20	<0.20	<0.20	0.20	8394626
Acid Extractable Arsenic (As)	ug/g	18	1.4	<1.0	<1.0	<1.0	1.0	8394626
Acid Extractable Barium (Ba)	ug/g	220	67	180	150	150	0.50	8394626
Acid Extractable Beryllium (Be)	ug/g	2.5	0.34	0.42	0.39	0.39	0.20	8394626
Acid Extractable Boron (B)	ug/g	36	<5.0	<5.0	<5.0	<5.0	5.0	8394626
Acid Extractable Cadmium (Cd)	ug/g	1.2	0.13	<0.10	<0.10	<0.10	0.10	8394626
Acid Extractable Chromium (Cr)	ug/g	70	22	28	37	35	1.0	8394626
Acid Extractable Cobalt (Co)	ug/g	21	4.8	8.8	9.5	8.6	0.10	8394626
Acid Extractable Copper (Cu)	ug/g	92	7.8	17	19	20	0.50	8394626
Acid Extractable Lead (Pb)	ug/g	120	13	8.0	6.5	6.6	1.0	8394626
Acid Extractable Molybdenum (Mo)	ug/g	2	<0.50	0.54	<0.50	<0.50	0.50	8394626
Acid Extractable Nickel (Ni)	ug/g	82	10	20	21	20	0.50	8394626
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	<0.50	<0.50	<0.50	0.50	8394626
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	<0.20	<0.20	<0.20	0.20	8394626
Acid Extractable Thallium (Tl)	ug/g	1	0.082	0.10	0.17	0.17	0.050	8394626
Acid Extractable Uranium (U)	ug/g	2.5	0.61	0.51	0.60	0.55	0.050	8394626
Acid Extractable Vanadium (V)	ug/g	86	29	33	41	41	5.0	8394626
Acid Extractable Zinc (Zn)	ug/g	290	34	41	41	41	5.0	8394626

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

Bureau Veritas Job #: C2AB418
Report Date: 2022/12/09

Golder Associates Ltd
Client Project #: 19124906
Site Location: CLC WATERIDGE
Sampler Initials: JL

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			UNN416			UNN416			UNN417		
Sampling Date			2022/12/08 14:45			2022/12/08 14:45			2022/12/08 15:00		
COC Number			901449-21-01			901449-21-01			901449-21-01		
	UNITS	Criteria	VS-TP52-WW1	RDL	QC Batch	VS-TP52-WW1 Lab-Dup	RDL	QC Batch	VS-TP52-F3	RDL	QC Batch
Calculated Parameters											
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	0.0071	8393857				<0.0071	0.0071	8393857
Polyaromatic Hydrocarbons											
Acenaphthene	ug/g	0.072	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009
Acenaphthylene	ug/g	0.093	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009
Anthracene	ug/g	0.16	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009
Benzo(a)anthracene	ug/g	0.36	0.011	0.0050	8394009	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009
Benzo(a)pyrene	ug/g	0.3	0.013	0.0050	8394009	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009
Benzo(b/j)fluoranthene	ug/g	0.47	0.022	0.0050	8394009	<0.0050 (1)	0.0050	8394009	<0.0050	0.0050	8394009
Benzo(g,h,i)perylene	ug/g	0.68	0.0097	0.0050	8394009	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009
Benzo(k)fluoranthene	ug/g	0.48	0.0071	0.0050	8394009	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009
Chrysene	ug/g	2.8	0.010	0.0050	8394009	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009
Fluoranthene	ug/g	0.56	0.022	0.0050	8394009	<0.0050 (1)	0.0050	8394009	<0.0050	0.0050	8394009
Fluorene	ug/g	0.12	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009
Indeno(1,2,3-cd)pyrene	ug/g	0.23	0.011	0.0050	8394009	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009
1-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009
2-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009
Naphthalene	ug/g	0.09	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009
Phenanthrene	ug/g	0.69	0.0079	0.0050	8394009	<0.0050	0.0050	8394009	<0.0050	0.0050	8394009
Pyrene	ug/g	1	0.018	0.0050	8394009	<0.0050 (1)	0.0050	8394009	<0.0050	0.0050	8394009
Surrogate Recovery (%)											
D10-Anthracene	%	-	100		8394009	101		8394009	101		8394009
D14-Terphenyl (FS)	%	-	106		8394009	106		8394009	104		8394009
D8-Acenaphthylene	%	-	91		8394009	88		8394009	89		8394009

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			UNN418		
Sampling Date			2022/12/08 15:45		
COC Number			901449-21-01		
	UNITS	Criteria	VS-ST-F2	RDL	QC Batch
Calculated Parameters					
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	0.0071	8393857
Polyaromatic Hydrocarbons					
Acenaphthene	ug/g	0.072	<0.0050	0.0050	8394009
Acenaphthylene	ug/g	0.093	<0.0050	0.0050	8394009
Anthracene	ug/g	0.16	<0.0050	0.0050	8394009
Benzo(a)anthracene	ug/g	0.36	<0.0050	0.0050	8394009
Benzo(a)pyrene	ug/g	0.3	<0.0050	0.0050	8394009
Benzo(b/j)fluoranthene	ug/g	0.47	<0.0050	0.0050	8394009
Benzo(g,h,i)perylene	ug/g	0.68	<0.0050	0.0050	8394009
Benzo(k)fluoranthene	ug/g	0.48	<0.0050	0.0050	8394009
Chrysene	ug/g	2.8	<0.0050	0.0050	8394009
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	0.0050	8394009
Fluoranthene	ug/g	0.56	<0.0050	0.0050	8394009
Fluorene	ug/g	0.12	<0.0050	0.0050	8394009
Indeno(1,2,3-cd)pyrene	ug/g	0.23	<0.0050	0.0050	8394009
1-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	8394009
2-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	8394009
Naphthalene	ug/g	0.09	<0.0050	0.0050	8394009
Phenanthrene	ug/g	0.69	<0.0050	0.0050	8394009
Pyrene	ug/g	1	<0.0050	0.0050	8394009
Surrogate Recovery (%)					
D10-Anthracene	%	-	101		8394009
D14-Terphenyl (FS)	%	-	105		8394009
D8-Acenaphthylene	%	-	88		8394009

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

Bureau Veritas Job #: C2AB418
Report Date: 2022/12/09

Golder Associates Ltd
Client Project #: 19124906
Site Location: CLC WATERIDGE
Sampler Initials: JL

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

Bureau Veritas ID			UNN416			UNN416			UNN417		
Sampling Date			2022/12/08 14:45			2022/12/08 14:45			2022/12/08 15:00		
COC Number			901449-21-01			901449-21-01			901449-21-01		
	UNITS	Criteria	VS-TP52-WW1	RDL	QC Batch	VS-TP52-WW1 Lab-Dup	RDL	QC Batch	VS-TP52-F3	RDL	QC Batch
Inorganics											
Moisture	%	-	13	1.0	8394014				7.8	1.0	8394014
BTEX & F1 Hydrocarbons											
Benzene	ug/g	0.02	<0.020	0.020	8394165				<0.020	0.020	8394165
Toluene	ug/g	0.2	<0.020	0.020	8394165				<0.020	0.020	8394165
Ethylbenzene	ug/g	0.05	<0.020	0.020	8394165				<0.020	0.020	8394165
o-Xylene	ug/g	-	<0.020	0.020	8394165				<0.020	0.020	8394165
p+m-Xylene	ug/g	-	<0.040	0.040	8394165				<0.040	0.040	8394165
Total Xylenes	ug/g	0.05	<0.040	0.040	8394165				<0.040	0.040	8394165
F1 (C6-C10)	ug/g	25	<10	10	8394165				<10	10	8394165
F1 (C6-C10) - BTEX	ug/g	25	<10	10	8394165				<10	10	8394165
F2-F4 Hydrocarbons											
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	10	8393980	<10	10	8393980	<10	10	8393980
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	50	8393980	<50	50	8393980	<50	50	8393980
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	50	8393980	<50	50	8393980	<50	50	8393980
Reached Baseline at C50	ug/g	-	Yes		8393980	Yes		8393980	Yes		8393980
Surrogate Recovery (%)											
1,4-Difluorobenzene	%	-	101		8394165				101		8394165
4-Bromofluorobenzene	%	-	97		8394165				99		8394165
D10-o-Xylene	%	-	108		8394165				96		8394165
D4-1,2-Dichloroethane	%	-	97		8394165				98		8394165
o-Terphenyl	%	-	97		8393980	98		8393980	89		8393980

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

Bureau Veritas ID			UNN418			UNN418		
Sampling Date			2022/12/08 15:45			2022/12/08 15:45		
COC Number			901449-21-01			901449-21-01		
	UNITS	Criteria	VS-ST-F2	RDL	QC Batch	VS-ST-F2 Lab-Dup	RDL	QC Batch
Inorganics								
Moisture	%	-	16	1.0	8394014	15	1.0	8394014
BTEX & F1 Hydrocarbons								
Benzene	ug/g	0.02	<0.020	0.020	8394165	<0.020	0.020	8394165
Toluene	ug/g	0.2	<0.020	0.020	8394165	<0.020	0.020	8394165
Ethylbenzene	ug/g	0.05	<0.020	0.020	8394165	<0.020	0.020	8394165
o-Xylene	ug/g	-	<0.020	0.020	8394165	<0.020	0.020	8394165
p+m-Xylene	ug/g	-	<0.040	0.040	8394165	<0.040	0.040	8394165
Total Xylenes	ug/g	0.05	<0.040	0.040	8394165	<0.040	0.040	8394165
F1 (C6-C10)	ug/g	25	<10	10	8394165	<10	10	8394165
F1 (C6-C10) - BTEX	ug/g	25	<10	10	8394165	<10	10	8394165
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	10	8393980			
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	50	8393980			
F4 (C34-C50 Hydrocarbons)	ug/g	120	61	50	8393980			
Reached Baseline at C50	ug/g	-	Yes		8393980			
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	-	100		8394165	99		8394165
4-Bromofluorobenzene	%	-	98		8394165	100		8394165
D10-o-Xylene	%	-	100		8394165	97		8394165
D4-1,2-Dichloroethane	%	-	97		8394165	96		8394165
o-Terphenyl	%	-	104		8393980			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

TEST SUMMARY

Bureau Veritas ID: UNN416 **Collected:** 2022/12/08
Sample ID: VS-TP52-WW1 **Shipped:**
Matrix: Soil **Received:** 2022/12/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8393857	N/A	2022/12/09	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8394165	N/A	2022/12/09	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8393980	2022/12/09	2022/12/09	Jeevaraj Jeevaratrnam
Acid Extractable Metals by ICPMS	ICP/MS	8394626	2022/12/09	2022/12/09	Daniel Teclu
Moisture	BAL	8394014	N/A	2022/12/09	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8394009	2022/12/09	2022/12/09	Joe Paino

Bureau Veritas ID: UNN416 Dup **Collected:** 2022/12/08
Sample ID: VS-TP52-WW1 **Shipped:**
Matrix: Soil **Received:** 2022/12/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8393980	2022/12/09	2022/12/09	Jeevaraj Jeevaratrnam
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8394009	2022/12/09	2022/12/09	Joe Paino

Bureau Veritas ID: UNN417 **Collected:** 2022/12/08
Sample ID: VS-TP52-F3 **Shipped:**
Matrix: Soil **Received:** 2022/12/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8393857	N/A	2022/12/09	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8394165	N/A	2022/12/09	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8393980	2022/12/09	2022/12/09	Jeevaraj Jeevaratrnam
Acid Extractable Metals by ICPMS	ICP/MS	8394626	2022/12/09	2022/12/09	Daniel Teclu
Moisture	BAL	8394014	N/A	2022/12/09	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8394009	2022/12/09	2022/12/09	Joe Paino

Bureau Veritas ID: UNN418 **Collected:** 2022/12/08
Sample ID: VS-ST-F2 **Shipped:**
Matrix: Soil **Received:** 2022/12/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8393857	N/A	2022/12/09	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8394165	N/A	2022/12/09	Domnica Andronescu
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8393980	2022/12/09	2022/12/09	Jeevaraj Jeevaratrnam
Acid Extractable Metals by ICPMS	ICP/MS	8394626	2022/12/09	2022/12/09	Daniel Teclu
Moisture	BAL	8394014	N/A	2022/12/09	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8394009	2022/12/09	2022/12/09	Joe Paino

Bureau Veritas ID: UNN418 Dup **Collected:** 2022/12/08
Sample ID: VS-ST-F2 **Shipped:**
Matrix: Soil **Received:** 2022/12/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8394165	N/A	2022/12/09	Domnica Andronescu
Acid Extractable Metals by ICPMS	ICP/MS	8394626	2022/12/09	2022/12/09	Daniel Teclu

Bureau Veritas Job #: C2AB418
Report Date: 2022/12/09

Golder Associates Ltd
Client Project #: 19124906
Site Location: CLC WATERIDGE
Sampler Initials: JL

TEST SUMMARY

Bureau Veritas ID: UNN418 Dup
Sample ID: VS-ST-F2
Matrix: Soil

Collected: 2022/12/08
Shipped:
Received: 2022/12/08

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8394014	N/A	2022/12/09	Simrat Bhathal

GENERAL COMMENTS

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

Package 1	4.3°C

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

Sample UNN416 [VS-TP52-WW1] : PAH ANALYSIS: Duplicate results exceeded RPD acceptance criteria due to the sample heterogeneity.

Results relate only to the items tested.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8393980	o-Terphenyl	2022/12/09	97	60 - 130	94	60 - 130	97	%		
8394009	D10-Anthracene	2022/12/09	104	50 - 130	104	50 - 130	101	%		
8394009	D14-Terphenyl (FS)	2022/12/09	108	50 - 130	106	50 - 130	103	%		
8394009	D8-Acenaphthylene	2022/12/09	93	50 - 130	94	50 - 130	89	%		
8394165	1,4-Difluorobenzene	2022/12/09	100	60 - 140	97	60 - 140	102	%		
8394165	4-Bromofluorobenzene	2022/12/09	98	60 - 140	101	60 - 140	97	%		
8394165	D10-o-Xylene	2022/12/09	95	60 - 140	102	60 - 140	98	%		
8394165	D4-1,2-Dichloroethane	2022/12/09	97	60 - 140	96	60 - 140	97	%		
8393980	F2 (C10-C16 Hydrocarbons)	2022/12/09	103	60 - 130	100	80 - 120	<10	ug/g	NC	30
8393980	F3 (C16-C34 Hydrocarbons)	2022/12/09	100	60 - 130	98	80 - 120	<50	ug/g	NC	30
8393980	F4 (C34-C50 Hydrocarbons)	2022/12/09	98	60 - 130	95	80 - 120	<50	ug/g	NC	30
8394009	1-Methylnaphthalene	2022/12/09	94	50 - 130	100	50 - 130	<0.0050	ug/g	NC	40
8394009	2-Methylnaphthalene	2022/12/09	88	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8394009	Acenaphthene	2022/12/09	92	50 - 130	96	50 - 130	<0.0050	ug/g	NC	40
8394009	Acenaphthylene	2022/12/09	87	50 - 130	92	50 - 130	<0.0050	ug/g	NC	40
8394009	Anthracene	2022/12/09	93	50 - 130	98	50 - 130	<0.0050	ug/g	NC	40
8394009	Benzo(a)anthracene	2022/12/09	88	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
8394009	Benzo(a)pyrene	2022/12/09	83	50 - 130	89	50 - 130	<0.0050	ug/g	NC	40
8394009	Benzo(b/j)fluoranthene	2022/12/09	83	50 - 130	99	50 - 130	<0.0050	ug/g	127 (1)	40
8394009	Benzo(g,h,i)perylene	2022/12/09	94	50 - 130	81	50 - 130	<0.0050	ug/g	NC	40
8394009	Benzo(k)fluoranthene	2022/12/09	85	50 - 130	95	50 - 130	<0.0050	ug/g	34	40
8394009	Chrysene	2022/12/09	86	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40
8394009	Dibenzo(a,h)anthracene	2022/12/09	91	50 - 130	68	50 - 130	<0.0050	ug/g	NC	40
8394009	Fluoranthene	2022/12/09	90	50 - 130	101	50 - 130	<0.0050	ug/g	126 (1)	40
8394009	Fluorene	2022/12/09	91	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40
8394009	Indeno(1,2,3-cd)pyrene	2022/12/09	90	50 - 130	80	50 - 130	<0.0050	ug/g	NC	40
8394009	Naphthalene	2022/12/09	82	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
8394009	Phenanthrene	2022/12/09	88	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40
8394009	Pyrene	2022/12/09	92	50 - 130	102	50 - 130	<0.0050	ug/g	114 (1)	40
8394014	Moisture	2022/12/09							3.9	20
8394165	Benzene	2022/12/09	80	50 - 140	100	50 - 140	<0.020	ug/g	NC	50
8394165	Ethylbenzene	2022/12/09	88	50 - 140	109	50 - 140	<0.020	ug/g	NC	50

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8394165	F1 (C6-C10) - BTEX	2022/12/09					<10	ug/g	NC	30
8394165	F1 (C6-C10)	2022/12/09	95	60 - 140	115	80 - 120	<10	ug/g	NC	30
8394165	o-Xylene	2022/12/09	85	50 - 140	106	50 - 140	<0.020	ug/g	NC	50
8394165	p+m-Xylene	2022/12/09	92	50 - 140	115	50 - 140	<0.040	ug/g	NC	50
8394165	Toluene	2022/12/09	79	50 - 140	98	50 - 140	<0.020	ug/g	NC	50
8394165	Total Xylenes	2022/12/09					<0.040	ug/g	NC	50
8394626	Acid Extractable Antimony (Sb)	2022/12/09	106	75 - 125	102	80 - 120	<0.20	ug/g	NC	30
8394626	Acid Extractable Arsenic (As)	2022/12/09	108	75 - 125	100	80 - 120	<1.0	ug/g	NC	30
8394626	Acid Extractable Barium (Ba)	2022/12/09	NC	75 - 125	94	80 - 120	<0.50	ug/g	1.3	30
8394626	Acid Extractable Beryllium (Be)	2022/12/09	109	75 - 125	96	80 - 120	<0.20	ug/g	1.3	30
8394626	Acid Extractable Boron (B)	2022/12/09	105	75 - 125	97	80 - 120	<5.0	ug/g	NC	30
8394626	Acid Extractable Cadmium (Cd)	2022/12/09	108	75 - 125	98	80 - 120	<0.10	ug/g	NC	30
8394626	Acid Extractable Chromium (Cr)	2022/12/09	NC	75 - 125	98	80 - 120	<1.0	ug/g	3.3	30
8394626	Acid Extractable Cobalt (Co)	2022/12/09	103	75 - 125	96	80 - 120	<0.10	ug/g	9.8	30
8394626	Acid Extractable Copper (Cu)	2022/12/09	109	75 - 125	99	80 - 120	<0.50	ug/g	0.36	30
8394626	Acid Extractable Lead (Pb)	2022/12/09	109	75 - 125	98	80 - 120	<1.0	ug/g	2.0	30
8394626	Acid Extractable Molybdenum (Mo)	2022/12/09	109	75 - 125	99	80 - 120	<0.50	ug/g	NC	30
8394626	Acid Extractable Nickel (Ni)	2022/12/09	106	75 - 125	96	80 - 120	<0.50	ug/g	2.9	30
8394626	Acid Extractable Selenium (Se)	2022/12/09	110	75 - 125	99	80 - 120	<0.50	ug/g	NC	30
8394626	Acid Extractable Silver (Ag)	2022/12/09	111	75 - 125	101	80 - 120	<0.20	ug/g	NC	30
8394626	Acid Extractable Thallium (Tl)	2022/12/09	111	75 - 125	100	80 - 120	<0.050	ug/g	3.1	30
8394626	Acid Extractable Uranium (U)	2022/12/09	109	75 - 125	98	80 - 120	<0.050	ug/g	7.8	30
8394626	Acid Extractable Vanadium (V)	2022/12/09	NC	75 - 125	96	80 - 120	<5.0	ug/g	0.39	30

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8394626	Acid Extractable Zinc (Zn)	2022/12/09	NC	75 - 125	96	80 - 120	<5.0	ug/g	1.4	30

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

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

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

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

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

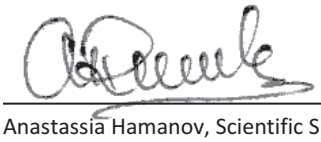
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

Bureau Veritas
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RUSH

08-Dec-22 16:50
Katherine Szozda
C2AB418
ASR

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name	#36684 Tomlinson Environmental Services	Company Name:	#33444 WSP Canada Limited	Quotation #:	CJ4961
Attention:	Evan Morrison	Attention:	Tony Lyon	P.O. #:	
Address:	100 CitiGate Drive	Address:	1931 Robertson Road	Project:	19124906
	Ottawa ON K2J 6K7		Ottawa ON K2H 5B7	Project Name:	CL-Watersedge
Tel:	(613) 699-3028 Fax:	Tel:	(613) 592-9600 Fax:	Site #:	
Email:	emorrison@tomlinsongroup.com	Email:	anthony_lyon@golder.com,GAL_EQUIS@golder.com, J	Sampled By:	Jacques Lavoie

COC #: C#911449-21-01 | Project Manager: Katherine Szozdu

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

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

Other Regulations: [ ] CCME [ ] Sanitary Sewer Bylaw [ ] Reg 558 [ ] Storm Sewer Bylaw [ ] MISA Municipality ___ [ ] PWQO [ ] Reg 406 Table ___ [ ] Other ___

Special Instructions

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects
Regular (Standard) TAT: [ ]
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.
Job Specific Rush TAT (if applies to entire submission)
Date Required: Dec 9, 2022 Time Required: EOD [X]
Rush Confirmation Number: ___

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153: PHCs, BTEX/F1-F4 (Soil)	O.Reg 153: PAHs (Soil)	O.Reg 153: ICPMS Metals (Soil)	O.Reg 153: PHCs, BTEX/F1-F4 (Water)	# of Bottles	Comments
1		VS-TP52-GW1	Dec 8, 2022	14:45		—	✓	✓	✓			
2		VS-TP52-F3	↓	15:00		—	✓	✓	✓			
3		VS-ST-F2	↓	15:45		—	✓	✓	✓			
4												
5												
6												
7												
8												
9												
10												

RECEIVED IN OTTAWA

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Jacques Lavoie Jacques Lavoie	22/12/08	16h46	Angelica Santiago	2022/12/08	16:50	
				2022/12/09	08:00	

Laboratory Use Only: Time Sensitive | Temperature (°C) on Rece: 6.3, 4 ice pack | Custody Seal Present: Yes [ ] No [✓] | Intact: [ ] [ ]

2/2/3°C

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

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

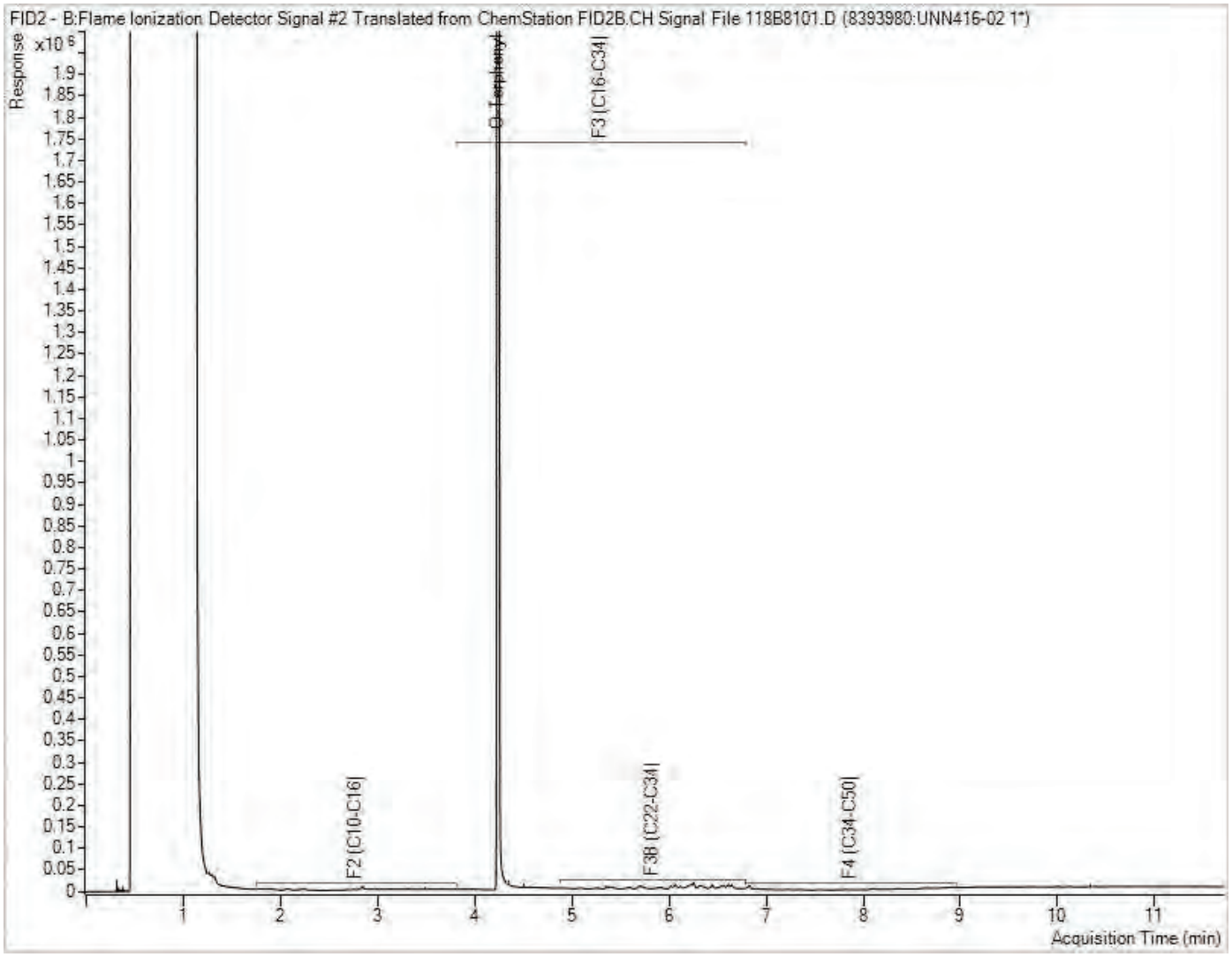
** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS

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

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

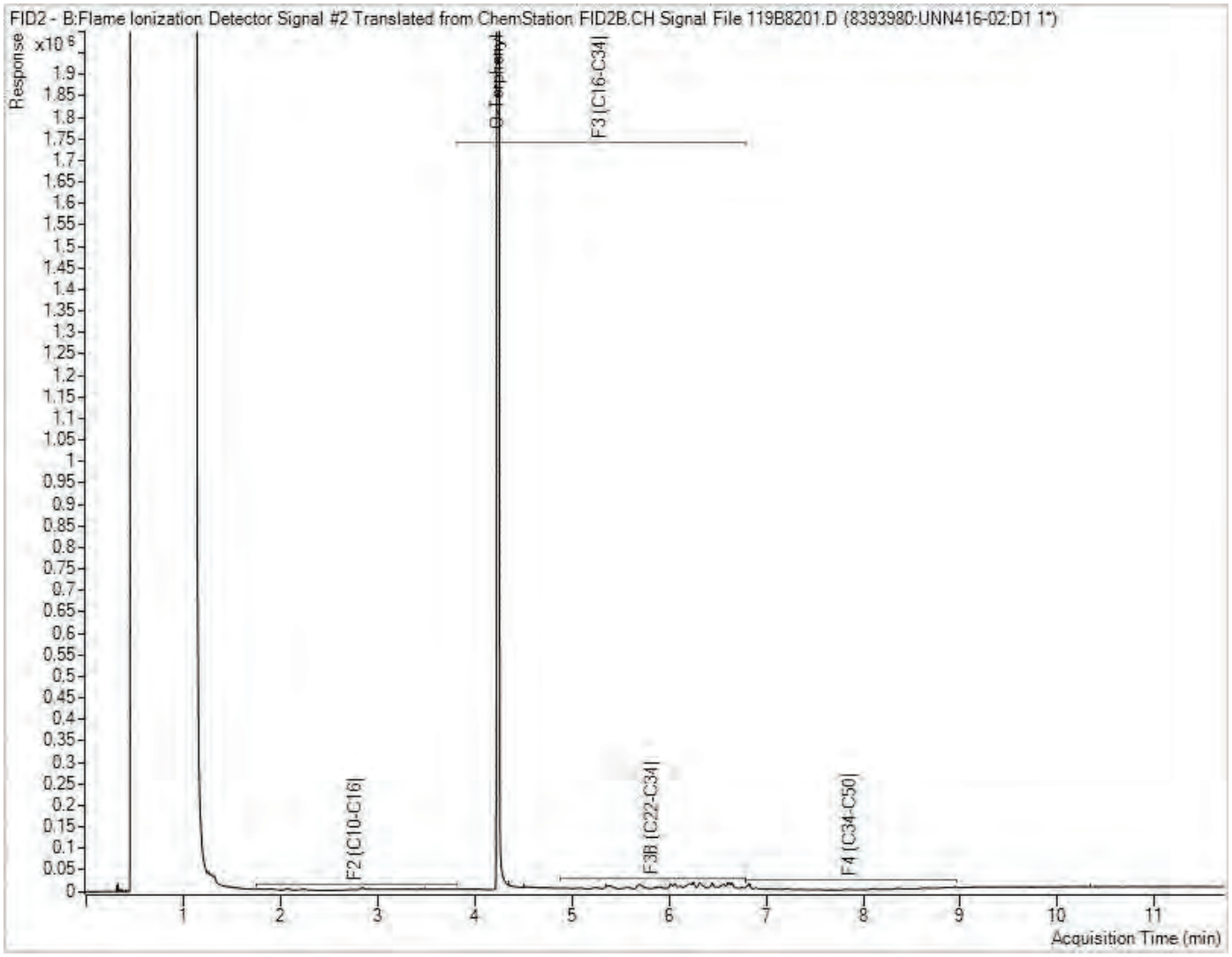


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C2AB418
Report Date: 2022/12/09
Bureau Veritas Sample: UNN416 Lab-Dup

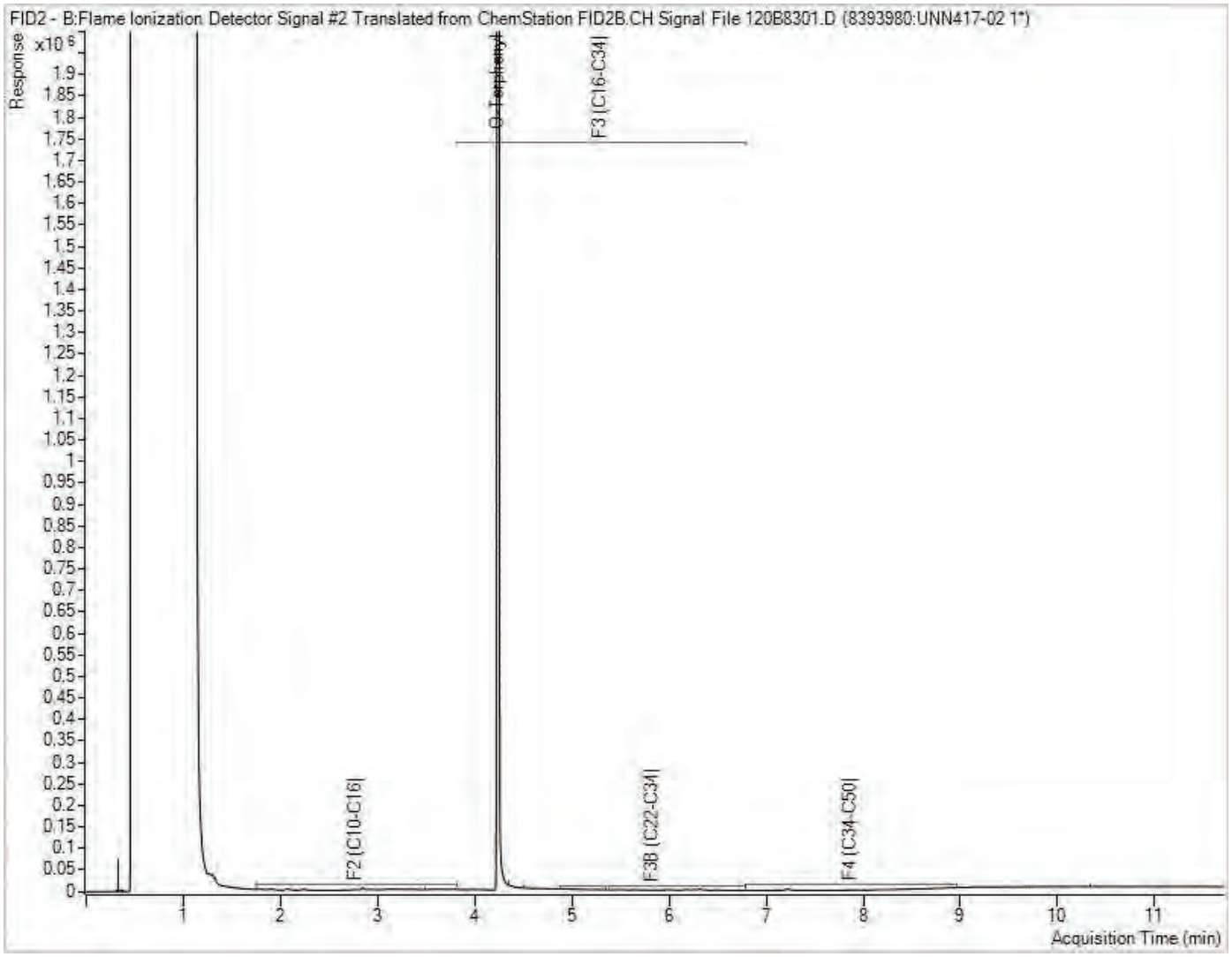
Golder Associates Ltd
Client Project #: 19124906
Project name: CLC WATERIDGE
Client ID: VS-TP52-WW1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

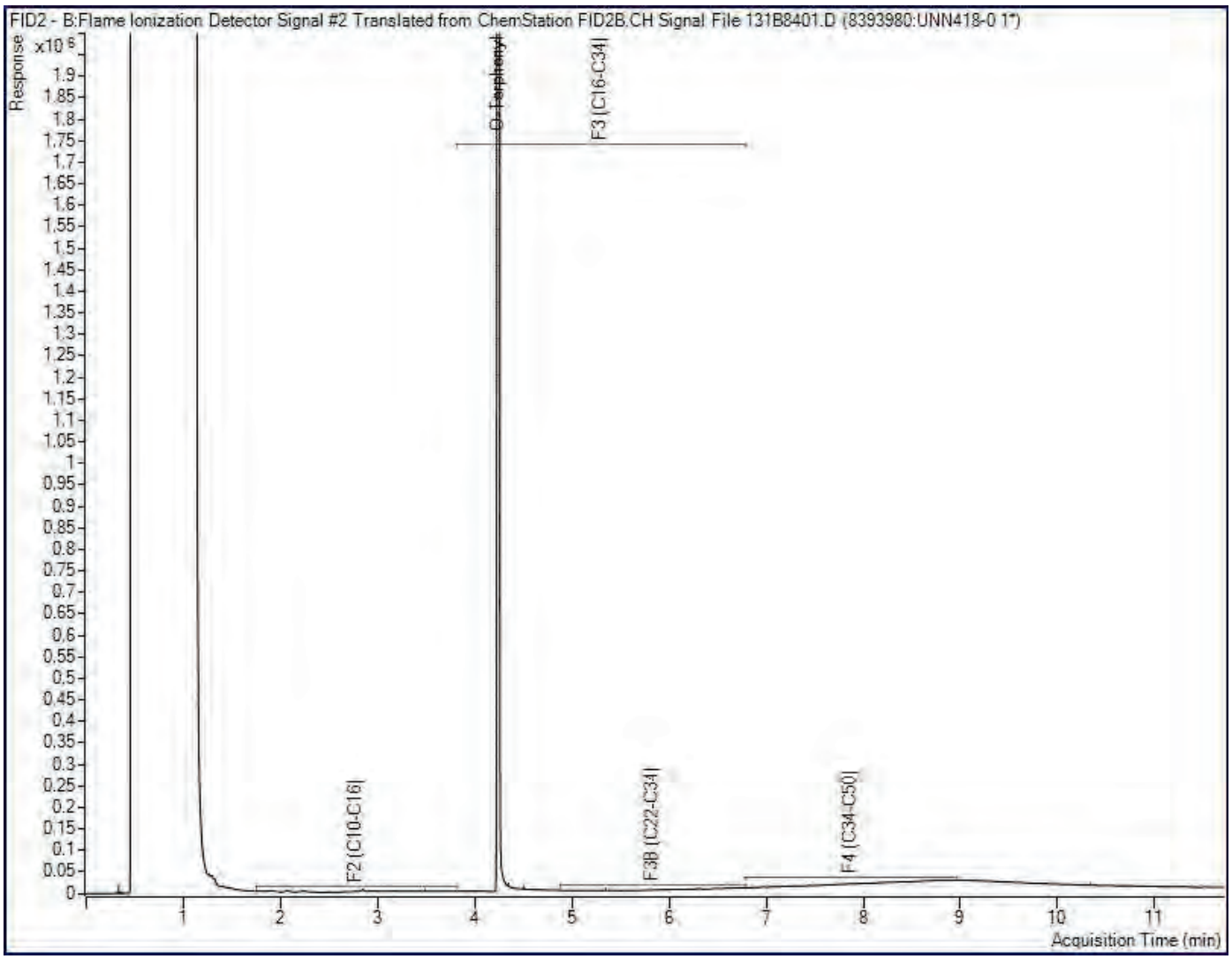


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C2AB418
Report Date: 2022/12/09
Bureau Veritas Sample: UNN418

Golder Associates Ltd
Client Project #: 19124906
Project name: CLC WATERIDGE
Client ID: VS-ST-F2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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

Exceedance Summary Table – Reg153/04 T1-Soil/Res

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

Your Project #: 19124906
Site Location: CLC WATERIDGE
Your C.O.C. #: 901449-23-01

Attention: Tony Lyon

Golder Associates Ltd
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2022/12/22
Report #: R7440640
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2AN789
Received: 2022/12/20, 12:42

Sample Matrix: Soil
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum (1)	1	N/A	2022/12/21	CAM SOP-00301	EPA 8270D m
Petroleum Hydro. CCME F1 & BTEX in Soil (1, 2)	1	N/A	2022/12/21	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 3)	1	2022/12/21	2022/12/21	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS (1)	1	2022/12/21	2022/12/21	CAM SOP-00447	EPA 6020B m
Moisture (1)	1	N/A	2022/12/21	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM) (1)	1	2022/12/21	2022/12/21	CAM SOP-00318	EPA 8270D m

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8
(2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.
(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your Project #: 19124906
Site Location: CLC WATERIDGE
Your C.O.C. #: 901449-23-01

Attention: Tony Lyon

Golder Associates Ltd
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2022/12/22
Report #: R7440640
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2AN789
Received: 2022/12/20, 12:42

Encryption Key

Katherine Szozda
Project Manager
22 Dec 2022 09:20:13

Please direct all questions regarding this Certificate of Analysis to:
Katherine Szozda, Project Manager
Email: Katherine.Szozda@bureauveritas.com
Phone# (613)274-0573 Ext:7063633

==========

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID			UQJ807	UQJ807		
Sampling Date			2022/12/20 10:30	2022/12/20 10:30		
COC Number			901449-23-01	901449-23-01		
	UNITS	Criteria	VS-TP52-SW2	VS-TP52-SW2 Lab-Dup	RDL	QC Batch
Metals						
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	<0.20	0.20	8416925
Acid Extractable Arsenic (As)	ug/g	18	2.2	1.8	1.0	8416925
Acid Extractable Barium (Ba)	ug/g	220	110	110	0.50	8416925
Acid Extractable Beryllium (Be)	ug/g	2.5	0.42	0.41	0.20	8416925
Acid Extractable Boron (B)	ug/g	36	<5.0	<5.0	5.0	8416925
Acid Extractable Cadmium (Cd)	ug/g	1.2	0.22	0.20	0.10	8416925
Acid Extractable Chromium (Cr)	ug/g	70	27	25	1.0	8416925
Acid Extractable Cobalt (Co)	ug/g	21	7.1	6.7	0.10	8416925
Acid Extractable Copper (Cu)	ug/g	92	18	17	0.50	8416925
Acid Extractable Lead (Pb)	ug/g	120	30	28	1.0	8416925
Acid Extractable Molybdenum (Mo)	ug/g	2	0.52	<0.50	0.50	8416925
Acid Extractable Nickel (Ni)	ug/g	82	16	15	0.50	8416925
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	<0.50	0.50	8416925
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	<0.20	0.20	8416925
Acid Extractable Thallium (Tl)	ug/g	1	0.14	0.12	0.050	8416925
Acid Extractable Uranium (U)	ug/g	2.5	0.56	0.49	0.050	8416925
Acid Extractable Vanadium (V)	ug/g	86	33	31	5.0	8416925
Acid Extractable Zinc (Zn)	ug/g	290	59	57	5.0	8416925

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			UQJ807		
Sampling Date			2022/12/20 10:30		
COC Number			901449-23-01		
	UNITS	Criteria	VS-TP52-SW2	RDL	QC Batch
Calculated Parameters					
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.071	0.071	8415681
Polyaromatic Hydrocarbons					
Acenaphthene	ug/g	0.072	<0.050	0.050	8415903
Acenaphthylene	ug/g	0.093	<0.050	0.050	8415903
Anthracene	ug/g	0.16	<0.050	0.050	8415903
Benzo(a)anthracene	ug/g	0.36	<0.050	0.050	8415903
Benzo(a)pyrene	ug/g	0.3	0.053	0.050	8415903
Benzo(b/j)fluoranthene	ug/g	0.47	0.085	0.050	8415903
Benzo(g,h,i)perylene	ug/g	0.68	<0.050	0.050	8415903
Benzo(k)fluoranthene	ug/g	0.48	<0.050	0.050	8415903
Chrysene	ug/g	2.8	<0.050	0.050	8415903
Dibenzo(a,h)anthracene	ug/g	0.1	<0.050	0.050	8415903
Fluoranthene	ug/g	0.56	0.074	0.050	8415903
Fluorene	ug/g	0.12	<0.050	0.050	8415903
Indeno(1,2,3-cd)pyrene	ug/g	0.23	<0.050	0.050	8415903
1-Methylnaphthalene	ug/g	0.59	<0.050	0.050	8415903
2-Methylnaphthalene	ug/g	0.59	<0.050	0.050	8415903
Naphthalene	ug/g	0.09	<0.050	0.050	8415903
Phenanthrene	ug/g	0.69	<0.050	0.050	8415903
Pyrene	ug/g	1	0.061	0.050	8415903
Surrogate Recovery (%)					
D10-Anthracene	%	-	115		8415903
D14-Terphenyl (FS)	%	-	101		8415903
D8-Acenaphthylene	%	-	95		8415903

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

Bureau Veritas ID			UQJ807			UQJ807		
Sampling Date			2022/12/20 10:30			2022/12/20 10:30		
COC Number			901449-23-01			901449-23-01		
	UNITS	Criteria	VS-TP52-SW2	RDL	QC Batch	VS-TP52-SW2 Lab-Dup	RDL	QC Batch
Inorganics								
Moisture	%	-	14	1.0	8415772			
BTEX & F1 Hydrocarbons								
Benzene	ug/g	0.02	<0.020	0.020	8416045	<0.020	0.020	8416045
Toluene	ug/g	0.2	<0.020	0.020	8416045	<0.020	0.020	8416045
Ethylbenzene	ug/g	0.05	<0.020	0.020	8416045	<0.020	0.020	8416045
o-Xylene	ug/g	-	<0.020	0.020	8416045	<0.020	0.020	8416045
p+m-Xylene	ug/g	-	<0.040	0.040	8416045	<0.040	0.040	8416045
Total Xylenes	ug/g	0.05	<0.040	0.040	8416045	<0.040	0.040	8416045
F1 (C6-C10)	ug/g	25	<10	10	8416045	<10	10	8416045
F1 (C6-C10) - BTEX	ug/g	25	<10	10	8416045	<10	10	8416045
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	10	**43**	10	8415920			
F3 (C16-C34 Hydrocarbons)	ug/g	240	**610**	50	8415920			
F4 (C34-C50 Hydrocarbons)	ug/g	120	**410**	50	8415920			
Reached Baseline at C50	ug/g	-	Yes		8415920			
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	-	100		8416045	100		8416045
4-Bromofluorobenzene	%	-	98		8416045	98		8416045
D10-o-Xylene	%	-	74		8416045	78		8416045
D4-1,2-Dichloroethane	%	-	100		8416045	101		8416045
o-Terphenyl	%	-	100		8415920			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

Bureau Veritas Job #: C2AN789
Report Date: 2022/12/22

Golder Associates Ltd
Client Project #: 19124906
Site Location: CLC WATERIDGE
Sampler Initials: ES

TEST SUMMARY

Bureau Veritas ID: UQJ807
Sample ID: VS-TP52-SW2
Matrix: Soil

Collected: 2022/12/20
Shipped:
Received: 2022/12/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8415681	N/A	2022/12/21	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8416045	N/A	2022/12/21	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8415920	2022/12/21	2022/12/21	Agnieszka Brzuzy-Snopko
Acid Extractable Metals by ICPMS	ICP/MS	8416925	2022/12/21	2022/12/21	Daniel Teclu
Moisture	BAL	8415772	N/A	2022/12/21	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8415903	2022/12/21	2022/12/21	Joe Paino

Bureau Veritas ID: UQJ807 Dup
Sample ID: VS-TP52-SW2
Matrix: Soil

Collected: 2022/12/20
Shipped:
Received: 2022/12/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8416045	N/A	2022/12/21	Lincoln Ramdahin
Acid Extractable Metals by ICPMS	ICP/MS	8416925	2022/12/21	2022/12/21	Daniel Teclu

GENERAL COMMENTS

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

Package 1	5.7°C

Sample UQJ807 [VS-TP52-SW2] : PAH ANALYSIS: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8415903	D10-Anthracene	2022/12/21	99	50 - 130	100	50 - 130	99	%		
8415903	D14-Terphenyl (FS)	2022/12/21	102	50 - 130	102	50 - 130	98	%		
8415903	D8-Acenaphthylene	2022/12/21	91	50 - 130	92	50 - 130	89	%		
8415920	o-Terphenyl	2022/12/21	93	60 - 130	96	60 - 130	98	%		
8416045	1,4-Difluorobenzene	2022/12/21	99	60 - 140	96	60 - 140	102	%		
8416045	4-Bromofluorobenzene	2022/12/21	96	60 - 140	100	60 - 140	97	%		
8416045	D10-o-Xylene	2022/12/21	70	60 - 140	87	60 - 140	89	%		
8416045	D4-1,2-Dichloroethane	2022/12/21	101	60 - 140	104	60 - 140	97	%		
8415772	Moisture	2022/12/21							0.60	20
8415903	1-Methylnaphthalene	2022/12/21	103	50 - 130	107	50 - 130	<0.0050	ug/g	NC	40
8415903	2-Methylnaphthalene	2022/12/21	96	50 - 130	101	50 - 130	<0.0050	ug/g	NC	40
8415903	Acenaphthene	2022/12/21	94	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8415903	Acenaphthylene	2022/12/21	88	50 - 130	89	50 - 130	<0.0050	ug/g	NC	40
8415903	Anthracene	2022/12/21	94	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40
8415903	Benzo(a)anthracene	2022/12/21	94	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
8415903	Benzo(a)pyrene	2022/12/21	92	50 - 130	92	50 - 130	<0.0050	ug/g	NC	40
8415903	Benzo(b/j)fluoranthene	2022/12/21	95	50 - 130	97	50 - 130	<0.0050	ug/g	NC	40
8415903	Benzo(g,h,i)perylene	2022/12/21	76	50 - 130	80	50 - 130	<0.0050	ug/g	NC	40
8415903	Benzo(k)fluoranthene	2022/12/21	102	50 - 130	98	50 - 130	<0.0050	ug/g	NC	40
8415903	Chrysene	2022/12/21	92	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
8415903	Dibenzo(a,h)anthracene	2022/12/21	80	50 - 130	81	50 - 130	<0.0050	ug/g	NC	40
8415903	Fluoranthene	2022/12/21	95	50 - 130	97	50 - 130	<0.0050	ug/g	NC	40
8415903	Fluorene	2022/12/21	95	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8415903	Indeno(1,2,3-cd)pyrene	2022/12/21	79	50 - 130	82	50 - 130	<0.0050	ug/g	NC	40
8415903	Naphthalene	2022/12/21	86	50 - 130	91	50 - 130	<0.0050	ug/g	NC	40
8415903	Phenanthrene	2022/12/21	92	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
8415903	Pyrene	2022/12/21	95	50 - 130	96	50 - 130	<0.0050	ug/g	NC	40
8415920	F2 (C10-C16 Hydrocarbons)	2022/12/21	98	60 - 130	99	80 - 120	<10	ug/g	NC	30
8415920	F3 (C16-C34 Hydrocarbons)	2022/12/21	100	60 - 130	100	80 - 120	<50	ug/g	NC	30
8415920	F4 (C34-C50 Hydrocarbons)	2022/12/21	100	60 - 130	102	80 - 120	<50	ug/g	NC	30
8416045	Benzene	2022/12/21	67	50 - 140	82	50 - 140	<0.020	ug/g	NC	50
8416045	Ethylbenzene	2022/12/21	71	50 - 140	89	50 - 140	<0.020	ug/g	NC	50

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8416045	F1 (C6-C10) - BTEX	2022/12/21					<10	ug/g	NC	30
8416045	F1 (C6-C10)	2022/12/21	84	60 - 140	89	80 - 120	<10	ug/g	NC	30
8416045	o-Xylene	2022/12/21	69	50 - 140	88	50 - 140	<0.020	ug/g	NC	50
8416045	p+m-Xylene	2022/12/21	68	50 - 140	85	50 - 140	<0.040	ug/g	NC	50
8416045	Toluene	2022/12/21	64	50 - 140	80	50 - 140	<0.020	ug/g	NC	50
8416045	Total Xylenes	2022/12/21					<0.040	ug/g	NC	50
8416925	Acid Extractable Antimony (Sb)	2022/12/21	96	75 - 125	101	80 - 120	<0.20	ug/g	NC	30
8416925	Acid Extractable Arsenic (As)	2022/12/21	102	75 - 125	97	80 - 120	<1.0	ug/g	20	30
8416925	Acid Extractable Barium (Ba)	2022/12/21	NC	75 - 125	101	80 - 120	<0.50	ug/g	2.1	30
8416925	Acid Extractable Beryllium (Be)	2022/12/21	104	75 - 125	95	80 - 120	<0.20	ug/g	2.2	30
8416925	Acid Extractable Boron (B)	2022/12/21	99	75 - 125	93	80 - 120	<5.0	ug/g	NC	30
8416925	Acid Extractable Cadmium (Cd)	2022/12/21	102	75 - 125	95	80 - 120	<0.10	ug/g	10	30
8416925	Acid Extractable Chromium (Cr)	2022/12/21	NC	75 - 125	96	80 - 120	<1.0	ug/g	7.4	30
8416925	Acid Extractable Cobalt (Co)	2022/12/21	102	75 - 125	96	80 - 120	<0.10	ug/g	6.0	30
8416925	Acid Extractable Copper (Cu)	2022/12/21	103	75 - 125	102	80 - 120	<0.50	ug/g	5.4	30
8416925	Acid Extractable Lead (Pb)	2022/12/21	NC	75 - 125	99	80 - 120	<1.0	ug/g	5.2	30
8416925	Acid Extractable Molybdenum (Mo)	2022/12/21	102	75 - 125	97	80 - 120	<0.50	ug/g	3.7	30
8416925	Acid Extractable Nickel (Ni)	2022/12/21	99	75 - 125	96	80 - 120	<0.50	ug/g	8.1	30
8416925	Acid Extractable Selenium (Se)	2022/12/21	101	75 - 125	94	80 - 120	<0.50	ug/g	NC	30
8416925	Acid Extractable Silver (Ag)	2022/12/21	105	75 - 125	99	80 - 120	<0.20	ug/g	NC	30
8416925	Acid Extractable Thallium (Tl)	2022/12/21	105	75 - 125	102	80 - 120	<0.050	ug/g	14	30
8416925	Acid Extractable Uranium (U)	2022/12/21	106	75 - 125	96	80 - 120	<0.050	ug/g	12	30
8416925	Acid Extractable Vanadium (V)	2022/12/21	NC	75 - 125	97	80 - 120	<5.0	ug/g	6.5	30

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8416925	Acid Extractable Zinc (Zn)	2022/12/21	NC	75 - 125	94	80 - 120	<5.0	ug/g	4.7	30

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

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

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

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

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

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

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

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

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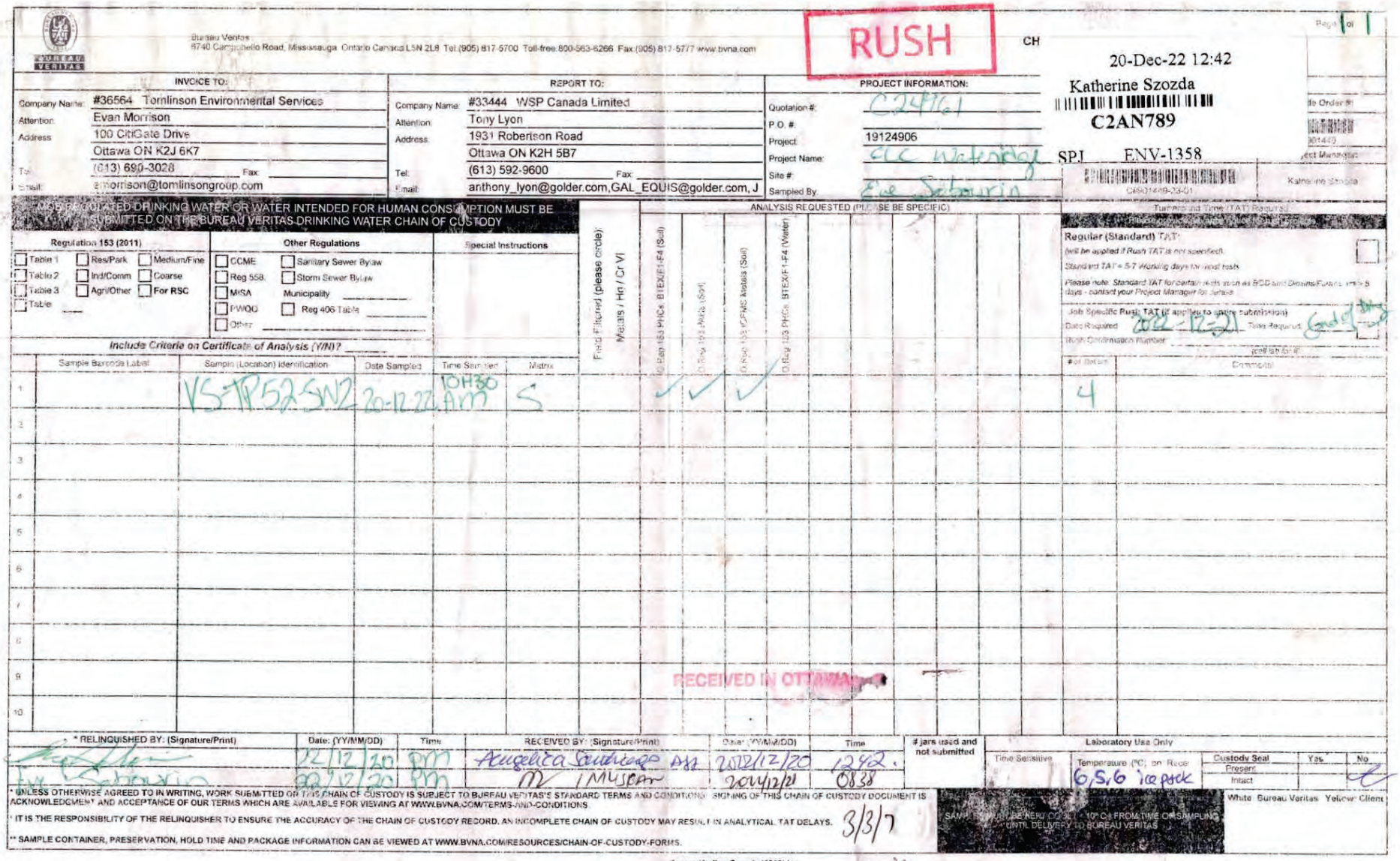
Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com



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

RUSH

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Page 1 of 1

20-Dec-22 12:42
Katherine Szozda
C2AN789

INVOICE TO:
Company Name: #36564 Tomlinson Environmental Services
Attention: Evan Morrison
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REPORT TO:
Company Name: #33444 WSP Canada Limited
Attention: Tony Lyon
Address: 1931 Robertson Road, Ottawa ON K2H 5B7
Tel: (613) 592-9600 Fax:
Email: anthony_lyon@golder.com,GAL_EQUIS@golder.com, J

PROJECT INFORMATION:
Quotation #: C24161
P.O. #:
Project: 19124906
Project Name: CLC Waterloo SPL ENV-1358
Site #:
Sampled By: Eve Seburin

CB501489-23-01

Katherine Szozda

ANY REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

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

Other Regulations
☐ CCME ☐ Sanitary Sewer Bylaw
☐ Reg 558 ☐ Storm Sewer Bylaw
☐ MISA Municipality
☐ PWQO ☐ Reg 406 Table
☐ Other

Special Instructions

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

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

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	O.Reg 153 PHCs BTEX/F1-F4 (Soil)	O.Reg 153 PAHs (Soil)	O.Reg 153 VOCMS Analysis (Soil)	O.Reg 153 PHCs BTEX/F1-F4 (Water)	# of Bottles	Comments
1		VS-TP52-SW2	20-12-22	10H30 AM	S	✓	✓	✓		4	
2											
3											
4											
5											
6											
7											
8											
9											
10											

RECEIVED IN OTTAWA

Turnaround Time (TAT) Required:
Please provide advance notice for rush projects
Regular (Standard) TAT:
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are 5 days - contact your Project Manager for details.
Job Specific Rush TAT (if applied to entire submission)
Date Required: 2022-12-21 Time Required: Good by 4pm
Rush Confirmation Number:
(call lab for #)

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
	22/12/20	PM	Angelica Santiago ASS	2022/12/20	1242	
	22/12/20	PM	MMUSSEM	2022/12/21	0838	

Laboratory Use Only
Time Sensitive
Temperature (°C) on Rece: 6.5.6 ice pack
Custody Seal Present: Yes ☐ No ☐
Intact: ☐ ☐

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/TERMS-AND-CONDITIONS.
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.
** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

3/3/7

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

White: Bureau Veritas Yellow: Client

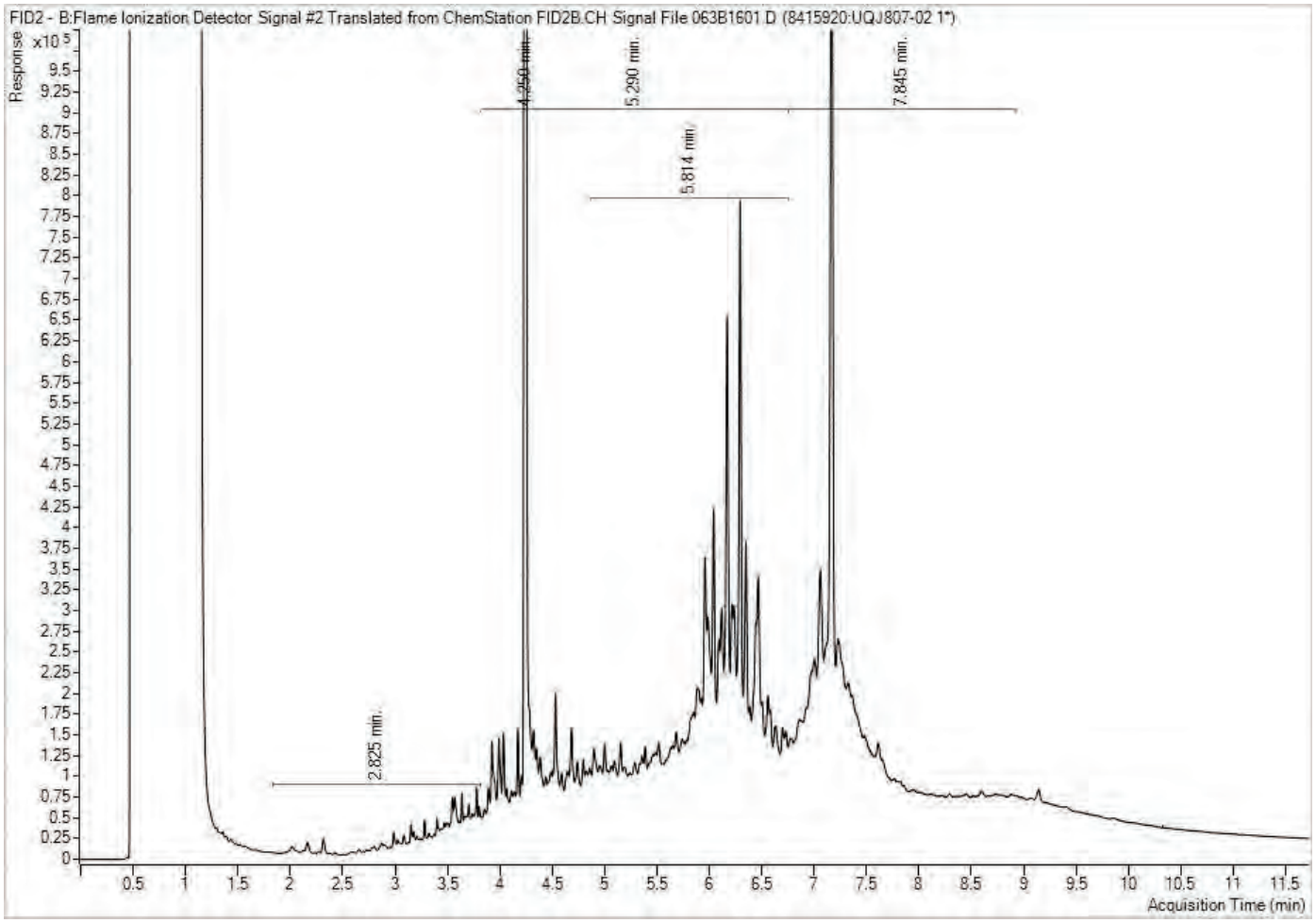
Bureau Veritas Canada (2019) Inc.

mic

Bureau Veritas Job #: C2AN789
Report Date: 2022/12/22
Bureau Veritas Sample: UQJ807

Golder Associates Ltd
Client Project #: 19124906
Project name: CLC WATERIDGE
Client ID: VS-TP52-SW2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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

Bureau Veritas Job #: C2AN789
Report Date: 2022/12/22

Golder Associates Ltd
Client Project #: 19124906
Site Location: CLC WATERIDGE
Sampler Initials: ES

Exceedance Summary Table – Reg153/04 T1-Soil/Res

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
VS-TP52-SW2	UQJ807-02	F2 (C10-C16 Hydrocarbons)	10	43	10	ug/g
VS-TP52-SW2	UQJ807-02	F3 (C16-C34 Hydrocarbons)	240	610	50	ug/g
VS-TP52-SW2	UQJ807-02	F4 (C34-C50 Hydrocarbons)	120	410	50	ug/g

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

Your Project #: 19124906
Site Location: CLC
Your C.O.C. #: 901449-21-01

Attention: Tony Lyon

Golder Associates Ltd
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2022/11/11
Report #: R7383788
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2W9558
Received: 2022/11/09, 16:24

Sample Matrix: Soil
Samples Received: 13

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum (1)	13	N/A	2022/11/11	CAM SOP-00301	EPA 8270D m
Petroleum Hydro. CCME F1 & BTEX in Soil (1, 2)	13	N/A	2022/11/10	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 3)	13	2022/11/10	2022/11/10	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS (1)	13	2022/11/10	2022/11/10	CAM SOP-00447	EPA 6020B m
Moisture (1)	13	N/A	2022/11/10	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM) (1)	13	2022/11/10	2022/11/10	CAM SOP-00318	EPA 8270D m

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8
(2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.
(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your Project #: 19124906
Site Location: CLC
Your C.O.C. #: 901449-21-01

Attention: Tony Lyon

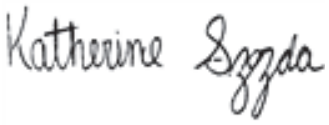
Golder Associates Ltd
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2022/11/11
Report #: R7383788
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2W9558
Received: 2022/11/09, 16:24

Encryption Key



Katherine Szozda
Project Manager
11 Nov 2022 11:36:35

Please direct all questions regarding this Certificate of Analysis to:
Katherine Szozda, Project Manager
Email: Katherine.Szozda@bureauveritas.com
Phone# (613)274-0573 Ext:7063633

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11

Golder Associates Ltd
Client Project #: 19124906
Site Location: CLC
Sampler Initials: S.A

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID			UGK896	UGK896	UGK897	UGK898	UGK899		
Sampling Date			2022/11/09 09:20	2022/11/09 09:20	2022/11/09 09:40	2022/11/09 09:50	2022/11/09 09:55		
COC Number			901449-21-01	901449-21-01	901449-21-01	901449-21-01	901449-21-01		
	UNITS	Criteria	VS-TP52-EW1	VS-TP52-EW1 Lab-Dup	VS-TP52-SW1	VS-TP52-F1	VS-TP52-F2	RDL	QC Batch
Metals									
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	0.25	0.21	<0.20	<0.20	0.20	8338587
Acid Extractable Arsenic (As)	ug/g	18	1.3	1.3	1.4	<1.0	<1.0	1.0	8338587
Acid Extractable Barium (Ba)	ug/g	220	69	72	99	88	32	0.50	8338587
Acid Extractable Beryllium (Be)	ug/g	2.5	0.28	0.26	0.37	0.43	<0.20	0.20	8338587
Acid Extractable Boron (B)	ug/g	36	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	8338587
Acid Extractable Cadmium (Cd)	ug/g	1.2	0.24	0.21	0.15	<0.10	<0.10	0.10	8338587
Acid Extractable Chromium (Cr)	ug/g	70	18	17	30	24	7.9	1.0	8338587
Acid Extractable Cobalt (Co)	ug/g	21	4.4	4.5	7.3	6.9	2.3	0.10	8338587
Acid Extractable Copper (Cu)	ug/g	92	19	20	18	11	4.2	0.50	8338587
Acid Extractable Lead (Pb)	ug/g	120	64	65	21	5.0	2.2	1.0	8338587
Acid Extractable Molybdenum (Mo)	ug/g	2	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	8338587
Acid Extractable Nickel (Ni)	ug/g	82	12	12	19	15	6.1	0.50	8338587
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	8338587
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	8338587
Acid Extractable Thallium (Tl)	ug/g	1	0.11	0.11	0.15	0.065	<0.050	0.050	8338587
Acid Extractable Uranium (U)	ug/g	2.5	0.51	0.54	0.54	0.58	0.37	0.050	8338587
Acid Extractable Vanadium (V)	ug/g	86	22	23	34	29	8.2	5.0	8338587
Acid Extractable Zinc (Zn)	ug/g	290	57	59	60	33	8.5	5.0	8338587

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11

Golder Associates Ltd
Client Project #: 19124906
Site Location: CLC
Sampler Initials: S.A

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID			UGK900	UGK901	UGK902	UGK903	UGK904		
Sampling Date			2022/11/09 10:55	2022/11/09 11:00	2022/11/09 11:15	2022/11/09 11:20	2022/11/09 11:50		
COC Number			901449-21-01	901449-21-01	901449-21-01	901449-21-01	901449-21-01		
	UNITS	Criteria	VS-TP32-NW1	VS-TP32-EW1	VS-TP32-F1	VS-TP32-F2	VS-TP57-NW1	RDL	QC Batch
Metals									
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	0.26	<0.20	<0.20	<0.20	0.20	8338587
Acid Extractable Arsenic (As)	ug/g	18	<1.0	<1.0	<1.0	<1.0	1.4	1.0	8338587
Acid Extractable Barium (Ba)	ug/g	220	37	46	38	24	56	0.50	8338587
Acid Extractable Beryllium (Be)	ug/g	2.5	0.25	0.28	0.22	0.21	0.52	0.20	8338587
Acid Extractable Boron (B)	ug/g	36	<5.0	<5.0	<5.0	<5.0	<5.0	5.0	8338587
Acid Extractable Cadmium (Cd)	ug/g	1.2	<0.10	0.21	<0.10	<0.10	0.27	0.10	8338587
Acid Extractable Chromium (Cr)	ug/g	70	14	14	12	9.7	22	1.0	8338587
Acid Extractable Cobalt (Co)	ug/g	21	9.6	5.3	5.2	4.9	8.4	0.10	8338587
Acid Extractable Copper (Cu)	ug/g	92	17	11	12	9.3	11	0.50	8338587
Acid Extractable Lead (Pb)	ug/g	120	6.1	9.8	3.0	3.4	18	1.0	8338587
Acid Extractable Molybdenum (Mo)	ug/g	2	0.57	<0.50	<0.50	<0.50	0.79	0.50	8338587
Acid Extractable Nickel (Ni)	ug/g	82	11	9.3	8.0	7.0	16	0.50	8338587
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	8338587
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	8338587
Acid Extractable Thallium (Tl)	ug/g	1	0.077	0.086	0.063	<0.050	0.14	0.050	8338587
Acid Extractable Uranium (U)	ug/g	2.5	0.49	0.47	0.41	0.37	0.53	0.050	8338587
Acid Extractable Vanadium (V)	ug/g	86	28	22	21	17	32	5.0	8338587
Acid Extractable Zinc (Zn)	ug/g	290	22	22	13	13	41	5.0	8338587

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11

Golder Associates Ltd
Client Project #: 19124906
Site Location: CLC
Sampler Initials: S.A

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID			UGK905	UGK907	UGK908	UGK909		
Sampling Date			2022/11/09 11:55	2022/11/09 12:50	2022/11/09 13:10	2022/11/09 15:00		
COC Number			901449-21-01					
	UNITS	Criteria	VS-TP57-EW1	VS-EST-EW4	VS-BLD137-NE-F2	VS-TP32-DUP1	RDL	QC Batch
Metals								
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	<0.20	<0.20	<0.20	0.20	8338587
Acid Extractable Arsenic (As)	ug/g	18	1.5	1.1	1.4	<1.0	1.0	8338587
Acid Extractable Barium (Ba)	ug/g	220	54	**250**	180	39	0.50	8338587
Acid Extractable Beryllium (Be)	ug/g	2.5	0.45	0.67	0.71	0.22	0.20	8338587
Acid Extractable Boron (B)	ug/g	36	<5.0	6.5	<5.0	<5.0	5.0	8338587
Acid Extractable Cadmium (Cd)	ug/g	1.2	0.15	0.15	0.19	<0.10	0.10	8338587
Acid Extractable Chromium (Cr)	ug/g	70	21	69	**73**	11	1.0	8338587
Acid Extractable Cobalt (Co)	ug/g	21	8.3	17	18	5.2	0.10	8338587
Acid Extractable Copper (Cu)	ug/g	92	12	36	24	11	0.50	8338587
Acid Extractable Lead (Pb)	ug/g	120	12	13	10	2.9	1.0	8338587
Acid Extractable Molybdenum (Mo)	ug/g	2	0.87	0.73	0.52	<0.50	0.50	8338587
Acid Extractable Nickel (Ni)	ug/g	82	18	41	37	7.6	0.50	8338587
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	<0.50	<0.50	<0.50	0.50	8338587
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	<0.20	<0.20	<0.20	0.20	8338587
Acid Extractable Thallium (Tl)	ug/g	1	0.20	0.33	0.25	0.069	0.050	8338587
Acid Extractable Uranium (U)	ug/g	2.5	0.59	0.95	0.78	0.39	0.050	8338587
Acid Extractable Vanadium (V)	ug/g	86	32	77	74	21	5.0	8338587
Acid Extractable Zinc (Zn)	ug/g	290	39	140	97	16	5.0	8338587

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			UGK896		UGK897		UGK898	UGK899		
Sampling Date			2022/11/09 09:20		2022/11/09 09:40		2022/11/09 09:50	2022/11/09 09:55		
COC Number			901449-21-01		901449-21-01		901449-21-01	901449-21-01		
	UNITS	Criteria	VS-TP52-EW1	RDL	VS-TP52-SW1	RDL	VS-TP52-F1	VS-TP52-F2	RDL	QC Batch
Calculated Parameters										
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	0.0071	<0.071	0.071	<0.0071	<0.0071	0.0071	8337685
Polyaromatic Hydrocarbons										
Acenaphthene	ug/g	0.072	<0.0050	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
Acenaphthylene	ug/g	0.093	<0.0050	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
Anthracene	ug/g	0.16	<0.0050	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
Benzo(a)anthracene	ug/g	0.36	<0.0050	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
Benzo(a)pyrene	ug/g	0.3	0.0081	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
Benzo(b/j)fluoranthene	ug/g	0.47	0.014	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
Benzo(g,h,i)perylene	ug/g	0.68	0.011	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
Benzo(k)fluoranthene	ug/g	0.48	<0.0050	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
Chrysene	ug/g	2.8	<0.0050	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
Fluoranthene	ug/g	0.56	0.0056	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
Fluorene	ug/g	0.12	<0.0050	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
Indeno(1,2,3-cd)pyrene	ug/g	0.23	0.011	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
1-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
2-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
Naphthalene	ug/g	0.09	<0.0050	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
Phenanthrene	ug/g	0.69	<0.0050	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
Pyrene	ug/g	1	<0.0050	0.0050	<0.050	0.050	<0.0050	<0.0050	0.0050	8337969
Surrogate Recovery (%)										
D10-Anthracene	%	-	98		106		98	98		8337969
D14-Terphenyl (FS)	%	-	107		107		105	104		8337969
D8-Acenaphthylene	%	-	87		92		85	86		8337969

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			UGK900	UGK901	UGK902			UGK902		
Sampling Date			2022/11/09 10:55	2022/11/09 11:00	2022/11/09 11:15			2022/11/09 11:15		
COC Number			901449-21-01	901449-21-01	901449-21-01			901449-21-01		
	UNITS	Criteria	VS-TP32-NW1	VS-TP32-EW1	VS-TP32-F1	RDL	QC Batch	VS-TP32-F1 Lab-Dup	RDL	QC Batch
Calculated Parameters										
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	<0.0071	<0.0071	0.0071	8337685			
Polyaromatic Hydrocarbons										
Acenaphthene	ug/g	0.072	<0.0050	<0.0050	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
Acenaphthylene	ug/g	0.093	<0.0050	<0.0050	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
Anthracene	ug/g	0.16	<0.0050	<0.0050	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
Benzo(a)anthracene	ug/g	0.36	<0.0050	0.011	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
Benzo(a)pyrene	ug/g	0.3	<0.0050	0.010	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
Benzo(b/j)fluoranthene	ug/g	0.47	<0.0050	0.014	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
Benzo(g,h,i)perylene	ug/g	0.68	<0.0050	0.0072	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
Benzo(k)fluoranthene	ug/g	0.48	<0.0050	0.0053	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
Chrysene	ug/g	2.8	<0.0050	0.0092	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	<0.0050	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
Fluoranthene	ug/g	0.56	0.0070	0.023	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
Fluorene	ug/g	0.12	<0.0050	<0.0050	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
Indeno(1,2,3-cd)pyrene	ug/g	0.23	<0.0050	0.0073	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
1-Methylnaphthalene	ug/g	0.59	<0.0050	<0.0050	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
2-Methylnaphthalene	ug/g	0.59	<0.0050	<0.0050	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
Naphthalene	ug/g	0.09	<0.0050	<0.0050	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
Phenanthrene	ug/g	0.69	<0.0050	0.013	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
Pyrene	ug/g	1	0.0060	0.019	<0.0050	0.0050	8337969	<0.0050	0.0050	8337969
Surrogate Recovery (%)										
D10-Anthracene	%	-	101	97	104		8337969	101		8337969
D14-Terphenyl (FS)	%	-	107	105	110		8337969	109		8337969
D8-Acenaphthylene	%	-	88	87	90		8337969	87		8337969

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			UGK903	UGK904	UGK905		UGK907		
Sampling Date			2022/11/09 11:20	2022/11/09 11:50	2022/11/09 11:55		2022/11/09 12:50		
COC Number			901449-21-01	901449-21-01	901449-21-01				
	UNITS	Criteria	VS-TP32-F2	VS-TP57-NW1	VS-TP57-EW1	RDL	VS-EST-EW4	RDL	QC Batch
Calculated Parameters									
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	<0.0071	<0.0071	0.0071	<0.071	0.071	8337685
Polyaromatic Hydrocarbons									
Acenaphthene	ug/g	0.072	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8337969
Acenaphthylene	ug/g	0.093	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8337969
Anthracene	ug/g	0.16	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8337969
Benzo(a)anthracene	ug/g	0.36	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8337969
Benzo(a)pyrene	ug/g	0.3	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8337969
Benzo(b/j)fluoranthene	ug/g	0.47	<0.0050	0.0076	<0.0050	0.0050	<0.050	0.050	8337969
Benzo(g,h,i)perylene	ug/g	0.68	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8337969
Benzo(k)fluoranthene	ug/g	0.48	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8337969
Chrysene	ug/g	2.8	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8337969
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8337969
Fluoranthene	ug/g	0.56	<0.0050	0.0089	<0.0050	0.0050	<0.050	0.050	8337969
Fluorene	ug/g	0.12	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8337969
Indeno(1,2,3-cd)pyrene	ug/g	0.23	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8337969
1-Methylnaphthalene	ug/g	0.59	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8337969
2-Methylnaphthalene	ug/g	0.59	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8337969
Naphthalene	ug/g	0.09	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8337969
Phenanthrene	ug/g	0.69	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8337969
Pyrene	ug/g	1	<0.0050	0.0077	<0.0050	0.0050	<0.050	0.050	8337969
Surrogate Recovery (%)									
D10-Anthracene	%	-	100	97	99		105		8337969
D14-Terphenyl (FS)	%	-	106	105	106		107		8337969
D8-Acenaphthylene	%	-	85	86	88		90		8337969

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			UGK908	UGK909		
Sampling Date			2022/11/09 13:10	2022/11/09 15:00		
COC Number						
	UNITS	Criteria	VS-BLD137-NE-F2	VS-TP32-DUP1	RDL	QC Batch
Calculated Parameters						
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	<0.0071	0.0071	8337685
Polyaromatic Hydrocarbons						
Acenaphthene	ug/g	0.072	<0.0050	<0.0050	0.0050	8337969
Acenaphthylene	ug/g	0.093	<0.0050	<0.0050	0.0050	8337969
Anthracene	ug/g	0.16	0.011	<0.0050	0.0050	8337969
Benzo(a)anthracene	ug/g	0.36	0.045	<0.0050	0.0050	8337969
Benzo(a)pyrene	ug/g	0.3	0.040	<0.0050	0.0050	8337969
Benzo(b/j)fluoranthene	ug/g	0.47	0.050	<0.0050	0.0050	8337969
Benzo(g,h,i)perylene	ug/g	0.68	0.026	<0.0050	0.0050	8337969
Benzo(k)fluoranthene	ug/g	0.48	0.020	<0.0050	0.0050	8337969
Chrysene	ug/g	2.8	0.033	<0.0050	0.0050	8337969
Dibenzo(a,h)anthracene	ug/g	0.1	0.0067	<0.0050	0.0050	8337969
Fluoranthene	ug/g	0.56	0.087	<0.0050	0.0050	8337969
Fluorene	ug/g	0.12	<0.0050	<0.0050	0.0050	8337969
Indeno(1,2,3-cd)pyrene	ug/g	0.23	0.026	<0.0050	0.0050	8337969
1-Methylnaphthalene	ug/g	0.59	<0.0050	<0.0050	0.0050	8337969
2-Methylnaphthalene	ug/g	0.59	<0.0050	<0.0050	0.0050	8337969
Naphthalene	ug/g	0.09	<0.0050	<0.0050	0.0050	8337969
Phenanthrene	ug/g	0.69	0.035	<0.0050	0.0050	8337969
Pyrene	ug/g	1	0.075	<0.0050	0.0050	8337969
Surrogate Recovery (%)						
D10-Anthracene	%	-	96	106		8337969
D14-Terphenyl (FS)	%	-	106	113		8337969
D8-Acenaphthylene	%	-	89	92		8337969

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11

Golder Associates Ltd
Client Project #: 19124906
Site Location: CLC
Sampler Initials: S.A

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

Bureau Veritas ID			UGK896	UGK897	UGK898	UGK899		
Sampling Date			2022/11/09 09:20	2022/11/09 09:40	2022/11/09 09:50	2022/11/09 09:55		
COC Number			901449-21-01	901449-21-01	901449-21-01	901449-21-01		
	UNITS	Criteria	VS-TP52-EW1	VS-TP52-SW1	VS-TP52-F1	VS-TP52-F2	RDL	QC Batch
Inorganics								
Moisture	%	-	5.2	13	7.7	7.2	1.0	8337919
BTEX & F1 Hydrocarbons								
Benzene	ug/g	0.02	<0.020	<0.020	<0.020	<0.020	0.020	8337936
Toluene	ug/g	0.2	<0.020	<0.020	<0.020	<0.020	0.020	8337936
Ethylbenzene	ug/g	0.05	<0.020	<0.020	<0.020	<0.020	0.020	8337936
o-Xylene	ug/g	-	<0.020	<0.020	<0.020	<0.020	0.020	8337936
p+m-Xylene	ug/g	-	<0.040	<0.040	<0.040	<0.040	0.040	8337936
Total Xylenes	ug/g	0.05	<0.040	<0.040	<0.040	<0.040	0.040	8337936
F1 (C6-C10)	ug/g	25	<10	<10	<10	<10	10	8337936
F1 (C6-C10) - BTEX	ug/g	25	<10	<10	<10	<10	10	8337936
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	10	<10	<10	10	8337974
F3 (C16-C34 Hydrocarbons)	ug/g	240	75	140	<50	<50	50	8337974
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	95	<50	<50	50	8337974
Reached Baseline at C50	ug/g	-	Yes	Yes	Yes	Yes		8337974
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	-	104	104	105	105		8337936
4-Bromofluorobenzene	%	-	96	97	96	98		8337936
D10-o-Xylene	%	-	76	88	92	80		8337936
D4-1,2-Dichloroethane	%	-	96	97	96	96		8337936
o-Terphenyl	%	-	90	92	91	92		8337974

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

Bureau Veritas ID			UGK899			UGK900	UGK901		
Sampling Date			2022/11/09 09:55			2022/11/09 10:55	2022/11/09 11:00		
COC Number			901449-21-01			901449-21-01	901449-21-01		
	UNITS	Criteria	VS-TP52-F2 Lab-Dup	RDL	QC Batch	VS-TP32-NW1	VS-TP32-EW1	RDL	QC Batch
Inorganics									
Moisture	%	-				4.0	5.6	1.0	8337919
BTEX & F1 Hydrocarbons									
Benzene	ug/g	0.02				<0.020	<0.020	0.020	8337936
Toluene	ug/g	0.2				<0.020	<0.020	0.020	8337936
Ethylbenzene	ug/g	0.05				<0.020	<0.020	0.020	8337936
o-Xylene	ug/g	-				<0.020	<0.020	0.020	8337936
p+m-Xylene	ug/g	-				<0.040	<0.040	0.040	8337936
Total Xylenes	ug/g	0.05				<0.040	<0.040	0.040	8337936
F1 (C6-C10)	ug/g	25				<10	<10	10	8337936
F1 (C6-C10) - BTEX	ug/g	25				<10	<10	10	8337936
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	10	8337974	<10	<10	10	8337974
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	50	8337974	<50	<50	50	8337974
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	50	8337974	<50	<50	50	8337974
Reached Baseline at C50	ug/g	-	Yes		8337974	Yes	Yes		8337974
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	-				103	106		8337936
4-Bromofluorobenzene	%	-				98	97		8337936
D10-o-Xylene	%	-				81	79		8337936
D4-1,2-Dichloroethane	%	-				97	98		8337936
o-Terphenyl	%	-	91		8337974	90	90		8337974

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11

Golder Associates Ltd
Client Project #: 19124906
Site Location: CLC
Sampler Initials: S.A

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

Bureau Veritas ID			UGK901			UGK902	UGK903	UGK904		
Sampling Date			2022/11/09 11:00			2022/11/09 11:15	2022/11/09 11:20	2022/11/09 11:50		
COC Number			901449-21-01			901449-21-01	901449-21-01	901449-21-01		
	UNITS	Criteria	VS-TP32-EW1 Lab-Dup	RDL	QC Batch	VS-TP32-F1	VS-TP32-F2	VS-TP57-NW1	RDL	QC Batch
Inorganics										
Moisture	%	-				7.4	4.9	13	1.0	8337919
BTEX & F1 Hydrocarbons										
Benzene	ug/g	0.02	<0.020	0.020	8337936	<0.020	<0.020	<0.020	0.020	8337936
Toluene	ug/g	0.2	<0.020	0.020	8337936	<0.020	<0.020	<0.020	0.020	8337936
Ethylbenzene	ug/g	0.05	<0.020	0.020	8337936	<0.020	<0.020	<0.020	0.020	8337936
o-Xylene	ug/g	-	<0.020	0.020	8337936	<0.020	<0.020	<0.020	0.020	8337936
p+m-Xylene	ug/g	-	<0.040	0.040	8337936	<0.040	<0.040	<0.040	0.040	8337936
Total Xylenes	ug/g	0.05	<0.040	0.040	8337936	<0.040	<0.040	<0.040	0.040	8337936
F1 (C6-C10)	ug/g	25	<10	10	8337936	<10	<10	<10	10	8337936
F1 (C6-C10) - BTEX	ug/g	25	<10	10	8337936	<10	<10	<10	10	8337936
F2-F4 Hydrocarbons										
F2 (C10-C16 Hydrocarbons)	ug/g	10				<10	<10	<10	10	8337974
F3 (C16-C34 Hydrocarbons)	ug/g	240				<50	<50	<50	50	8337974
F4 (C34-C50 Hydrocarbons)	ug/g	120				<50	<50	<50	50	8337974
Reached Baseline at C50	ug/g	-				Yes	Yes	Yes		8337974
Surrogate Recovery (%)										
1,4-Difluorobenzene	%	-	102		8337936	105	102	112		8337936
4-Bromofluorobenzene	%	-	99		8337936	97	98	96		8337936
D10-o-Xylene	%	-	80		8337936	84	83	116		8337936
D4-1,2-Dichloroethane	%	-	96		8337936	94	95	94		8337936
o-Terphenyl	%	-				94	91	90		8337974

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11

Golder Associates Ltd
Client Project #: 19124906
Site Location: CLC
Sampler Initials: S.A

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

Bureau Veritas ID			UGK905	UGK907	UGK908	UGK909		
Sampling Date			2022/11/09 11:55	2022/11/09 12:50	2022/11/09 13:10	2022/11/09 15:00		
COC Number			901449-21-01					
	UNITS	Criteria	VS-TP57-EW1	VS-EST-EW4	VS-BLD137-NE-F2	VS-TP32-DUP1	RDL	QC Batch
Inorganics								
Moisture	%	-	8.6	16	21	7.3	1.0	8337919
BTEX & F1 Hydrocarbons								
Benzene	ug/g	0.02	<0.020	<0.020	<0.020	<0.020	0.020	8337936
Toluene	ug/g	0.2	<0.020	<0.020	<0.020	<0.020	0.020	8337936
Ethylbenzene	ug/g	0.05	<0.020	<0.020	<0.020	<0.020	0.020	8337936
o-Xylene	ug/g	-	<0.020	<0.020	<0.020	<0.020	0.020	8337936
p+m-Xylene	ug/g	-	<0.040	<0.040	<0.040	<0.040	0.040	8337936
Total Xylenes	ug/g	0.05	<0.040	<0.040	<0.040	<0.040	0.040	8337936
F1 (C6-C10)	ug/g	25	<10	<10	<10	<10	10	8337936
F1 (C6-C10) - BTEX	ug/g	25	<10	<10	<10	<10	10	8337936
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	<10	<10	<10	10	8337974
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	<50	<50	<50	50	8337974
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	120	<50	<50	50	8337974
Reached Baseline at C50	ug/g	-	Yes	Yes	Yes	Yes		8337974
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	-	109	106	108	108		8337936
4-Bromofluorobenzene	%	-	96	99	98	101		8337936
D10-o-Xylene	%	-	99	98	107	96		8337936
D4-1,2-Dichloroethane	%	-	99	103	100	96		8337936
o-Terphenyl	%	-	90	90	87	88		8337974

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

TEST SUMMARY

Bureau Veritas ID: UGK896 **Collected:** 2022/11/09
Sample ID: VS-TP52-EW1 **Shipped:**
Matrix: Soil **Received:** 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8337685	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8337936	N/A	2022/11/10	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8337974	2022/11/10	2022/11/10	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8338587	2022/11/10	2022/11/10	Daniel Teclu
Moisture	BAL	8337919	N/A	2022/11/10	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8337969	2022/11/10	2022/11/10	Joe Paino

Bureau Veritas ID: UGK896 Dup **Collected:** 2022/11/09
Sample ID: VS-TP52-EW1 **Shipped:**
Matrix: Soil **Received:** 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8338587	2022/11/10	2022/11/10	Daniel Teclu

Bureau Veritas ID: UGK897 **Collected:** 2022/11/09
Sample ID: VS-TP52-SW1 **Shipped:**
Matrix: Soil **Received:** 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8337685	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8337936	N/A	2022/11/10	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8337974	2022/11/10	2022/11/10	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8338587	2022/11/10	2022/11/10	Daniel Teclu
Moisture	BAL	8337919	N/A	2022/11/10	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8337969	2022/11/10	2022/11/10	Joe Paino

Bureau Veritas ID: UGK898 **Collected:** 2022/11/09
Sample ID: VS-TP52-F1 **Shipped:**
Matrix: Soil **Received:** 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8337685	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8337936	N/A	2022/11/10	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8337974	2022/11/10	2022/11/10	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8338587	2022/11/10	2022/11/10	Daniel Teclu
Moisture	BAL	8337919	N/A	2022/11/10	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8337969	2022/11/10	2022/11/10	Joe Paino

Bureau Veritas ID: UGK899 **Collected:** 2022/11/09
Sample ID: VS-TP52-F2 **Shipped:**
Matrix: Soil **Received:** 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8337685	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8337936	N/A	2022/11/10	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8337974	2022/11/10	2022/11/10	Dennis Ngondu

TEST SUMMARY

Bureau Veritas ID: UGK899 **Collected:** 2022/11/09
Sample ID: VS-TP52-F2 **Shipped:**
Matrix: Soil **Received:** 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8338587	2022/11/10	2022/11/10	Daniel Teclu
Moisture	BAL	8337919	N/A	2022/11/10	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8337969	2022/11/10	2022/11/10	Joe Paino

Bureau Veritas ID: UGK899 Dup **Collected:** 2022/11/09
Sample ID: VS-TP52-F2 **Shipped:**
Matrix: Soil **Received:** 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8337974	2022/11/10	2022/11/10	Dennis Ngondu

Bureau Veritas ID: UGK900 **Collected:** 2022/11/09
Sample ID: VS-TP32-NW1 **Shipped:**
Matrix: Soil **Received:** 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8337685	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8337936	N/A	2022/11/10	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8337974	2022/11/10	2022/11/10	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8338587	2022/11/10	2022/11/10	Daniel Teclu
Moisture	BAL	8337919	N/A	2022/11/10	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8337969	2022/11/10	2022/11/10	Joe Paino

Bureau Veritas ID: UGK901 **Collected:** 2022/11/09
Sample ID: VS-TP32-EW1 **Shipped:**
Matrix: Soil **Received:** 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8337685	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8337936	N/A	2022/11/10	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8337974	2022/11/10	2022/11/10	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8338587	2022/11/10	2022/11/10	Daniel Teclu
Moisture	BAL	8337919	N/A	2022/11/10	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8337969	2022/11/10	2022/11/10	Joe Paino

Bureau Veritas ID: UGK901 Dup **Collected:** 2022/11/09
Sample ID: VS-TP32-EW1 **Shipped:**
Matrix: Soil **Received:** 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8337936	N/A	2022/11/10	Anca Ganea

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11

Golder Associates Ltd
Client Project #: 19124906
Site Location: CLC
Sampler Initials: S.A

TEST SUMMARY

Bureau Veritas ID: UGK902
Sample ID: VS-TP32-F1
Matrix: Soil

Collected: 2022/11/09
Shipped:
Received: 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8337685	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8337936	N/A	2022/11/10	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8337974	2022/11/10	2022/11/10	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8338587	2022/11/10	2022/11/10	Daniel Teclu
Moisture	BAL	8337919	N/A	2022/11/10	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8337969	2022/11/10	2022/11/10	Joe Paino

Bureau Veritas ID: UGK902 Dup
Sample ID: VS-TP32-F1
Matrix: Soil

Collected: 2022/11/09
Shipped:
Received: 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8337969	2022/11/10	2022/11/10	Joe Paino

Bureau Veritas ID: UGK903
Sample ID: VS-TP32-F2
Matrix: Soil

Collected: 2022/11/09
Shipped:
Received: 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8337685	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8337936	N/A	2022/11/10	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8337974	2022/11/10	2022/11/10	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8338587	2022/11/10	2022/11/10	Daniel Teclu
Moisture	BAL	8337919	N/A	2022/11/10	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8337969	2022/11/10	2022/11/10	Joe Paino

Bureau Veritas ID: UGK904
Sample ID: VS-TP57-NW1
Matrix: Soil

Collected: 2022/11/09
Shipped:
Received: 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8337685	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8337936	N/A	2022/11/10	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8337974	2022/11/10	2022/11/10	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8338587	2022/11/10	2022/11/10	Daniel Teclu
Moisture	BAL	8337919	N/A	2022/11/10	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8337969	2022/11/10	2022/11/10	Joe Paino

Bureau Veritas ID: UGK905
Sample ID: VS-TP57-EW1
Matrix: Soil

Collected: 2022/11/09
Shipped:
Received: 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8337685	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8337936	N/A	2022/11/10	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8337974	2022/11/10	2022/11/10	Dennis Ngondu

TEST SUMMARY

Bureau Veritas ID: UGK905 **Collected:** 2022/11/09
Sample ID: VS-TP57-EW1 **Shipped:**
Matrix: Soil **Received:** 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8338587	2022/11/10	2022/11/10	Daniel Teclu
Moisture	BAL	8337919	N/A	2022/11/10	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8337969	2022/11/10	2022/11/10	Joe Paino

Bureau Veritas ID: UGK907 **Collected:** 2022/11/09
Sample ID: VS-EST-EW4 **Shipped:**
Matrix: Soil **Received:** 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8337685	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8337936	N/A	2022/11/10	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8337974	2022/11/10	2022/11/10	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8338587	2022/11/10	2022/11/10	Daniel Teclu
Moisture	BAL	8337919	N/A	2022/11/10	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8337969	2022/11/10	2022/11/10	Joe Paino

Bureau Veritas ID: UGK908 **Collected:** 2022/11/09
Sample ID: VS-BLD137-NE-F2 **Shipped:**
Matrix: Soil **Received:** 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8337685	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8337936	N/A	2022/11/10	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8337974	2022/11/10	2022/11/10	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8338587	2022/11/10	2022/11/10	Daniel Teclu
Moisture	BAL	8337919	N/A	2022/11/10	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8337969	2022/11/10	2022/11/10	Joe Paino

Bureau Veritas ID: UGK909 **Collected:** 2022/11/09
Sample ID: VS-TP32-DUP1 **Shipped:**
Matrix: Soil **Received:** 2022/11/09

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8337685	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8337936	N/A	2022/11/10	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8337974	2022/11/10	2022/11/10	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8338587	2022/11/10	2022/11/10	Daniel Teclu
Moisture	BAL	8337919	N/A	2022/11/10	Mathew Bowles
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8337969	2022/11/10	2022/11/10	Joe Paino

GENERAL COMMENTS

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

Package 1	12.3°C

Sample UGK897 [VS-TP52-SW1] : PAH analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Sample UGK900 [VS-TP32-NW1] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample UGK901 [VS-TP32-EW1] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample UGK902 [VS-TP32-F1] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample UGK903 [VS-TP32-F2] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample UGK907 [VS-EST-EW4] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

PAH analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Sample UGK908 [VS-BLD137-NE-F2] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample UGK909 [VS-TP32-DUP1] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8337936	1,4-Difluorobenzene	2022/11/10	101	60 - 140	102	60 - 140	103	%		
8337936	4-Bromofluorobenzene	2022/11/10	98	60 - 140	95	60 - 140	97	%		
8337936	D10-o-Xylene	2022/11/10	87	60 - 140	79	60 - 140	83	%		
8337936	D4-1,2-Dichloroethane	2022/11/10	98	60 - 140	98	60 - 140	90	%		
8337969	D10-Anthracene	2022/11/10	101	50 - 130	101	50 - 130	102	%		
8337969	D14-Terphenyl (FS)	2022/11/10	111	50 - 130	110	50 - 130	108	%		
8337969	D8-Acenaphthylene	2022/11/10	92	50 - 130	96	50 - 130	93	%		
8337974	o-Terphenyl	2022/11/10	89	60 - 130	87	60 - 130	92	%		
8337919	Moisture	2022/11/10							1.7	20
8337936	Benzene	2022/11/10	87	50 - 140	81	50 - 140	<0.020	ug/g	NC	50
8337936	Ethylbenzene	2022/11/10	95	50 - 140	81	50 - 140	<0.020	ug/g	NC	50
8337936	F1 (C6-C10) - BTEX	2022/11/10					<10	ug/g	NC	30
8337936	F1 (C6-C10)	2022/11/10	81	60 - 140	83	80 - 120	<10	ug/g	NC	30
8337936	o-Xylene	2022/11/10	93	50 - 140	83	50 - 140	<0.020	ug/g	NC	50
8337936	p+m-Xylene	2022/11/10	95	50 - 140	87	50 - 140	<0.040	ug/g	NC	50
8337936	Toluene	2022/11/10	86	50 - 140	80	50 - 140	<0.020	ug/g	NC	50
8337936	Total Xylenes	2022/11/10					<0.040	ug/g	NC	50
8337969	1-Methylnaphthalene	2022/11/10	88	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8337969	2-Methylnaphthalene	2022/11/10	88	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8337969	Acenaphthene	2022/11/10	91	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8337969	Acenaphthylene	2022/11/10	88	50 - 130	92	50 - 130	<0.0050	ug/g	NC	40
8337969	Anthracene	2022/11/10	92	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8337969	Benzo(a)anthracene	2022/11/10	93	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40
8337969	Benzo(a)pyrene	2022/11/10	92	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8337969	Benzo(b/j)fluoranthene	2022/11/10	94	50 - 130	96	50 - 130	<0.0050	ug/g	NC	40
8337969	Benzo(g,h,i)perylene	2022/11/10	91	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
8337969	Benzo(k)fluoranthene	2022/11/10	88	50 - 130	91	50 - 130	<0.0050	ug/g	NC	40
8337969	Chrysene	2022/11/10	92	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40
8337969	Dibenzo(a,h)anthracene	2022/11/10	91	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
8337969	Fluoranthene	2022/11/10	93	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40
8337969	Fluorene	2022/11/10	91	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8337969	Indeno(1,2,3-cd)pyrene	2022/11/10	91	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8337969	Naphthalene	2022/11/10	85	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8337969	Phenanthrene	2022/11/10	91	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8337969	Pyrene	2022/11/10	93	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40
8337974	F2 (C10-C16 Hydrocarbons)	2022/11/10	92	60 - 130	90	80 - 120	<10	ug/g	NC	30
8337974	F3 (C16-C34 Hydrocarbons)	2022/11/10	92	60 - 130	90	80 - 120	<50	ug/g	NC	30
8337974	F4 (C34-C50 Hydrocarbons)	2022/11/10	95	60 - 130	93	80 - 120	<50	ug/g	NC	30
8338587	Acid Extractable Antimony (Sb)	2022/11/10	97	75 - 125	101	80 - 120	<0.20	ug/g	23	30
8338587	Acid Extractable Arsenic (As)	2022/11/10	105	75 - 125	102	80 - 120	<1.0	ug/g	3.0	30
8338587	Acid Extractable Barium (Ba)	2022/11/10	NC	75 - 125	102	80 - 120	<0.50	ug/g	4.7	30
8338587	Acid Extractable Beryllium (Be)	2022/11/10	106	75 - 125	102	80 - 120	<0.20	ug/g	6.6	30
8338587	Acid Extractable Boron (B)	2022/11/10	98	75 - 125	102	80 - 120	<5.0	ug/g	NC	30
8338587	Acid Extractable Cadmium (Cd)	2022/11/10	102	75 - 125	101	80 - 120	<0.10	ug/g	14	30
8338587	Acid Extractable Chromium (Cr)	2022/11/10	106	75 - 125	102	80 - 120	<1.0	ug/g	1.2	30
8338587	Acid Extractable Cobalt (Co)	2022/11/10	106	75 - 125	103	80 - 120	<0.10	ug/g	1.7	30
8338587	Acid Extractable Copper (Cu)	2022/11/10	103	75 - 125	103	80 - 120	<0.50	ug/g	5.6	30
8338587	Acid Extractable Lead (Pb)	2022/11/10	NC	75 - 125	105	80 - 120	<1.0	ug/g	2.6	30
8338587	Acid Extractable Molybdenum (Mo)	2022/11/10	102	75 - 125	103	80 - 120	<0.50	ug/g	NC	30
8338587	Acid Extractable Nickel (Ni)	2022/11/10	106	75 - 125	103	80 - 120	<0.50	ug/g	0.23	30
8338587	Acid Extractable Selenium (Se)	2022/11/10	99	75 - 125	99	80 - 120	<0.50	ug/g	NC	30
8338587	Acid Extractable Silver (Ag)	2022/11/10	106	75 - 125	102	80 - 120	<0.20	ug/g	NC	30
8338587	Acid Extractable Thallium (Tl)	2022/11/10	107	75 - 125	107	80 - 120	<0.050	ug/g	4.1	30
8338587	Acid Extractable Uranium (U)	2022/11/10	106	75 - 125	106	80 - 120	<0.050	ug/g	4.1	30
8338587	Acid Extractable Vanadium (V)	2022/11/10	112	75 - 125	102	80 - 120	<5.0	ug/g	4.2	30

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8338587	Acid Extractable Zinc (Zn)	2022/11/10	NC	75 - 125	105	80 - 120	<5.0	ug/g	3.6	30

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

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

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

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

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

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

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

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Anastassia Hamanov, Scientific Specialist

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

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RUSH

09-Nov-22 16:24
Katherine Szozda
C2W9558
KTN ENV-925
C#901449-21-01

Bottle Order #: 901449
Project Manager: Katherine Szozda

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#36554 Tomlinson Environmental Services	Company Name:	#33444 WSP Canada Limited	Quotation #:	C24961
Attention:	Evan Morrison	Attention:	Tony Lyon	P.O. #:	
Address:	100 CitiGate Drive Ottawa ON K2J 6K7	Address:	1931 Robertson Road Ottawa ON K2H 5B7	Project:	19124906
Tel:	(613) 690-3028 Fax:	Tel:	(613) 592-9600 Fax:	Project Name:	
Email:	emorrison@tomlinsongroup.com	Email:	anthony_lyon@golder.com,GAL_EQUIS@golder.com,J	Site #:	
				Sampled By:	SEUN AJIBOLE

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

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

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ☐ PWQO ☐ Reg 406 Table ☐ Other

Special Instructions

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

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

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

Job Specific Rush TAT (if applies to entire submission)
Date Required: 2022/11/10 Time Required: EOD ☒
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O Reg 153 PHCs, BTEX/F1-F4 (Soil)	O Reg 153 PAHs (Soil)	O Reg 153 ICPMS Metals (Soil)	O Reg 153 PHCs, BTEX/F1-F4 (Water)	# of Bottles	Comments
1		VS-TP52-EW1	2022/11/09	9:20	Soil	no	✓	✓	✓	✓	4	
2		VS-TP52-SW1		9:40								
3		VS-TP52-F1		9:50								
4		VS-TP52-F2		9:55								
5		VS-TP32-NW1		10:55								
6		VS-TP32-EW1		11:00								
7		VS-TP32-F1		11:15								
8		VS-TP32-F2		11:20								
9		VS-TP57-NW1		11:50								
10		VS-TP57-EW1	↓	11:55	↓	↓	↓	↓	↓	↓	↓	

RECEIVED IN OTTAWA

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
SEUN AJIBOLE Seun Ajibode	2022/11/09	16:15	Angelica Santiago 2 in TRNTO	2022/11/10	1624 0900	

Laboratory Use Only
Time Sensitive | Temperature (°C) on Recei: 13, 12, 12 NO ICE | Custody Seal: Present ☐ Intact ☐ Yes ☐ No

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

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

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

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

White: Bureau Veritas Yellow: Client

2/7/2

Bureau Veritas Canada (2019) Inc.

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

RUSH

CHAIN OF CUSTODY RECORD

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#2656A Tomlinson Environmental Services	Company Name:	#33444 WSP Canada Limited	Quotation #:	C24961	Bureau Veritas Job #:	Bottle Order #:
Attention:	Evan Morrison	Attention:	Tony Lyon	P.O. #:			901449
Address:	100 CityGate Drive	Address:	1931 Robertson Road	Project:	19124906	COC #:	Project Manager:
	Ottawa ON K2J 6K7		Ottawa ON K2H 5B7	Project Name:		C#901449-21-01	Katherine Szozda
Tel:	(613) 690-3028 Fax:	Tel:	(613) 592-9600 Fax:	Site #:			
Email:	emorrison@tomlinsongroup.com	Email:	anthony_lyon@golder.com,GAL_EQUIS@golder.com, J	Sampled By:	SEUN AJIBODE		

ANY REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☒ Table 1 ☒ Res/Park ☒ Medium/Fine ☐ Table 2 ☐ Ind/Comm ☐ Coarse ☐ Table 3 ☐ Agri/Other ☐ For RSC ☐ Table ____	☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ____ ☐ PWQO ☐ Reg 406 Table ____ ☐ Other ____	

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 PHCs, BTEX/F1-F4 (Soil)	O.Reg 153 PAHs (Soil)	O.Reg 153 ICPMS Metals (Soil)	O.Reg 153 PHCs, BTEX/F1-F4 (Water)	# of Bottles	Comments
1		VS-EST-EW4	2022/11/09	12:50	Soil	no	✓	✓	✓	✓	4	
2		VS-BLDI37-NE-F2	2022/11/09	13:10	Soil	no	✓	✓	✓	✓	4	
3		VS-TP32-DUP1	2022/11/09	15:00	Soil	no	✓	✓	✓	✓	4	
4												
5												
6												
7												
8												
9												
10												

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

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

Job Specific Rush TAT (if applies to entire submission)
Date Required: 2022/11/10 Time Required: EOD ☒
Rush Confirmation Number: ____ (call lab for #)

RECEIVED IN OTTAWA

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
SEUN AJIBODE Seun Ajibode	2022/11/09	16:15	Angelica Santiago See p.1	2022/11/09	1624	

Laboratory Use Only				
Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	13,12,12 NOICE	Present		
		Intact	✓	

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

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

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

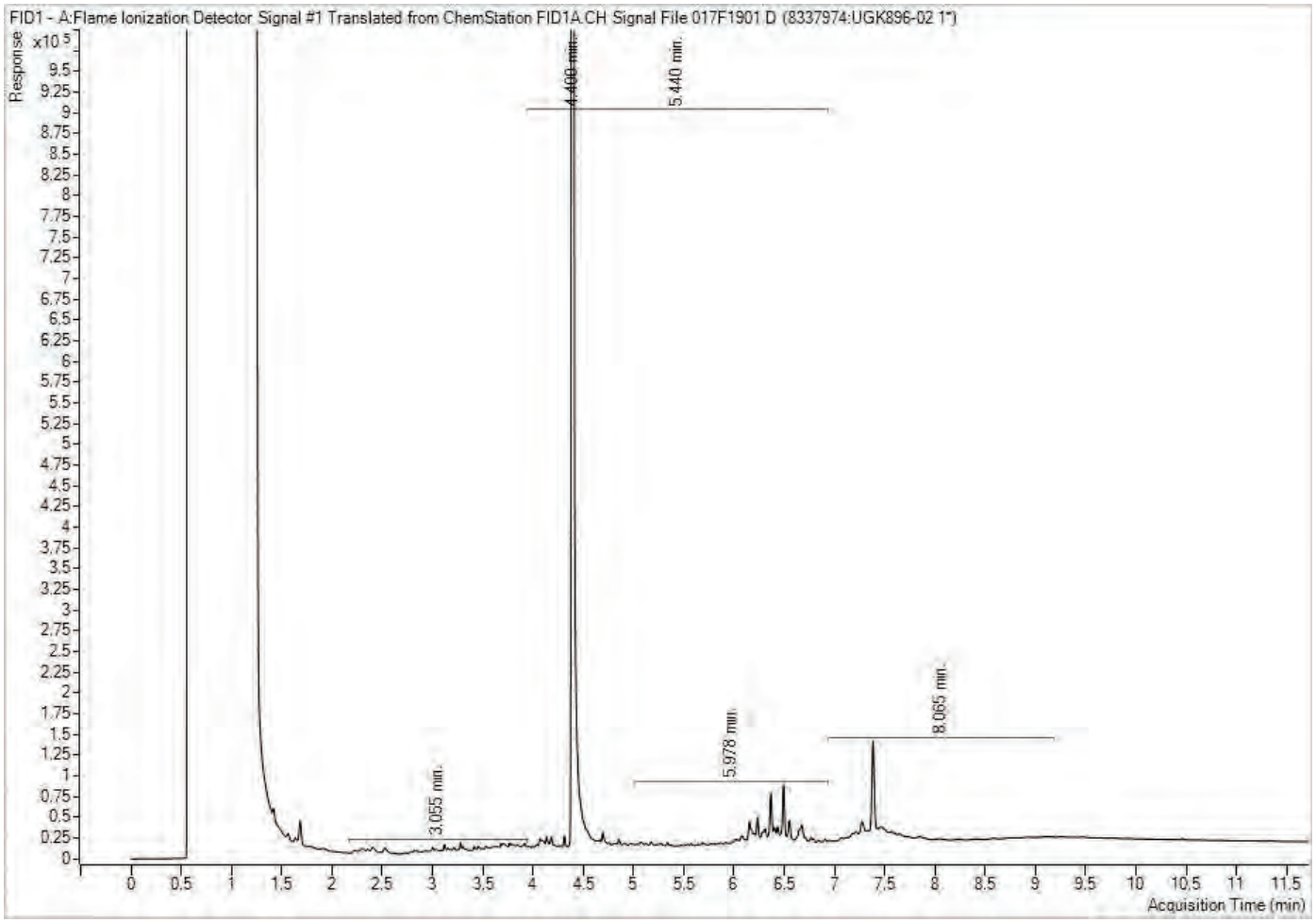
White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11
Bureau Veritas Sample: UGK896

Golder Associates Ltd
Client Project #: 19124906
Project name: CLC
Client ID: VS-TP52-EW1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

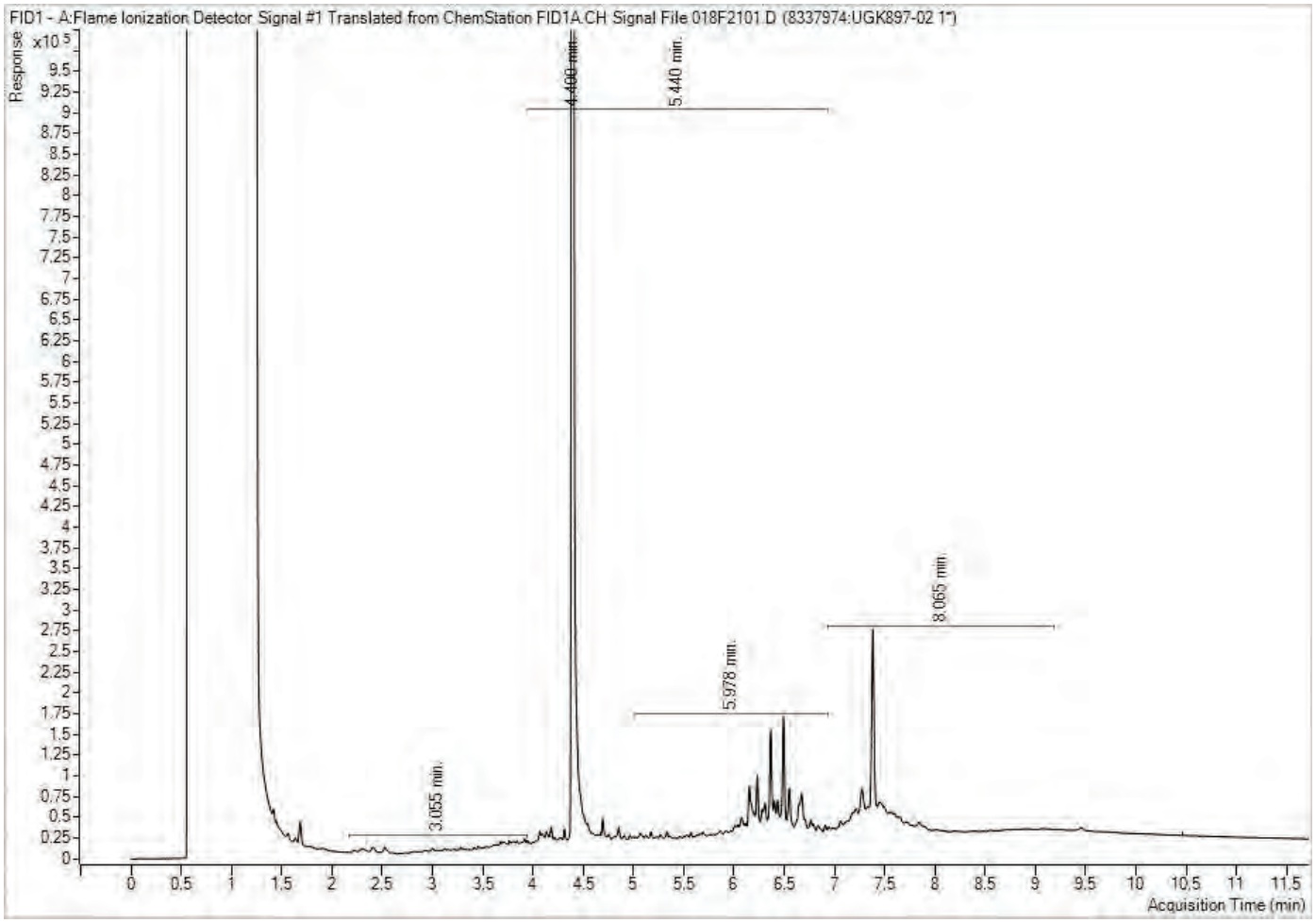


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11
Bureau Veritas Sample: UGK897

Golder Associates Ltd
Client Project #: 19124906
Project name: CLC
Client ID: VS-TP52-SW1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

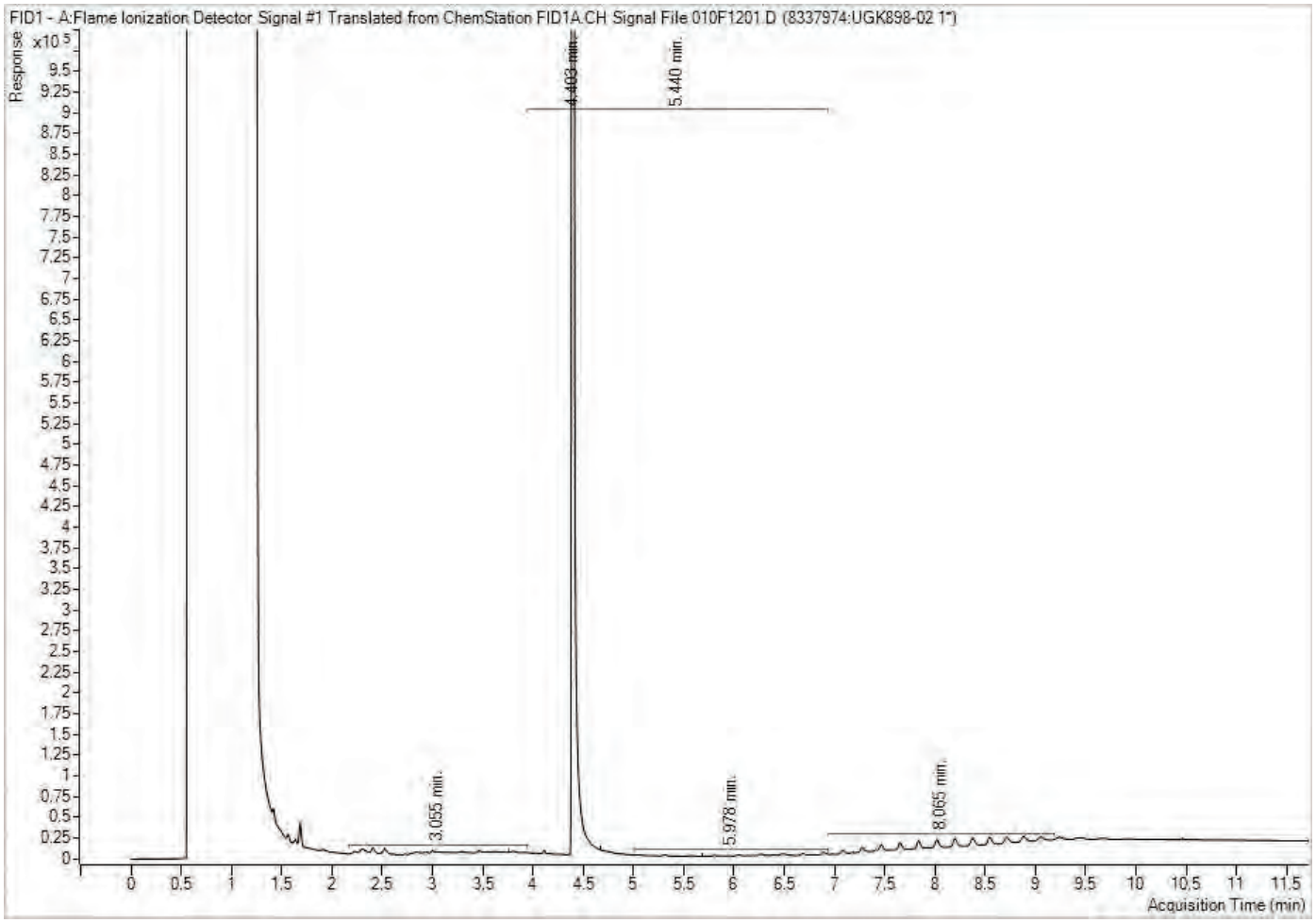


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11
Bureau Veritas Sample: UGK898

Golder Associates Ltd
Client Project #: 19124906
Project name: CLC
Client ID: VS-TP52-F1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

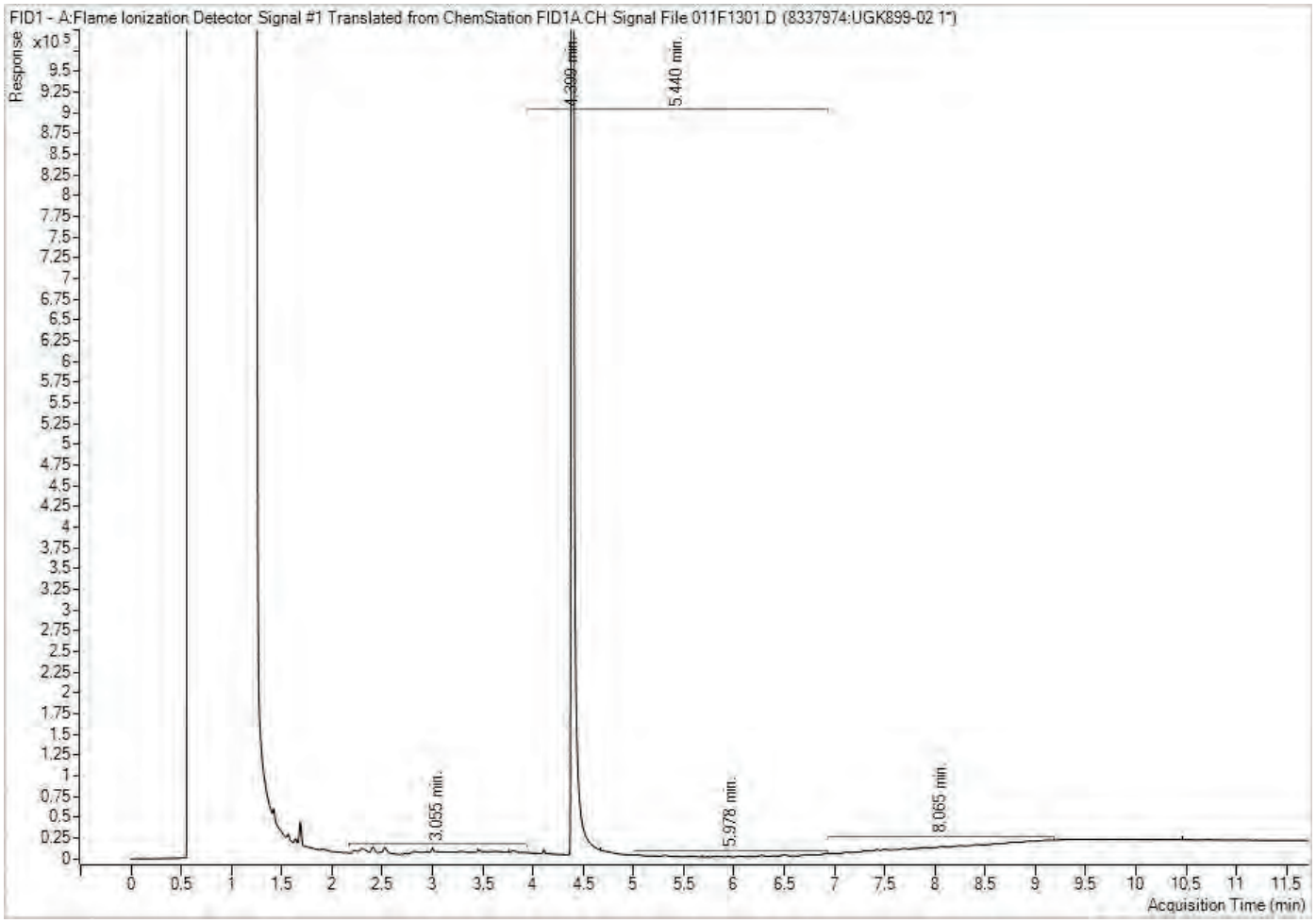


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11
Bureau Veritas Sample: UGK899

Golder Associates Ltd
Client Project #: 19124906
Project name: CLC
Client ID: VS-TP52-F2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

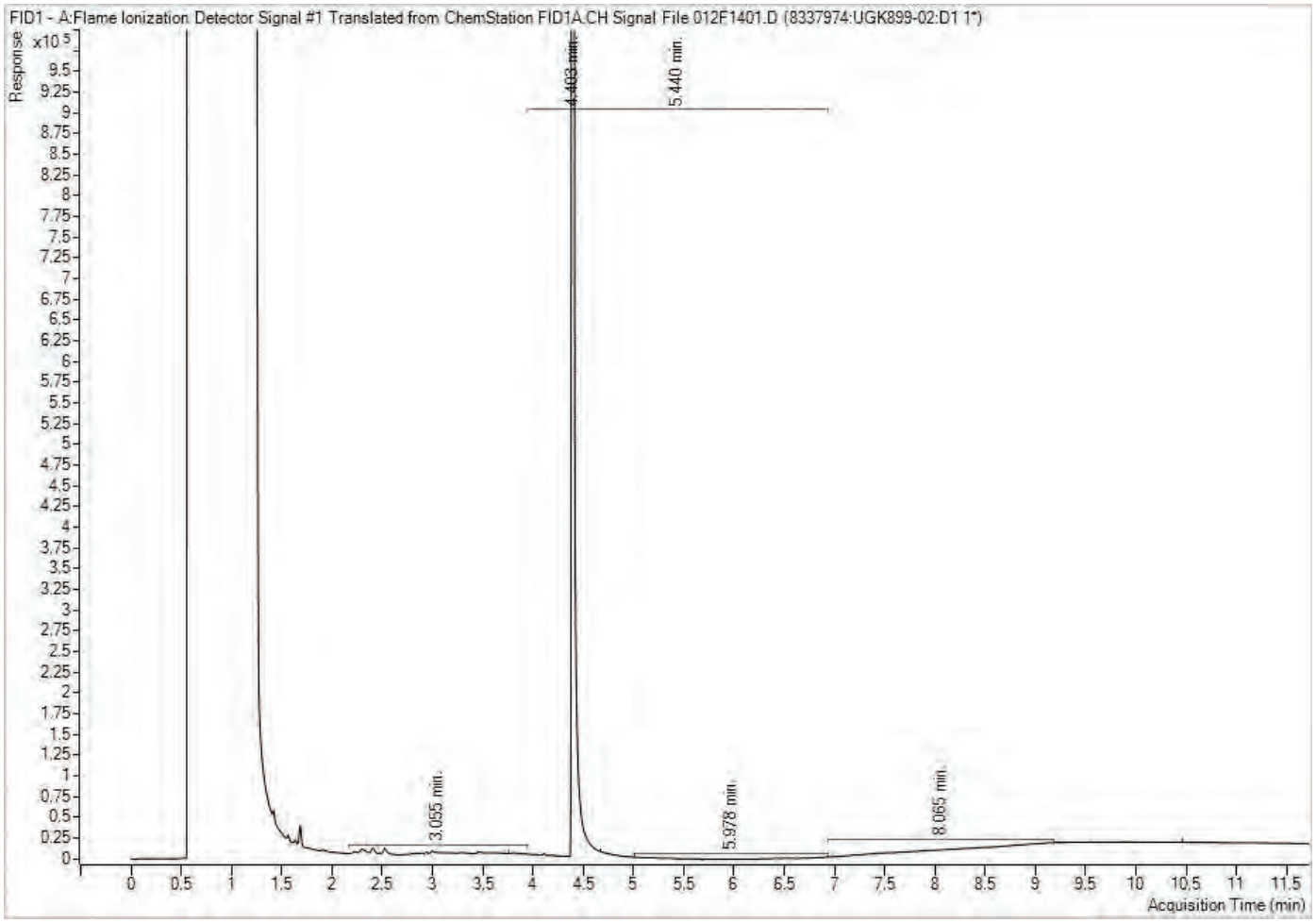


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11
Bureau Veritas Sample: UGK899 Lab-Dup

Golder Associates Ltd
Client Project #: 19124906
Project name: CLC
Client ID: VS-TP52-F2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

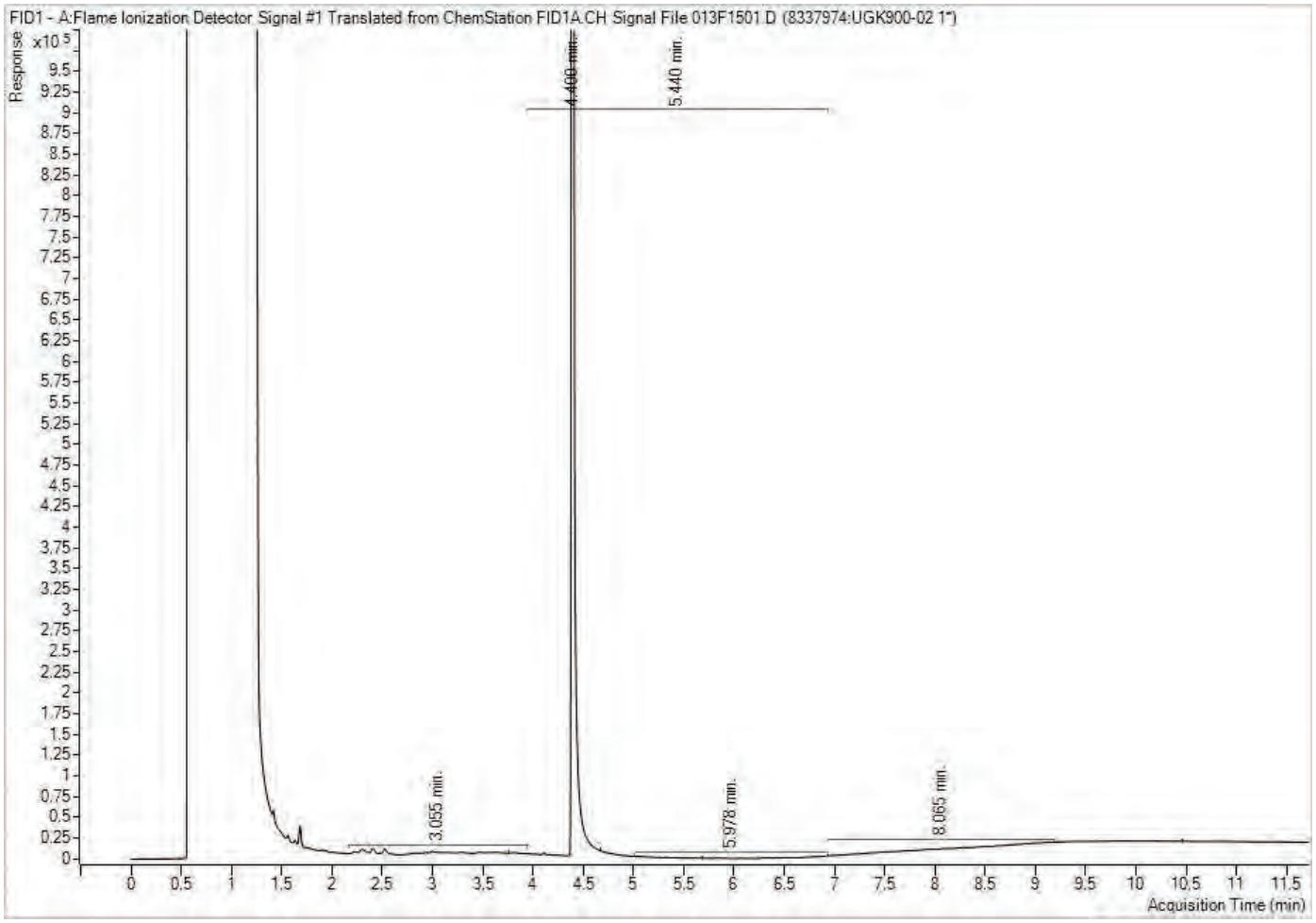


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11
Bureau Veritas Sample: UGK900

Golder Associates Ltd
Client Project #: 19124906
Project name: CLC
Client ID: VS-TP32-NW1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

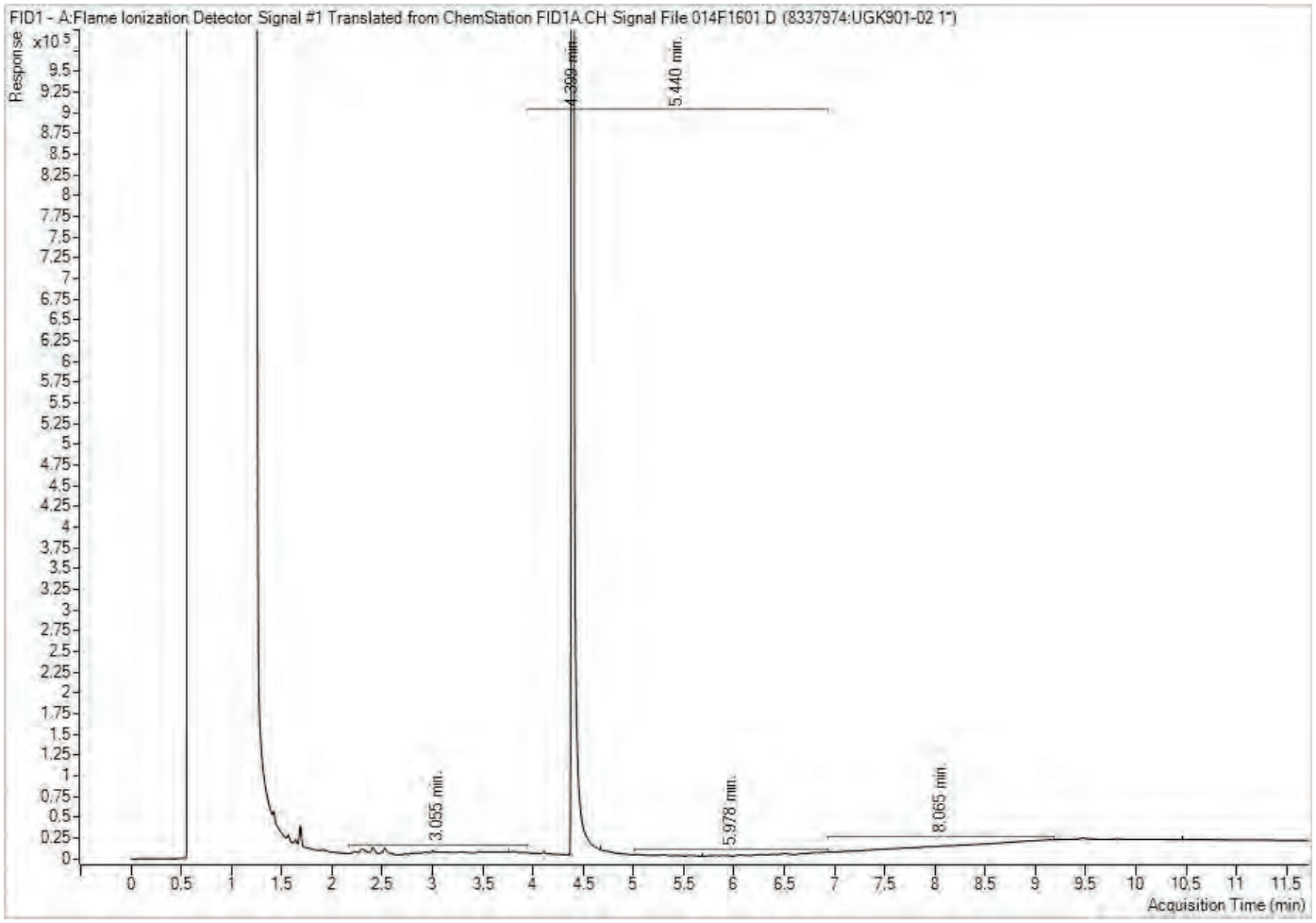


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11
Bureau Veritas Sample: UGK901

Golder Associates Ltd
Client Project #: 19124906
Project name: CLC
Client ID: VS-TP32-EW1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

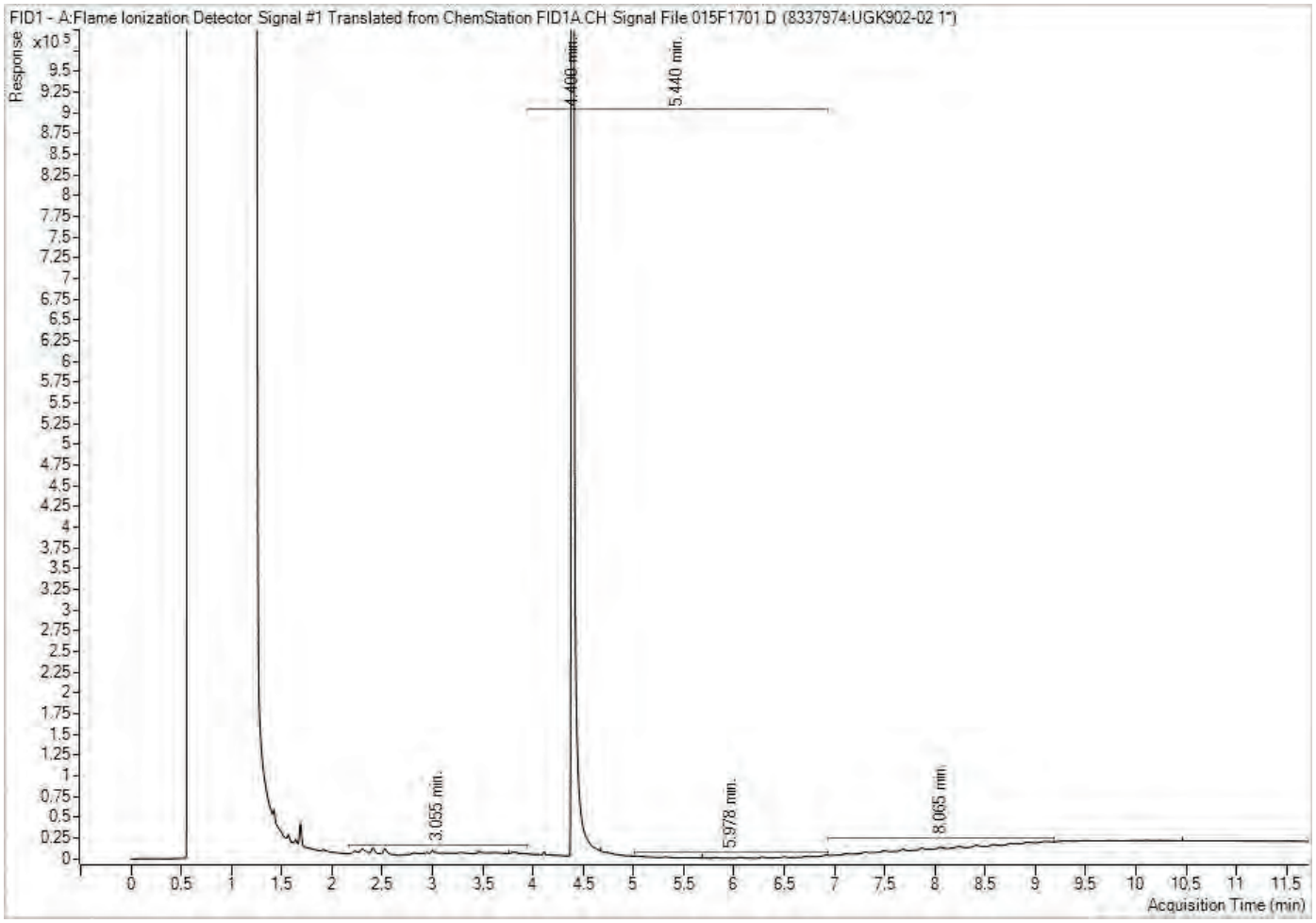


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11
Bureau Veritas Sample: UGK902

Golder Associates Ltd
Client Project #: 19124906
Project name: CLC
Client ID: VS-TP32-F1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

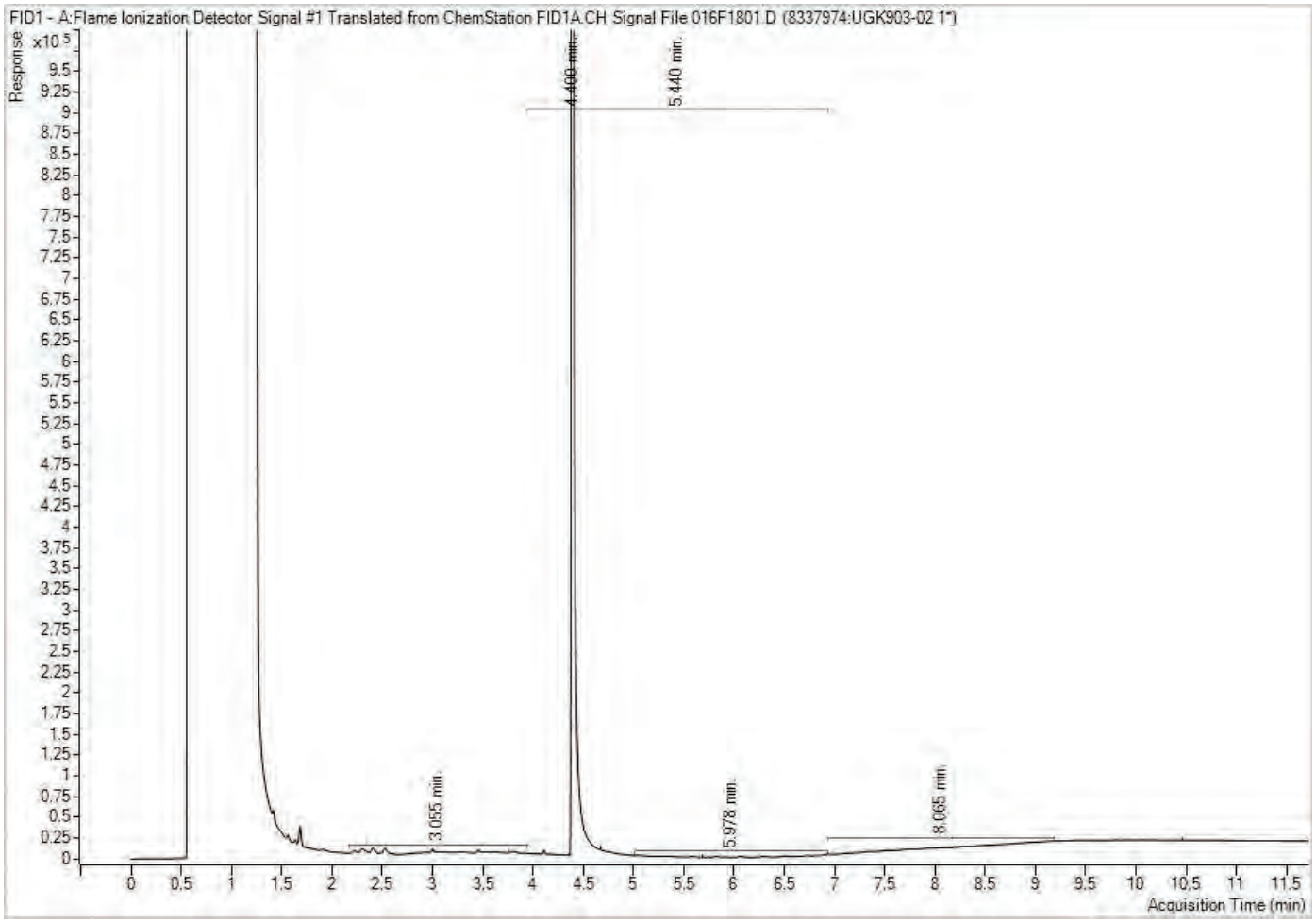


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11
Bureau Veritas Sample: UGK903

Golder Associates Ltd
Client Project #: 19124906
Project name: CLC
Client ID: VS-TP32-F2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

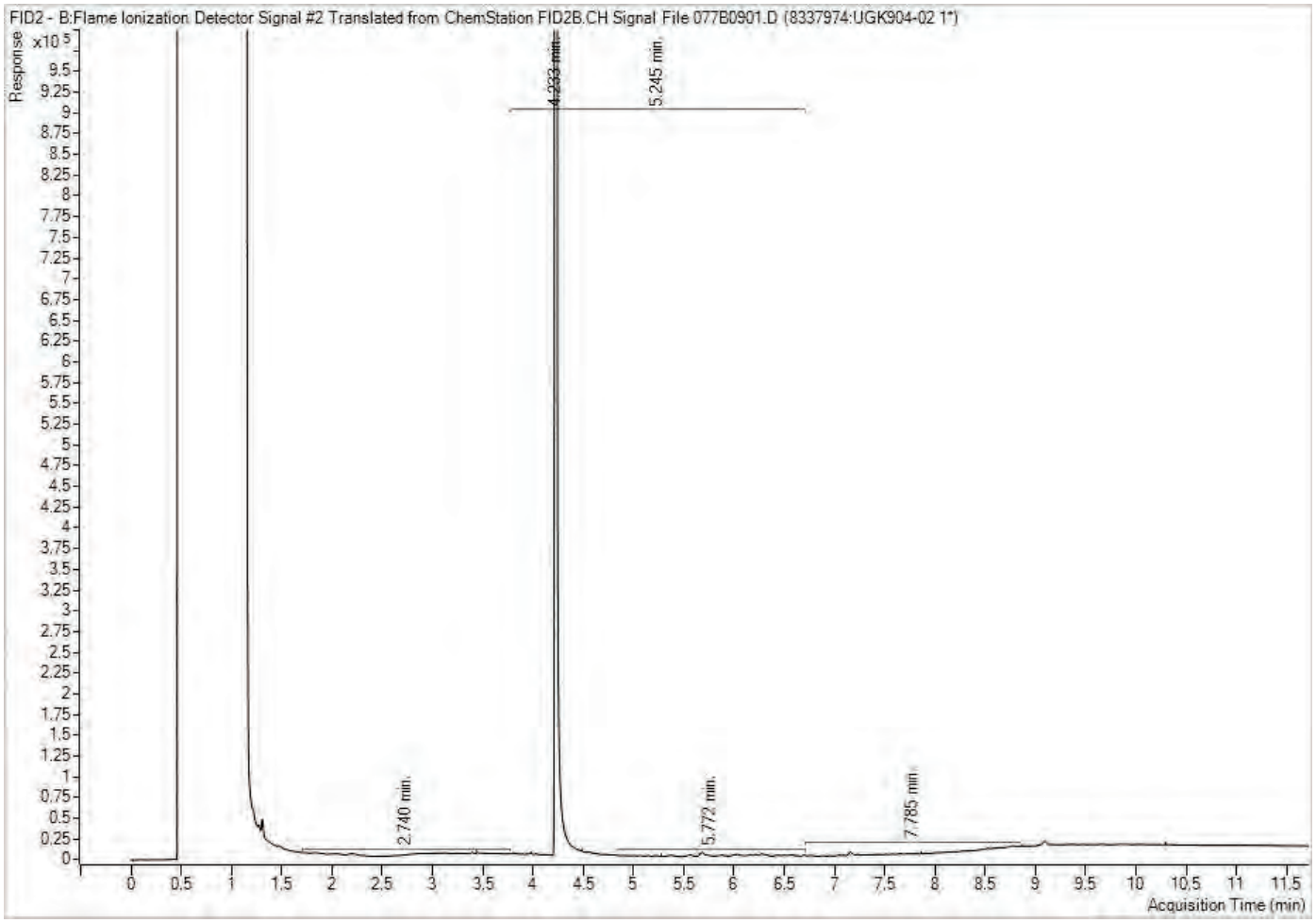


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11
Bureau Veritas Sample: UGK904

Golder Associates Ltd
Client Project #: 19124906
Project name: CLC
Client ID: VS-TP57-NW1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

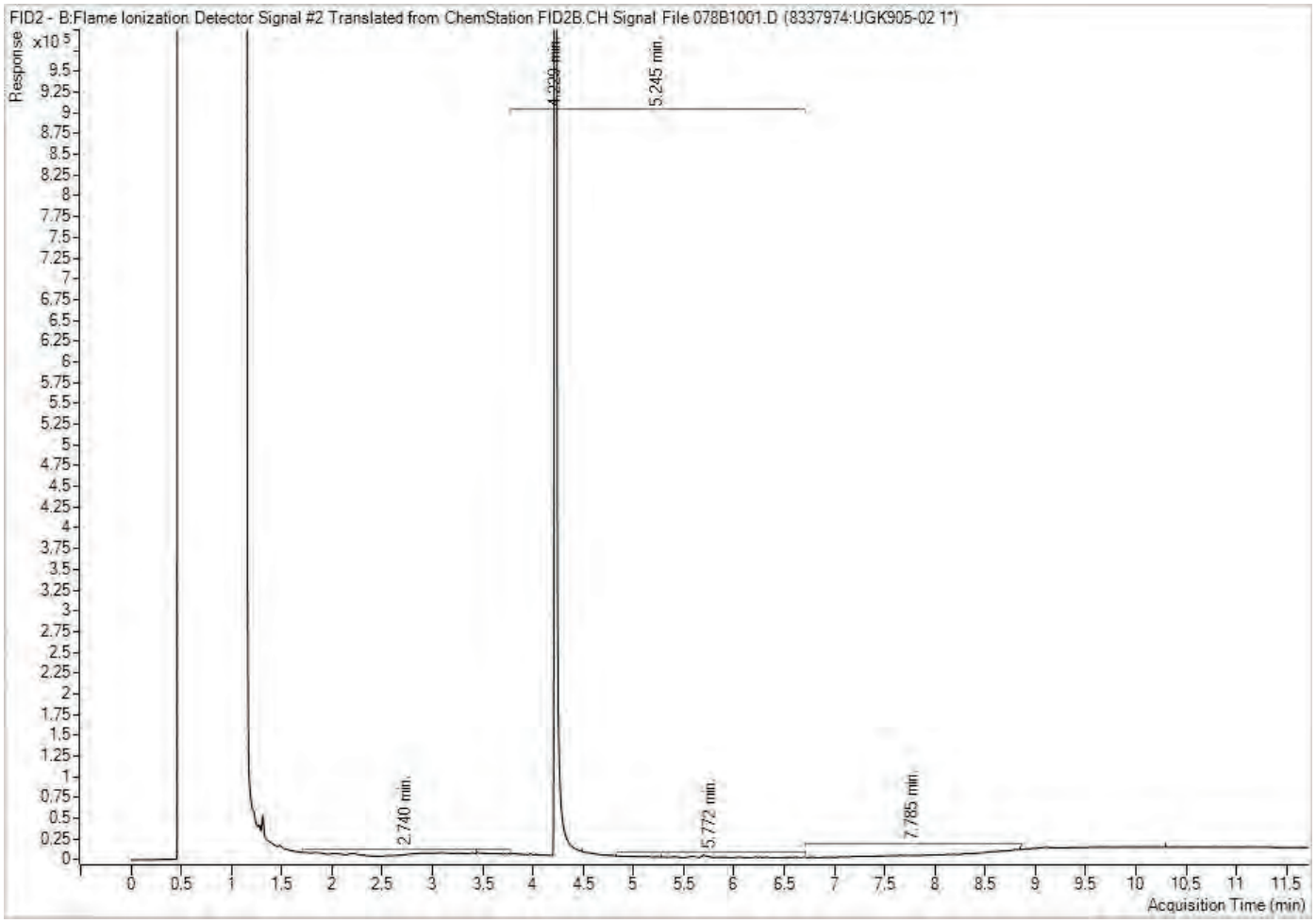


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11
Bureau Veritas Sample: UGK905

Golder Associates Ltd
Client Project #: 19124906
Project name: CLC
Client ID: VS-TP57-EW1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

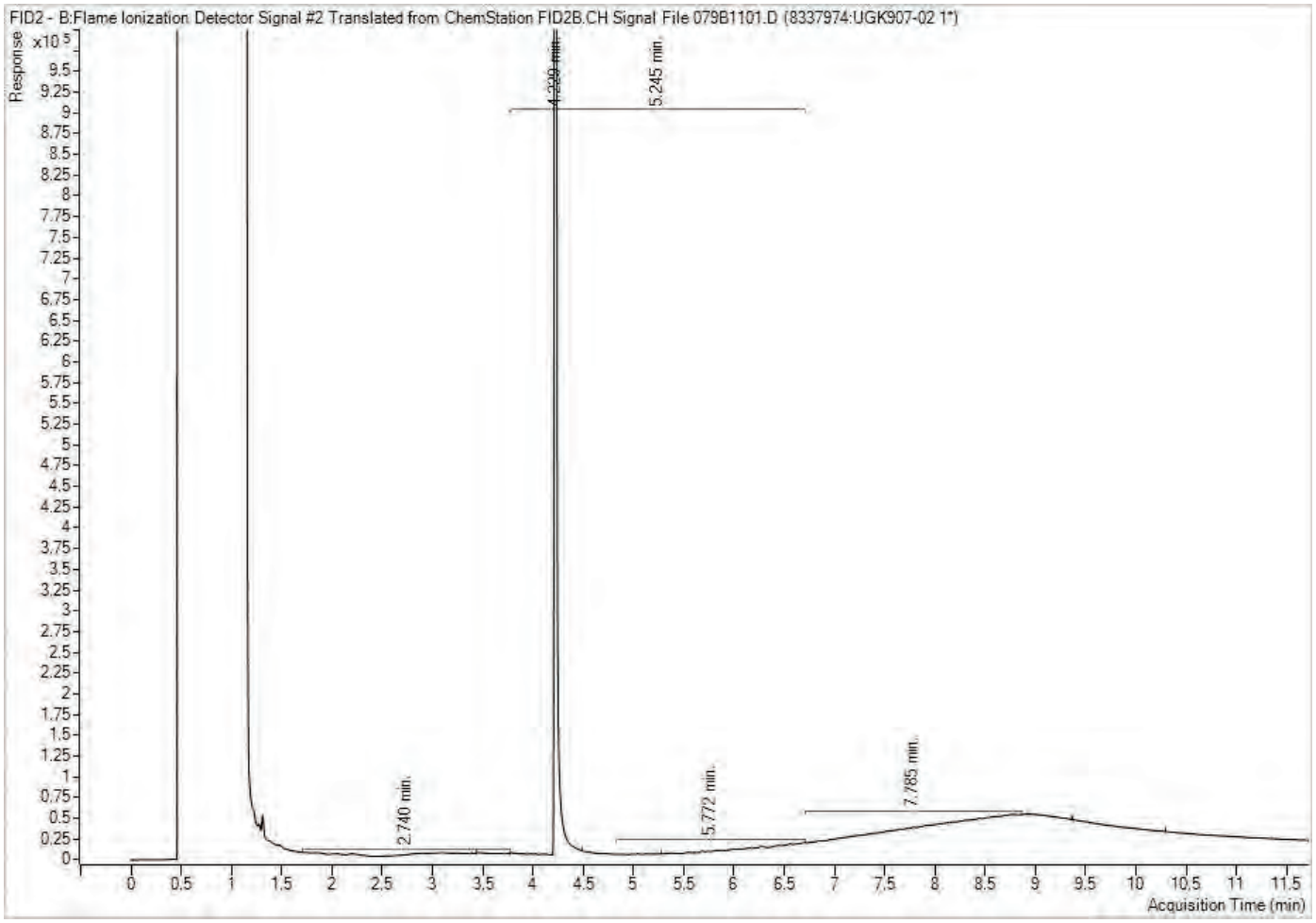


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11
Bureau Veritas Sample: UGK907

Golder Associates Ltd
Client Project #: 19124906
Project name: CLC
Client ID: VS-EST-EW4

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

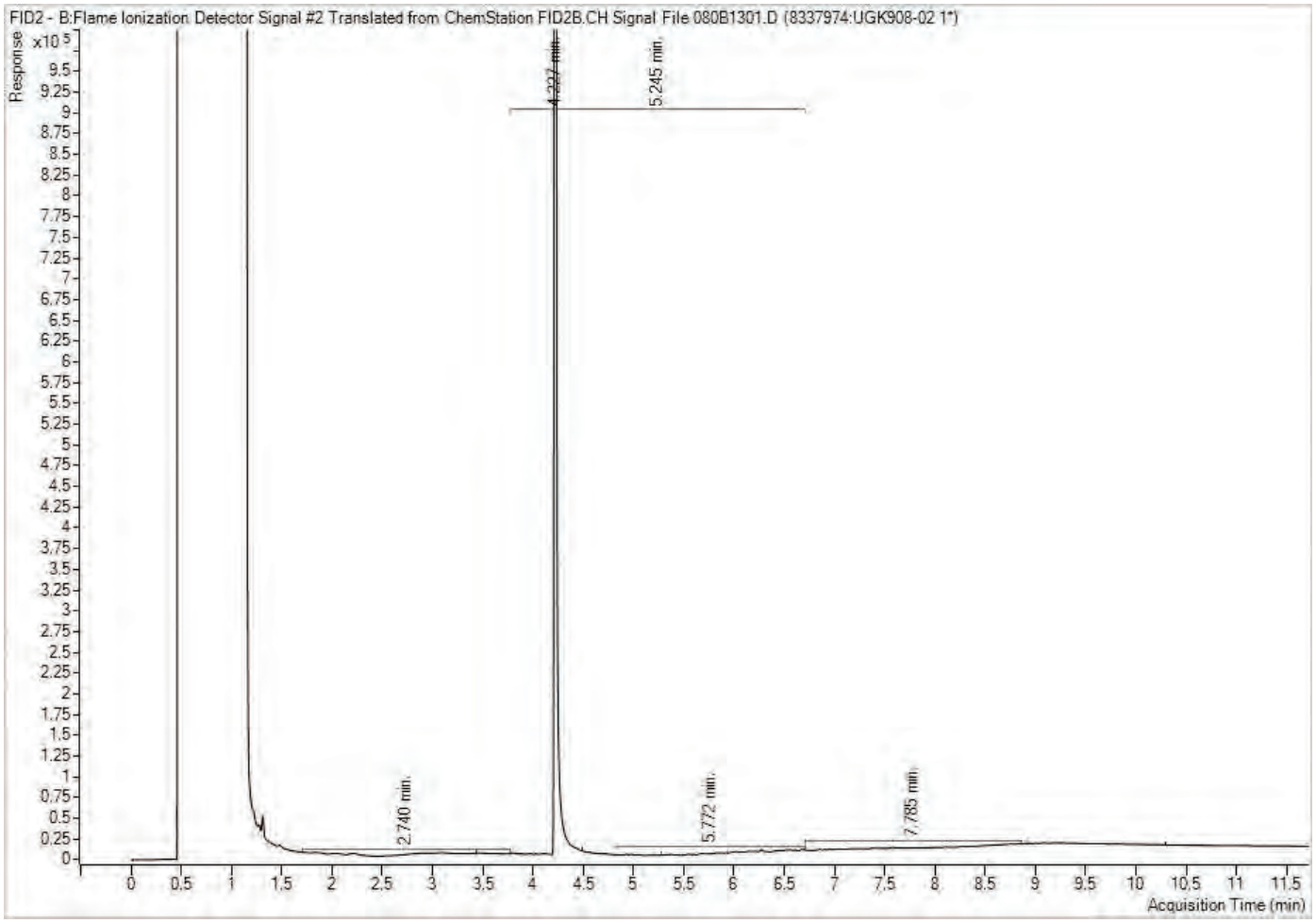


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11
Bureau Veritas Sample: UGK908

Golder Associates Ltd
Client Project #: 19124906
Project name: CLC
Client ID: VS-BLD137-NE-F2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

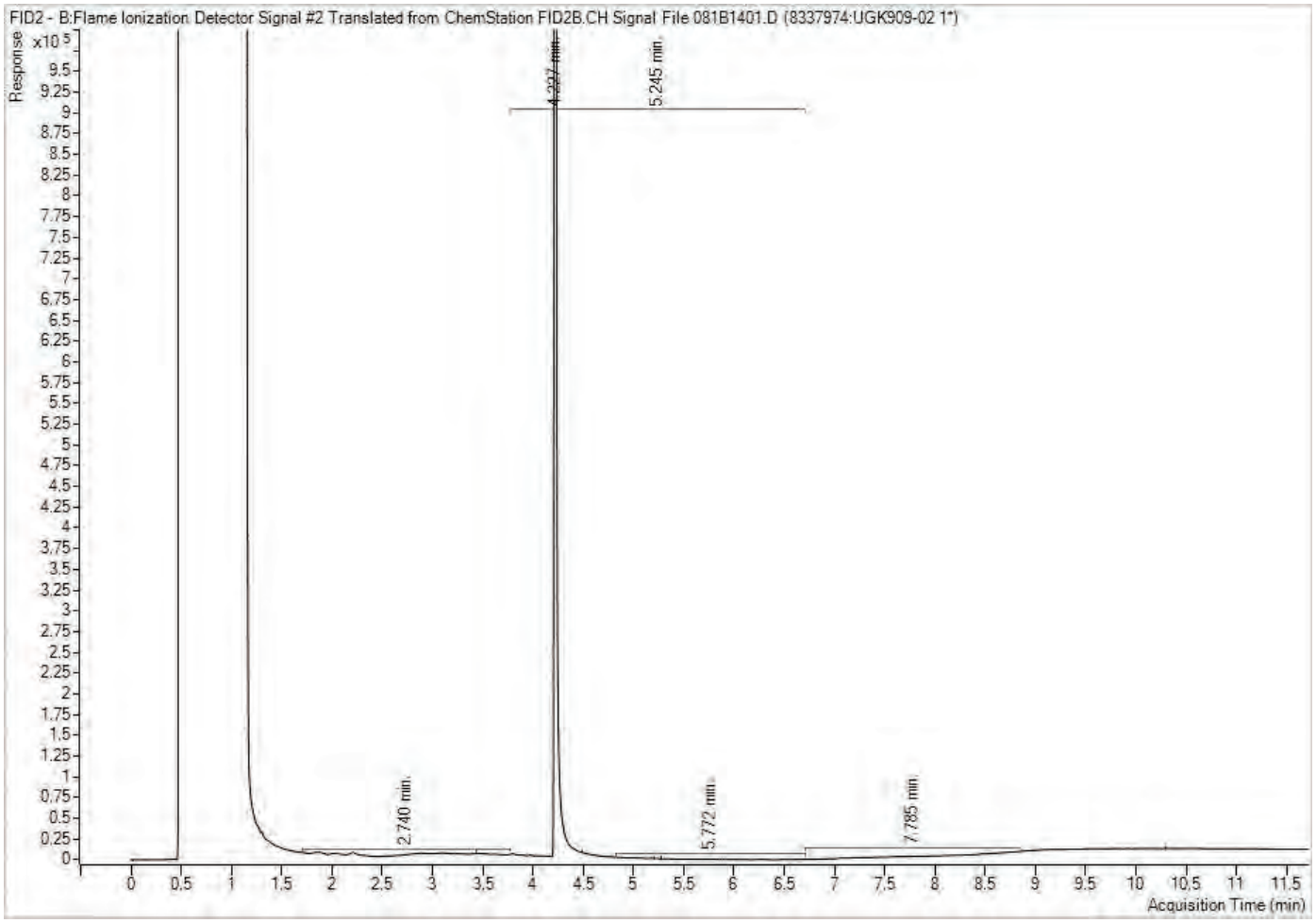


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C2W9558
Report Date: 2022/11/11
Bureau Veritas Sample: UGK909

Golder Associates Ltd
Client Project #: 19124906
Project name: CLC
Client ID: VS-TP32-DUP1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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

Exceedance Summary Table – Reg153/04 T1-Soil/Res

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
VS-EST-EW4	UGK907-01	Acid Extractable Barium (Ba)	220	250	0.50	ug/g
VS-BLD137-NE-F2	UGK908-01	Acid Extractable Chromium (Cr)	70	73	1.0	ug/g

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

Your Project #: 19124906

Attention: Tony Lyon

Golder Associates Ltd
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2022/11/14
Report #: R7387136
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2X1061
Received: 2022/11/10, 17:00

Sample Matrix: Soil
Samples Received: 21

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum (1)	21	N/A	2022/11/11	CAM SOP-00301	EPA 8270D m
Petroleum Hydro. CCME F1 & BTEX in Soil (1, 2)	21	N/A	2022/11/11	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 3)	21	2022/11/11	2022/11/11	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS (1)	21	2022/11/11	2022/11/11	CAM SOP-00447	EPA 6020B m
Moisture (1)	21	N/A	2022/11/11	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM) (1)	21	2022/11/11	2022/11/11	CAM SOP-00318	EPA 8270D m

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8
(2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.
(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your Project #: 19124906

Attention: Tony Lyon

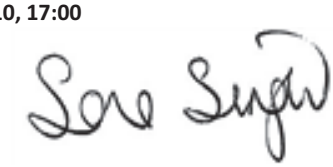
Golder Associates Ltd
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2022/11/14
Report #: R7387136
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C2X1061
Received: 2022/11/10, 17:00

Encryption Key



Sara Singh
Senior Project Manager
14 Nov 2022 12:37:43

Please direct all questions regarding this Certificate of Analysis to:
Katherine Szozda, Project Manager
Email: Katherine.Szozda@bureauveritas.com
Phone# (613)274-0573 Ext:7063633

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID			UGS774	UGS774	UGS775	UGS776		
Sampling Date			2022/11/10 09:55	2022/11/10 09:55	2022/11/10 10:00	2022/11/10 10:05		
	UNITS	Criteria	VS-BLD29-EW1	VS-BLD29-EW1 Lab-Dup	VS-BLD29-NW1	VS-BLD29-DUP1	RDL	QC Batch
Metals								
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	<0.20	0.28	<0.20	0.20	8341018
Acid Extractable Arsenic (As)	ug/g	18	<1.0	<1.0	2.8	3.5	1.0	8341018
Acid Extractable Barium (Ba)	ug/g	220	25	27	120	150	0.50	8341018
Acid Extractable Beryllium (Be)	ug/g	2.5	<0.20	<0.20	0.48	0.61	0.20	8341018
Acid Extractable Boron (B)	ug/g	36	<5.0	<5.0	11	11	5.0	8341018
Acid Extractable Cadmium (Cd)	ug/g	1.2	<0.10	<0.10	0.19	0.21	0.10	8341018
Acid Extractable Chromium (Cr)	ug/g	70	6.5	8.3	20	20	1.0	8341018
Acid Extractable Cobalt (Co)	ug/g	21	3.0	3.6	8.7	12	0.10	8341018
Acid Extractable Copper (Cu)	ug/g	92	6.7	7.6	15	17	0.50	8341018
Acid Extractable Lead (Pb)	ug/g	120	1.7	2.0	26	25	1.0	8341018
Acid Extractable Molybdenum (Mo)	ug/g	2	<0.50	<0.50	0.53	0.62	0.50	8341018
Acid Extractable Nickel (Ni)	ug/g	82	4.7	5.2	18	22	0.50	8341018
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	<0.50	<0.50	<0.50	0.50	8341018
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	<0.20	<0.20	0.22	0.20	8341018
Acid Extractable Thallium (Tl)	ug/g	1	<0.050	<0.050	0.22	0.24	0.050	8341018
Acid Extractable Uranium (U)	ug/g	2.5	0.35	0.50 (1)	0.44	0.43	0.050	8341018
Acid Extractable Vanadium (V)	ug/g	86	14	22	23	25	5.0	8341018
Acid Extractable Zinc (Zn)	ug/g	290	11	11	41	41	5.0	8341018

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use
(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

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O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID			UGS777		UGS778		UGS779		
Sampling Date			2022/11/10 11:25		2022/11/10 11:40		2022/11/10 11:10		
	UNITS	Criteria	VS-TP28-SW1	QC Batch	VS-TP28-F1	QC Batch	VS-TP28-DUP1	RDL	QC Batch
Metals									
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	8341018	0.22	8340517	<0.20	0.20	8341018
Acid Extractable Arsenic (As)	ug/g	18	2.5	8341018	2.7	8340517	2.9	1.0	8341018
Acid Extractable Barium (Ba)	ug/g	220	73	8341018	95	8340517	81	0.50	8341018
Acid Extractable Beryllium (Be)	ug/g	2.5	0.41	8341018	0.51	8340517	0.53	0.20	8341018
Acid Extractable Boron (B)	ug/g	36	6.5	8341018	7.8	8340517	8.0	5.0	8341018
Acid Extractable Cadmium (Cd)	ug/g	1.2	0.13	8341018	0.16	8340517	0.14	0.10	8341018
Acid Extractable Chromium (Cr)	ug/g	70	22	8341018	23	8340517	24	1.0	8341018
Acid Extractable Cobalt (Co)	ug/g	21	7.9	8341018	8.8	8340517	8.5	0.10	8341018
Acid Extractable Copper (Cu)	ug/g	92	14	8341018	17	8340517	16	0.50	8341018
Acid Extractable Lead (Pb)	ug/g	120	17	8341018	19	8340517	18	1.0	8341018
Acid Extractable Molybdenum (Mo)	ug/g	2	<0.50	8341018	0.63	8340517	0.67	0.50	8341018
Acid Extractable Nickel (Ni)	ug/g	82	17	8341018	19	8340517	19	0.50	8341018
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	8341018	<0.50	8340517	<0.50	0.50	8341018
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	8341018	<0.20	8340517	<0.20	0.20	8341018
Acid Extractable Thallium (Tl)	ug/g	1	0.19	8341018	0.20	8340517	0.22	0.050	8341018
Acid Extractable Uranium (U)	ug/g	2.5	0.53	8341018	0.55	8340517	0.62	0.050	8341018
Acid Extractable Vanadium (V)	ug/g	86	26	8341018	29	8340517	29	5.0	8341018
Acid Extractable Zinc (Zn)	ug/g	290	43	8341018	49	8340517	50	5.0	8341018

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID			UGS780	UGS781	UGS782	UGS783		
Sampling Date			2022/11/10 11:05	2022/11/10 11:50	2022/11/10 12:45	2022/11/10 13:00		
	UNITS	Criteria	VS-TP28-WW1	VS-TP28-F2	VS-BLD137-N-NW1	VS-BLD137-N-WW1 13:00	RDL	QC Batch
Metals								
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	<0.20	<0.20	<0.20	0.20	8341018
Acid Extractable Arsenic (As)	ug/g	18	3.2	2.2	<1.0	1.0	1.0	8341018
Acid Extractable Barium (Ba)	ug/g	220	93	83	52	56	0.50	8341018
Acid Extractable Beryllium (Be)	ug/g	2.5	0.61	0.37	0.33	0.31	0.20	8341018
Acid Extractable Boron (B)	ug/g	36	7.7	<5.0	<5.0	<5.0	5.0	8341018
Acid Extractable Cadmium (Cd)	ug/g	1.2	0.16	0.31	<0.10	<0.10	0.10	8341018
Acid Extractable Chromium (Cr)	ug/g	70	25	16	28	28	1.0	8341018
Acid Extractable Cobalt (Co)	ug/g	21	9.7	6.8	6.8	7.0	0.10	8341018
Acid Extractable Copper (Cu)	ug/g	92	17	14	14	12	0.50	8341018
Acid Extractable Lead (Pb)	ug/g	120	21	10	3.8	4.6	1.0	8341018
Acid Extractable Molybdenum (Mo)	ug/g	2	0.79	0.51	<0.50	<0.50	0.50	8341018
Acid Extractable Nickel (Ni)	ug/g	82	20	15	16	16	0.50	8341018
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	<0.50	<0.50	<0.50	0.50	8341018
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	<0.20	<0.20	<0.20	0.20	8341018
Acid Extractable Thallium (Tl)	ug/g	1	0.34	0.16	0.11	0.098	0.050	8341018
Acid Extractable Uranium (U)	ug/g	2.5	0.77	0.55	0.47	0.52	0.050	8341018
Acid Extractable Vanadium (V)	ug/g	86	32	24	33	34	5.0	8341018
Acid Extractable Zinc (Zn)	ug/g	290	49	31	34	35	5.0	8341018

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID			UGS784	UGS785	UGS786	UGS787	UGS788		
Sampling Date			2022/11/10 12:50	2022/11/10 12:55	2022/11/10 14:40	2022/11/10 14:50	2022/11/10 15:00		
	UNITS	Criteria	VS-BLD137-N-F1	VS-BLD137-N-F2	SGP-SP1	SGP-SP2	SGP-SP3	RDL	QC Batch
Metals									
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	8341018
Acid Extractable Arsenic (As)	ug/g	18	1.2	1.4	2.3	2.6	2.3	1.0	8341018
Acid Extractable Barium (Ba)	ug/g	220	100	93	98	160	200	0.50	8341018
Acid Extractable Beryllium (Be)	ug/g	2.5	0.42	0.52	0.32	0.33	0.56	0.20	8341018
Acid Extractable Boron (B)	ug/g	36	<5.0	6.1	13	11	9.1	5.0	8341018
Acid Extractable Cadmium (Cd)	ug/g	1.2	0.12	0.15	<0.10	<0.10	0.12	0.10	8341018
Acid Extractable Chromium (Cr)	ug/g	70	31	26	15	13	50	1.0	8341018
Acid Extractable Cobalt (Co)	ug/g	21	8.2	9.6	6.7	8.4	14	0.10	8341018
Acid Extractable Copper (Cu)	ug/g	92	16	16	10	12	28	0.50	8341018
Acid Extractable Lead (Pb)	ug/g	120	8.3	9.7	13	15	16	1.0	8341018
Acid Extractable Molybdenum (Mo)	ug/g	2	<0.50	<0.50	<0.50	0.71	0.57	0.50	8341018
Acid Extractable Nickel (Ni)	ug/g	82	19	20	12	16	33	0.50	8341018
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	8341018
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	8341018
Acid Extractable Thallium (Tl)	ug/g	1	0.13	0.19	0.13	0.21	0.27	0.050	8341018
Acid Extractable Uranium (U)	ug/g	2.5	0.51	0.53	0.28	0.32	0.55	0.050	8341018
Acid Extractable Vanadium (V)	ug/g	86	36	33	15	15	50	5.0	8341018
Acid Extractable Zinc (Zn)	ug/g	290	43	37	25	30	64	5.0	8341018

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID			UGS789	UGS790	UGS791	UGS792	UGS793	UGS794		
Sampling Date			2022/11/10 15:08	2022/11/10 15:15	2022/11/10 15:20	2022/11/10 15:24	2022/11/10 15:35	2022/11/10 15:45		
	UNITS	Criteria	SGP-SP4	SGP-SP5	SGP-SP-DUP1	SGP-SP6	SGP-SP7	SGP-SP8	RDL	QC Batch
Metals										
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	8341018
Acid Extractable Arsenic (As)	ug/g	18	2.0	2.0	2.1	2.2	1.2	1.2	1.0	8341018
Acid Extractable Barium (Ba)	ug/g	220	180	160	170	110	**300**	**230**	0.50	8341018
Acid Extractable Beryllium (Be)	ug/g	2.5	0.30	0.31	0.31	0.34	0.74	0.59	0.20	8341018
Acid Extractable Boron (B)	ug/g	36	12	11	11	12	5.0	6.8	5.0	8341018
Acid Extractable Cadmium (Cd)	ug/g	1.2	<0.10	0.12	<0.10	0.12	0.11	<0.10	0.10	8341018
Acid Extractable Chromium (Cr)	ug/g	70	11	13	13	14	**85**	60	1.0	8341018
Acid Extractable Cobalt (Co)	ug/g	21	7.6	7.7	8.1	7.2	20	15	0.10	8341018
Acid Extractable Copper (Cu)	ug/g	92	11	11	11	11	42	32	0.50	8341018
Acid Extractable Lead (Pb)	ug/g	120	11	15	16	19	11	9.5	1.0	8341018
Acid Extractable Molybdenum (Mo)	ug/g	2	0.66	0.62	0.51	0.50	0.54	<0.50	0.50	8341018
Acid Extractable Nickel (Ni)	ug/g	82	13	14	14	13	50	37	0.50	8341018
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.50	8341018
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	8341018
Acid Extractable Thallium (Tl)	ug/g	1	0.15	0.15	0.16	0.15	0.40	0.31	0.050	8341018
Acid Extractable Uranium (U)	ug/g	2.5	0.22	0.25	0.25	0.27	0.74	0.61	0.050	8341018
Acid Extractable Vanadium (V)	ug/g	86	12	14	15	16	85	62	5.0	8341018
Acid Extractable Zinc (Zn)	ug/g	290	23	20	21	26	100	76	5.0	8341018

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			UGS774	UGS775	UGS776	UGS777		UGS778		
Sampling Date			2022/11/10 09:55	2022/11/10 10:00	2022/11/10 10:05	2022/11/10 11:25		2022/11/10 11:40		
	UNITS	Criteria	VS-BLD29-EW1	VS-BLD29-NW1	VS-BLD29-DUP1	VS-TP28-SW1	RDL	VS-TP28-F1	RDL	QC Batch
Calculated Parameters										
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	0.013	<0.0071	<0.0071	0.0071	<0.071	0.071	8340209
Polyaromatic Hydrocarbons										
Acenaphthene	ug/g	0.072	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8340516
Acenaphthylene	ug/g	0.093	<0.0050	0.011	0.0064	<0.0050	0.0050	<0.050	0.050	8340516
Anthracene	ug/g	0.16	<0.0050	0.012	0.0062	0.0054	0.0050	<0.050	0.050	8340516
Benzo(a)anthracene	ug/g	0.36	<0.0050	0.065	0.034	0.025	0.0050	0.062	0.050	8340516
Benzo(a)pyrene	ug/g	0.3	<0.0050	0.064	0.035	0.023	0.0050	0.052	0.050	8340516
Benzo(b/j)fluoranthene	ug/g	0.47	<0.0050	0.10	0.058	0.032	0.0050	0.072	0.050	8340516
Benzo(g,h,i)perylene	ug/g	0.68	<0.0050	0.051	0.030	0.018	0.0050	<0.050	0.050	8340516
Benzo(k)fluoranthene	ug/g	0.48	<0.0050	0.039	0.020	0.011	0.0050	<0.050	0.050	8340516
Chrysene	ug/g	2.8	<0.0050	0.056	0.031	0.023	0.0050	<0.050	0.050	8340516
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	0.013	0.0070	<0.0050	0.0050	<0.050	0.050	8340516
Fluoranthene	ug/g	0.56	<0.0050	0.12	0.065	0.042	0.0050	0.13	0.050	8340516
Fluorene	ug/g	0.12	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8340516
Indeno(1,2,3-cd)pyrene	ug/g	0.23	<0.0050	0.052	0.029	0.016	0.0050	<0.050	0.050	8340516
1-Methylnaphthalene	ug/g	0.59	<0.0050	0.0067	<0.0050	<0.0050	0.0050	<0.050	0.050	8340516
2-Methylnaphthalene	ug/g	0.59	<0.0050	0.0065	<0.0050	<0.0050	0.0050	<0.050	0.050	8340516
Naphthalene	ug/g	0.09	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	<0.050	0.050	8340516
Phenanthrene	ug/g	0.69	<0.0050	0.037	0.022	0.019	0.0050	0.066	0.050	8340516
Pyrene	ug/g	1	<0.0050	0.099	0.054	0.036	0.0050	0.098	0.050	8340516
Surrogate Recovery (%)										
D10-Anthracene	%	-	105	102	101	98		117		8340516
D14-Terphenyl (FS)	%	-	114	116	113	109		115		8340516
D8-Acenaphthylene	%	-	89	93	87	88		95		8340516

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			UGS779	UGS780	UGS781			UGS781		
Sampling Date			2022/11/10 11:10	2022/11/10 11:05	2022/11/10 11:50			2022/11/10 11:50		
	UNITS	Criteria	VS-TP28-DUP1	VS-TP28-WW1	VS-TP28-F2	RDL	QC Batch	VS-TP28-F2 Lab-Dup	RDL	QC Batch
Calculated Parameters										
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	<0.0071	<0.0071	0.0071	8340209			
Polyaromatic Hydrocarbons										
Acenaphthene	ug/g	0.072	<0.0050	<0.0050	<0.0050	0.0050	8340516	<0.0050	0.0050	8340516
Acenaphthylene	ug/g	0.093	<0.0050	<0.0050	<0.0050	0.0050	8340516	<0.0050	0.0050	8340516
Anthracene	ug/g	0.16	0.0058	0.0053	<0.0050	0.0050	8340516	<0.0050	0.0050	8340516
Benzo(a)anthracene	ug/g	0.36	0.022	0.022	0.020	0.0050	8340516	0.028	0.0050	8340516
Benzo(a)pyrene	ug/g	0.3	0.020	0.019	0.030	0.0050	8340516	0.039	0.0050	8340516
Benzo(b/j)fluoranthene	ug/g	0.47	0.029	0.027	0.043	0.0050	8340516	0.055	0.0050	8340516
Benzo(g,h,i)perylene	ug/g	0.68	0.015	0.014	0.022	0.0050	8340516	0.028	0.0050	8340516
Benzo(k)fluoranthene	ug/g	0.48	0.010	0.010	0.015	0.0050	8340516	0.020	0.0050	8340516
Chrysene	ug/g	2.8	0.019	0.018	0.017	0.0050	8340516	0.023	0.0050	8340516
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	<0.0050	0.0057	0.0050	8340516	0.0078	0.0050	8340516
Fluoranthene	ug/g	0.56	0.045	0.042	0.019	0.0050	8340516	0.025	0.0050	8340516
Fluorene	ug/g	0.12	<0.0050	<0.0050	<0.0050	0.0050	8340516	<0.0050	0.0050	8340516
Indeno(1,2,3-cd)pyrene	ug/g	0.23	0.015	0.014	0.023	0.0050	8340516	0.030	0.0050	8340516
1-Methylnaphthalene	ug/g	0.59	<0.0050	<0.0050	<0.0050	0.0050	8340516	<0.0050	0.0050	8340516
2-Methylnaphthalene	ug/g	0.59	<0.0050	<0.0050	<0.0050	0.0050	8340516	<0.0050	0.0050	8340516
Naphthalene	ug/g	0.09	<0.0050	<0.0050	<0.0050	0.0050	8340516	<0.0050	0.0050	8340516
Phenanthrene	ug/g	0.69	0.024	0.020	<0.0050	0.0050	8340516	<0.0050	0.0050	8340516
Pyrene	ug/g	1	0.037	0.034	0.028	0.0050	8340516	0.037	0.0050	8340516
Surrogate Recovery (%)										
D10-Anthracene	%	-	104	105	91		8340516	95		8340516
D14-Terphenyl (FS)	%	-	116	116	98		8340516	105		8340516
D8-Acenaphthylene	%	-	91	93	77		8340516	80		8340516

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			UGS782		UGS783		UGS784		
Sampling Date			2022/11/10 12:45		2022/11/10 13:00		2022/11/10 12:50		
	UNITS	Criteria	VS-BLD137-N-NW1	QC Batch	VS-BLD137-N-WW1 13:00	QC Batch	VS-BLD137-N-F1	RDL	QC Batch
Calculated Parameters									
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	8340209	<0.0071	8340209	<0.0071	0.0071	8340209
Polyaromatic Hydrocarbons									
Acenaphthene	ug/g	0.072	<0.0050	8340516	0.019	8340433	<0.0050	0.0050	8340516
Acenaphthylene	ug/g	0.093	<0.0050	8340516	<0.0050	8340433	<0.0050	0.0050	8340516
Anthracene	ug/g	0.16	<0.0050	8340516	0.045	8340433	0.0077	0.0050	8340516
Benzo(a)anthracene	ug/g	0.36	0.013	8340516	0.083	8340433	0.030	0.0050	8340516
Benzo(a)pyrene	ug/g	0.3	0.017	8340516	0.058	8340433	0.040	0.0050	8340516
Benzo(b/j)fluoranthene	ug/g	0.47	0.023	8340516	0.083	8340433	0.056	0.0050	8340516
Benzo(g,h,i)perylene	ug/g	0.68	0.012	8340516	0.026	8340433	0.039	0.0050	8340516
Benzo(k)fluoranthene	ug/g	0.48	0.0083	8340516	0.027	8340433	0.019	0.0050	8340516
Chrysene	ug/g	2.8	0.011	8340516	0.060	8340433	0.025	0.0050	8340516
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	8340516	0.0080	8340433	0.0083	0.0050	8340516
Fluoranthene	ug/g	0.56	0.018	8340516	0.20	8340433	0.051	0.0050	8340516
Fluorene	ug/g	0.12	<0.0050	8340516	0.021	8340433	<0.0050	0.0050	8340516
Indeno(1,2,3-cd)pyrene	ug/g	0.23	0.013	8340516	0.031	8340433	0.037	0.0050	8340516
1-Methylnaphthalene	ug/g	0.59	<0.0050	8340516	<0.0050	8340433	<0.0050	0.0050	8340516
2-Methylnaphthalene	ug/g	0.59	<0.0050	8340516	<0.0050	8340433	<0.0050	0.0050	8340516
Naphthalene	ug/g	0.09	<0.0050	8340516	<0.0050	8340433	<0.0050	0.0050	8340516
Phenanthrene	ug/g	0.69	0.0063	8340516	0.16	8340433	0.024	0.0050	8340516
Pyrene	ug/g	1	0.015	8340516	0.15	8340433	0.042	0.0050	8340516
Surrogate Recovery (%)									
D10-Anthracene	%	-	105	8340516	97	8340433	86		8340516
D14-Terphenyl (FS)	%	-	116	8340516	98	8340433	85		8340516
D8-Acenaphthylene	%	-	92	8340516	102	8340433	81		8340516

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			UGS785	UGS786	UGS787	UGS788	UGS789		
Sampling Date			2022/11/10 12:55	2022/11/10 14:40	2022/11/10 14:50	2022/11/10 15:00	2022/11/10 15:08		
	UNITS	Criteria	VS-BLD137-N-F2	SGP-SP1	SGP-SP2	SGP-SP3	SGP-SP4	RDL	QC Batch
Calculated Parameters									
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	0.0071	8340209
Polyaromatic Hydrocarbons									
Acenaphthene	ug/g	0.072	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8340516
Acenaphthylene	ug/g	0.093	0.012	<0.0050	<0.0050	<0.0050	0.0050	0.0050	8340516
Anthracene	ug/g	0.16	0.0067	0.0052	0.0053	<0.0050	0.0075	0.0050	8340516
Benzo(a)anthracene	ug/g	0.36	0.030	0.019	0.021	0.022	0.033	0.0050	8340516
Benzo(a)pyrene	ug/g	0.3	0.052	0.026	0.018	0.022	0.027	0.0050	8340516
Benzo(b/j)fluoranthene	ug/g	0.47	0.069	0.039	0.028	0.032	0.040	0.0050	8340516
Benzo(g,h,i)perylene	ug/g	0.68	0.058	0.018	0.014	0.026	0.021	0.0050	8340516
Benzo(k)fluoranthene	ug/g	0.48	0.024	0.013	0.0089	0.011	0.013	0.0050	8340516
Chrysene	ug/g	2.8	0.024	0.025	0.019	0.023	0.028	0.0050	8340516
Dibenzo(a,h)anthracene	ug/g	0.1	0.011	<0.0050	<0.0050	<0.0050	0.0053	0.0050	8340516
Fluoranthene	ug/g	0.56	0.045	0.031	0.038	0.046	0.062	0.0050	8340516
Fluorene	ug/g	0.12	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8340516
Indeno(1,2,3-cd)pyrene	ug/g	0.23	0.055	0.016	0.012	0.019	0.019	0.0050	8340516
1-Methylnaphthalene	ug/g	0.59	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8340516
2-Methylnaphthalene	ug/g	0.59	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8340516
Naphthalene	ug/g	0.09	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8340516
Phenanthrene	ug/g	0.69	0.0099	0.019	0.021	0.030	0.025	0.0050	8340516
Pyrene	ug/g	1	0.038	0.034	0.033	0.038	0.050	0.0050	8340516
Surrogate Recovery (%)									
D10-Anthracene	%	-	97	99	99	103	103		8340516
D14-Terphenyl (FS)	%	-	98	92	93	98	98		8340516
D8-Acenaphthylene	%	-	90	89	92	95	98		8340516

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			UGS790	UGS791	UGS792	UGS793	UGS794		
Sampling Date			2022/11/10 15:15	2022/11/10 15:20	2022/11/10 15:24	2022/11/10 15:35	2022/11/10 15:45		
	UNITS	Criteria	SGP-SP5	SGP-SP-DUP1	SGP-SP6	SGP-SP7	SGP-SP8	RDL	QC Batch
Calculated Parameters									
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	<0.0071	<0.0071	<0.0071	<0.0071	0.0071	8340209
Polyaromatic Hydrocarbons									
Acenaphthene	ug/g	0.072	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8340516
Acenaphthylene	ug/g	0.093	0.0061	0.0052	0.0060	<0.0050	<0.0050	0.0050	8340516
Anthracene	ug/g	0.16	0.0053	<0.0050	0.0093	0.0059	<0.0050	0.0050	8340516
Benzo(a)anthracene	ug/g	0.36	0.027	0.019	0.046	0.023	0.0089	0.0050	8340516
Benzo(a)pyrene	ug/g	0.3	0.036	0.027	0.053	0.023	0.0091	0.0050	8340516
Benzo(b/j)fluoranthene	ug/g	0.47	0.047	0.037	0.070	0.030	0.013	0.0050	8340516
Benzo(g,h,i)perylene	ug/g	0.68	0.038	0.033	0.045	0.019	0.010	0.0050	8340516
Benzo(k)fluoranthene	ug/g	0.48	0.016	0.012	0.024	0.010	<0.0050	0.0050	8340516
Chrysene	ug/g	2.8	0.024	0.018	0.040	0.022	0.0084	0.0050	8340516
Dibenzo(a,h)anthracene	ug/g	0.1	0.0071	0.0059	0.0098	<0.0050	<0.0050	0.0050	8340516
Fluoranthene	ug/g	0.56	0.037	0.031	0.065	0.047	0.016	0.0050	8340516
Fluorene	ug/g	0.12	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8340516
Indeno(1,2,3-cd)pyrene	ug/g	0.23	0.032	0.026	0.042	0.017	0.0075	0.0050	8340516
1-Methylnaphthalene	ug/g	0.59	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8340516
2-Methylnaphthalene	ug/g	0.59	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8340516
Naphthalene	ug/g	0.09	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0050	8340516
Phenanthrene	ug/g	0.69	0.017	0.018	0.034	0.027	0.0080	0.0050	8340516
Pyrene	ug/g	1	0.035	0.028	0.057	0.037	0.015	0.0050	8340516
Surrogate Recovery (%)									
D10-Anthracene	%	-	103	102	100	103	101		8340516
D14-Terphenyl (FS)	%	-	97	99	97	100	99		8340516
D8-Acenaphthylene	%	-	98	97	95	96	94		8340516

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

Bureau Veritas ID			UGS774			UGS774			UGS775		
Sampling Date			2022/11/10 09:55			2022/11/10 09:55			2022/11/10 10:00		
	UNITS	Criteria	VS-BLD29-EW1	RDL	QC Batch	VS-BLD29-EW1 Lab-Dup	RDL	QC Batch	VS-BLD29-NW1	RDL	QC Batch
Inorganics											
Moisture	%	-	4.7	1.0	8340314				9.9	1.0	8340314
BTEX & F1 Hydrocarbons											
Benzene	ug/g	0.02	<0.020	0.020	8340507				<0.020	0.020	8340507
Toluene	ug/g	0.2	<0.020	0.020	8340507				<0.020	0.020	8340507
Ethylbenzene	ug/g	0.05	<0.020	0.020	8340507				<0.020	0.020	8340507
o-Xylene	ug/g	-	<0.020	0.020	8340507				<0.020	0.020	8340507
p+m-Xylene	ug/g	-	<0.040	0.040	8340507				<0.040	0.040	8340507
Total Xylenes	ug/g	0.05	<0.040	0.040	8340507				<0.040	0.040	8340507
F1 (C6-C10)	ug/g	25	<10	10	8340507				<10	10	8340507
F1 (C6-C10) - BTEX	ug/g	25	<10	10	8340507				<10	10	8340507
F2-F4 Hydrocarbons											
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	10	8340509	<10	10	8340509	<10	10	8340509
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	50	8340509	<50	50	8340509	<50	50	8340509
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	50	8340509	<50	50	8340509	<50	50	8340509
Reached Baseline at C50	ug/g	-	Yes		8340509	Yes		8340509	Yes		8340509
Surrogate Recovery (%)											
1,4-Difluorobenzene	%	-	105		8340507				105		8340507
4-Bromofluorobenzene	%	-	98		8340507				96		8340507
D10-o-Xylene	%	-	89		8340507				90		8340507
D4-1,2-Dichloroethane	%	-	93		8340507				92		8340507
o-Terphenyl	%	-	97		8340509	97		8340509	99		8340509

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

Bureau Veritas ID			UGS775			UGS776		UGS777		
Sampling Date			2022/11/10 10:00			2022/11/10 10:05		2022/11/10 11:25		
	UNITS	Criteria	VS-BLD29-NW1 Lab-Dup	RDL	QC Batch	VS-BLD29-DUP1	QC Batch	VS-TP28-SW1	RDL	QC Batch
Inorganics										
Moisture	%	-				13	8340477	7.4	1.0	8340314
BTEX & F1 Hydrocarbons										
Benzene	ug/g	0.02	<0.020	0.020	8340507	<0.020	8340507	<0.020	0.020	8340507
Toluene	ug/g	0.2	<0.020	0.020	8340507	<0.020	8340507	<0.020	0.020	8340507
Ethylbenzene	ug/g	0.05	<0.020	0.020	8340507	<0.020	8340507	<0.020	0.020	8340507
o-Xylene	ug/g	-	<0.020	0.020	8340507	<0.020	8340507	<0.020	0.020	8340507
p+m-Xylene	ug/g	-	<0.040	0.040	8340507	<0.040	8340507	<0.040	0.040	8340507
Total Xylenes	ug/g	0.05	<0.040	0.040	8340507	<0.040	8340507	<0.040	0.040	8340507
F1 (C6-C10)	ug/g	25	<10	10	8340507	<10	8340507	<10	10	8340507
F1 (C6-C10) - BTEX	ug/g	25	<10	10	8340507	<10	8340507	<10	10	8340507
F2-F4 Hydrocarbons										
F2 (C10-C16 Hydrocarbons)	ug/g	10				<10	8340509	<10	10	8340509
F3 (C16-C34 Hydrocarbons)	ug/g	240				<50	8340509	65	50	8340509
F4 (C34-C50 Hydrocarbons)	ug/g	120				<50	8340509	<50	50	8340509
Reached Baseline at C50	ug/g	-				Yes	8340509	Yes		8340509
Surrogate Recovery (%)										
1,4-Difluorobenzene	%	-	105		8340507	103	8340507	102		8340507
4-Bromofluorobenzene	%	-	97		8340507	96	8340507	98		8340507
D10-o-Xylene	%	-	93		8340507	91	8340507	88		8340507
D4-1,2-Dichloroethane	%	-	92		8340507	96	8340507	94		8340507
o-Terphenyl	%	-				97	8340509	97		8340509

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

Bureau Veritas ID			UGS778	UGS779	UGS780	UGS781		
Sampling Date			2022/11/10 11:40	2022/11/10 11:10	2022/11/10 11:05	2022/11/10 11:50		
	UNITS	Criteria	VS-TP28-F1	VS-TP28-DUP1	VS-TP28-WW1	VS-TP28-F2	RDL	QC Batch
Inorganics								
Moisture	%	-	7.6	10	7.8	5.8	1.0	8340314
BTEX & F1 Hydrocarbons								
Benzene	ug/g	0.02	<0.020	<0.020	<0.020	<0.020	0.020	8340507
Toluene	ug/g	0.2	<0.020	<0.020	<0.020	<0.020	0.020	8340507
Ethylbenzene	ug/g	0.05	<0.020	<0.020	<0.020	<0.020	0.020	8340507
o-Xylene	ug/g	-	<0.020	<0.020	<0.020	<0.020	0.020	8340507
p+m-Xylene	ug/g	-	<0.040	<0.040	<0.040	<0.040	0.040	8340507
Total Xylenes	ug/g	0.05	<0.040	<0.040	<0.040	<0.040	0.040	8340507
F1 (C6-C10)	ug/g	25	<10	<10	<10	<10	10	8340507
F1 (C6-C10) - BTEX	ug/g	25	<10	<10	<10	<10	10	8340507
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	<10	<10	<10	10	8340509
F3 (C16-C34 Hydrocarbons)	ug/g	240	60	<50	<50	<50	50	8340509
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	<50	<50	<50	50	8340509
Reached Baseline at C50	ug/g	-	Yes	Yes	Yes	Yes		8340509
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	-	102	101	105	103		8340507
4-Bromofluorobenzene	%	-	98	100	97	99		8340507
D10-o-Xylene	%	-	91	86	87	87		8340507
D4-1,2-Dichloroethane	%	-	93	97	94	98		8340507
o-Terphenyl	%	-	94	95	96	96		8340509

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

Bureau Veritas ID			UGS782		UGS783		UGS784		
Sampling Date			2022/11/10 12:45		2022/11/10 13:00		2022/11/10 12:50		
	UNITS	Criteria	VS-BLD137-N-NW1	QC Batch	VS-BLD137-N-WW1 13:00	QC Batch	VS-BLD137-N-F1	RDL	QC Batch
Inorganics									
Moisture	%	-	16	8340477	12	8340314	12	1.0	8340314
BTEX & F1 Hydrocarbons									
Benzene	ug/g	0.02	<0.020	8340507	<0.020	8340507	<0.020	0.020	8340507
Toluene	ug/g	0.2	<0.020	8340507	<0.020	8340507	<0.020	0.020	8340507
Ethylbenzene	ug/g	0.05	<0.020	8340507	<0.020	8340507	<0.020	0.020	8340507
o-Xylene	ug/g	-	<0.020	8340507	<0.020	8340507	<0.020	0.020	8340507
p+m-Xylene	ug/g	-	<0.040	8340507	<0.040	8340507	<0.040	0.040	8340507
Total Xylenes	ug/g	0.05	<0.040	8340507	<0.040	8340507	<0.040	0.040	8340507
F1 (C6-C10)	ug/g	25	<10	8340507	<10	8340507	<10	10	8340507
F1 (C6-C10) - BTEX	ug/g	25	<10	8340507	<10	8340507	<10	10	8340507
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	8340509	<10	8340386	**63**	10	8340509
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	8340509	<50	8340386	120	50	8340509
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	8340509	<50	8340386	<50	50	8340509
Reached Baseline at C50	ug/g	-	Yes	8340509	Yes	8340386	Yes		8340509
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	-	104	8340507	104	8340507	103		8340507
4-Bromofluorobenzene	%	-	98	8340507	97	8340507	99		8340507
D10-o-Xylene	%	-	88	8340507	86	8340507	91		8340507
D4-1,2-Dichloroethane	%	-	89	8340507	92	8340507	93		8340507
o-Terphenyl	%	-	94	8340509	107	8340386	95		8340509

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

Bureau Veritas ID			UGS785	UGS786	UGS787			UGS787		
Sampling Date			2022/11/10 12:55	2022/11/10 14:40	2022/11/10 14:50			2022/11/10 14:50		
	UNITS	Criteria	VS-BLD137-N-F2	SGP-SP1	SGP-SP2	RDL	QC Batch	SGP-SP2 Lab-Dup	RDL	QC Batch
Inorganics										
Moisture	%	-	11	5.0	8.3	1.0	8340477			
BTEX & F1 Hydrocarbons										
Benzene	ug/g	0.02	<0.020	<0.020	<0.020	0.020	8340550	<0.020	0.020	8340550
Toluene	ug/g	0.2	<0.020	<0.020	<0.020	0.020	8340550	<0.020	0.020	8340550
Ethylbenzene	ug/g	0.05	<0.020	<0.020	<0.020	0.020	8340550	<0.020	0.020	8340550
o-Xylene	ug/g	-	<0.020	<0.020	<0.020	0.020	8340550	<0.020	0.020	8340550
p+m-Xylene	ug/g	-	<0.040	<0.040	<0.040	0.040	8340550	<0.040	0.040	8340550
Total Xylenes	ug/g	0.05	<0.040	<0.040	<0.040	0.040	8340550	<0.040	0.040	8340550
F1 (C6-C10)	ug/g	25	<10	<10	<10	10	8340550	<10	10	8340550
F1 (C6-C10) - BTEX	ug/g	25	<10	<10	<10	10	8340550	<10	10	8340550
F2-F4 Hydrocarbons										
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	<10	<10	10	8340509			
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	<50	<50	50	8340509			
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	55	<50	50	8340509			
Reached Baseline at C50	ug/g	-	Yes	Yes	Yes		8340509			
Surrogate Recovery (%)										
1,4-Difluorobenzene	%	-	108	97	97		8340550	97		8340550
4-Bromofluorobenzene	%	-	99	99	94		8340550	101		8340550
D10-o-Xylene	%	-	90	86	86		8340550	91		8340550
D4-1,2-Dichloroethane	%	-	112	102	97		8340550	103		8340550
o-Terphenyl	%	-	94	92	90		8340509			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

Bureau Veritas ID			UGS788		UGS789	UGS790		UGS791	UGS792		
Sampling Date			2022/11/10 15:00		2022/11/10 15:08	2022/11/10 15:15		2022/11/10 15:20	2022/11/10 15:24		
	UNITS	Criteria	SGP-SP3	QC Batch	SGP-SP4	SGP-SP5	QC Batch	SGP-SP-DUP1	SGP-SP6	RDL	QC Batch
Inorganics											
Moisture	%	-	15	8340314	3.0	7.5	8340477	7.7	11	1.0	8340314
BTEX & F1 Hydrocarbons											
Benzene	ug/g	0.02	<0.020	8340550	<0.020	<0.020	8340550	<0.020	<0.020	0.020	8340550
Toluene	ug/g	0.2	<0.020	8340550	<0.020	<0.020	8340550	<0.020	<0.020	0.020	8340550
Ethylbenzene	ug/g	0.05	<0.020	8340550	<0.020	<0.020	8340550	<0.020	<0.020	0.020	8340550
o-Xylene	ug/g	-	<0.020	8340550	<0.020	<0.020	8340550	<0.020	<0.020	0.020	8340550
p+m-Xylene	ug/g	-	<0.040	8340550	<0.040	<0.040	8340550	<0.040	<0.040	0.040	8340550
Total Xylenes	ug/g	0.05	<0.040	8340550	<0.040	<0.040	8340550	<0.040	<0.040	0.040	8340550
F1 (C6-C10)	ug/g	25	<10	8340550	<10	<10	8340550	<10	<10	10	8340550
F1 (C6-C10) - BTEX	ug/g	25	<10	8340550	<10	<10	8340550	<10	<10	10	8340550
F2-F4 Hydrocarbons											
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	8340509	<10	<10	8340509	<10	<10	10	8340509
F3 (C16-C34 Hydrocarbons)	ug/g	240	55	8340509	<50	<50	8340509	<50	<50	50	8340509
F4 (C34-C50 Hydrocarbons)	ug/g	120	90	8340509	<50	<50	8340509	<50	<50	50	8340509
Reached Baseline at C50	ug/g	-	Yes	8340509	Yes	Yes	8340509	Yes	Yes		8340509
Surrogate Recovery (%)											
1,4-Difluorobenzene	%	-	99	8340550	99	98	8340550	99	98		8340550
4-Bromofluorobenzene	%	-	99	8340550	100	99	8340550	101	98		8340550
D10-o-Xylene	%	-	101	8340550	93	98	8340550	88	91		8340550
D4-1,2-Dichloroethane	%	-	101	8340550	103	102	8340550	100	101		8340550
o-Terphenyl	%	-	90	8340509	93	92	8340509	90	89		8340509

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

Bureau Veritas ID			UGS793		UGS794		
Sampling Date			2022/11/10 15:35		2022/11/10 15:45		
	UNITS	Criteria	SGP-SP7	QC Batch	SGP-SP8	RDL	QC Batch
Inorganics							
Moisture	%	-	7.8	8340477	20	1.0	8340314
BTEX & F1 Hydrocarbons							
Benzene	ug/g	0.02	<0.020	8340550	<0.020	0.020	8340550
Toluene	ug/g	0.2	<0.020	8340550	<0.020	0.020	8340550
Ethylbenzene	ug/g	0.05	<0.020	8340550	<0.020	0.020	8340550
o-Xylene	ug/g	-	<0.020	8340550	<0.020	0.020	8340550
p+m-Xylene	ug/g	-	<0.040	8340550	<0.040	0.040	8340550
Total Xylenes	ug/g	0.05	<0.040	8340550	<0.040	0.040	8340550
F1 (C6-C10)	ug/g	25	<10	8340550	<10	10	8340550
F1 (C6-C10) - BTEX	ug/g	25	<10	8340550	<10	10	8340550
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	8340509	<10	10	8340509
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	8340509	<50	50	8340509
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	8340509	<50	50	8340509
Reached Baseline at C50	ug/g	-	Yes	8340509	Yes		8340509
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	-	99	8340550	99		8340550
4-Bromofluorobenzene	%	-	100	8340550	98		8340550
D10-o-Xylene	%	-	84	8340550	90		8340550
D4-1,2-Dichloroethane	%	-	101	8340550	111		8340550
o-Terphenyl	%	-	88	8340509	83		8340509

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

TEST SUMMARY

Bureau Veritas ID: UGS774 **Collected:** 2022/11/10
Sample ID: VS-BLD29-EW1 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340507	N/A	2022/11/11	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340314	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS774 Dup **Collected:** 2022/11/10
Sample ID: VS-BLD29-EW1 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu

Bureau Veritas ID: UGS775 **Collected:** 2022/11/10
Sample ID: VS-BLD29-NW1 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340507	N/A	2022/11/11	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340314	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS775 Dup **Collected:** 2022/11/10
Sample ID: VS-BLD29-NW1 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340507	N/A	2022/11/11	Anca Ganea

Bureau Veritas ID: UGS776 **Collected:** 2022/11/10
Sample ID: VS-BLD29-DUP1 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340507	N/A	2022/11/11	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340477	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

TEST SUMMARY

Bureau Veritas ID: UGS777 **Collected:** 2022/11/10
Sample ID: VS-TP28-SW1 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340507	N/A	2022/11/11	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340314	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS778 **Collected:** 2022/11/10
Sample ID: VS-TP28-F1 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340507	N/A	2022/11/11	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8340517	2022/11/11	2022/11/11	Azita Fazaeli
Moisture	BAL	8340314	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS779 **Collected:** 2022/11/10
Sample ID: VS-TP28-DUP1 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340507	N/A	2022/11/11	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340314	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS780 **Collected:** 2022/11/10
Sample ID: VS-TP28-WW1 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340507	N/A	2022/11/11	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340314	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

TEST SUMMARY

Bureau Veritas ID: UGS781 **Collected:** 2022/11/10
Sample ID: VS-TP28-F2 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340507	N/A	2022/11/11	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340314	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS781 Dup **Collected:** 2022/11/10
Sample ID: VS-TP28-F2 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS782 **Collected:** 2022/11/10
Sample ID: VS-BLD137-N-NW1 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340507	N/A	2022/11/11	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340477	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS783 **Collected:** 2022/11/10
Sample ID: VS-BLD137-N-WW1 13:00 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340507	N/A	2022/11/11	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340386	2022/11/11	2022/11/11	Jeevaraj Jeevaratrnam
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340314	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340433	2022/11/11	2022/11/11	Lingyun Feng

Bureau Veritas ID: UGS784 **Collected:** 2022/11/10
Sample ID: VS-BLD137-N-F1 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340507	N/A	2022/11/11	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu

TEST SUMMARY

Bureau Veritas ID: UGS784 **Collected:** 2022/11/10
Sample ID: VS-BLD137-N-F1 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8340314	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS785 **Collected:** 2022/11/10
Sample ID: VS-BLD137-N-F2 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340550	N/A	2022/11/11	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340477	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS786 **Collected:** 2022/11/10
Sample ID: SGP-SP1 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340550	N/A	2022/11/11	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340477	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS787 **Collected:** 2022/11/10
Sample ID: SGP-SP2 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340550	N/A	2022/11/11	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340477	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS787 Dup **Collected:** 2022/11/10
Sample ID: SGP-SP2 **Shipped:**
Matrix: Soil **Received:** 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340550	N/A	2022/11/11	Abdikarim Ali

TEST SUMMARY

Bureau Veritas ID: UGS788
Sample ID: SGP-SP3
Matrix: Soil

Collected: 2022/11/10
Shipped:
Received: 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340550	N/A	2022/11/11	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340314	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS789
Sample ID: SGP-SP4
Matrix: Soil

Collected: 2022/11/10
Shipped:
Received: 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340550	N/A	2022/11/11	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340477	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS790
Sample ID: SGP-SP5
Matrix: Soil

Collected: 2022/11/10
Shipped:
Received: 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340550	N/A	2022/11/11	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340477	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS791
Sample ID: SGP-SP-DUP1
Matrix: Soil

Collected: 2022/11/10
Shipped:
Received: 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340550	N/A	2022/11/11	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340314	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

TEST SUMMARY

Bureau Veritas ID: UGS792
Sample ID: SGP-SP6
Matrix: Soil

Collected: 2022/11/10
Shipped:
Received: 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340550	N/A	2022/11/11	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340314	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS793
Sample ID: SGP-SP7
Matrix: Soil

Collected: 2022/11/10
Shipped:
Received: 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340550	N/A	2022/11/11	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340477	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

Bureau Veritas ID: UGS794
Sample ID: SGP-SP8
Matrix: Soil

Collected: 2022/11/10
Shipped:
Received: 2022/11/10

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8340209	N/A	2022/11/11	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8340550	N/A	2022/11/11	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8340509	2022/11/11	2022/11/11	Dennis Ngondu
Acid Extractable Metals by ICPMS	ICP/MS	8341018	2022/11/11	2022/11/11	Daniel Teclu
Moisture	BAL	8340314	N/A	2022/11/11	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8340516	2022/11/11	2022/11/11	Joe Paino

GENERAL COMMENTS

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

Package 1	15.7°C

Sample UGS778 [VS-TP28-F1] : PAH ANALYSIS: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Sample UGS782 [VS-BLD137-N-NW1] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample UGS783 [VS-BLD137-N-WW1 13:00] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample UGS785 [VS-BLD137-N-F2] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample UGS793 [SGP-SP7] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample UGS794 [SGP-SP8] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8340386	o-Terphenyl	2022/11/11	100	60 - 130	98	60 - 130	98	%		
8340433	D10-Anthracene	2022/11/11	100	50 - 130	100	50 - 130	99	%		
8340433	D14-Terphenyl (FS)	2022/11/11	100	50 - 130	100	50 - 130	99	%		
8340433	D8-Acenaphthylene	2022/11/11	99	50 - 130	104	50 - 130	100	%		
8340507	1,4-Difluorobenzene	2022/11/11	108	60 - 140	101	60 - 140	104	%		
8340507	4-Bromofluorobenzene	2022/11/11	96	60 - 140	98	60 - 140	96	%		
8340507	D10-o-Xylene	2022/11/11	92	60 - 140	85	60 - 140	80	%		
8340507	D4-1,2-Dichloroethane	2022/11/11	91	60 - 140	98	60 - 140	95	%		
8340509	o-Terphenyl	2022/11/11	95	60 - 130	98	60 - 130	102	%		
8340516	D10-Anthracene	2022/11/11	101	50 - 130	80	50 - 130	82	%		
8340516	D14-Terphenyl (FS)	2022/11/11	114	50 - 130	88	50 - 130	88	%		
8340516	D8-Acenaphthylene	2022/11/11	89	50 - 130	70	50 - 130	71	%		
8340550	1,4-Difluorobenzene	2022/11/11	110	60 - 140	95	60 - 140	97	%		
8340550	4-Bromofluorobenzene	2022/11/11	100	60 - 140	102	60 - 140	101	%		
8340550	D10-o-Xylene	2022/11/11	91	60 - 140	92	60 - 140	90	%		
8340550	D4-1,2-Dichloroethane	2022/11/11	97	60 - 140	96	60 - 140	101	%		
8340314	Moisture	2022/11/11							1.2	20
8340386	F2 (C10-C16 Hydrocarbons)	2022/11/11	106	60 - 130	102	80 - 120	<10	ug/g	NC	30
8340386	F3 (C16-C34 Hydrocarbons)	2022/11/11	105	60 - 130	101	80 - 120	<50	ug/g	NC	30
8340386	F4 (C34-C50 Hydrocarbons)	2022/11/11	106	60 - 130	101	80 - 120	<50	ug/g	NC	30
8340433	1-Methylnaphthalene	2022/11/11	90	50 - 130	92	50 - 130	<0.0050	ug/g	NC	40
8340433	2-Methylnaphthalene	2022/11/11	83	50 - 130	86	50 - 130	<0.0050	ug/g	NC	40
8340433	Acenaphthene	2022/11/11	86	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
8340433	Acenaphthylene	2022/11/11	100	50 - 130	104	50 - 130	<0.0050	ug/g	NC	40
8340433	Anthracene	2022/11/11	96	50 - 130	97	50 - 130	<0.0050	ug/g	NC	40
8340433	Benzo(a)anthracene	2022/11/11	89	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
8340433	Benzo(a)pyrene	2022/11/11	77	50 - 130	76	50 - 130	<0.0050	ug/g	NC	40
8340433	Benzo(b/j)fluoranthene	2022/11/11	78	50 - 130	80	50 - 130	<0.0050	ug/g	NC	40
8340433	Benzo(g,h,i)perylene	2022/11/11	67	50 - 130	71	50 - 130	<0.0050	ug/g	NC	40
8340433	Benzo(k)fluoranthene	2022/11/11	78	50 - 130	80	50 - 130	<0.0050	ug/g	NC	40
8340433	Chrysene	2022/11/11	84	50 - 130	84	50 - 130	<0.0050	ug/g	NC	40
8340433	Dibenzo(a,h)anthracene	2022/11/11	68	50 - 130	70	50 - 130	<0.0050	ug/g	NC	40

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8340433	Fluoranthene	2022/11/11	95	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8340433	Fluorene	2022/11/11	94	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40
8340433	Indeno(1,2,3-cd)pyrene	2022/11/11	71	50 - 130	73	50 - 130	<0.0050	ug/g	NC	40
8340433	Naphthalene	2022/11/11	79	50 - 130	86	50 - 130	<0.0050	ug/g	NC	40
8340433	Phenanthrene	2022/11/11	89	50 - 130	90	50 - 130	<0.0050	ug/g	NC	40
8340433	Pyrene	2022/11/11	94	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8340477	Moisture	2022/11/11							3.0	20
8340507	Benzene	2022/11/11	93	50 - 140	88	50 - 140	<0.020	ug/g	NC	50
8340507	Ethylbenzene	2022/11/11	103	50 - 140	95	50 - 140	<0.020	ug/g	NC	50
8340507	F1 (C6-C10) - BTEX	2022/11/11					<10	ug/g	NC	30
8340507	F1 (C6-C10)	2022/11/11	99	60 - 140	91	80 - 120	<10	ug/g	NC	30
8340507	o-Xylene	2022/11/11	96	50 - 140	91	50 - 140	<0.020	ug/g	NC	50
8340507	p+m-Xylene	2022/11/11	103	50 - 140	96	50 - 140	<0.040	ug/g	NC	50
8340507	Toluene	2022/11/11	92	50 - 140	86	50 - 140	<0.020	ug/g	NC	50
8340507	Total Xylenes	2022/11/11					<0.040	ug/g	NC	50
8340509	F2 (C10-C16 Hydrocarbons)	2022/11/11	102	60 - 130	104	80 - 120	<10	ug/g	NC	30
8340509	F3 (C16-C34 Hydrocarbons)	2022/11/11	102	60 - 130	105	80 - 120	<50	ug/g	NC	30
8340509	F4 (C34-C50 Hydrocarbons)	2022/11/11	106	60 - 130	109	80 - 120	<50	ug/g	NC	30
8340516	1-Methylnaphthalene	2022/11/11	106	50 - 130	80	50 - 130	<0.0050	ug/g	NC	40
8340516	2-Methylnaphthalene	2022/11/11	98	50 - 130	75	50 - 130	<0.0050	ug/g	NC	40
8340516	Acenaphthene	2022/11/11	102	50 - 130	71	50 - 130	<0.0050	ug/g	NC	40
8340516	Acenaphthylene	2022/11/11	90	50 - 130	67	50 - 130	<0.0050	ug/g	NC	40
8340516	Anthracene	2022/11/11	114	50 - 130	76	50 - 130	<0.0050	ug/g	NC	40
8340516	Benzo(a)anthracene	2022/11/11	137 (1)	50 - 130	72	50 - 130	<0.0050	ug/g	31	40
8340516	Benzo(a)pyrene	2022/11/11	121	50 - 130	68	50 - 130	<0.0050	ug/g	26	40
8340516	Benzo(b/j)fluoranthene	2022/11/11	109	50 - 130	69	50 - 130	<0.0050	ug/g	25	40
8340516	Benzo(g,h,i)perylene	2022/11/11	119	50 - 130	76	50 - 130	<0.0050	ug/g	24	40
8340516	Benzo(k)fluoranthene	2022/11/11	109	50 - 130	69	50 - 130	<0.0050	ug/g	25	40
8340516	Chrysene	2022/11/11	124	50 - 130	72	50 - 130	<0.0050	ug/g	30	40
8340516	Dibenzo(a,h)anthracene	2022/11/11	105	50 - 130	72	50 - 130	<0.0050	ug/g	32	40
8340516	Fluoranthene	2022/11/11	172 (1)	50 - 130	82	50 - 130	<0.0050	ug/g	27	40
8340516	Fluorene	2022/11/11	101	50 - 130	72	50 - 130	<0.0050	ug/g	NC	40

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8340516	Indeno(1,2,3-cd)pyrene	2022/11/11	118	50 - 130	74	50 - 130	<0.0050	ug/g	27	40
8340516	Naphthalene	2022/11/11	92	50 - 130	71	50 - 130	<0.0050	ug/g	NC	40
8340516	Phenanthrene	2022/11/11	134 (1)	50 - 130	72	50 - 130	<0.0050	ug/g	NC	40
8340516	Pyrene	2022/11/11	159 (1)	50 - 130	82	50 - 130	<0.0050	ug/g	27	40
8340517	Acid Extractable Antimony (Sb)	2022/11/11	93	75 - 125	99	80 - 120	<0.20	ug/g	17	30
8340517	Acid Extractable Arsenic (As)	2022/11/11	113	75 - 125	99	80 - 120	<1.0	ug/g	3.8	30
8340517	Acid Extractable Barium (Ba)	2022/11/11	NC	75 - 125	99	80 - 120	<0.50	ug/g	1.7	30
8340517	Acid Extractable Beryllium (Be)	2022/11/11	109	75 - 125	98	80 - 120	<0.20	ug/g	4.9	30
8340517	Acid Extractable Boron (B)	2022/11/11	103	75 - 125	98	80 - 120	<5.0	ug/g	3.4	30
8340517	Acid Extractable Cadmium (Cd)	2022/11/11	105	75 - 125	96	80 - 120	<0.10	ug/g	NC	30
8340517	Acid Extractable Chromium (Cr)	2022/11/11	NC	75 - 125	99	80 - 120	<1.0	ug/g	0.19	30
8340517	Acid Extractable Cobalt (Co)	2022/11/11	106	75 - 125	98	80 - 120	<0.10	ug/g	0.67	30
8340517	Acid Extractable Copper (Cu)	2022/11/11	NC	75 - 125	100	80 - 120	<0.50	ug/g	0.034	30
8340517	Acid Extractable Lead (Pb)	2022/11/11	116	75 - 125	93	80 - 120	<1.0	ug/g	0.30	30
8340517	Acid Extractable Molybdenum (Mo)	2022/11/11	105	75 - 125	97	80 - 120	<0.50	ug/g	NC	30
8340517	Acid Extractable Nickel (Ni)	2022/11/11	NC	75 - 125	98	80 - 120	<0.50	ug/g	1.9	30
8340517	Acid Extractable Selenium (Se)	2022/11/11	108	75 - 125	103	80 - 120	<0.50	ug/g	NC	30
8340517	Acid Extractable Silver (Ag)	2022/11/11	107	75 - 125	95	80 - 120	<0.20	ug/g	NC	30
8340517	Acid Extractable Thallium (Tl)	2022/11/11	103	75 - 125	92	80 - 120	<0.050	ug/g	3.0	30
8340517	Acid Extractable Uranium (U)	2022/11/11	98	75 - 125	87	80 - 120	<0.050	ug/g	5.4	30
8340517	Acid Extractable Vanadium (V)	2022/11/11	NC	75 - 125	97	80 - 120	<5.0	ug/g	2.3	30
8340517	Acid Extractable Zinc (Zn)	2022/11/11	NC	75 - 125	97	80 - 120	<5.0	ug/g	4.1	30
8340550	Benzene	2022/11/11	101	50 - 140	88	50 - 140	<0.020	ug/g	NC	50
8340550	Ethylbenzene	2022/11/11	100	50 - 140	91	50 - 140	<0.020	ug/g	NC	50
8340550	F1 (C6-C10) - BTEX	2022/11/11					<10	ug/g	NC	30
8340550	F1 (C6-C10)	2022/11/11	85	60 - 140	94	80 - 120	<10	ug/g	NC	30
8340550	o-Xylene	2022/11/11	98	50 - 140	98	50 - 140	<0.020	ug/g	NC	50
8340550	p+m-Xylene	2022/11/11	100	50 - 140	98	50 - 140	<0.040	ug/g	NC	50
8340550	Toluene	2022/11/11	91	50 - 140	89	50 - 140	<0.020	ug/g	NC	50
8340550	Total Xylenes	2022/11/11					<0.040	ug/g	NC	50
8341018	Acid Extractable Antimony (Sb)	2022/11/11	99	75 - 125	103	80 - 120	<0.20	ug/g	NC	30
8341018	Acid Extractable Arsenic (As)	2022/11/11	98	75 - 125	104	80 - 120	<1.0	ug/g	NC	30

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8341018	Acid Extractable Barium (Ba)	2022/11/11	NC	75 - 125	104	80 - 120	<0.50	ug/g	8.1	30
8341018	Acid Extractable Beryllium (Be)	2022/11/11	97	75 - 125	100	80 - 120	<0.20	ug/g	NC	30
8341018	Acid Extractable Boron (B)	2022/11/11	94	75 - 125	97	80 - 120	<5.0	ug/g	NC	30
8341018	Acid Extractable Cadmium (Cd)	2022/11/11	96	75 - 125	99	80 - 120	<0.10	ug/g	NC	30
8341018	Acid Extractable Chromium (Cr)	2022/11/11	102	75 - 125	103	80 - 120	<1.0	ug/g	24	30
8341018	Acid Extractable Cobalt (Co)	2022/11/11	99	75 - 125	103	80 - 120	<0.10	ug/g	17	30
8341018	Acid Extractable Copper (Cu)	2022/11/11	99	75 - 125	103	80 - 120	<0.50	ug/g	13	30
8341018	Acid Extractable Lead (Pb)	2022/11/11	98	75 - 125	103	80 - 120	<1.0	ug/g	18	30
8341018	Acid Extractable Molybdenum (Mo)	2022/11/11	98	75 - 125	103	80 - 120	<0.50	ug/g	NC	30
8341018	Acid Extractable Nickel (Ni)	2022/11/11	103	75 - 125	103	80 - 120	<0.50	ug/g	9.5	30
8341018	Acid Extractable Selenium (Se)	2022/11/11	100	75 - 125	104	80 - 120	<0.50	ug/g	NC	30
8341018	Acid Extractable Silver (Ag)	2022/11/11	97	75 - 125	101	80 - 120	<0.20	ug/g	NC	30
8341018	Acid Extractable Thallium (Tl)	2022/11/11	99	75 - 125	105	80 - 120	<0.050	ug/g	NC	30
8341018	Acid Extractable Uranium (U)	2022/11/11	98	75 - 125	101	80 - 120	<0.050	ug/g	34 (1)	30
8341018	Acid Extractable Vanadium (V)	2022/11/11	113	75 - 125	102	80 - 120	<5.0	ug/g	NC	30
8341018	Acid Extractable Zinc (Zn)	2022/11/11	101	75 - 125	103	80 - 120	<5.0	ug/g	5.7	30

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

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

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

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

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

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

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

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Anastassia Hamanov, Scientific Specialist

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

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10-Nov-22 17:00
Katherine Szozda
C2X1061
ASR

INVOICE TO: BILL TO GOLDER	REPORT TO:	PROJECT INFORMATION:	Only:
Company Name: #36564 Tomlinson Environmental Services	Company Name: #33444 WSP Canada Limited	Quotation #: C24961	Bottle Order #: 905021
Attention: Evan Morrison	Attention: Tony Lyon	P.O. #:	Project Manager: Katherine Szozda
Address: 100 CitiGate Drive, Ottawa ON K2J 6K7	Address: 1931 Robertson Road, Ottawa ON K2H 5B7	Project: 19124906	
Tel: (613) 690-3028 Fax:	Tel: (613) 592-9600 Fax:	Project Name:	
Email: emorrison@tomlinsongroup.com	Email: anthony_lyon@golder.com,GAL_EQUIS@golder.com, J	Site #:	
		Sampled By:	C#905021-02-01

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

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

Other Regulations
- [ ] CCME [ ] Sanitary Sewer Bylaw
- [ ] Reg 558 [ ] Storm Sewer Bylaw
- [ ] MISA Municipality ___
- [ ] PWQO [ ] Reg 406 Table ___
- [ ] Other ___

Special Instructions

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

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

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

Job Specific Rush TAT (if applies to entire submission)
Date Required: 2022/11/11 Time Required: EOD [x]
Rush Confirmation Number: ___ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 PHCs, BTEX/F1-F4 (Soil)	O.Reg 153 PAHs (Soil)	O.Reg 153 ICPMS Metals (Soil)	# of Bottles	Comments
1		VS-BLD29-EW1	2022/11/10	9:55	Soil	n/a	✓	✓	✓	4	
2		VS-BLD29-NW1		10:00			✓	✓	✓		
3		VS-BLD29-DUP1		10:05			✓	✓	✓		
4		VS-TP28-SW1		11:25			✓	✓	✓		
5		VS-TP28-F1		11:40			✓	✓	✓		
6		VS-TP28-DUP1		11:10			✓	✓	✓		
7		VS-TP28-WW1		11:05			✓	✓	✓		
8		VS-TP28-F2		11:50			✓	✓	✓		
9		VS-BLD137-N-NW1		12:45			✓	✓	✓		RUSH
10		VS-BLD137-N-WW1	↓	13:00	↓	↓	✓	✓	✓	↓	

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
SEUN AJIBODE	2022/11/10	16:55	American Sanitary	2022/11/10	1700	
Seun Ajibode			2 in TP-W/T	2022/11/11	DFCO	

Laboratory Use Only
Time Sensitive
Temperature (°C) on Receipt: 15,16,16 icepack
Custody Seal Present: Yes [x] Intact: Yes [x]

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

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

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

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

White: Bureau Veritas Yellow: Client

6/7/8 7/2/5

RECEIVED OTTAWA

Bureau Veritas Canada (2019) Inc.

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

CHAIN OF CUSTODY RECORD

INVOICE TO: BILL TO GOLDER	REPORT TO:	PROJECT INFORMATION:	Laboratory Use Only:
Company Name: ~~#36564 Tomlinson Environmental Services~~	Company Name: #33444 WSP Canada Limited	Quotation #: C24961	Bureau Veritas Job #: / Bottle Order #: 905021
Attention: ~~Evan Morrison~~	Attention: Tony Lyon	P.O. #:	
Address: ~~100 CitiGate Drive Ottawa ON K2J 6K7~~	Address: 1931 Robertson Road Ottawa ON K2H 5B7	Project: 19124906	COC #: C#905021-03-01 / Project Manager: Katherine Szozda
Tel: ~~(613) 590-3028~~ Fax:	Tel: (613) 592-9600 Fax:	Project Name:	
Email: ~~emorrison@tomlinsongroup.com~~	Email: anthony_lyon@golder.com,GAL_EQUIS@golder.com, J	Site #:	
		Sampled By:	

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

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

Other Regulations: ☐ CCME ☐ Sanitary Sewer Bylaw ☐ Reg 558 ☐ Storm Sewer Bylaw ☐ MISA Municipality ☐ PWQO ☐ Reg 406 Table ☐ Other

Special Instructions

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

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

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

Job Specific Rush TAT (if applies to entire submission)
Date Required: 2022/11/11 Time Required: EOD ☑
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 PHCs, BTEX/F1-F4 (Soil)	O.Reg 153 PAHs (Soil)	O.Reg 153 ICPMS Metals (Soil)	# of Bottles	Comments
1		VS-BLD137-N-F1	2022/11/10	12:50	Soil	n/a	✓	✓	✓	4	
2		VS-BLD137-N-F2		12:55			✓	✓	✓		
3		SGP-SP1		14:40			✓	✓	✓		
4		SGP-SP2		14:50			✓	✓	✓		
5		SGP-SP3		15:00			✓	✓	✓		
6		SGP-SP4		15:08			✓	✓	✓		
7		SGP-SP5		15:15			✓	✓	✓		
8		SGP-SP-DUP1		15:20			✓	✓	✓		
9		SGP-SP6		15:24			✓	✓	✓		
10		SGP-SP7	↓	15:35	↓	↓	✓	✓	✓	↓	

RUSH

RECEIVED IN OTTAWA

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
SEUN AJIBODE Seun Ajibode	2022/11/10	16:55	Angelica Santiago	2022/11/10	17:00	

Laboratory Use Only
Time Sensitive | Temperature (°C) on Rece: 15,16,16 iaPad | Custody Seal: Present ✓ Intact ✓ | Yes | No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

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

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

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

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

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

CHAIN OF CUSTODY RECORD

INVOICE TO: GOLDER
Company Name: #36554 Tomlinson Environmental Services
Attention: Evan Morrison
Address: 100 CitiGate Drive, Ottawa ON K2J 6K7
Tel: (613) 690-3028 Fax:
Email: emorrison@tomlinsongroup.com

REPORT TO:
Company Name: #33444 WSP Canada Limited
Attention: Tony Lyon
Address: 1931 Robertson Road, Ottawa ON K2H 5B7
Tel: (613) 592-9600 Fax:
Email: anthony_lyon@golder.com,GAL_EQUIS@golder.com, J

PROJECT INFORMATION:
Quotation #: C24961
P.O. #:
Project: 19124906
Project Name:
Site #:
Sampled By:

Laboratory Use Only:
Bureau Veritas Job #:
Bottle Order #: 905021
COC #: C#905021-04-01
Project Manager: Katherine Szozda

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

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

Other Regulations
☐ CCME ☐ Sanitary Sewer Bylaw
☐ Reg 558 ☐ Storm Sewer Bylaw
☐ MISA Municipality
☐ PWQO ☐ Reg 406 Table
☐ Other

Special Instructions

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

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

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

Job Specific Rush TAT (if applies to entire submission)
Date Required: 2022/11/11 Time Required: EOD ☑
Rush Confirmation Number: *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O.Reg 153 PHCs, BTEX/F1-F4 (Soil)	O.Reg 153 PAHs (Soil)	O.Reg 153 ICPMS Metals (Soil)	# of Bottles	Comments
1		SGP-SP8	2022/11/10	15:45	Soil	n/a	✓	✓	✓	4	
2											
3											
4											
5											
6											
7											
8											
9											
10											

RUSH

RECEIVED IN [illegible]

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
SEUN ADJIBODE	2022/11/10	16:55	Angelica Santiago Seep	2022/11/10	1700.	
Seun Adjibode						

Laboratory Use Only
Time Sensitive
Temperature (°C) on Recei: 15/16/16 ice pack
Custody Seal: Present ☑ Intact ☑ — Yes ☑ — No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

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

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS.

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

White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Your Project #: 19124906
Site Location: WATERIDGE REMEDIATION
Your C.O.C. #: 901449-23-01

Attention: Tony Lyon

WSP Canada Inc.
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2023/04/19
Report #: R7594199
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3A8749
Received: 2023/04/18, 15:17

Sample Matrix: Soil
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum (1)	4	N/A	2023/04/19	CAM SOP-00301	EPA 8270D m
Petroleum Hydro. CCME F1 & BTEX in Soil (1, 2)	4	N/A	2023/04/19	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 3)	4	2023/04/19	2023/04/19	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS (1)	4	2023/04/19	2023/04/19	CAM SOP-00447	EPA 6020B m
Moisture (1)	4	N/A	2023/04/19	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM) (1)	4	2023/04/19	2023/04/19	CAM SOP-00318	EPA 8270E

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8
(2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.
(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your Project #: 19124906
Site Location: WATERIDGE REMEDIATION
Your C.O.C. #: 901449-23-01

Attention: Tony Lyon

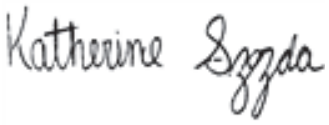
WSP Canada Inc.
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2023/04/19
Report #: R7594199
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3A8749
Received: 2023/04/18, 15:17

Encryption Key



Katherine Szozda
Project Manager
19 Apr 2023 17:43:15

Please direct all questions regarding this Certificate of Analysis to:
Katherine Szozda, Project Manager
Email: Katherine.Szozda@bureauveritas.com
Phone# (613)274-0573 Ext:7063633

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID			VOU410	VOU410	VOU411	VOU412	VOU413		
Sampling Date			2023/04/18 10:20	2023/04/18 10:20	2023/04/18 10:30	2023/04/18 10:40	2023/04/18 10:50		
COC Number			901449-23-01	901449-23-01	901449-23-01	901449-23-01	901449-23-01		
	UNITS	Criteria	VS-TP31-NW2	VS-TP31-NW2 Lab-Dup	VS-TP31-EW2	VS-TP31-WW1	VS-TP31-F2	RDL	QC Batch
Metals									
Acid Extractable Antimony (Sb)	ug/g	1.3	0.42	0.38	0.54	0.29	<0.20	0.20	8616550
Acid Extractable Arsenic (As)	ug/g	18	7.8	7.5	7.9	4.4	2.6	1.0	8616550
Acid Extractable Barium (Ba)	ug/g	220	120	130	**370**	170	64	0.50	8616550
Acid Extractable Beryllium (Be)	ug/g	2.5	0.65	0.66	0.83	0.68	0.33	0.20	8616550
Acid Extractable Boron (B)	ug/g	36	10	11	8.7	8.8	<5.0	5.0	8616550
Acid Extractable Cadmium (Cd)	ug/g	1.2	0.48	0.55	0.36	0.28	0.14	0.10	8616550
Acid Extractable Chromium (Cr)	ug/g	70	21	20	18	19	14	1.0	8616550
Acid Extractable Cobalt (Co)	ug/g	21	9.2	9.2	10	9.0	5.9	0.10	8616550
Acid Extractable Copper (Cu)	ug/g	92	20	21	25	20	13	0.50	8616550
Acid Extractable Lead (Pb)	ug/g	120	50	51	28	26	14	1.0	8616550
Acid Extractable Molybdenum (Mo)	ug/g	2	0.99	1.0	**3.2**	1.8	0.75	0.50	8616550
Acid Extractable Nickel (Ni)	ug/g	82	21	22	22	21	12	0.50	8616550
Acid Extractable Selenium (Se)	ug/g	1.5	0.66	0.60	0.83	<0.50	<0.50	0.50	8616550
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	<0.20	<0.20	<0.20	0.22	0.20	8616550
Acid Extractable Thallium (Tl)	ug/g	1	0.24	0.24	0.23	0.26	0.15	0.050	8616550
Acid Extractable Uranium (U)	ug/g	2.5	0.60	0.59	0.69	0.66	0.49	0.050	8616550
Acid Extractable Vanadium (V)	ug/g	86	23	24	32	26	21	5.0	8616550
Acid Extractable Zinc (Zn)	ug/g	290	82	82	70	47	39	5.0	8616550

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			VOU410	VOU411		VOU412		
Sampling Date			2023/04/18 10:20	2023/04/18 10:30		2023/04/18 10:40		
COC Number			901449-23-01	901449-23-01		901449-23-01		
	UNITS	Criteria	VS-TP31-NW2	VS-TP31-EW2	RDL	VS-TP31-WW1	RDL	QC Batch
Calculated Parameters								
Methylnaphthalene, 2-(1-)	ug/g	0.59	0.20	<0.071	0.071	<0.0071	0.0071	8615928
Polyaromatic Hydrocarbons								
Acenaphthene	ug/g	0.072	**0.12**	<0.050	0.050	<0.0050	0.0050	8616393
Acenaphthylene	ug/g	0.093	<0.050	<0.050	0.050	<0.0050	0.0050	8616393
Anthracene	ug/g	0.16	**0.30**	<0.050	0.050	<0.0050	0.0050	8616393
Benzo(a)anthracene	ug/g	0.36	**0.61**	<0.050	0.050	0.0088	0.0050	8616393
Benzo(a)pyrene	ug/g	0.3	**0.52**	<0.050	0.050	0.0084	0.0050	8616393
Benzo(b/j)fluoranthene	ug/g	0.47	**0.71**	0.083	0.050	0.016	0.0050	8616393
Benzo(g,h,i)perylene	ug/g	0.68	0.31	0.062	0.050	0.0088	0.0050	8616393
Benzo(k)fluoranthene	ug/g	0.48	0.29	<0.050	0.050	0.0052	0.0050	8616393
Chrysene	ug/g	2.8	0.52	0.058	0.050	0.010	0.0050	8616393
Dibenzo(a,h)anthracene	ug/g	0.1	0.086	<0.050	0.050	<0.0050	0.0050	8616393
Fluoranthene	ug/g	0.56	**1.5**	0.068	0.050	0.019	0.0050	8616393
Fluorene	ug/g	0.12	**0.16**	<0.050	0.050	<0.0050	0.0050	8616393
Indeno(1,2,3-cd)pyrene	ug/g	0.23	**0.30**	<0.050	0.050	0.0068	0.0050	8616393
1-Methylnaphthalene	ug/g	0.59	0.10	<0.050	0.050	<0.0050	0.0050	8616393
2-Methylnaphthalene	ug/g	0.59	0.10	<0.050	0.050	<0.0050	0.0050	8616393
Naphthalene	ug/g	0.09	**0.098**	<0.050	0.050	<0.0050	0.0050	8616393
Phenanthrene	ug/g	0.69	**1.4**	0.081	0.050	0.017	0.0050	8616393
Pyrene	ug/g	1	**1.2**	0.064	0.050	0.015	0.0050	8616393
Surrogate Recovery (%)								
D10-Anthracene	%	-	115	119		87		8616393
D14-Terphenyl (FS)	%	-	96	93		90		8616393
D8-Acenaphthylene	%	-	91	86		81		8616393

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			VOU412			VOU413		
Sampling Date			2023/04/18 10:40			2023/04/18 10:50		
COC Number			901449-23-01			901449-23-01		
	UNITS	Criteria	VS-TP31-WW1 Lab-Dup	RDL	QC Batch	VS-TP31-F2	RDL	QC Batch
Calculated Parameters								
Methylnaphthalene, 2-(1-)	ug/g	0.59				<0.071	0.071	8615928
Polyaromatic Hydrocarbons								
Acenaphthene	ug/g	0.072	<0.0050	0.0050	8616393	<0.050	0.050	8616393
Acenaphthylene	ug/g	0.093	<0.0050	0.0050	8616393	<0.050	0.050	8616393
Anthracene	ug/g	0.16	<0.0050	0.0050	8616393	<0.050	0.050	8616393
Benzo(a)anthracene	ug/g	0.36	0.0068	0.0050	8616393	<0.050	0.050	8616393
Benzo(a)pyrene	ug/g	0.3	0.0072	0.0050	8616393	<0.050	0.050	8616393
Benzo(b/j)fluoranthene	ug/g	0.47	0.016	0.0050	8616393	0.063	0.050	8616393
Benzo(g,h,i)perylene	ug/g	0.68	0.0093	0.0050	8616393	<0.050	0.050	8616393
Benzo(k)fluoranthene	ug/g	0.48	<0.0050	0.0050	8616393	<0.050	0.050	8616393
Chrysene	ug/g	2.8	0.0096	0.0050	8616393	<0.050	0.050	8616393
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	0.0050	8616393	<0.050	0.050	8616393
Fluoranthene	ug/g	0.56	0.013	0.0050	8616393	0.099	0.050	8616393
Fluorene	ug/g	0.12	<0.0050	0.0050	8616393	<0.050	0.050	8616393
Indeno(1,2,3-cd)pyrene	ug/g	0.23	0.0072	0.0050	8616393	<0.050	0.050	8616393
1-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	8616393	<0.050	0.050	8616393
2-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	8616393	<0.050	0.050	8616393
Naphthalene	ug/g	0.09	<0.0050	0.0050	8616393	<0.050	0.050	8616393
Phenanthrene	ug/g	0.69	0.014	0.0050	8616393	0.060	0.050	8616393
Pyrene	ug/g	1	0.010	0.0050	8616393	0.082	0.050	8616393
Surrogate Recovery (%)								
D10-Anthracene	%	-	84		8616393	117		8616393
D14-Terphenyl (FS)	%	-	88		8616393	95		8616393
D8-Acenaphthylene	%	-	78		8616393	95		8616393

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

Bureau Veritas Job #: C3A8749
Report Date: 2023/04/19

WSP Canada Inc.
Client Project #: 19124906
Site Location: WATERIDGE REMEDIATION
Sampler Initials: JL

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

Bureau Veritas ID			VOU410	VOU410	VOU411	VOU412	VOU413		
Sampling Date			2023/04/18 10:20	2023/04/18 10:20	2023/04/18 10:30	2023/04/18 10:40	2023/04/18 10:50		
COC Number			901449-23-01	901449-23-01	901449-23-01	901449-23-01	901449-23-01		
	UNITS	Criteria	VS-TP31-NW2	VS-TP31-NW2 Lab-Dup	VS-TP31-EW2	VS-TP31-WW1	VS-TP31-F2	RDL	QC Batch
BTEX & F1 Hydrocarbons									
Benzene	ug/g	0.02	<0.020	<0.020	<0.020	<0.020	<0.020	0.020	8616265
Toluene	ug/g	0.2	0.080	0.072	0.029	<0.020	<0.020	0.020	8616265
Ethylbenzene	ug/g	0.05	0.025	0.023	<0.020	<0.020	<0.020	0.020	8616265
o-Xylene	ug/g	-	0.092	0.088	<0.020	<0.020	<0.020	0.020	8616265
p+m-Xylene	ug/g	-	0.11	0.10	<0.040	<0.040	<0.040	0.040	8616265
Total Xylenes	ug/g	0.05	**0.21**	**0.19**	<0.040	<0.040	<0.040	0.040	8616265
F1 (C6-C10)	ug/g	25	<10	<10	<10	<10	<10	10	8616265
F1 (C6-C10) - BTEX	ug/g	25	<10	<10	<10	<10	<10	10	8616265
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	<10	<10	<10	<10	10	8616111
F3 (C16-C34 Hydrocarbons)	ug/g	240	88	120	55	<50	<50	50	8616111
F4 (C34-C50 Hydrocarbons)	ug/g	120	110	**130**	82	<50	<50	50	8616111
Reached Baseline at C50	ug/g	-	Yes	Yes	Yes	Yes	Yes		8616111
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	-	101	101	102	103	100		8616265
4-Bromofluorobenzene	%	-	98	97	98	97	98		8616265
D10-o-Xylene	%	-	95	89	91	101	98		8616265
D4-1,2-Dichloroethane	%	-	96	95	93	93	97		8616265
o-Terphenyl	%	-	76	74	80	75	79		8616111

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

Bureau Veritas Job #: C3A8749
Report Date: 2023/04/19

WSP Canada Inc.
Client Project #: 19124906
Site Location: WATERIDGE REMEDIATION
Sampler Initials: JL

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		VOU410	VOU411	VOU412	VOU412	VOU413		
Sampling Date		2023/04/18 10:20	2023/04/18 10:30	2023/04/18 10:40	2023/04/18 10:40	2023/04/18 10:50		
COC Number		901449-23-01	901449-23-01	901449-23-01	901449-23-01	901449-23-01		
	UNITS	VS-TP31-NW2	VS-TP31-EW2	VS-TP31-WW1	VS-TP31-WW1 Lab-Dup	VS-TP31-F2	RDL	QC Batch
Inorganics								
Moisture	%	15	23	19	19	12	1.0	8615955

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

TEST SUMMARY

Bureau Veritas ID: VOU410 **Collected:** 2023/04/18
Sample ID: VS-TP31-NW2 **Shipped:**
Matrix: Soil **Received:** 2023/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8615928	N/A	2023/04/19	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8616265	N/A	2023/04/19	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8616111	2023/04/19	2023/04/19	Ksenia Trofimova
Acid Extractable Metals by ICPMS	ICP/MS	8616550	2023/04/19	2023/04/19	Indira HarryPaul
Moisture	BAL	8615955	N/A	2023/04/19	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8616393	2023/04/19	2023/04/19	Joe Paino

Bureau Veritas ID: VOU410 Dup **Collected:** 2023/04/18
Sample ID: VS-TP31-NW2 **Shipped:**
Matrix: Soil **Received:** 2023/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8616265	N/A	2023/04/19	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8616111	2023/04/19	2023/04/19	Ksenia Trofimova
Acid Extractable Metals by ICPMS	ICP/MS	8616550	2023/04/19	2023/04/19	Indira HarryPaul

Bureau Veritas ID: VOU411 **Collected:** 2023/04/18
Sample ID: VS-TP31-EW2 **Shipped:**
Matrix: Soil **Received:** 2023/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8615928	N/A	2023/04/19	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8616265	N/A	2023/04/19	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8616111	2023/04/19	2023/04/19	Ksenia Trofimova
Acid Extractable Metals by ICPMS	ICP/MS	8616550	2023/04/19	2023/04/19	Indira HarryPaul
Moisture	BAL	8615955	N/A	2023/04/19	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8616393	2023/04/19	2023/04/19	Joe Paino

Bureau Veritas ID: VOU412 **Collected:** 2023/04/18
Sample ID: VS-TP31-WW1 **Shipped:**
Matrix: Soil **Received:** 2023/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8615928	N/A	2023/04/19	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8616265	N/A	2023/04/19	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8616111	2023/04/19	2023/04/19	Ksenia Trofimova
Acid Extractable Metals by ICPMS	ICP/MS	8616550	2023/04/19	2023/04/19	Indira HarryPaul
Moisture	BAL	8615955	N/A	2023/04/19	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8616393	2023/04/19	2023/04/19	Joe Paino

Bureau Veritas ID: VOU412 Dup **Collected:** 2023/04/18
Sample ID: VS-TP31-WW1 **Shipped:**
Matrix: Soil **Received:** 2023/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Moisture	BAL	8615955	N/A	2023/04/19	Simrat Bhathal

Bureau Veritas Job #: C3A8749
Report Date: 2023/04/19

WSP Canada Inc.
Client Project #: 19124906
Site Location: WATERIDGE REMEDIATION
Sampler Initials: JL

TEST SUMMARY

Bureau Veritas ID: VOU412 Dup
Sample ID: VS-TP31-WW1
Matrix: Soil

Collected: 2023/04/18
Shipped:
Received: 2023/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8616393	2023/04/19	2023/04/19	Joe Paino

Bureau Veritas ID: VOU413
Sample ID: VS-TP31-F2
Matrix: Soil

Collected: 2023/04/18
Shipped:
Received: 2023/04/18

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8615928	N/A	2023/04/19	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8616265	N/A	2023/04/19	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8616111	2023/04/19	2023/04/19	Ksenia Trofimova
Acid Extractable Metals by ICPMS	ICP/MS	8616550	2023/04/19	2023/04/19	Indira HarryPaul
Moisture	BAL	8615955	N/A	2023/04/19	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8616393	2023/04/19	2023/04/19	Joe Paino

GENERAL COMMENTS

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

Package 1	8.0°C

Sample VOU410 [VS-TP31-NW2] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

PAH ANALYSIS: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Sample VOU411 [VS-TP31-EW2] : PAH ANALYSIS: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Sample VOU412 [VS-TP31-WW1] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

Sample VOU413 [VS-TP31-F2] : F1/BTEX Analysis: Soil weight exceeds the protocol specification of approximately 5g in the field preserved vial. Additional methanol was added to the vial to ensure extraction efficiency.

PAH ANALYSIS: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Results relate only to the items tested.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8616111	o-Terphenyl	2023/04/19	74	60 - 130	74	60 - 130	87	%		
8616265	1,4-Difluorobenzene	2023/04/19	102	60 - 140	101	60 - 140	108	%		
8616265	4-Bromofluorobenzene	2023/04/19	96	60 - 140	98	60 - 140	94	%		
8616265	D10-o-Xylene	2023/04/19	95	60 - 140	93	60 - 140	98	%		
8616265	D4-1,2-Dichloroethane	2023/04/19	92	60 - 140	96	60 - 140	90	%		
8616393	D10-Anthracene	2023/04/19	86	50 - 130	96	50 - 130	102	%		
8616393	D14-Terphenyl (FS)	2023/04/19	89	50 - 130	91	50 - 130	96	%		
8616393	D8-Acenaphthylene	2023/04/19	82	50 - 130	92	50 - 130	96	%		
8615955	Moisture	2023/04/19							0.53	20
8616111	F2 (C10-C16 Hydrocarbons)	2023/04/19	85	60 - 130	84	80 - 120	<10	ug/g	NC	30
8616111	F3 (C16-C34 Hydrocarbons)	2023/04/19	84	60 - 130	84	80 - 120	<50	ug/g	NC	30
8616111	F4 (C34-C50 Hydrocarbons)	2023/04/19	83	60 - 130	83	80 - 120	<50	ug/g	15	30
8616265	Benzene	2023/04/19	90	50 - 140	91	50 - 140	<0.020	ug/g	NC	50
8616265	Ethylbenzene	2023/04/19	102	50 - 140	101	50 - 140	<0.020	ug/g	7.8	50
8616265	F1 (C6-C10) - BTEX	2023/04/19					<10	ug/g	NC	30
8616265	F1 (C6-C10)	2023/04/19	86	60 - 140	99	80 - 120	<10	ug/g	NC	30
8616265	o-Xylene	2023/04/19	101	50 - 140	97	50 - 140	<0.020	ug/g	4.5	50
8616265	p+m-Xylene	2023/04/19	96	50 - 140	93	50 - 140	<0.040	ug/g	8.9	50
8616265	Toluene	2023/04/19	87	50 - 140	87	50 - 140	<0.020	ug/g	10	50
8616265	Total Xylenes	2023/04/19					<0.040	ug/g	6.9	50
8616393	1-Methylnaphthalene	2023/04/19	95	50 - 130	100	50 - 130	<0.0050	ug/g	NC	40
8616393	2-Methylnaphthalene	2023/04/19	88	50 - 130	92	50 - 130	<0.0050	ug/g	NC	40
8616393	Acenaphthene	2023/04/19	90	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
8616393	Acenaphthylene	2023/04/19	85	50 - 130	91	50 - 130	<0.0050	ug/g	NC	40
8616393	Anthracene	2023/04/19	87	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8616393	Benzo(a)anthracene	2023/04/19	88	50 - 130	94	50 - 130	<0.0050	ug/g	25	40
8616393	Benzo(a)pyrene	2023/04/19	76	50 - 130	91	50 - 130	<0.0050	ug/g	16	40
8616393	Benzo(b/j)fluoranthene	2023/04/19	79	50 - 130	94	50 - 130	<0.0050	ug/g	0.71	40
8616393	Benzo(g,h,i)perylene	2023/04/19	74	50 - 130	98	50 - 130	<0.0050	ug/g	5.7	40
8616393	Benzo(k)fluoranthene	2023/04/19	94	50 - 130	102	50 - 130	<0.0050	ug/g	3.6	40
8616393	Chrysene	2023/04/19	85	50 - 130	94	50 - 130	<0.0050	ug/g	5.4	40
8616393	Dibenzo(a,h)anthracene	2023/04/19	83	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8616393	Fluoranthene	2023/04/19	87	50 - 130	96	50 - 130	<0.0050	ug/g	38	40
8616393	Fluorene	2023/04/19	91	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40
8616393	Indeno(1,2,3-cd)pyrene	2023/04/19	72	50 - 130	94	50 - 130	<0.0050	ug/g	5.8	40
8616393	Naphthalene	2023/04/19	84	50 - 130	90	50 - 130	<0.0050	ug/g	NC	40
8616393	Phenanthrene	2023/04/19	83	50 - 130	91	50 - 130	<0.0050	ug/g	21	40
8616393	Pyrene	2023/04/19	87	50 - 130	96	50 - 130	<0.0050	ug/g	36	40
8616550	Acid Extractable Antimony (Sb)	2023/04/19	99	75 - 125	99	80 - 120	<0.20	ug/g	11	30
8616550	Acid Extractable Arsenic (As)	2023/04/19	106	75 - 125	101	80 - 120	<1.0	ug/g	3.9	30
8616550	Acid Extractable Barium (Ba)	2023/04/19	NC	75 - 125	96	80 - 120	<0.50	ug/g	7.8	30
8616550	Acid Extractable Beryllium (Be)	2023/04/19	105	75 - 125	98	80 - 120	<0.20	ug/g	2.8	30
8616550	Acid Extractable Boron (B)	2023/04/19	97	75 - 125	98	80 - 120	<5.0	ug/g	4.4	30
8616550	Acid Extractable Cadmium (Cd)	2023/04/19	101	75 - 125	98	80 - 120	<0.10	ug/g	14	30
8616550	Acid Extractable Chromium (Cr)	2023/04/19	105	75 - 125	102	80 - 120	<1.0	ug/g	2.0	30
8616550	Acid Extractable Cobalt (Co)	2023/04/19	104	75 - 125	99	80 - 120	<0.10	ug/g	0.35	30
8616550	Acid Extractable Copper (Cu)	2023/04/19	106	75 - 125	101	80 - 120	<0.50	ug/g	6.4	30
8616550	Acid Extractable Lead (Pb)	2023/04/19	NC	75 - 125	100	80 - 120	<1.0	ug/g	2.7	30
8616550	Acid Extractable Molybdenum (Mo)	2023/04/19	104	75 - 125	102	80 - 120	<0.50	ug/g	4.2	30
8616550	Acid Extractable Nickel (Ni)	2023/04/19	106	75 - 125	100	80 - 120	<0.50	ug/g	1.8	30
8616550	Acid Extractable Selenium (Se)	2023/04/19	103	75 - 125	104	80 - 120	<0.50	ug/g	9.9	30
8616550	Acid Extractable Silver (Ag)	2023/04/19	105	75 - 125	101	80 - 120	<0.20	ug/g	NC	30
8616550	Acid Extractable Thallium (Tl)	2023/04/19	98	75 - 125	100	80 - 120	<0.050	ug/g	0.36	30
8616550	Acid Extractable Uranium (U)	2023/04/19	104	75 - 125	100	80 - 120	<0.050	ug/g	2.9	30
8616550	Acid Extractable Vanadium (V)	2023/04/19	110	75 - 125	98	80 - 120	<5.0	ug/g	3.4	30

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8616550	Acid Extractable Zinc (Zn)	2023/04/19	NC	75 - 125	98	80 - 120	<5.0	ug/g	0.55	30

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

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

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

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

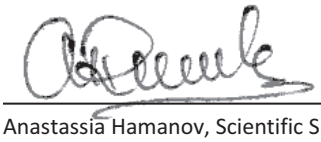
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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

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

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

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Received in Ottawa

CHAIN OF CUSTODY RECORD

RUSH

Page 1

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Laboratory Use Only:	
Company Name:	#06964 Tomlinson Environmental Services	Company Name:	#05444 WSP Canada Limited	Quotation #:	C24961	Bureau Veritas Job #:	Bottle Order #:
Attention:	Evan Morrison	Attention:	Tony Lyon	P.O. #:			901448
Address:	100 CitiGate Drive Ottawa ON K2J 8K7	Address:	1931 Robertson Road Ottawa ON K2H 5B7	Project:	19124906	COC #:	Project Manager:
Tel:	(613) 690-3023 Fax:	Tel:	(613) 592-9600 Fax:	Project Name:	Waterlidge	C#901448-23-01	Katherine Szozda
Email:	emorrison@tomlinsongroup.com	Email:	anthony_lyon@golder.com,GAL_EQUIS@golder.com, J	Site #:			
				Sampled By:	Jacques Lavoie		

MOE WATER: DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

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

Other Regulations: CCME / Reg 558 / MISA / PWQO / Other | Sanitary Sewer Bylaw / Storm Sewer Bylaw / Municipality ___ / Reg 405 Table ___

Special Instructions

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: (will be applied if Rush TAT is not specified)

Standard TAT = 5-7 Working days for most tests

Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)

Date Required: April 19, 2023 Time Required: EoD ✓

Rush Confirmation Number: ___ (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O Reg 153 PHCs, BTEX/F1-F2 (Soil)	O Reg 153 PAHs (Soil)	O Reg 153 VOCs, Metals (Soil)	Other (ID) PHCs, BTEX/F1-F4 (Water)	# of Bottles	Comments
1		VS-TP31-NW2	2023/04/18	10:30			✓	✓	✓		4	
2		VS-TP31-EW2	↓	10:30			✓	✓	✓		↓	
3		VS-TP31-WW1		10:40			✓	✓	✓			
4		VS-TP31-FD2		10:50			✓	✓	✓			
5												
6												
7												
8												
9												
10												

18-Apr-23 15:17
Katherine Szozda
C3A8749
J_L ENV-1216

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Jacques Lavoie Jacques Lavoie	23/04/18	14:58	Lawrence Alyssa Lawrence	2023/04/18	15:17	
				2023/04/19	08:00	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Receipt	Custody Seal Present	Yes	No
	8.9.8 ICE PACK	Intact	✓	

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

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

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

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

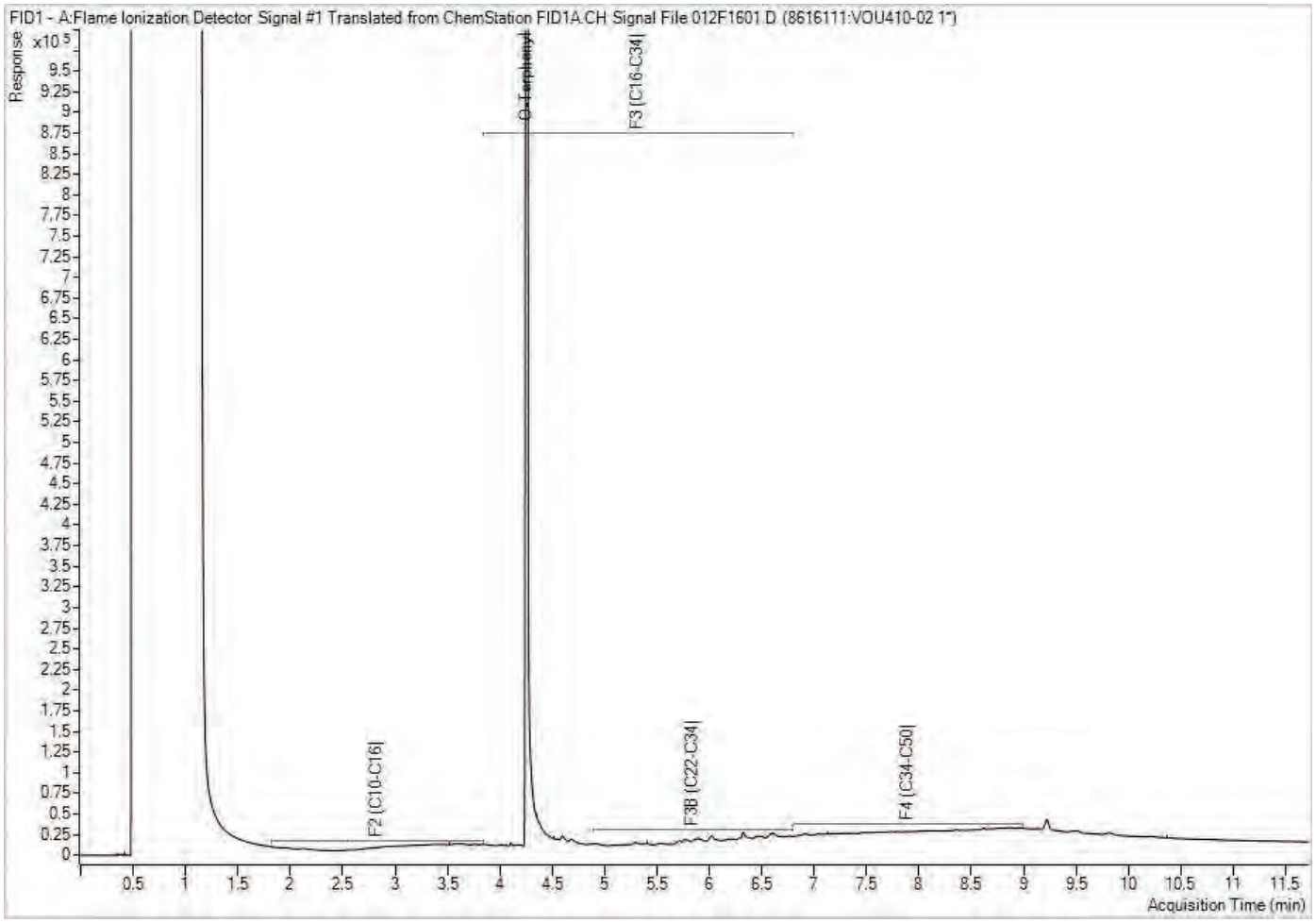
White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2018) Inc.

Bureau Veritas Job #: C3A8749
Report Date: 2023/04/19
Bureau Veritas Sample: VOU410

WSP Canada Inc.
Client Project #: 19124906
Project name: WATERIDGE REMEDIATION
Client ID: VS-TP31-NW2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

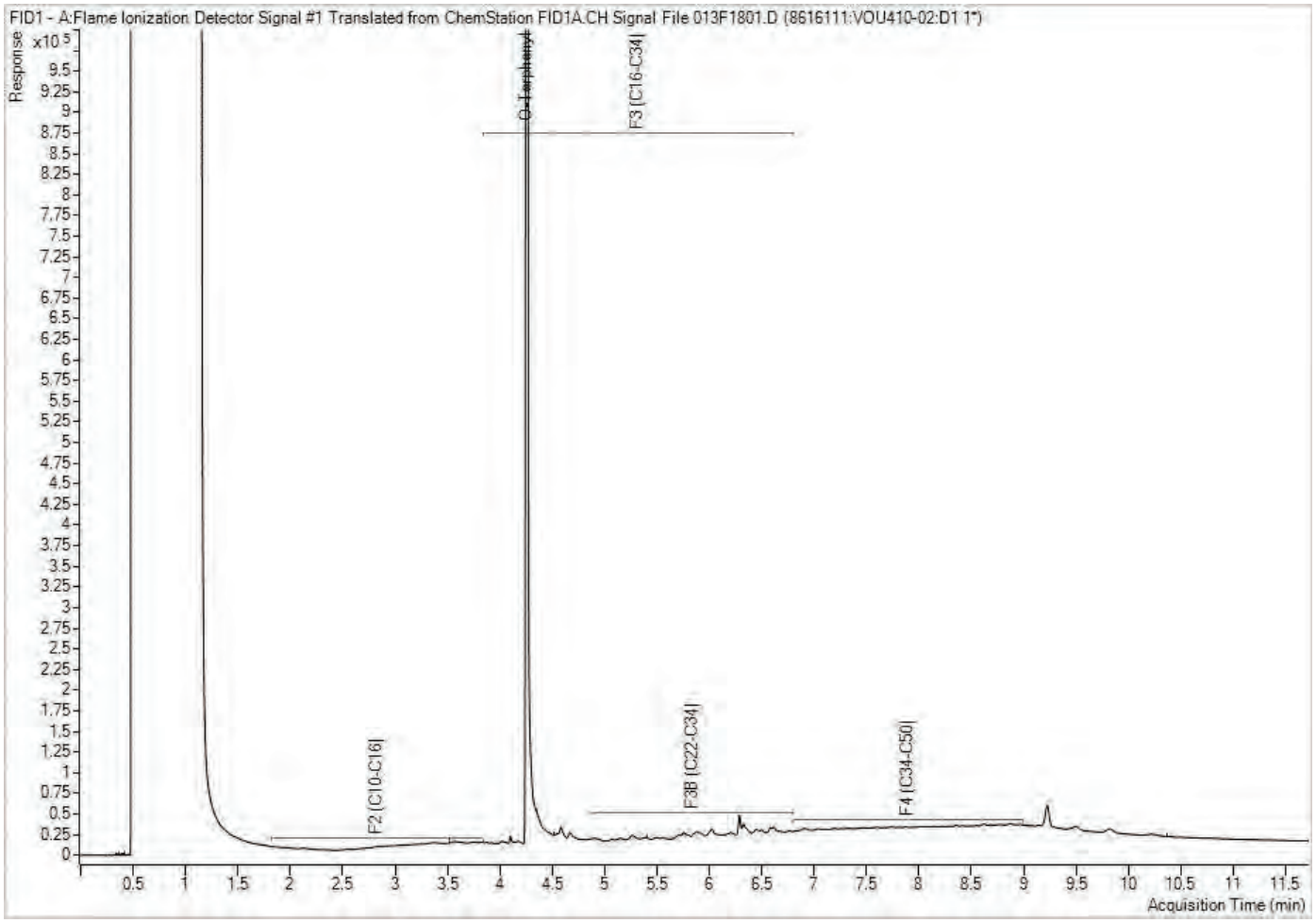


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C3A8749
Report Date: 2023/04/19
Bureau Veritas Sample: VOU410 Lab-Dup

WSP Canada Inc.
Client Project #: 19124906
Project name: WATERIDGE REMEDIATION
Client ID: VS-TP31-NW2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

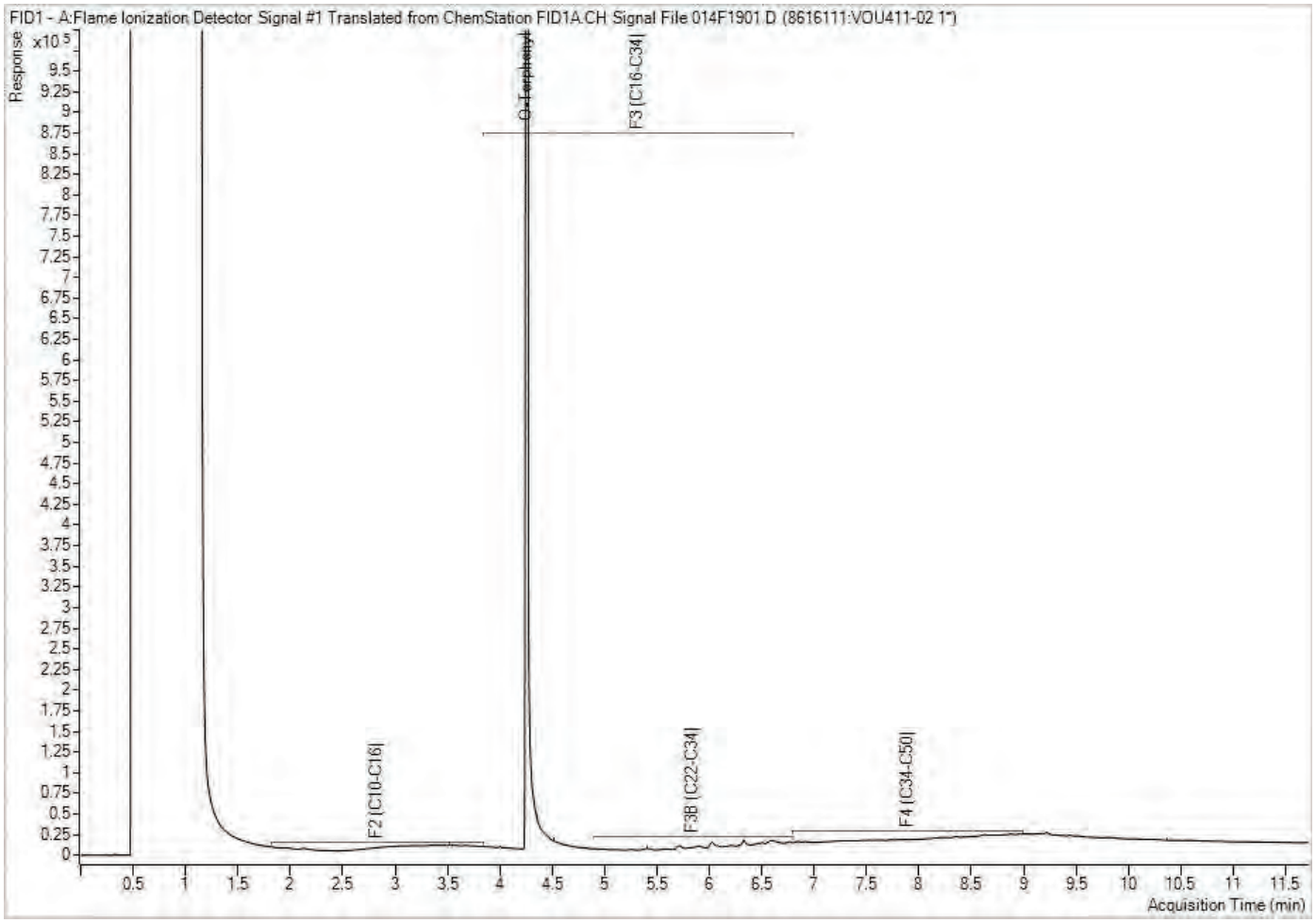


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C3A8749
Report Date: 2023/04/19
Bureau Veritas Sample: VOU411

WSP Canada Inc.
Client Project #: 19124906
Project name: WATERIDGE REMEDIATION
Client ID: VS-TP31-EW2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

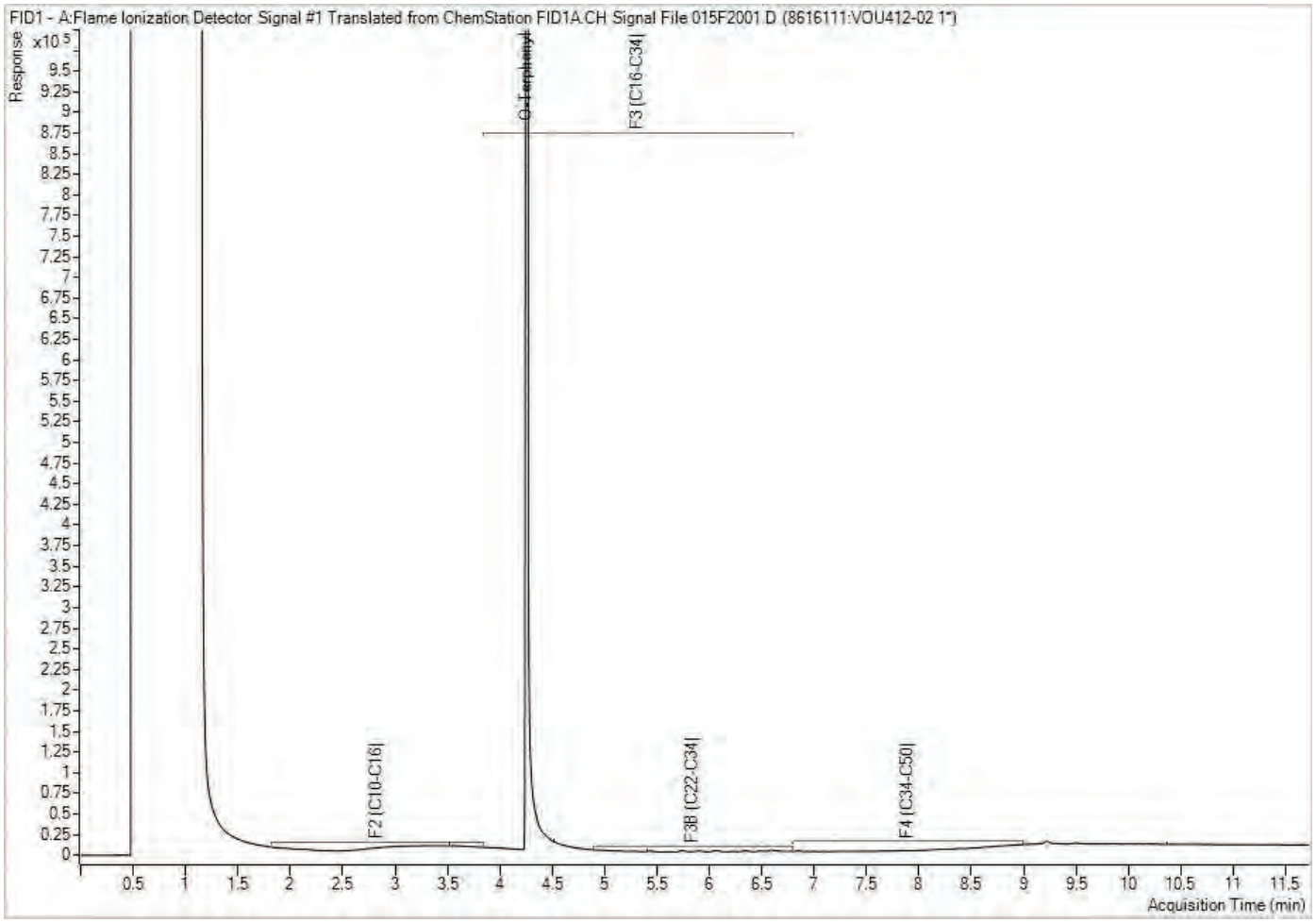


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C3A8749
Report Date: 2023/04/19
Bureau Veritas Sample: VOU412

WSP Canada Inc.
Client Project #: 19124906
Project name: WATERIDGE REMEDIATION
Client ID: VS-TP31-WW1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

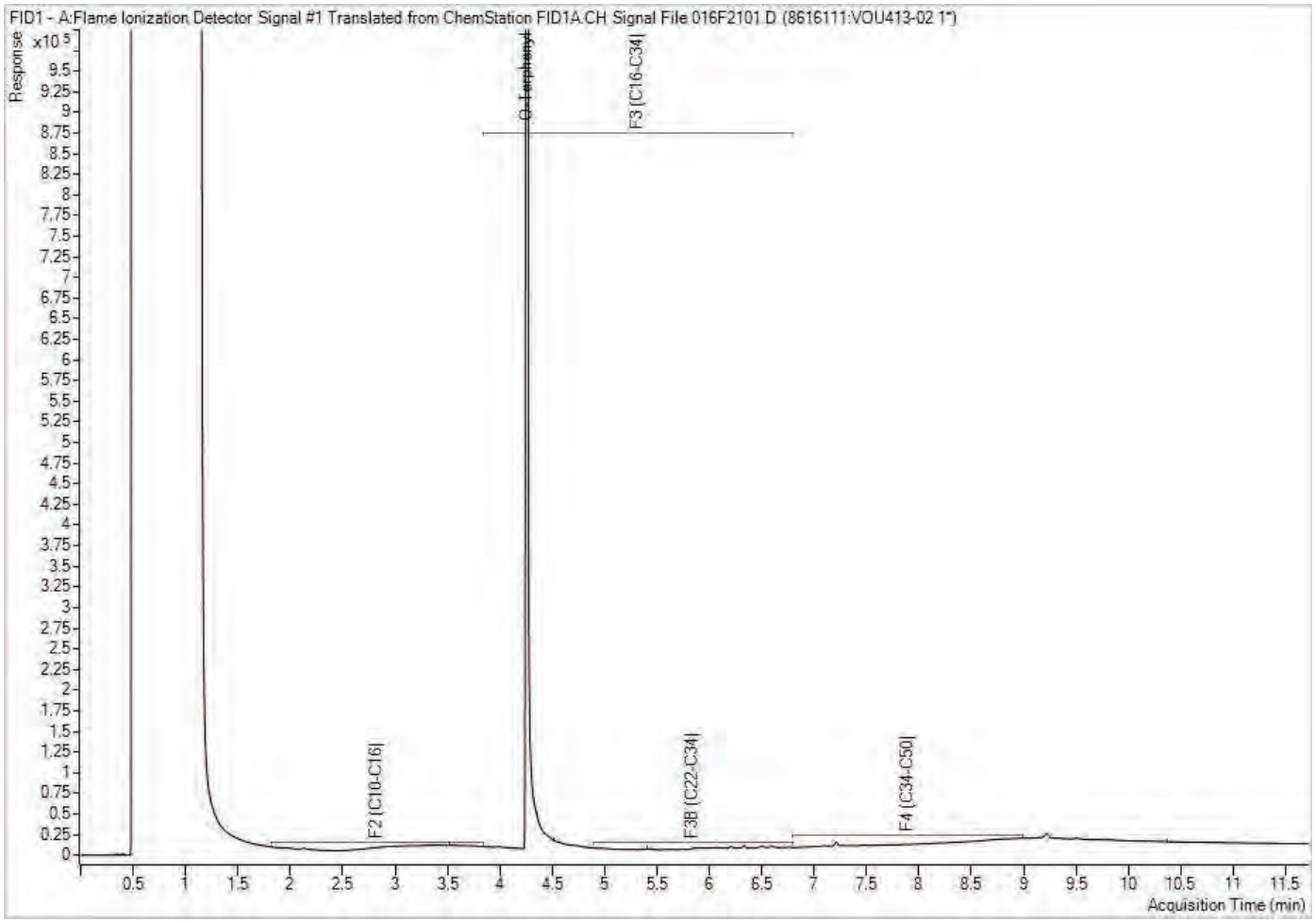


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C3A8749
Report Date: 2023/04/19
Bureau Veritas Sample: VOU413

WSP Canada Inc.
Client Project #: 19124906
Project name: WATERIDGE REMEDIATION
Client ID: VS-TP31-F2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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

Bureau Veritas Job #: C3A8749
Report Date: 2023/04/19

WSP Canada Inc.
Client Project #: 19124906
Site Location: WATERIDGE REMEDIATION
Sampler Initials: JL

Exceedance Summary Table – Reg153/04 T1-Soil/Res

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
VS-TP31-NW2	VOU410-02	Acenaphthene	0.072	0.12	0.050	ug/g
VS-TP31-NW2	VOU410-02	Anthracene	0.16	0.30	0.050	ug/g
VS-TP31-NW2	VOU410-02	Benzo(a)anthracene	0.36	0.61	0.050	ug/g
VS-TP31-NW2	VOU410-02	Benzo(a)pyrene	0.3	0.52	0.050	ug/g
VS-TP31-NW2	VOU410-02	Benzo(b/j)fluoranthene	0.47	0.71	0.050	ug/g
VS-TP31-NW2	VOU410-02-Lab Dup	F4 (C34-C50 Hydrocarbons)	120	130	50	ug/g
VS-TP31-NW2	VOU410-02	Fluoranthene	0.56	1.5	0.050	ug/g
VS-TP31-NW2	VOU410-02	Fluorene	0.12	0.16	0.050	ug/g
VS-TP31-NW2	VOU410-02	Indeno(1,2,3-cd)pyrene	0.23	0.30	0.050	ug/g
VS-TP31-NW2	VOU410-02	Naphthalene	0.09	0.098	0.050	ug/g
VS-TP31-NW2	VOU410-02	Phenanthrene	0.69	1.4	0.050	ug/g
VS-TP31-NW2	VOU410-02	Pyrene	1	1.2	0.050	ug/g
VS-TP31-NW2	VOU410-03-Lab Dup	Total Xylenes	0.05	0.19	0.040	ug/g
VS-TP31-NW2	VOU410-03	Total Xylenes	0.05	0.21	0.040	ug/g
VS-TP31-EW2	VOU411-01	Acid Extractable Barium (Ba)	220	370	0.50	ug/g
VS-TP31-EW2	VOU411-01	Acid Extractable Molybdenum (Mo)	2	3.2	0.50	ug/g

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

Your Project #: 19124906
Site Location: CLC Wateridge
Your C.O.C. #: 933003-02-01

Attention: Tony Lyon

WSP Canada Inc.
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2023/06/02
Report #: R7655214
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3F8013
Received: 2023/06/01, 14:09

Sample Matrix: Soil
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum (1)	3	N/A	2023/06/02	CAM SOP-00301	EPA 8270D m
Petroleum Hydro. CCME F1 & BTEX in Soil (1, 2)	3	N/A	2023/06/02	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 3)	3	2023/06/02	2023/06/02	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS (1)	3	2023/06/02	2023/06/02	CAM SOP-00447	EPA 6020B m
Moisture (1)	3	N/A	2023/06/02	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM) (1)	3	2023/06/02	2023/06/02	CAM SOP-00318	EPA 8270E

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8
(2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.
(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your Project #: 19124906
Site Location: CLC Wateridge
Your C.O.C. #: 933003-02-01

Attention: Tony Lyon

WSP Canada Inc.
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2023/06/02
Report #: R7655214
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3F8013
Received: 2023/06/01, 14:09

Encryption Key

Katherine Szozda
Project Manager
02 Jun 2023 18:15:42

Please direct all questions regarding this Certificate of Analysis to:
Katherine Szozda, Project Manager
Email: Katherine.Szozda@bureauveritas.com
Phone# (613)274-0573 Ext:7063633

==========

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas Job #: C3F8013
Report Date: 2023/06/02

WSP Canada Inc.
Client Project #: 19124906
Site Location: CLC Wateridge
Sampler Initials: J.L

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID			VZF353	VZF354	VZF354	VZF355		
Sampling Date			2023/06/01 09:30	2023/06/01 09:40	2023/06/01 09:40	2023/06/01 09:50		
COC Number			933003-02-01	933003-02-01	933003-02-01	933003-02-01		
	UNITS	Criteria	VS-TP31-EW4	VS-TP31-WW2	VS-TP31-WW2 Lab-Dup	VS-TP31-SW2	RDL	QC Batch
Metals								
Acid Extractable Antimony (Sb)	ug/g	1.3	0.20	<0.20	<0.20	<0.20	0.20	8700919
Acid Extractable Arsenic (As)	ug/g	18	3.4	3.5	3.4	3.3	1.0	8700919
Acid Extractable Barium (Ba)	ug/g	220	100	95	93	130	0.50	8700919
Acid Extractable Beryllium (Be)	ug/g	2.5	0.48	0.51	0.51	0.60	0.20	8700919
Acid Extractable Boron (B)	ug/g	36	5.7	6.2	6.5	6.1	5.0	8700919
Acid Extractable Cadmium (Cd)	ug/g	1.2	0.33	0.17	0.20	0.37	0.10	8700919
Acid Extractable Chromium (Cr)	ug/g	70	20	22	22	21	1.0	8700919
Acid Extractable Cobalt (Co)	ug/g	21	7.5	8.7	8.9	10	0.10	8700919
Acid Extractable Copper (Cu)	ug/g	92	19	17	16	17	0.50	8700919
Acid Extractable Lead (Pb)	ug/g	120	17	21	20	20	1.0	8700919
Acid Extractable Molybdenum (Mo)	ug/g	2	1.5	0.96	0.88	1.6	0.50	8700919
Acid Extractable Nickel (Ni)	ug/g	82	17	19	19	21	0.50	8700919
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	<0.50	<0.50	<0.50	0.50	8700919
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	<0.20	<0.20	<0.20	0.20	8700919
Acid Extractable Thallium (Tl)	ug/g	1	0.16	0.20	0.17	0.21	0.050	8700919
Acid Extractable Uranium (U)	ug/g	2.5	0.55	0.66	0.69	0.54	0.050	8700919
Acid Extractable Vanadium (V)	ug/g	86	25	28	28	27	5.0	8700919
Acid Extractable Zinc (Zn)	ug/g	290	77	45	45	50	5.0	8700919

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

Bureau Veritas Job #: C3F8013
Report Date: 2023/06/02

WSP Canada Inc.
Client Project #: 19124906
Site Location: CLC Wateridge
Sampler Initials: J.L

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			VZF353	VZF354		VZF355			VZF355		
Sampling Date			2023/06/01 09:30	2023/06/01 09:40		2023/06/01 09:50			2023/06/01 09:50		
COC Number			933003-02-01	933003-02-01		933003-02-01			933003-02-01		
	UNITS	Criteria	VS-TP31-EW4	VS-TP31-WW2	RDL	VS-TP31-SW2	RDL	QC Batch	VS-TP31-SW2 Lab-Dup	RDL	QC Batch
Calculated Parameters											
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.071	<0.071	0.071	<0.0071	0.0071	8699979			
Polyaromatic Hydrocarbons											
Acenaphthene	ug/g	0.072	<0.050	<0.050	0.050	<0.0050	0.0050	8700325	<0.0050	0.0050	8700325
Acenaphthylene	ug/g	0.093	<0.050	<0.050	0.050	<0.0050	0.0050	8700325	<0.0050	0.0050	8700325
Anthracene	ug/g	0.16	<0.050	<0.050	0.050	<0.0050	0.0050	8700325	<0.0050	0.0050	8700325
Benzo(a)anthracene	ug/g	0.36	<0.050	<0.050	0.050	<0.0050	0.0050	8700325	0.0062	0.0050	8700325
Benzo(a)pyrene	ug/g	0.3	<0.050	<0.050	0.050	0.0056	0.0050	8700325	0.0078	0.0050	8700325
Benzo(b/j)fluoranthene	ug/g	0.47	<0.050	<0.050	0.050	0.010	0.0050	8700325	0.015	0.0050	8700325
Benzo(g,h,i)perylene	ug/g	0.68	<0.050	<0.050	0.050	<0.0050	0.0050	8700325	0.0069	0.0050	8700325
Benzo(k)fluoranthene	ug/g	0.48	<0.050	<0.050	0.050	<0.0050	0.0050	8700325	<0.0050	0.0050	8700325
Chrysene	ug/g	2.8	<0.050	<0.050	0.050	0.0065	0.0050	8700325	0.0088	0.0050	8700325
Dibenzo(a,h)anthracene	ug/g	0.1	<0.050	<0.050	0.050	<0.0050	0.0050	8700325	<0.0050	0.0050	8700325
Fluoranthene	ug/g	0.56	<0.050	0.066	0.050	0.012	0.0050	8700325	0.016	0.0050	8700325
Fluorene	ug/g	0.12	<0.050	<0.050	0.050	<0.0050	0.0050	8700325	<0.0050	0.0050	8700325
Indeno(1,2,3-cd)pyrene	ug/g	0.23	<0.050	<0.050	0.050	<0.0050	0.0050	8700325	0.0069	0.0050	8700325
1-Methylnaphthalene	ug/g	0.59	<0.050	<0.050	0.050	<0.0050	0.0050	8700325	<0.0050	0.0050	8700325
2-Methylnaphthalene	ug/g	0.59	<0.050	<0.050	0.050	<0.0050	0.0050	8700325	<0.0050	0.0050	8700325
Naphthalene	ug/g	0.09	<0.050	<0.050	0.050	<0.0050	0.0050	8700325	<0.0050	0.0050	8700325
Phenanthrene	ug/g	0.69	<0.050	0.060	0.050	<0.0050	0.0050	8700325	0.0059	0.0050	8700325
Pyrene	ug/g	1	<0.050	0.059	0.050	0.0096	0.0050	8700325	0.013	0.0050	8700325
Surrogate Recovery (%)											
D10-Anthracene	%	-	119	112		109		8700325	111		8700325
D14-Terphenyl (FS)	%	-	103	99		97		8700325	101		8700325
D8-Acenaphthylene	%	-	85	82		81		8700325	86		8700325

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

Bureau Veritas Job #: C3F8013
Report Date: 2023/06/02

WSP Canada Inc.
Client Project #: 19124906
Site Location: CLC Wateridge
Sampler Initials: J.L

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

Bureau Veritas ID			VZF353	VZF354			VZF354		
Sampling Date			2023/06/01 09:30	2023/06/01 09:40			2023/06/01 09:40		
COC Number			933003-02-01	933003-02-01			933003-02-01		
	UNITS	Criteria	VS-TP31-EW4	VS-TP31-WW2	RDL	QC Batch	VS-TP31-WW2 Lab-Dup	RDL	QC Batch
BTEX & F1 Hydrocarbons									
Benzene	ug/g	0.02	<0.020	<0.020	0.020	8700310			
Toluene	ug/g	0.2	<0.020	<0.020	0.020	8700310			
Ethylbenzene	ug/g	0.05	<0.020	<0.020	0.020	8700310			
o-Xylene	ug/g	-	<0.020	<0.020	0.020	8700310			
p+m-Xylene	ug/g	-	<0.040	<0.040	0.040	8700310			
Total Xylenes	ug/g	0.05	<0.040	<0.040	0.040	8700310			
F1 (C6-C10)	ug/g	25	<10	<10	10	8700310			
F1 (C6-C10) - BTEX	ug/g	25	<10	<10	10	8700310			
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	<10	10	8700329	<10	10	8700329
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	<50	50	8700329	<50	50	8700329
F4 (C34-C50 Hydrocarbons)	ug/g	120	56	79	50	8700329	100	50	8700329
Reached Baseline at C50	ug/g	-	Yes	Yes		8700329	Yes		8700329
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	-	104	105		8700310			
4-Bromofluorobenzene	%	-	96	98		8700310			
D10-o-Xylene	%	-	119	114		8700310			
D4-1,2-Dichloroethane	%	-	108	107		8700310			
o-Terphenyl	%	-	86	97		8700329	95		8700329

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

Bureau Veritas ID			VZF355			VZF355		
Sampling Date			2023/06/01 09:50			2023/06/01 09:50		
COC Number			933003-02-01			933003-02-01		
	UNITS	Criteria	VS-TP31-SW2	RDL	QC Batch	VS-TP31-SW2 Lab-Dup	RDL	QC Batch
BTEX & F1 Hydrocarbons								
Benzene	ug/g	0.02	<0.020	0.020	8700310	<0.020	0.020	8700310
Toluene	ug/g	0.2	<0.020	0.020	8700310	<0.020	0.020	8700310
Ethylbenzene	ug/g	0.05	<0.020	0.020	8700310	<0.020	0.020	8700310
o-Xylene	ug/g	-	<0.020	0.020	8700310	<0.020	0.020	8700310
p+m-Xylene	ug/g	-	<0.040	0.040	8700310	<0.040	0.040	8700310
Total Xylenes	ug/g	0.05	<0.040	0.040	8700310	<0.040	0.040	8700310
F1 (C6-C10)	ug/g	25	<10	10	8700310	<10	10	8700310
F1 (C6-C10) - BTEX	ug/g	25	<10	10	8700310	<10	10	8700310
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	10	8700329			
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	50	8700329			
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	50	8700329			
Reached Baseline at C50	ug/g	-	Yes		8700329			
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	-	100		8700310	100		8700310
4-Bromofluorobenzene	%	-	92		8700310	94		8700310
D10-o-Xylene	%	-	102		8700310	98		8700310
D4-1,2-Dichloroethane	%	-	105		8700310	106		8700310
o-Terphenyl	%	-	97		8700329			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

Bureau Veritas Job #: C3F8013
Report Date: 2023/06/02

WSP Canada Inc.
Client Project #: 19124906
Site Location: CLC Wateridge
Sampler Initials: J.L

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		VZF353	VZF354	VZF355		
Sampling Date		2023/06/01 09:30	2023/06/01 09:40	2023/06/01 09:50		
COC Number		933003-02-01	933003-02-01	933003-02-01		
	UNITS	VS-TP31-EW4	VS-TP31-WW2	VS-TP31-SW2	RDL	QC Batch
Inorganics						
Moisture	%	18	13	24	1.0	8700247

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

TEST SUMMARY

Bureau Veritas ID: VZF353 **Collected:** 2023/06/01
Sample ID: VS-TP31-EW4 **Shipped:**
Matrix: Soil **Received:** 2023/06/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8699979	N/A	2023/06/02	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8700310	N/A	2023/06/02	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8700329	2023/06/02	2023/06/02	(Kent) Maolin Li
Acid Extractable Metals by ICPMS	ICP/MS	8700919	2023/06/02	2023/06/02	Indira HarryPaul
Moisture	BAL	8700247	N/A	2023/06/02	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8700325	2023/06/02	2023/06/02	Lingyun Feng

Bureau Veritas ID: VZF354 **Collected:** 2023/06/01
Sample ID: VS-TP31-WW2 **Shipped:**
Matrix: Soil **Received:** 2023/06/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8699979	N/A	2023/06/02	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8700310	N/A	2023/06/02	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8700329	2023/06/02	2023/06/02	(Kent) Maolin Li
Acid Extractable Metals by ICPMS	ICP/MS	8700919	2023/06/02	2023/06/02	Indira HarryPaul
Moisture	BAL	8700247	N/A	2023/06/02	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8700325	2023/06/02	2023/06/02	Lingyun Feng

Bureau Veritas ID: VZF354 Dup **Collected:** 2023/06/01
Sample ID: VS-TP31-WW2 **Shipped:**
Matrix: Soil **Received:** 2023/06/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8700329	2023/06/02	2023/06/02	(Kent) Maolin Li
Acid Extractable Metals by ICPMS	ICP/MS	8700919	2023/06/02	2023/06/02	Indira HarryPaul

Bureau Veritas ID: VZF355 **Collected:** 2023/06/01
Sample ID: VS-TP31-SW2 **Shipped:**
Matrix: Soil **Received:** 2023/06/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8699979	N/A	2023/06/02	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8700310	N/A	2023/06/02	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8700329	2023/06/02	2023/06/02	(Kent) Maolin Li
Acid Extractable Metals by ICPMS	ICP/MS	8700919	2023/06/02	2023/06/02	Indira HarryPaul
Moisture	BAL	8700247	N/A	2023/06/02	Joe Thomas
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8700325	2023/06/02	2023/06/02	Lingyun Feng

Bureau Veritas ID: VZF355 Dup **Collected:** 2023/06/01
Sample ID: VS-TP31-SW2 **Shipped:**
Matrix: Soil **Received:** 2023/06/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8700310	N/A	2023/06/02	Lincoln Ramdahin
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8700325	2023/06/02	2023/06/02	Lingyun Feng

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

GENERAL COMMENTS

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

Package 1	20.0°C

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

Sample VZF353 [VS-TP31-EW4] : PAH analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Sample VZF354 [VS-TP31-WW2] : PAH analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8700310	1,4-Difluorobenzene	2023/06/02	100	60 - 140	101	60 - 140	104	%		
8700310	4-Bromofluorobenzene	2023/06/02	98	60 - 140	97	60 - 140	98	%		
8700310	D10-o-Xylene	2023/06/02	113	60 - 140	97	60 - 140	105	%		
8700310	D4-1,2-Dichloroethane	2023/06/02	104	60 - 140	100	60 - 140	107	%		
8700325	D10-Anthracene	2023/06/02	104	50 - 130	109	50 - 130	119	%		
8700325	D14-Terphenyl (FS)	2023/06/02	96	50 - 130	94	50 - 130	101	%		
8700325	D8-Acenaphthylene	2023/06/02	86	50 - 130	88	50 - 130	89	%		
8700329	o-Terphenyl	2023/06/02	90	60 - 130	88	60 - 130	88	%		
8700247	Moisture	2023/06/02							0.84	20
8700310	Benzene	2023/06/02	110	50 - 140	99	50 - 140	<0.020	ug/g	NC	50
8700310	Ethylbenzene	2023/06/02	122	50 - 140	107	50 - 140	<0.020	ug/g	NC	50
8700310	F1 (C6-C10) - BTEX	2023/06/02					<10	ug/g	NC	30
8700310	F1 (C6-C10)	2023/06/02	104	60 - 140	104	80 - 120	<10	ug/g	NC	30
8700310	o-Xylene	2023/06/02	122	50 - 140	105	50 - 140	<0.020	ug/g	NC	50
8700310	p+m-Xylene	2023/06/02	117	50 - 140	102	50 - 140	<0.040	ug/g	NC	50
8700310	Toluene	2023/06/02	107	50 - 140	94	50 - 140	<0.020	ug/g	NC	50
8700310	Total Xylenes	2023/06/02					<0.040	ug/g	NC	50
8700325	1-Methylnaphthalene	2023/06/02	94	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
8700325	2-Methylnaphthalene	2023/06/02	84	50 - 130	82	50 - 130	<0.0050	ug/g	NC	40
8700325	Acenaphthene	2023/06/02	89	50 - 130	86	50 - 130	<0.0050	ug/g	NC	40
8700325	Acenaphthylene	2023/06/02	86	50 - 130	86	50 - 130	<0.0050	ug/g	NC	40
8700325	Anthracene	2023/06/02	95	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40
8700325	Benzo(a)anthracene	2023/06/02	90	50 - 130	84	50 - 130	<0.0050	ug/g	21	40
8700325	Benzo(a)pyrene	2023/06/02	83	50 - 130	82	50 - 130	<0.0050	ug/g	33	40
8700325	Benzo(b/j)fluoranthene	2023/06/02	85	50 - 130	86	50 - 130	<0.0050	ug/g	33	40
8700325	Benzo(g,h,i)perylene	2023/06/02	80	50 - 130	81	50 - 130	<0.0050	ug/g	33	40
8700325	Benzo(k)fluoranthene	2023/06/02	77	50 - 130	80	50 - 130	<0.0050	ug/g	NC	40
8700325	Chrysene	2023/06/02	89	50 - 130	89	50 - 130	<0.0050	ug/g	30	40
8700325	Dibenzo(a,h)anthracene	2023/06/02	75	50 - 130	71	50 - 130	<0.0050	ug/g	NC	40
8700325	Fluoranthene	2023/06/02	93	50 - 130	92	50 - 130	<0.0050	ug/g	30	40
8700325	Fluorene	2023/06/02	86	50 - 130	84	50 - 130	<0.0050	ug/g	NC	40
8700325	Indeno(1,2,3-cd)pyrene	2023/06/02	82	50 - 130	83	50 - 130	<0.0050	ug/g	33	40

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8700325	Naphthalene	2023/06/02	82	50 - 130	83	50 - 130	<0.0050	ug/g	NC	40
8700325	Phenanthrene	2023/06/02	87	50 - 130	87	50 - 130	<0.0050	ug/g	17	40
8700325	Pyrene	2023/06/02	93	50 - 130	92	50 - 130	<0.0050	ug/g	30	40
8700329	F2 (C10-C16 Hydrocarbons)	2023/06/02	102	60 - 130	104	80 - 120	<10	ug/g	NC	30
8700329	F3 (C16-C34 Hydrocarbons)	2023/06/02	104	60 - 130	103	80 - 120	<50	ug/g	NC	30
8700329	F4 (C34-C50 Hydrocarbons)	2023/06/02	106	60 - 130	103	80 - 120	<50	ug/g	24	30
8700919	Acid Extractable Antimony (Sb)	2023/06/02	99	75 - 125	100	80 - 120	<0.20	ug/g	NC	30
8700919	Acid Extractable Arsenic (As)	2023/06/02	98	75 - 125	102	80 - 120	<1.0	ug/g	1.3	30
8700919	Acid Extractable Barium (Ba)	2023/06/02	NC	75 - 125	96	80 - 120	<0.50	ug/g	1.8	30
8700919	Acid Extractable Beryllium (Be)	2023/06/02	101	75 - 125	95	80 - 120	<0.20	ug/g	0.086	30
8700919	Acid Extractable Boron (B)	2023/06/02	98	75 - 125	96	80 - 120	<5.0	ug/g	5.0	30
8700919	Acid Extractable Cadmium (Cd)	2023/06/02	103	75 - 125	97	80 - 120	<0.10	ug/g	17	30
8700919	Acid Extractable Chromium (Cr)	2023/06/02	104	75 - 125	98	80 - 120	<1.0	ug/g	1.6	30
8700919	Acid Extractable Cobalt (Co)	2023/06/02	103	75 - 125	100	80 - 120	<0.10	ug/g	1.6	30
8700919	Acid Extractable Copper (Cu)	2023/06/02	99	75 - 125	100	80 - 120	<0.50	ug/g	3.9	30
8700919	Acid Extractable Lead (Pb)	2023/06/02	105	75 - 125	101	80 - 120	<1.0	ug/g	1.9	30
8700919	Acid Extractable Molybdenum (Mo)	2023/06/02	103	75 - 125	98	80 - 120	<0.50	ug/g	9.1	30
8700919	Acid Extractable Nickel (Ni)	2023/06/02	102	75 - 125	99	80 - 120	<0.50	ug/g	2.2	30
8700919	Acid Extractable Selenium (Se)	2023/06/02	103	75 - 125	98	80 - 120	<0.50	ug/g	NC	30
8700919	Acid Extractable Silver (Ag)	2023/06/02	104	75 - 125	98	80 - 120	<0.20	ug/g	NC	30
8700919	Acid Extractable Thallium (Tl)	2023/06/02	104	75 - 125	102	80 - 120	<0.050	ug/g	12	30
8700919	Acid Extractable Uranium (U)	2023/06/02	106	75 - 125	100	80 - 120	<0.050	ug/g	4.5	30
8700919	Acid Extractable Vanadium (V)	2023/06/02	NC	75 - 125	101	80 - 120	<5.0	ug/g	1.0	30

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8700919	Acid Extractable Zinc (Zn)	2023/06/02	NC	75 - 125	102	80 - 120	<5.0	ug/g	0.13	30

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

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

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

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

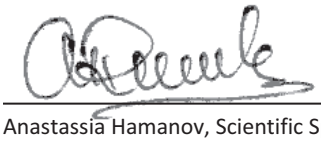
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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

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

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

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

Received in Ottawa

RUSH!

Page of

01-Jun-23 14:09
Katherine Szozda
C3F8013
SPJ ENV-819
C#933003-02-01

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#14090 WSP Canada Inc.	Company Name:		Quotation #:	C31027
Attention:	Central Accounting	Attention:	Tony Lyon	P.O. #:	
Address:	1931 Robertson Rd Ottawa ON K2H 5B7	Address:		Project:	19124906
Tel:	(613) 592-9600 Fax: (613) 592-9601	Tel:	Fax:	Project Name:	CLC Waterdge
Email:	gld.CanadaAccountsPayableInvoices@wsp.com	Email:	Anthony.Lyon@wsp.com; GAL_EQUIS@golder.com	Site #:	
				Sampled By:	Jacques Lavoie

Bottle Order #: 933003
Project Manager: Katherine Szozda

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

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

Other Regulations
- [ ] CCME [ ] Sanitary Sewer Bylaw
- [ ] Reg 558 [ ] Storm Sewer Bylaw
- [ ] MISA Municipality
- [ ] PWQO [ ] Reg 406 Table
- [ ] Other

Special Instructions

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

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

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	O. Reg 153 PHCs, BTEX/F1-F4	O. Reg 153 PAHs (soil)	O. Reg 153 ICPMS Metals (soil)	# of Bottles	Comments
1		VS-TP31-EW4	06/01/23	9:30		✓	✓	✓	4	
2		VS-TP31-WW2	↓	9:40		✓	✓	✓	4	
3		VS-TP31-SW2	↓	9:50		✓	✓	✓	4	
4										
5										
6										
7										
8										
9										
10										

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

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

Job Specific Rush TAT (if applies to entire submission)
Date Required: June 2, 2023 Time Required: EoD
Rush Confirmation Number: ____ *(call lab for #)*

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Jacques Lavoie Jacques Lavoie	23/06/01	13:40	Lawrence Tyson LAWRENCE	2023/06/01	1409	
				2023/06/02	08:30	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Rece	Custody Seal	Yes	No
	20,20,20 ice pack	Present		✓
		Intact		✓

4/4/4

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO BUREAU VERITAS'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/COC-TERMS-AND-CONDITIONS.

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

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/ENVIRONMENTAL-LABORATORIES/RESOURCES/CHAIN-CUSTODY-FORMS-COCS

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

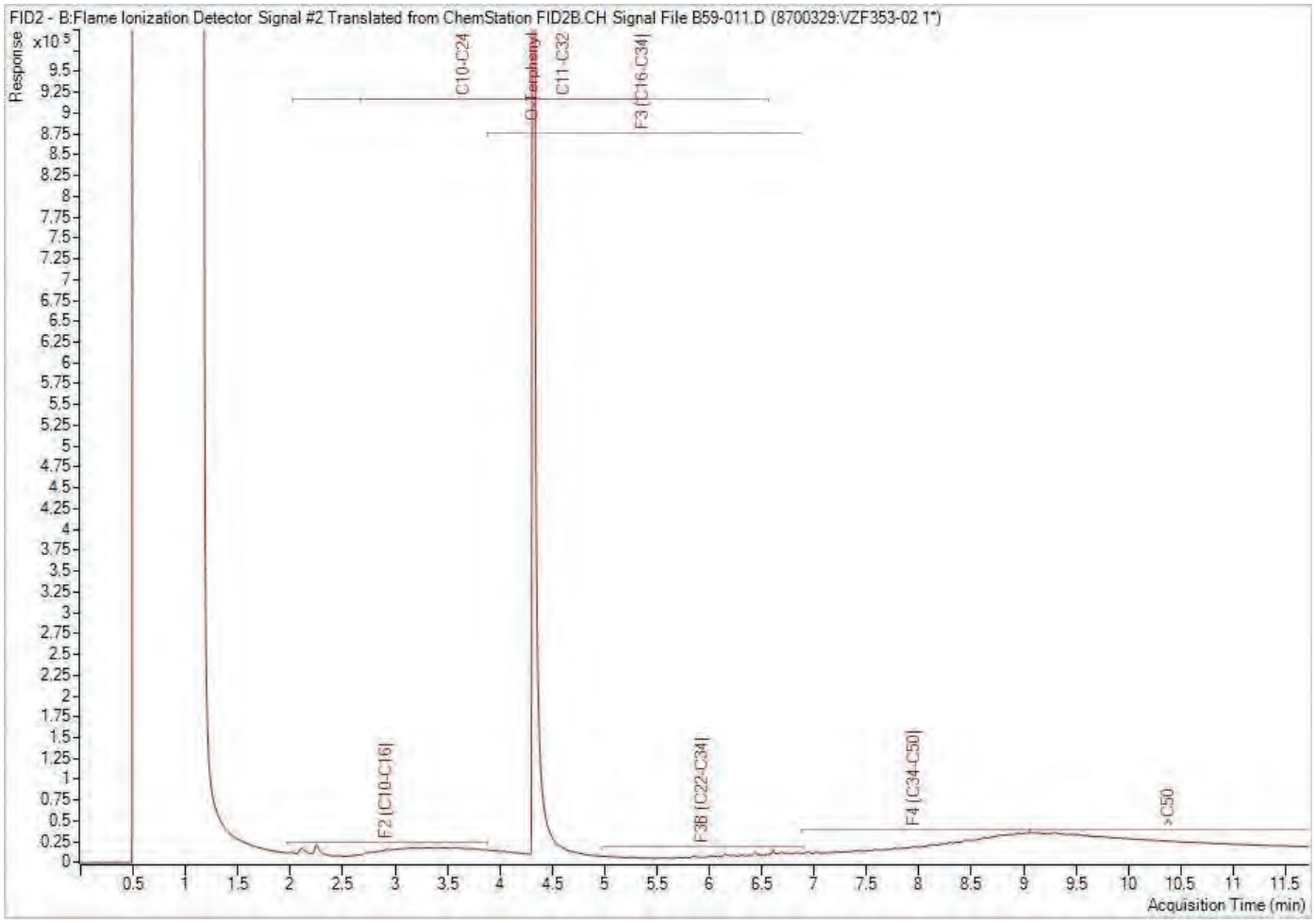
White: Bureau Veritas Yellow: Client

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Job #: C3F8013
Report Date: 2023/06/02
Bureau Veritas Sample: VZF353

WSP Canada Inc.
Client Project #: 19124906
Project name: CLC Wateridge
Client ID: VS-TP31-EW4

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

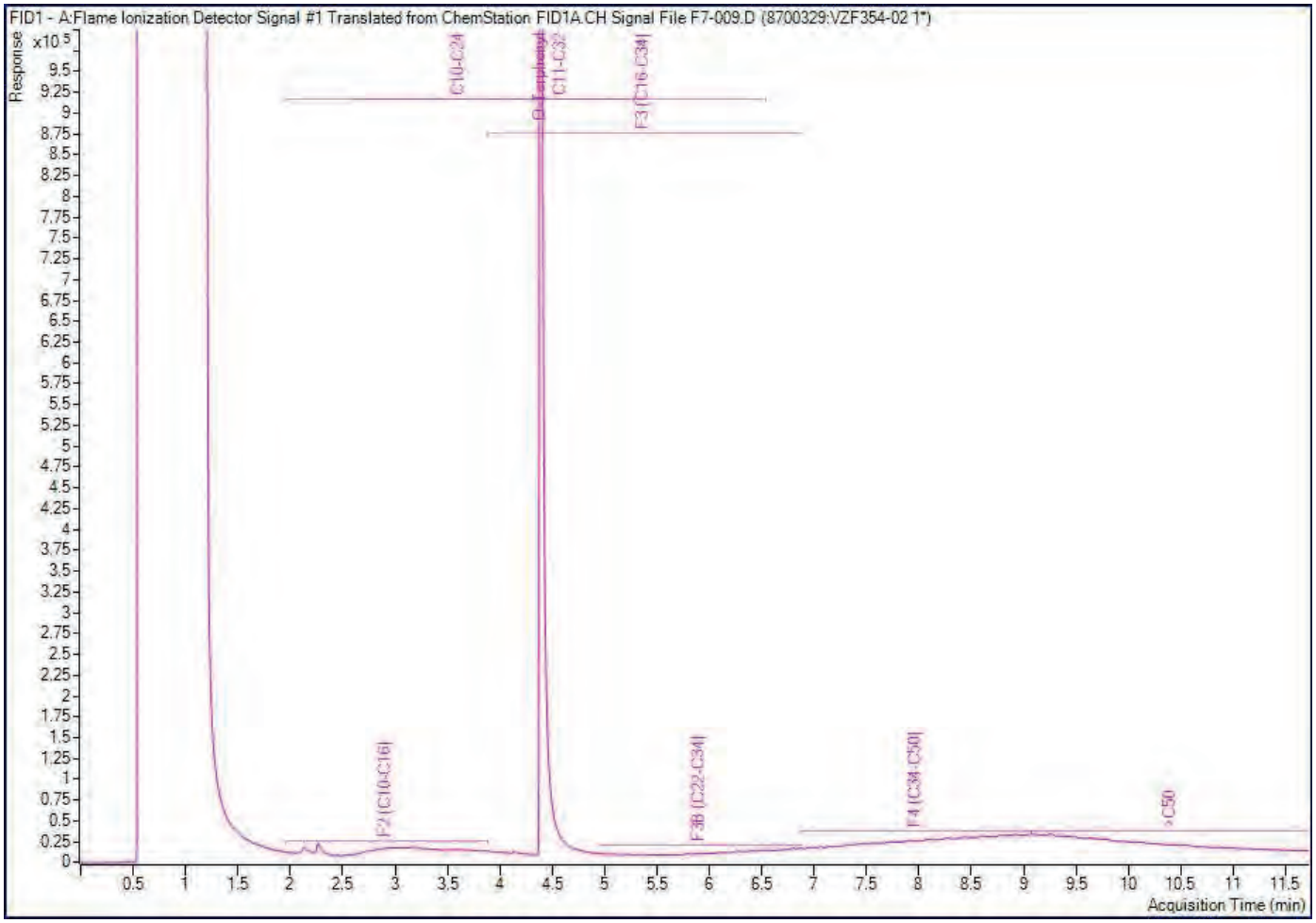


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C3F8013
Report Date: 2023/06/02
Bureau Veritas Sample: VZF354

WSP Canada Inc.
Client Project #: 19124906
Project name: CLC Wateridge
Client ID: VS-TP31-WW2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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

Bureau Veritas Job #: C3F8013
Report Date: 2023/06/02

WSP Canada Inc.
Client Project #: 19124906
Site Location: CLC Wateridge
Sampler Initials: J.L

Exceedance Summary Table – Reg153/04 T1-Soil/Res

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

Your Project #: 19124906
Your C.O.C. #: C#992393-02-01

Attention: Keith Holmes

WSP Canada Inc.
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2024/06/07
Report #: R8181623
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4G8011
Received: 2024/06/04, 16:44

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum (1)	4	N/A	2024/06/06	CAM SOP-00301	EPA 8270D m
Petroleum Hydro. CCME F1 & BTEX in Water (1)	4	N/A	2024/06/06	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (1, 2)	4	2024/06/05	2024/06/06	CAM SOP-00316	CCME PHC-CWS m
PAH Compounds in Water by GC/MS (SIM) (1)	2	2024/06/05	2024/06/05	CAM SOP-00318	EPA 8270E
PAH Compounds in Water by GC/MS (SIM) (1)	2	2024/06/05	2024/06/06	CAM SOP-00318	EPA 8270E

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8

(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your Project #: 19124906
Your C.O.C. #: C#992393-02-01

Attention: Keith Holmes

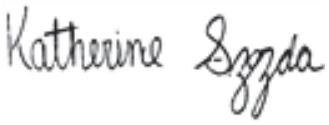
WSP Canada Inc.
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2024/06/07
Report #: R8181623
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4G8011
Received: 2024/06/04, 16:44

Encryption Key



Katherine Szozda
Project Manager
07 Jun 2024 16:14:25

Please direct all questions regarding this Certificate of Analysis to:
Katherine Szozda, Project Manager
Email: Katherine.Szozda@bureauveritas.com
Phone# (613)274-0573 Ext:7063633

==========

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

O.REG 153 PAHS (WATER)

Bureau Veritas ID		ZIX389	ZIX390	ZIX391			ZIX391		
Sampling Date		2024/06/04 12:20	2024/06/04 13:35	2024/06/04 15:10			2024/06/04 15:10		
COC Number		C#992393-02-01	C#992393-02-01	C#992393-02-01			C#992393-02-01		
	UNITS	MW24-06	MW24-07	MW24-13	RDL	QC Batch	MW24-13 Lab-Dup	RDL	QC Batch
Calculated Parameters									
Methylnaphthalene, 2-(1-)	ug/L	<0.071	<0.071	<0.071	0.071	9434859			
Polyaromatic Hydrocarbons									
Acenaphthene	ug/L	<0.050	0.062	<0.050	0.050	9435543	<0.050	0.050	9435543
Acenaphthylene	ug/L	<0.050	<0.050	<0.050	0.050	9435543	<0.050	0.050	9435543
Anthracene	ug/L	<0.050	<0.050	<0.050	0.050	9435543	<0.050	0.050	9435543
Benzo(a)anthracene	ug/L	<0.050	<0.050	<0.050	0.050	9435543	<0.050	0.050	9435543
Benzo(a)pyrene	ug/L	<0.0090	<0.0090	<0.0090	0.0090	9435543	<0.0090	0.0090	9435543
Benzo(b/j)fluoranthene	ug/L	<0.050	<0.050	<0.050	0.050	9435543	<0.050	0.050	9435543
Benzo(g,h,i)perylene	ug/L	<0.050	<0.050	<0.050	0.050	9435543	<0.050	0.050	9435543
Benzo(k)fluoranthene	ug/L	<0.050	<0.050	<0.050	0.050	9435543	<0.050	0.050	9435543
Chrysene	ug/L	<0.050	<0.050	<0.050	0.050	9435543	<0.050	0.050	9435543
Dibenzo(a,h)anthracene	ug/L	<0.050	<0.050	<0.050	0.050	9435543	<0.050	0.050	9435543
Fluoranthene	ug/L	<0.050	<0.050	<0.050	0.050	9435543	<0.050	0.050	9435543
Fluorene	ug/L	<0.050	<0.050	<0.050	0.050	9435543	<0.050	0.050	9435543
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	<0.050	<0.050	0.050	9435543	<0.050	0.050	9435543
1-Methylnaphthalene	ug/L	<0.050	<0.050	<0.050	0.050	9435543	<0.050	0.050	9435543
2-Methylnaphthalene	ug/L	<0.050	<0.050	<0.050	0.050	9435543	<0.050	0.050	9435543
Naphthalene	ug/L	<0.050	<0.050	<0.050	0.050	9435543	<0.050	0.050	9435543
Phenanthrene	ug/L	<0.030	<0.030	<0.030	0.030	9435543	<0.030	0.030	9435543
Pyrene	ug/L	<0.050	<0.050	<0.050	0.050	9435543	<0.050	0.050	9435543
Surrogate Recovery (%)									
D10-Anthracene	%	109	109	107		9435543	107		9435543
D14-Terphenyl (FS)	%	111	110	104		9435543	108		9435543
D8-Acenaphthylene	%	107	105	101		9435543	105		9435543

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

O.REG 153 PAHS (WATER)

Bureau Veritas ID		ZIX392		
Sampling Date		2024/06/04		
COC Number		C#992393-02-01		
	UNITS	DUP-01	RDL	QC Batch
Calculated Parameters				
Methylnaphthalene, 2-(1-)	ug/L	<0.071	0.071	9434859
Polyaromatic Hydrocarbons				
Acenaphthene	ug/L	0.063	0.050	9435543
Acenaphthylene	ug/L	<0.050	0.050	9435543
Anthracene	ug/L	<0.050	0.050	9435543
Benzo(a)anthracene	ug/L	<0.050	0.050	9435543
Benzo(a)pyrene	ug/L	<0.0090	0.0090	9435543
Benzo(b/j)fluoranthene	ug/L	<0.050	0.050	9435543
Benzo(g,h,i)perylene	ug/L	<0.050	0.050	9435543
Benzo(k)fluoranthene	ug/L	<0.050	0.050	9435543
Chrysene	ug/L	<0.050	0.050	9435543
Dibenzo(a,h)anthracene	ug/L	<0.050	0.050	9435543
Fluoranthene	ug/L	<0.050	0.050	9435543
Fluorene	ug/L	<0.050	0.050	9435543
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	0.050	9435543
1-Methylnaphthalene	ug/L	<0.050	0.050	9435543
2-Methylnaphthalene	ug/L	<0.050	0.050	9435543
Naphthalene	ug/L	<0.050	0.050	9435543
Phenanthrene	ug/L	<0.030	0.030	9435543
Pyrene	ug/L	<0.050	0.050	9435543
Surrogate Recovery (%)				
D10-Anthracene	%	106		9435543
D14-Terphenyl (FS)	%	107		9435543
D8-Acenaphthylene	%	103		9435543

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

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

Bureau Veritas ID		ZIX389	ZIX390	ZIX391			ZIX391		
Sampling Date		2024/06/04 12:20	2024/06/04 13:35	2024/06/04 15:10			2024/06/04 15:10		
COC Number		C#992393-02-01	C#992393-02-01	C#992393-02-01			C#992393-02-01		
	UNITS	MW24-06	MW24-07	MW24-13	RDL	QC Batch	MW24-13 Lab-Dup	RDL	QC Batch
BTEX & F1 Hydrocarbons									
Benzene	ug/L	<0.20	<0.20	<0.20	0.20	9437517			
Toluene	ug/L	<0.20	<0.20	<0.20	0.20	9437517			
Ethylbenzene	ug/L	<0.20	<0.20	<0.20	0.20	9437517			
o-Xylene	ug/L	<0.20	<0.20	<0.20	0.20	9437517			
p+m-Xylene	ug/L	<0.40	<0.40	<0.40	0.40	9437517			
Total Xylenes	ug/L	<0.40	<0.40	<0.40	0.40	9437517			
F1 (C6-C10)	ug/L	<25	<25	<25	25	9437517			
F1 (C6-C10) - BTEX	ug/L	<25	<25	<25	25	9437517			
F2-F4 Hydrocarbons									
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	<100	100	9435545	<100	100	9435545
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	<200	200	9435545	<200	200	9435545
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	<200	200	9435545	<200	200	9435545
Reached Baseline at C50	ug/L	Yes	Yes	Yes		9435545	Yes		9435545
Surrogate Recovery (%)									
1,4-Difluorobenzene	%	102	104	108		9437517			
4-Bromofluorobenzene	%	86	87	86		9437517			
D10-o-Xylene	%	92	94	95		9437517			
D4-1,2-Dichloroethane	%	95	98	96		9437517			
o-Terphenyl	%	109	105	107		9435545	106		9435545

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

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

Bureau Veritas ID		ZIX392		
Sampling Date		2024/06/04		
COC Number		C#992393-02-01		
	UNITS	DUP-01	RDL	QC Batch
BTEX & F1 Hydrocarbons				
Benzene	ug/L	<0.20	0.20	9437517
Toluene	ug/L	<0.20	0.20	9437517
Ethylbenzene	ug/L	<0.20	0.20	9437517
o-Xylene	ug/L	<0.20	0.20	9437517
p+m-Xylene	ug/L	<0.40	0.40	9437517
Total Xylenes	ug/L	<0.40	0.40	9437517
F1 (C6-C10)	ug/L	<25	25	9437517
F1 (C6-C10) - BTEX	ug/L	<25	25	9437517
F2-F4 Hydrocarbons				
F2 (C10-C16 Hydrocarbons)	ug/L	<100	100	9435545
F3 (C16-C34 Hydrocarbons)	ug/L	<200	200	9435545
F4 (C34-C50 Hydrocarbons)	ug/L	<200	200	9435545
Reached Baseline at C50	ug/L	Yes		9435545
Surrogate Recovery (%)				
1,4-Difluorobenzene	%	105		9437517
4-Bromofluorobenzene	%	87		9437517
D10-o-Xylene	%	95		9437517
D4-1,2-Dichloroethane	%	96		9437517
o-Terphenyl	%	104		9435545

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

TEST SUMMARY

Bureau Veritas ID: ZIX389 **Collected:** 2024/06/04
Sample ID: MW24-06 **Shipped:**
Matrix: Water **Received:** 2024/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9434859	N/A	2024/06/06	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9437517	N/A	2024/06/06	Ravinder Gaidhu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9435545	2024/06/05	2024/06/06	Mohammed Abdul Nafay Shoeb
PAH Compounds in Water by GC/MS (SIM)	GC/MS	9435543	2024/06/05	2024/06/06	Jonghan Yoon

Bureau Veritas ID: ZIX390 **Collected:** 2024/06/04
Sample ID: MW24-07 **Shipped:**
Matrix: Water **Received:** 2024/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9434859	N/A	2024/06/06	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9437517	N/A	2024/06/06	Ravinder Gaidhu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9435545	2024/06/05	2024/06/06	Mohammed Abdul Nafay Shoeb
PAH Compounds in Water by GC/MS (SIM)	GC/MS	9435543	2024/06/05	2024/06/05	Jonghan Yoon

Bureau Veritas ID: ZIX391 **Collected:** 2024/06/04
Sample ID: MW24-13 **Shipped:**
Matrix: Water **Received:** 2024/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9434859	N/A	2024/06/06	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9437517	N/A	2024/06/06	Ravinder Gaidhu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9435545	2024/06/05	2024/06/06	Mohammed Abdul Nafay Shoeb
PAH Compounds in Water by GC/MS (SIM)	GC/MS	9435543	2024/06/05	2024/06/05	Jonghan Yoon

Bureau Veritas ID: ZIX391 Dup **Collected:** 2024/06/04
Sample ID: MW24-13 **Shipped:**
Matrix: Water **Received:** 2024/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9435545	2024/06/05	2024/06/06	Mohammed Abdul Nafay Shoeb
PAH Compounds in Water by GC/MS (SIM)	GC/MS	9435543	2024/06/05	2024/06/05	Jonghan Yoon

Bureau Veritas ID: ZIX392 **Collected:** 2024/06/04
Sample ID: DUP-01 **Shipped:**
Matrix: Water **Received:** 2024/06/04

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9434859	N/A	2024/06/06	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9437517	N/A	2024/06/06	Ravinder Gaidhu
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9435545	2024/06/05	2024/06/06	Mohammed Abdul Nafay Shoeb
PAH Compounds in Water by GC/MS (SIM)	GC/MS	9435543	2024/06/05	2024/06/06	Jonghan Yoon

GENERAL COMMENTS

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

Package 1	22.3°C

Results relate only to the items tested.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9435543	D10-Anthracene	2024/06/05	106	50 - 130	107	50 - 130	107	%		
9435543	D14-Terphenyl (FS)	2024/06/05	105	50 - 130	107	50 - 130	114	%		
9435543	D8-Acenaphthylene	2024/06/05	99	50 - 130	100	50 - 130	103	%		
9435545	o-Terphenyl	2024/06/05	102	60 - 130	104	60 - 130	104	%		
9437517	1,4-Difluorobenzene	2024/06/06	94	70 - 130	97	70 - 130	106	%		
9437517	4-Bromofluorobenzene	2024/06/06	92	70 - 130	92	70 - 130	79	%		
9437517	D10-o-Xylene	2024/06/06	95	70 - 130	86	70 - 130	93	%		
9437517	D4-1,2-Dichloroethane	2024/06/06	90	70 - 130	93	70 - 130	97	%		
9435543	1-Methylnaphthalene	2024/06/05	111	50 - 130	107	50 - 130	<0.050	ug/L	NC	30
9435543	2-Methylnaphthalene	2024/06/05	109	50 - 130	104	50 - 130	<0.050	ug/L	NC	30
9435543	Acenaphthene	2024/06/05	114	50 - 130	112	50 - 130	<0.050	ug/L	NC	30
9435543	Acenaphthylene	2024/06/05	113	50 - 130	111	50 - 130	<0.050	ug/L	NC	30
9435543	Anthracene	2024/06/05	118	50 - 130	115	50 - 130	<0.050	ug/L	NC	30
9435543	Benzo(a)anthracene	2024/06/05	107	50 - 130	106	50 - 130	<0.050	ug/L	NC	30
9435543	Benzo(a)pyrene	2024/06/05	111	50 - 130	111	50 - 130	<0.0090	ug/L	NC	30
9435543	Benzo(b/j)fluoranthene	2024/06/05	111	50 - 130	108	50 - 130	<0.050	ug/L	NC	30
9435543	Benzo(g,h,i)perylene	2024/06/05	108	50 - 130	109	50 - 130	<0.050	ug/L	NC	30
9435543	Benzo(k)fluoranthene	2024/06/05	106	50 - 130	114	50 - 130	<0.050	ug/L	NC	30
9435543	Chrysene	2024/06/05	112	50 - 130	112	50 - 130	<0.050	ug/L	NC	30
9435543	Dibenzo(a,h)anthracene	2024/06/05	106	50 - 130	106	50 - 130	<0.050	ug/L	NC	30
9435543	Fluoranthene	2024/06/05	117	50 - 130	115	50 - 130	<0.050	ug/L	NC	30
9435543	Fluorene	2024/06/05	112	50 - 130	109	50 - 130	<0.050	ug/L	NC	30
9435543	Indeno(1,2,3-cd)pyrene	2024/06/05	112	50 - 130	112	50 - 130	<0.050	ug/L	NC	30
9435543	Naphthalene	2024/06/05	106	50 - 130	102	50 - 130	<0.050	ug/L	NC	30
9435543	Phenanthrene	2024/06/05	120	50 - 130	117	50 - 130	<0.030	ug/L	NC	30
9435543	Pyrene	2024/06/05	120	50 - 130	118	50 - 130	<0.050	ug/L	NC	30
9435545	F2 (C10-C16 Hydrocarbons)	2024/06/06	109	60 - 140	108	60 - 140	<100	ug/L	NC	30
9435545	F3 (C16-C34 Hydrocarbons)	2024/06/06	116	60 - 140	114	60 - 140	<200	ug/L	NC	30
9435545	F4 (C34-C50 Hydrocarbons)	2024/06/06	105	60 - 140	103	60 - 140	<200	ug/L	NC	30
9437517	Benzene	2024/06/06	82	50 - 140	86	50 - 140	<0.20	ug/L	NC	30
9437517	Ethylbenzene	2024/06/06	94	50 - 140	98	50 - 140	<0.20	ug/L	NC	30
9437517	F1 (C6-C10) - BTEX	2024/06/06					<25	ug/L	NC	30

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9437517	F1 (C6-C10)	2024/06/06	98	60 - 140	99	60 - 140	<25	ug/L	NC	30
9437517	o-Xylene	2024/06/06	88	50 - 140	90	50 - 140	<0.20	ug/L	NC	30
9437517	p+m-Xylene	2024/06/06	88	50 - 140	90	50 - 140	<0.40	ug/L	NC	30
9437517	Toluene	2024/06/06	84	50 - 140	88	50 - 140	<0.20	ug/L	NC	30
9437517	Total Xylenes	2024/06/06					<0.40	ug/L	NC	30

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

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

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

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

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

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

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

Your Project #: 19124906
Your C.O.C. #: C#992393-01-01

Attention: Keith Holmes

WSP Canada Inc.
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2024/06/11
Report #: R8186353
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4H0350
Received: 2024/06/05, 16:24

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum (1)	4	N/A	2024/06/10	CAM SOP-00301	EPA 8270D m
Petroleum Hydro. CCME F1 & BTEX in Water (1)	4	N/A	2024/06/09	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (1, 2)	4	2024/06/08	2024/06/09	CAM SOP-00316	CCME PHC-CWS m
PAH Compounds in Water by GC/MS (SIM) (1)	4	2024/06/08	2024/06/08	CAM SOP-00318	EPA 8270E

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your Project #: 19124906
Your C.O.C. #: C#992393-01-01

Attention: Keith Holmes

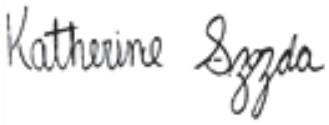
WSP Canada Inc.
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2024/06/11
Report #: R8186353
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4H0350
Received: 2024/06/05, 16:24

Encryption Key



Katherine Szozda
Project Manager
11 Jun 2024 14:13:40

Please direct all questions regarding this Certificate of Analysis to:
Katherine Szozda, Project Manager
Email: Katherine.Szozda@bureauveritas.com
Phone# (613)274-0573 Ext:7063633

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O.REG 153 PAHS (WATER)

Bureau Veritas ID		ZJI817	ZJI818			ZJI818		
Sampling Date		2024/06/05 12:10	2024/06/05 15:15			2024/06/05 15:15		
COC Number		C#992393-01-01	C#992393-01-01			C#992393-01-01		
	UNITS	MW24-04	MW24-08	RDL	QC Batch	MW24-08 Lab-Dup	RDL	QC Batch
Calculated Parameters								
Methylnaphthalene, 2-(1-)	ug/L	<0.071	<0.071	0.071	9437594			
Polyaromatic Hydrocarbons								
Acenaphthene	ug/L	<0.050	0.19	0.050	9442790	0.17	0.050	9442790
Acenaphthylene	ug/L	<0.050	<0.050	0.050	9442790	<0.050	0.050	9442790
Anthracene	ug/L	<0.050	<0.050	0.050	9442790	<0.050	0.050	9442790
Benzo(a)anthracene	ug/L	<0.050	<0.050	0.050	9442790	<0.050	0.050	9442790
Benzo(a)pyrene	ug/L	<0.0090	<0.0090	0.0090	9442790	<0.0090	0.0090	9442790
Benzo(b/j)fluoranthene	ug/L	<0.050	<0.050	0.050	9442790	<0.050	0.050	9442790
Benzo(g,h,i)perylene	ug/L	<0.050	<0.050	0.050	9442790	<0.050	0.050	9442790
Benzo(k)fluoranthene	ug/L	<0.050	<0.050	0.050	9442790	<0.050	0.050	9442790
Chrysene	ug/L	<0.050	<0.050	0.050	9442790	<0.050	0.050	9442790
Dibenzo(a,h)anthracene	ug/L	<0.050	<0.050	0.050	9442790	<0.050	0.050	9442790
Fluoranthene	ug/L	<0.050	<0.050	0.050	9442790	<0.050	0.050	9442790
Fluorene	ug/L	<0.050	<0.050	0.050	9442790	<0.050	0.050	9442790
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	<0.050	0.050	9442790	<0.050	0.050	9442790
1-Methylnaphthalene	ug/L	<0.050	<0.050	0.050	9442790	<0.050	0.050	9442790
2-Methylnaphthalene	ug/L	<0.050	<0.050	0.050	9442790	<0.050	0.050	9442790
Naphthalene	ug/L	<0.050	0.058	0.050	9442790	0.054	0.050	9442790
Phenanthrene	ug/L	<0.030	<0.030	0.030	9442790	<0.030	0.030	9442790
Pyrene	ug/L	<0.050	<0.050	0.050	9442790	<0.050	0.050	9442790
Surrogate Recovery (%)								
D10-Anthracene	%	101	100		9442790	100		9442790
D14-Terphenyl (FS)	%	92	100		9442790	96		9442790
D8-Acenaphthylene	%	97	96		9442790	95		9442790

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

O.REG 153 PAHS (WATER)

Bureau Veritas ID		ZJI819	ZJI820		
Sampling Date		2024/06/05 13:35	2024/06/05 09:55		
COC Number		C#992393-01-01	C#992393-01-01		
	UNITS	MW24-12	MW24-15	RDL	QC Batch
Calculated Parameters					
Methylnaphthalene, 2-(1-)	ug/L	<0.071	<0.071	0.071	9437594
Polyaromatic Hydrocarbons					
Acenaphthene	ug/L	<0.050	<0.050	0.050	9442790
Acenaphthylene	ug/L	<0.050	<0.050	0.050	9442790
Anthracene	ug/L	<0.050	<0.050	0.050	9442790
Benzo(a)anthracene	ug/L	<0.050	<0.050	0.050	9442790
Benzo(a)pyrene	ug/L	<0.0090	<0.0090	0.0090	9442790
Benzo(b/j)fluoranthene	ug/L	<0.050	<0.050	0.050	9442790
Benzo(g,h,i)perylene	ug/L	<0.050	<0.050	0.050	9442790
Benzo(k)fluoranthene	ug/L	<0.050	<0.050	0.050	9442790
Chrysene	ug/L	<0.050	<0.050	0.050	9442790
Dibenzo(a,h)anthracene	ug/L	<0.050	<0.050	0.050	9442790
Fluoranthene	ug/L	<0.050	<0.050	0.050	9442790
Fluorene	ug/L	<0.050	<0.050	0.050	9442790
Indeno(1,2,3-cd)pyrene	ug/L	<0.050	<0.050	0.050	9442790
1-Methylnaphthalene	ug/L	<0.050	<0.050	0.050	9442790
2-Methylnaphthalene	ug/L	<0.050	<0.050	0.050	9442790
Naphthalene	ug/L	<0.050	<0.050	0.050	9442790
Phenanthrene	ug/L	<0.030	<0.030	0.030	9442790
Pyrene	ug/L	<0.050	<0.050	0.050	9442790
Surrogate Recovery (%)					
D10-Anthracene	%	101	96		9442790
D14-Terphenyl (FS)	%	90	100		9442790
D8-Acenaphthylene	%	98	97		9442790

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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

Bureau Veritas ID		ZJI817	ZJI818			ZJI818		
Sampling Date		2024/06/05 12:10	2024/06/05 15:15			2024/06/05 15:15		
COC Number		C#992393-01-01	C#992393-01-01			C#992393-01-01		
	UNITS	MW24-04	MW24-08	RDL	QC Batch	MW24-08 Lab-Dup	RDL	QC Batch
BTEX & F1 Hydrocarbons								
Benzene	ug/L	<0.20	<0.20	0.20	9443222			
Toluene	ug/L	<0.20	<0.20	0.20	9443222			
Ethylbenzene	ug/L	<0.20	<0.20	0.20	9443222			
o-Xylene	ug/L	<0.20	<0.20	0.20	9443222			
p+m-Xylene	ug/L	<0.40	<0.40	0.40	9443222			
Total Xylenes	ug/L	<0.40	<0.40	0.40	9443222			
F1 (C6-C10)	ug/L	<25	<25	25	9443222			
F1 (C6-C10) - BTEX	ug/L	<25	<25	25	9443222			
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/L	<100	<100	100	9442791	<100	100	9442791
F3 (C16-C34 Hydrocarbons)	ug/L	<200	<200	200	9442791	<200	200	9442791
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	200	9442791	<200	200	9442791
Reached Baseline at C50	ug/L	Yes	Yes		9442791	Yes		9442791
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	109	109		9443222			
4-Bromofluorobenzene	%	86	98		9443222			
D10-o-Xylene	%	113	115		9443222			
D4-1,2-Dichloroethane	%	105	101		9443222			
o-Terphenyl	%	105	102		9442791	103		9442791

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

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

Bureau Veritas ID		ZJI819	ZJI820		
Sampling Date		2024/06/05 13:35	2024/06/05 09:55		
COC Number		C#992393-01-01	C#992393-01-01		
	UNITS	MW24-12	MW24-15	RDL	QC Batch
BTEX & F1 Hydrocarbons					
Benzene	ug/L	<0.20	<0.20	0.20	9443222
Toluene	ug/L	<0.20	<0.20	0.20	9443222
Ethylbenzene	ug/L	<0.20	<0.20	0.20	9443222
o-Xylene	ug/L	<0.20	<0.20	0.20	9443222
p+m-Xylene	ug/L	<0.40	<0.40	0.40	9443222
Total Xylenes	ug/L	<0.40	<0.40	0.40	9443222
F1 (C6-C10)	ug/L	<25	<25	25	9443222
F1 (C6-C10) - BTEX	ug/L	<25	<25	25	9443222
F2-F4 Hydrocarbons					
F2 (C10-C16 Hydrocarbons)	ug/L	710	<100	100	9442791
F3 (C16-C34 Hydrocarbons)	ug/L	660	<200	200	9442791
F4 (C34-C50 Hydrocarbons)	ug/L	<200	<200	200	9442791
Reached Baseline at C50	ug/L	Yes	Yes		9442791
Surrogate Recovery (%)					
1,4-Difluorobenzene	%	109	107		9443222
4-Bromofluorobenzene	%	92	92		9443222
D10-o-Xylene	%	114	114		9443222
D4-1,2-Dichloroethane	%	102	104		9443222
o-Terphenyl	%	101	101		9442791

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

TEST SUMMARY

Bureau Veritas ID: ZJI817 **Collected:** 2024/06/05
Sample ID: MW24-04 **Shipped:**
Matrix: Water **Received:** 2024/06/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9437594	N/A	2024/06/10	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9443222	N/A	2024/06/09	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9442791	2024/06/08	2024/06/09	Mohammed Abdul Nafay Shoeb
PAH Compounds in Water by GC/MS (SIM)	GC/MS	9442790	2024/06/08	2024/06/08	Jonghan Yoon

Bureau Veritas ID: ZJI818 **Collected:** 2024/06/05
Sample ID: MW24-08 **Shipped:**
Matrix: Water **Received:** 2024/06/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9437594	N/A	2024/06/10	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9443222	N/A	2024/06/09	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9442791	2024/06/08	2024/06/09	Mohammed Abdul Nafay Shoeb
PAH Compounds in Water by GC/MS (SIM)	GC/MS	9442790	2024/06/08	2024/06/08	Jonghan Yoon

Bureau Veritas ID: ZJI818 Dup **Collected:** 2024/06/05
Sample ID: MW24-08 **Shipped:**
Matrix: Water **Received:** 2024/06/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9442791	2024/06/08	2024/06/09	Mohammed Abdul Nafay Shoeb
PAH Compounds in Water by GC/MS (SIM)	GC/MS	9442790	2024/06/08	2024/06/08	Jonghan Yoon

Bureau Veritas ID: ZJI819 **Collected:** 2024/06/05
Sample ID: MW24-12 **Shipped:**
Matrix: Water **Received:** 2024/06/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9437594	N/A	2024/06/10	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9443222	N/A	2024/06/09	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9442791	2024/06/08	2024/06/09	Mohammed Abdul Nafay Shoeb
PAH Compounds in Water by GC/MS (SIM)	GC/MS	9442790	2024/06/08	2024/06/08	Jonghan Yoon

Bureau Veritas ID: ZJI820 **Collected:** 2024/06/05
Sample ID: MW24-15 **Shipped:**
Matrix: Water **Received:** 2024/06/05

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	9437594	N/A	2024/06/10	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9443222	N/A	2024/06/09	Lincoln Ramdahin
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9442791	2024/06/08	2024/06/09	Mohammed Abdul Nafay Shoeb
PAH Compounds in Water by GC/MS (SIM)	GC/MS	9442790	2024/06/08	2024/06/08	Jonghan Yoon

GENERAL COMMENTS

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

Package 1	12.3°C

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9442790	D10-Anthracene	2024/06/08	110	50 - 130	104	50 - 130	102	%		
9442790	D14-Terphenyl (FS)	2024/06/08	108	50 - 130	106	50 - 130	105	%		
9442790	D8-Acenaphthylene	2024/06/08	100	50 - 130	100	50 - 130	96	%		
9442791	o-Terphenyl	2024/06/09	108	60 - 130	105	60 - 130	104	%		
9443222	1,4-Difluorobenzene	2024/06/09	102	70 - 130	100	70 - 130	108	%		
9443222	4-Bromofluorobenzene	2024/06/09	100	70 - 130	101	70 - 130	91	%		
9443222	D10-o-Xylene	2024/06/09	117	70 - 130	106	70 - 130	113	%		
9443222	D4-1,2-Dichloroethane	2024/06/09	96	70 - 130	98	70 - 130	101	%		
9442790	1-Methylnaphthalene	2024/06/08	97	50 - 130	87	50 - 130	<0.050	ug/L	NC	30
9442790	2-Methylnaphthalene	2024/06/08	95	50 - 130	84	50 - 130	<0.050	ug/L	NC	30
9442790	Acenaphthene	2024/06/08	105	50 - 130	99	50 - 130	<0.050	ug/L	11	30
9442790	Acenaphthylene	2024/06/08	103	50 - 130	98	50 - 130	<0.050	ug/L	NC	30
9442790	Anthracene	2024/06/08	107	50 - 130	106	50 - 130	<0.050	ug/L	NC	30
9442790	Benzo(a)anthracene	2024/06/08	104	50 - 130	101	50 - 130	<0.050	ug/L	NC	30
9442790	Benzo(a)pyrene	2024/06/08	107	50 - 130	105	50 - 130	<0.0090	ug/L	NC	30
9442790	Benzo(b/j)fluoranthene	2024/06/08	105	50 - 130	102	50 - 130	<0.050	ug/L	NC	30
9442790	Benzo(g,h,i)perylene	2024/06/08	98	50 - 130	99	50 - 130	<0.050	ug/L	NC	30
9442790	Benzo(k)fluoranthene	2024/06/08	102	50 - 130	107	50 - 130	<0.050	ug/L	NC	30
9442790	Chrysene	2024/06/08	109	50 - 130	107	50 - 130	<0.050	ug/L	NC	30
9442790	Dibenzo(a,h)anthracene	2024/06/08	96	50 - 130	95	50 - 130	<0.050	ug/L	NC	30
9442790	Fluoranthene	2024/06/08	114	50 - 130	109	50 - 130	<0.050	ug/L	NC	30
9442790	Fluorene	2024/06/08	102	50 - 130	98	50 - 130	<0.050	ug/L	NC	30
9442790	Indeno(1,2,3-cd)pyrene	2024/06/08	102	50 - 130	103	50 - 130	<0.050	ug/L	NC	30
9442790	Naphthalene	2024/06/08	93	50 - 130	83	50 - 130	<0.050	ug/L	6.4	30
9442790	Phenanthrene	2024/06/08	110	50 - 130	107	50 - 130	<0.030	ug/L	NC	30
9442790	Pyrene	2024/06/08	117	50 - 130	111	50 - 130	<0.050	ug/L	NC	30
9442791	F2 (C10-C16 Hydrocarbons)	2024/06/09	104	60 - 140	101	60 - 140	<100	ug/L	NC	30
9442791	F3 (C16-C34 Hydrocarbons)	2024/06/09	111	60 - 140	109	60 - 140	<200	ug/L	NC	30
9442791	F4 (C34-C50 Hydrocarbons)	2024/06/09	105	60 - 140	100	60 - 140	<200	ug/L	NC	30
9443222	Benzene	2024/06/09	97	50 - 140	93	50 - 140	<0.20	ug/L	NC	30
9443222	Ethylbenzene	2024/06/09	107	50 - 140	99	50 - 140	<0.20	ug/L	NC	30
9443222	F1 (C6-C10) - BTEX	2024/06/09					<25	ug/L	NC	30

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9443222	F1 (C6-C10)	2024/06/09	103	60 - 140	97	60 - 140	<25	ug/L	0	30
9443222	o-Xylene	2024/06/09	103	50 - 140	97	50 - 140	<0.20	ug/L	NC	30
9443222	p+m-Xylene	2024/06/09	99	50 - 140	93	50 - 140	<0.40	ug/L	NC	30
9443222	Toluene	2024/06/09	94	50 - 140	89	50 - 140	<0.20	ug/L	7.2	30
9443222	Total Xylenes	2024/06/09					<0.40	ug/L	NC	30

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

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

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

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

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

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

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

Your Project #: 19124906
Your C.O.C. #: 992393-01-01

Attention: Keith Holmes

WSP Canada Inc.
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2024/06/18
Report #: R8196862
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4I3695
Received: 2024/06/17, 15:07

Sample Matrix: Water
Samples Received: 1

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Petroleum Hydro. CCME F1 & BTEX in Water (1)	1	N/A	2024/06/18	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Water (1, 2)	1	2024/06/18	2024/06/18	CAM SOP-00316	CCME PHC-CWS m

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8
(2) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your Project #: 19124906
Your C.O.C. #: 992393-01-01

Attention: Keith Holmes

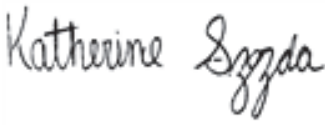
WSP Canada Inc.
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2024/06/18
Report #: R8196862
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C4I3695
Received: 2024/06/17, 15:07

Encryption Key



Katherine Szozda
Project Manager
18 Jun 2024 16:55:04

Please direct all questions regarding this Certificate of Analysis to:
Katherine Szozda, Project Manager
Email: Katherine.Szozda@bureauveritas.com
Phone# (613)274-0573 Ext:7063633

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

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

Bureau Veritas ID		ZME884			ZME884		
Sampling Date		2024/06/17 10:30			2024/06/17 10:30		
COC Number		992393-01-01			992393-01-01		
	UNITS	MW24-12	RDL	QC Batch	MW24-12 Lab-Dup	RDL	QC Batch
BTEX & F1 Hydrocarbons							
Benzene	ug/L	<0.20	0.20	9462238	<0.20	0.20	9462238
Toluene	ug/L	<0.20	0.20	9462238	<0.20	0.20	9462238
Ethylbenzene	ug/L	<0.20	0.20	9462238	<0.20	0.20	9462238
o-Xylene	ug/L	<0.20	0.20	9462238	<0.20	0.20	9462238
p+m-Xylene	ug/L	<0.40	0.40	9462238	<0.40	0.40	9462238
Total Xylenes	ug/L	<0.40	0.40	9462238	<0.40	0.40	9462238
F1 (C6-C10)	ug/L	<25	25	9462238	<25	25	9462238
F1 (C6-C10) - BTEX	ug/L	<25	25	9462238	<25	25	9462238
F2-F4 Hydrocarbons							
F2 (C10-C16 Hydrocarbons)	ug/L	<100	100	9461983			
F3 (C16-C34 Hydrocarbons)	ug/L	<200	200	9461983			
F4 (C34-C50 Hydrocarbons)	ug/L	<200	200	9461983			
Reached Baseline at C50	ug/L	Yes		9461983			
Surrogate Recovery (%)							
1,4-Difluorobenzene	%	104		9462238	105		9462238
4-Bromofluorobenzene	%	96		9462238	97		9462238
D10-o-Xylene	%	93		9462238	95		9462238
D4-1,2-Dichloroethane	%	99		9462238	98		9462238
o-Terphenyl	%	98		9461983			

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

TEST SUMMARY

Bureau Veritas ID: ZME884
Sample ID: MW24-12
Matrix: Water

Collected: 2024/06/17
Shipped:
Received: 2024/06/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9462238	N/A	2024/06/18	Anca Ganea
Petroleum Hydrocarbons F2-F4 in Water	GC/FID	9461983	2024/06/18	2024/06/18	(Kent) Maolin Li

Bureau Veritas ID: ZME884 Dup
Sample ID: MW24-12
Matrix: Water

Collected: 2024/06/17
Shipped:
Received: 2024/06/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Water	HSGC/MSFD	9462238	N/A	2024/06/18	Anca Ganea

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

GENERAL COMMENTS

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

Package 1	13.3°C

Results relate only to the items tested.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
9461983	o-Terphenyl	2024/06/18			97	60 - 130	100	%		
9462238	1,4-Difluorobenzene	2024/06/18	104	70 - 130	103	70 - 130	105	%		
9462238	4-Bromofluorobenzene	2024/06/18	97	70 - 130	97	70 - 130	97	%		
9462238	D10-o-Xylene	2024/06/18	98	70 - 130	96	70 - 130	92	%		
9462238	D4-1,2-Dichloroethane	2024/06/18	97	70 - 130	99	70 - 130	100	%		
9461983	F2 (C10-C16 Hydrocarbons)	2024/06/18			91	60 - 140	<100	ug/L	0.85	30
9461983	F3 (C16-C34 Hydrocarbons)	2024/06/18			100	60 - 140	<200	ug/L	1.7	30
9461983	F4 (C34-C50 Hydrocarbons)	2024/06/18			87	60 - 140	<200	ug/L	2.0	30
9462238	Benzene	2024/06/18	104	50 - 140	102	50 - 140	<0.20	ug/L	NC	30
9462238	Ethylbenzene	2024/06/18	110	50 - 140	108	50 - 140	<0.20	ug/L	NC	30
9462238	F1 (C6-C10) - BTEX	2024/06/18					<25	ug/L	NC	30
9462238	F1 (C6-C10)	2024/06/18	109	60 - 140	109	60 - 140	<25	ug/L	NC	30
9462238	o-Xylene	2024/06/18	106	50 - 140	104	50 - 140	<0.20	ug/L	NC	30
9462238	p+m-Xylene	2024/06/18	103	50 - 140	101	50 - 140	<0.40	ug/L	NC	30
9462238	Toluene	2024/06/18	96	50 - 140	95	50 - 140	<0.20	ug/L	NC	30
9462238	Total Xylenes	2024/06/18					<0.40	ug/L	NC	30

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

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

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

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

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

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

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Cristina Carriere

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

Your Project #: 19124906
Site Location: CLC WATERIDGE REMEDIATION
Your C.O.C. #: 901449-19-01

Attention: Tony Lyon

WSP Canada Inc.
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2023/03/15
Report #: R7547485
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C372370
Received: 2023/03/14, 16:33

Sample Matrix: Soil
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum (1)	3	N/A	2023/03/15	CAM SOP-00301	EPA 8270D m
Petroleum Hydro. CCME F1 & BTEX in Soil (1, 2)	3	N/A	2023/03/15	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 3)	3	2023/03/15	2023/03/15	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS (1)	3	2023/03/15	2023/03/15	CAM SOP-00447	EPA 6020B m
Moisture (1)	3	N/A	2023/03/15	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM) (1)	3	2023/03/15	2023/03/15	CAM SOP-00318	EPA 8270E

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8
(2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.
(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your Project #: 19124906
Site Location: CLC WATERIDGE REMEDIATION
Your C.O.C. #: 901449-19-01

Attention: Tony Lyon

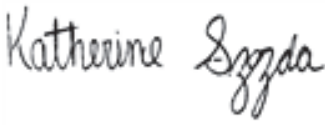
WSP Canada Inc.
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2023/03/15
Report #: R7547485
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C372370
Received: 2023/03/14, 16:33

Encryption Key



Katherine Szozda
Project Manager
15 Mar 2023 17:49:21

Please direct all questions regarding this Certificate of Analysis to:
Katherine Szozda, Project Manager
Email: Katherine.Szozda@bureauveritas.com
Phone# (613)274-0573 Ext:7063633

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Bureau Veritas Job #: C372370
Report Date: 2023/03/15

WSP Canada Inc.
Client Project #: 19124906
Site Location: CLC WATERIDGE REMEDIATION
Sampler Initials: JL

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID			VHD694	VHD695	VHD696	VHD696		
Sampling Date			2023/03/14 15:20	2023/03/14 15:30	2023/03/14 15:30	2023/03/14 15:30		
COC Number			901449-19-01	901449-19-01	901449-19-01	901449-19-01		
	UNITS	Criteria	TP52-WW2	TP52-EW2	TP52-DUP1	TP52-DUP1 Lab-Dup	RDL	QC Batch
Metals								
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	<0.20	<0.20	<0.20	0.20	8553761
Acid Extractable Arsenic (As)	ug/g	18	<1.0	<1.0	<1.0	<1.0	1.0	8553761
Acid Extractable Barium (Ba)	ug/g	220	61	82	64	64	0.50	8553761
Acid Extractable Beryllium (Be)	ug/g	2.5	0.34	0.36	0.30	0.33	0.20	8553761
Acid Extractable Boron (B)	ug/g	36	<5.0	<5.0	<5.0	<5.0	5.0	8553761
Acid Extractable Cadmium (Cd)	ug/g	1.2	<0.10	<0.10	<0.10	<0.10	0.10	8553761
Acid Extractable Chromium (Cr)	ug/g	70	17	18	15	16	1.0	8553761
Acid Extractable Cobalt (Co)	ug/g	21	4.7	5.8	4.9	5.0	0.10	8553761
Acid Extractable Copper (Cu)	ug/g	92	7.9	12	13	13	0.50	8553761
Acid Extractable Lead (Pb)	ug/g	120	3.6	4.2	3.5	3.3	1.0	8553761
Acid Extractable Molybdenum (Mo	ug/g	2	<0.50	<0.50	<0.50	<0.50	0.50	8553761
Acid Extractable Nickel (Ni)	ug/g	82	8.9	9.8	9.5	9.3	0.50	8553761
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	<0.50	<0.50	<0.50	0.50	8553761
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	<0.20	<0.20	<0.20	0.20	8553761
Acid Extractable Thallium (Tl)	ug/g	1	0.058	0.080	0.10	0.082	0.050	8553761
Acid Extractable Uranium (U)	ug/g	2.5	0.41	0.35	0.36	0.36	0.050	8553761
Acid Extractable Vanadium (V)	ug/g	86	26	26	25	24	5.0	8553761
Acid Extractable Zinc (Zn)	ug/g	290	17	17	18	17	5.0	8553761

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			VHD694			VHD694			VHD695		
Sampling Date			2023/03/14 15:20			2023/03/14 15:20			2023/03/14 15:30		
COC Number			901449-19-01			901449-19-01			901449-19-01		
	UNITS	Criteria	TP52-WW2	RDL	QC Batch	TP52-WW2 Lab-Dup	RDL	QC Batch	TP52-EW2	RDL	QC Batch
Calculated Parameters											
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	0.0071	8553123				<0.0071	0.0071	8553123
Polyaromatic Hydrocarbons											
Acenaphthene	ug/g	0.072	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
Acenaphthylene	ug/g	0.093	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
Anthracene	ug/g	0.16	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
Benzo(a)anthracene	ug/g	0.36	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
Benzo(a)pyrene	ug/g	0.3	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
Benzo(b/j)fluoranthene	ug/g	0.47	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
Benzo(g,h,i)perylene	ug/g	0.68	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
Benzo(k)fluoranthene	ug/g	0.48	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
Chrysene	ug/g	2.8	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
Fluoranthene	ug/g	0.56	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
Fluorene	ug/g	0.12	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
Indeno(1,2,3-cd)pyrene	ug/g	0.23	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
1-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
2-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
Naphthalene	ug/g	0.09	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
Phenanthrene	ug/g	0.69	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
Pyrene	ug/g	1	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326	<0.0050	0.0050	8553326
Surrogate Recovery (%)											
D10-Anthracene	%	-	104		8553326	99		8553326	100		8553326
D14-Terphenyl (FS)	%	-	97		8553326	92		8553326	93		8553326
D8-Acenaphthylene	%	-	86		8553326	81		8553326	82		8553326

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			VHD696		
Sampling Date			2023/03/14 15:30		
COC Number			901449-19-01		
	UNITS	Criteria	TP52-DUP1	RDL	QC Batch
Calculated Parameters					
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	0.0071	8553123
Polyaromatic Hydrocarbons					
Acenaphthene	ug/g	0.072	<0.0050	0.0050	8553326
Acenaphthylene	ug/g	0.093	<0.0050	0.0050	8553326
Anthracene	ug/g	0.16	<0.0050	0.0050	8553326
Benzo(a)anthracene	ug/g	0.36	<0.0050	0.0050	8553326
Benzo(a)pyrene	ug/g	0.3	<0.0050	0.0050	8553326
Benzo(b/j)fluoranthene	ug/g	0.47	<0.0050	0.0050	8553326
Benzo(g,h,i)perylene	ug/g	0.68	<0.0050	0.0050	8553326
Benzo(k)fluoranthene	ug/g	0.48	<0.0050	0.0050	8553326
Chrysene	ug/g	2.8	<0.0050	0.0050	8553326
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	0.0050	8553326
Fluoranthene	ug/g	0.56	<0.0050	0.0050	8553326
Fluorene	ug/g	0.12	<0.0050	0.0050	8553326
Indeno(1,2,3-cd)pyrene	ug/g	0.23	<0.0050	0.0050	8553326
1-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	8553326
2-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	8553326
Naphthalene	ug/g	0.09	<0.0050	0.0050	8553326
Phenanthrene	ug/g	0.69	<0.0050	0.0050	8553326
Pyrene	ug/g	1	<0.0050	0.0050	8553326
Surrogate Recovery (%)					
D10-Anthracene	%	-	100		8553326
D14-Terphenyl (FS)	%	-	93		8553326
D8-Acenaphthylene	%	-	82		8553326

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

Bureau Veritas Job #: C372370
Report Date: 2023/03/15

WSP Canada Inc.
Client Project #: 19124906
Site Location: CLC WATERIDGE REMEDIATION
Sampler Initials: JL

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

Bureau Veritas ID			VHD694	VHD694	VHD695	VHD696		
Sampling Date			2023/03/14 15:20	2023/03/14 15:20	2023/03/14 15:30	2023/03/14 15:30		
COC Number			901449-19-01	901449-19-01	901449-19-01	901449-19-01		
	UNITS	Criteria	TP52-WW2	TP52-WW2 Lab-Dup	TP52-EW2	TP52-DUP1	RDL	QC Batch
BTEX & F1 Hydrocarbons								
Benzene	ug/g	0.02	<0.020	<0.020	<0.020	<0.020	0.020	8553339
Toluene	ug/g	0.2	<0.020	<0.020	<0.020	<0.020	0.020	8553339
Ethylbenzene	ug/g	0.05	<0.020	<0.020	<0.020	<0.020	0.020	8553339
o-Xylene	ug/g	-	<0.020	<0.020	<0.020	<0.020	0.020	8553339
p+m-Xylene	ug/g	-	<0.040	<0.040	<0.040	<0.040	0.040	8553339
Total Xylenes	ug/g	0.05	<0.040	<0.040	<0.040	<0.040	0.040	8553339
F1 (C6-C10)	ug/g	25	<10	<10	<10	<10	10	8553339
F1 (C6-C10) - BTEX	ug/g	25	<10	<10	<10	<10	10	8553339
F2-F4 Hydrocarbons								
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	<10	<10	<10	10	8553400
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	<50	<50	<50	50	8553400
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	<50	<50	<50	50	8553400
Reached Baseline at C50	ug/g	-	Yes	Yes	Yes	Yes		8553400
Surrogate Recovery (%)								
1,4-Difluorobenzene	%	-	97	97	95	104		8553339
4-Bromofluorobenzene	%	-	105	98	103	102		8553339
D10-o-Xylene	%	-	95	91	80	87		8553339
D4-1,2-Dichloroethane	%	-	90	91	89	97		8553339
o-Terphenyl	%	-	85	81	88	83		8553400

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

Bureau Veritas Job #: C372370
Report Date: 2023/03/15

WSP Canada Inc.
Client Project #: 19124906
Site Location: CLC WATERIDGE REMEDIATION
Sampler Initials: JL

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		VHD694	VHD694	VHD695	VHD696		
Sampling Date		2023/03/14 15:20	2023/03/14 15:20	2023/03/14 15:30	2023/03/14 15:30		
COC Number		901449-19-01	901449-19-01	901449-19-01	901449-19-01		
	UNITS	TP52-WW2	TP52-WW2 Lab-Dup	TP52-EW2	TP52-DUP1	RDL	QC Batch
Inorganics							
Moisture	%	11	12	11	12	1.0	8553172

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

TEST SUMMARY

Bureau Veritas ID: VHD694 **Collected:** 2023/03/14
Sample ID: TP52-WW2 **Shipped:**
Matrix: Soil **Received:** 2023/03/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8553123	N/A	2023/03/15	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8553339	N/A	2023/03/15	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8553400	2023/03/15	2023/03/15	Anna Stuglik-Rolland
Acid Extractable Metals by ICPMS	ICP/MS	8553761	2023/03/15	2023/03/15	Indira HarryPaul
Moisture	BAL	8553172	N/A	2023/03/15	Muhammad Chhaidan
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8553326	2023/03/15	2023/03/15	Joe Paino

Bureau Veritas ID: VHD694 Dup **Collected:** 2023/03/14
Sample ID: TP52-WW2 **Shipped:**
Matrix: Soil **Received:** 2023/03/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8553339	N/A	2023/03/15	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8553400	2023/03/15	2023/03/15	Anna Stuglik-Rolland
Moisture	BAL	8553172	N/A	2023/03/15	Muhammad Chhaidan
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8553326	2023/03/15	2023/03/15	Joe Paino

Bureau Veritas ID: VHD695 **Collected:** 2023/03/14
Sample ID: TP52-EW2 **Shipped:**
Matrix: Soil **Received:** 2023/03/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8553123	N/A	2023/03/15	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8553339	N/A	2023/03/15	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8553400	2023/03/15	2023/03/15	Anna Stuglik-Rolland
Acid Extractable Metals by ICPMS	ICP/MS	8553761	2023/03/15	2023/03/15	Indira HarryPaul
Moisture	BAL	8553172	N/A	2023/03/15	Muhammad Chhaidan
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8553326	2023/03/15	2023/03/15	Joe Paino

Bureau Veritas ID: VHD696 **Collected:** 2023/03/14
Sample ID: TP52-DUP1 **Shipped:**
Matrix: Soil **Received:** 2023/03/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8553123	N/A	2023/03/15	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8553339	N/A	2023/03/15	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8553400	2023/03/15	2023/03/15	Anna Stuglik-Rolland
Acid Extractable Metals by ICPMS	ICP/MS	8553761	2023/03/15	2023/03/15	Indira HarryPaul
Moisture	BAL	8553172	N/A	2023/03/15	Muhammad Chhaidan
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8553326	2023/03/15	2023/03/15	Joe Paino

Bureau Veritas Job #: C372370
Report Date: 2023/03/15

WSP Canada Inc.
Client Project #: 19124906
Site Location: CLC WATERIDGE REMEDIATION
Sampler Initials: JL

TEST SUMMARY

Bureau Veritas ID: VHD696 Dup
Sample ID: TP52-DUP1
Matrix: Soil

Collected: 2023/03/14
Shipped:
Received: 2023/03/14

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Acid Extractable Metals by ICPMS	ICP/MS	8553761	2023/03/15	2023/03/15	Indira HarryPaul

GENERAL COMMENTS

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

Package 1	5.0°C

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

Results relate only to the items tested.

QUALITY ASSURANCE REPORT

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8553326	D10-Anthracene	2023/03/15	97	50 - 130	107	50 - 130	100	%		
8553326	D14-Terphenyl (FS)	2023/03/15	93	50 - 130	99	50 - 130	93	%		
8553326	D8-Acenaphthylene	2023/03/15	84	50 - 130	94	50 - 130	86	%		
8553339	1,4-Difluorobenzene	2023/03/15	93	60 - 140	100	60 - 140	104	%		
8553339	4-Bromofluorobenzene	2023/03/15	106	60 - 140	104	60 - 140	103	%		
8553339	D10-o-Xylene	2023/03/15	88	60 - 140	88	60 - 140	86	%		
8553339	D4-1,2-Dichloroethane	2023/03/15	87	60 - 140	91	60 - 140	98	%		
8553400	o-Terphenyl	2023/03/15	76	60 - 130	78	60 - 130	82	%		
8553172	Moisture	2023/03/15							7.9	20
8553326	1-Methylnaphthalene	2023/03/15	96	50 - 130	103	50 - 130	<0.0050	ug/g	NC	40
8553326	2-Methylnaphthalene	2023/03/15	87	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8553326	Acenaphthene	2023/03/15	91	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8553326	Acenaphthylene	2023/03/15	90	50 - 130	95	50 - 130	<0.0050	ug/g	NC	40
8553326	Anthracene	2023/03/15	97	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40
8553326	Benzo(a)anthracene	2023/03/15	89	50 - 130	92	50 - 130	<0.0050	ug/g	NC	40
8553326	Benzo(a)pyrene	2023/03/15	86	50 - 130	89	50 - 130	<0.0050	ug/g	NC	40
8553326	Benzo(b/j)fluoranthene	2023/03/15	88	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
8553326	Benzo(g,h,i)perylene	2023/03/15	82	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
8553326	Benzo(k)fluoranthene	2023/03/15	86	50 - 130	85	50 - 130	<0.0050	ug/g	NC	40
8553326	Chrysene	2023/03/15	90	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8553326	Dibenzo(a,h)anthracene	2023/03/15	77	50 - 130	82	50 - 130	<0.0050	ug/g	NC	40
8553326	Fluoranthene	2023/03/15	95	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40
8553326	Fluorene	2023/03/15	88	50 - 130	92	50 - 130	<0.0050	ug/g	NC	40
8553326	Indeno(1,2,3-cd)pyrene	2023/03/15	84	50 - 130	90	50 - 130	<0.0050	ug/g	NC	40
8553326	Naphthalene	2023/03/15	83	50 - 130	94	50 - 130	<0.0050	ug/g	NC	40
8553326	Phenanthrene	2023/03/15	89	50 - 130	93	50 - 130	<0.0050	ug/g	NC	40
8553326	Pyrene	2023/03/15	96	50 - 130	99	50 - 130	<0.0050	ug/g	NC	40
8553339	Benzene	2023/03/15	78	50 - 140	83	50 - 140	<0.020	ug/g	NC	50
8553339	Ethylbenzene	2023/03/15	93	50 - 140	94	50 - 140	<0.020	ug/g	NC	50
8553339	F1 (C6-C10) - BTEX	2023/03/15					<10	ug/g	NC	30
8553339	F1 (C6-C10)	2023/03/15	90	60 - 140	91	80 - 120	<10	ug/g	NC	30
8553339	o-Xylene	2023/03/15	89	50 - 140	88	50 - 140	<0.020	ug/g	NC	50

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8553339	p+m-Xylene	2023/03/15	88	50 - 140	86	50 - 140	<0.040	ug/g	NC	50
8553339	Toluene	2023/03/15	79	50 - 140	80	50 - 140	<0.020	ug/g	NC	50
8553339	Total Xylenes	2023/03/15					<0.040	ug/g	NC	50
8553400	F2 (C10-C16 Hydrocarbons)	2023/03/15	84	60 - 130	84	80 - 120	<10	ug/g	NC	30
8553400	F3 (C16-C34 Hydrocarbons)	2023/03/15	85	60 - 130	87	80 - 120	<50	ug/g	NC	30
8553400	F4 (C34-C50 Hydrocarbons)	2023/03/15	87	60 - 130	88	80 - 120	<50	ug/g	NC	30
8553761	Acid Extractable Antimony (Sb)	2023/03/15	91	75 - 125	99	80 - 120	<0.20	ug/g	NC	30
8553761	Acid Extractable Arsenic (As)	2023/03/15	93	75 - 125	100	80 - 120	<1.0	ug/g	NC	30
8553761	Acid Extractable Barium (Ba)	2023/03/15	NC	75 - 125	94	80 - 120	<0.50	ug/g	0.69	30
8553761	Acid Extractable Beryllium (Be)	2023/03/15	96	75 - 125	94	80 - 120	<0.20	ug/g	7.7	30
8553761	Acid Extractable Boron (B)	2023/03/15	96	75 - 125	98	80 - 120	<5.0	ug/g	NC	30
8553761	Acid Extractable Cadmium (Cd)	2023/03/15	96	75 - 125	95	80 - 120	<0.10	ug/g	NC	30
8553761	Acid Extractable Chromium (Cr)	2023/03/15	104	75 - 125	98	80 - 120	<1.0	ug/g	7.0	30
8553761	Acid Extractable Cobalt (Co)	2023/03/15	101	75 - 125	99	80 - 120	<0.10	ug/g	2.1	30
8553761	Acid Extractable Copper (Cu)	2023/03/15	98	75 - 125	97	80 - 120	<0.50	ug/g	0.94	30
8553761	Acid Extractable Lead (Pb)	2023/03/15	98	75 - 125	100	80 - 120	<1.0	ug/g	4.9	30
8553761	Acid Extractable Molybdenum (Mo)	2023/03/15	96	75 - 125	94	80 - 120	<0.50	ug/g	NC	30
8553761	Acid Extractable Nickel (Ni)	2023/03/15	100	75 - 125	97	80 - 120	<0.50	ug/g	1.9	30
8553761	Acid Extractable Selenium (Se)	2023/03/15	100	75 - 125	99	80 - 120	<0.50	ug/g	NC	30
8553761	Acid Extractable Silver (Ag)	2023/03/15	101	75 - 125	99	80 - 120	<0.20	ug/g	NC	30
8553761	Acid Extractable Thallium (Tl)	2023/03/15	98	75 - 125	102	80 - 120	<0.050	ug/g	21	30
8553761	Acid Extractable Uranium (U)	2023/03/15	97	75 - 125	98	80 - 120	<0.050	ug/g	1.6	30
8553761	Acid Extractable Vanadium (V)	2023/03/15	94	75 - 125	96	80 - 120	<5.0	ug/g	3.6	30

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8553761	Acid Extractable Zinc (Zn)	2023/03/15	102	75 - 125	97	80 - 120	<5.0	ug/g	4.7	30

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

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

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

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

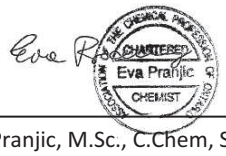
Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

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

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

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



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

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

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

14-Mar-23 16:33
Katherine Szozda
C372370
JDK ENV-660

Page of

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:		Lab Use Only:
Company Name:	#36554 Tomlinson Environmental Services	Company Name:	#33464 WSP Canada Limited	Quotation #:	C24961	Bottle Order #: 901449
Attention:	Evan Morrison	Attention:	Tony Lyon	P.O. #:		
Address:	100 CitiGate Drive Ottawa ON K2J 6K7	Address:	1931 Robertson Road Ottawa ON K2H 5B7	Project:	19124906	
Tel:	(613) 690-3028 Fax:	Tel:	(613) 592-9600 Fax:	Project Name:	CLC Waterridge	COC #: 23901449-19-01
Email:	emorrison@tomlinsongroup.com	Email:	anthony_lyon@golder.com,GAL_EQUIS@golder.com, J	Site #:		Project Manager: Katherine Szozda
				Sampled By:	SL	

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

Regulation 153 (2011)
- [X] Table 1 [X] Res/Park [X] Medium/Fine
- [ ] Table 2 [ ] Ind/Comm [ ] Coarse
- [ ] Table 3 [ ] Agri/Other [X] For RSC
- [ ] Table ____

Other Regulations
- [ ] CCME [ ] Sanitary Sewer Bylaw
- [ ] Reg 558 [ ] Storm Sewer Bylaw
- [ ] MISA Municipality ____
- [ ] PWQO [ ] Reg 406 Table ____
- [ ] Other ____

Special Instructions

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC)

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

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	O. Reg 153 PHCs, BTEX/F1-F4 (Soil)	O. Reg 153 PHCs, BTEX/F1-F4 (Water)	O. Reg 153 ICPMS Metals (Soil)	O. Reg 153 PHCs, BTEX/F1-F4 (Water)	# of Bottles	Comments
1		TP52 - WW2	2023/03/14	15:20		—	✓	✓	✓		
2		TP52 - EW2	↓	15:30		—	✓	✓	✓		
3		TP52 - DUP1		15:30		—	✓	✓	✓		
4											
5											
6											
7											
8											
9											
10											

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

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

Job Specific Rush TAT (if applies to entire submission)
Date Required: March 15 Time Required: EOD
Rush Confirmation Number: ____ (call lab for #)

RUSH

Received in Ottawa

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Jacques Lavoie Jacques Lavoie	23/03/14		Lawrence Tyson Lawrence Tyson	2023/03/14 2023/03/15	1633 08:00	

Laboratory Use Only

Time Sensitive	Temperature (°C) on Recei	Custody Seal	Yes	No
	6.4,5 ice pack	Present		✓
	1/2/3°C	Intact		✓

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

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

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

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

White: Bureau Veritas Yellow: Client

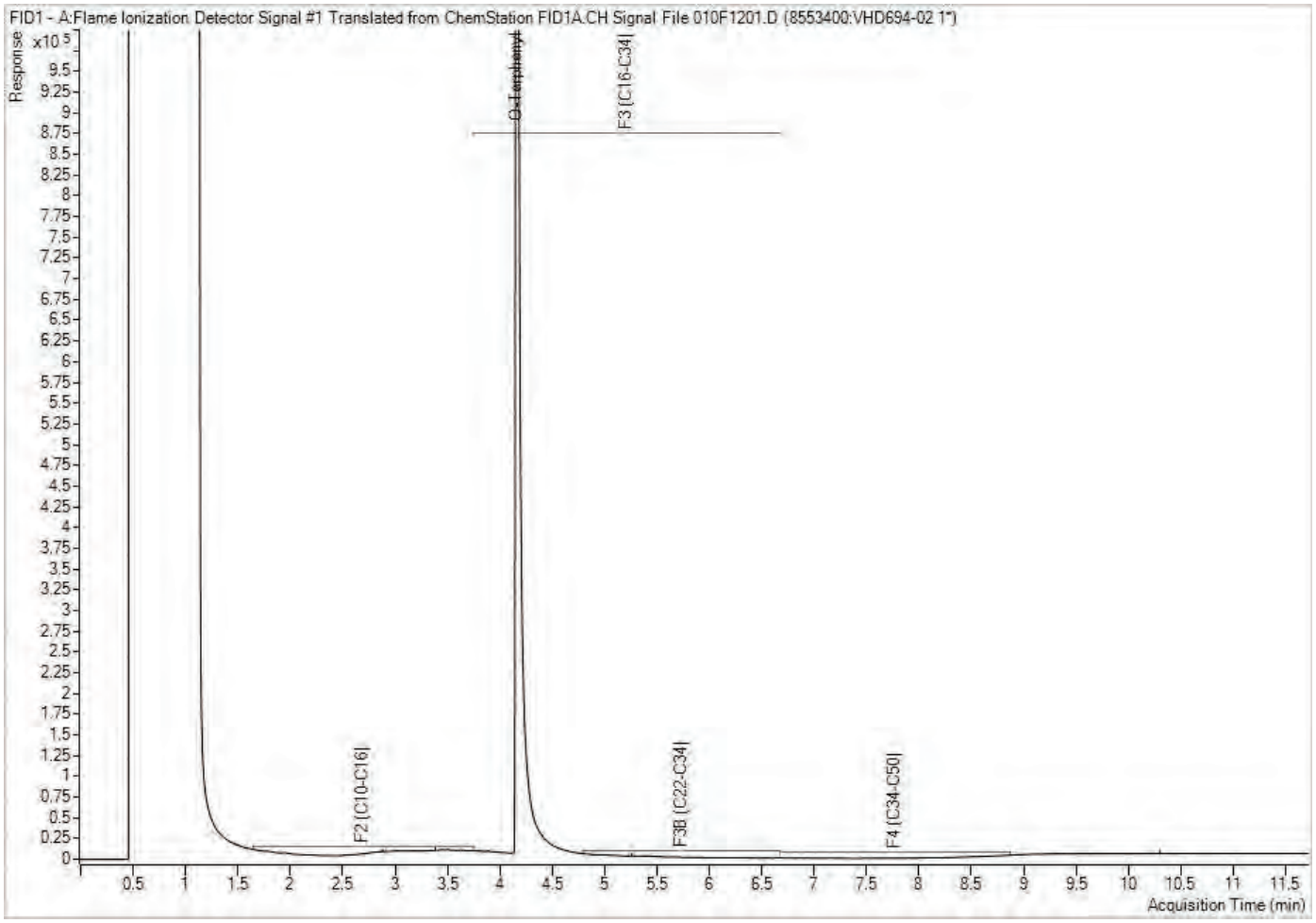
Bureau Veritas Canada (2019) Inc.

AH

Bureau Veritas Job #: C372370
Report Date: 2023/03/15
Bureau Veritas Sample: VHD694

WSP Canada Inc.
Client Project #: 19124906
Project name: CLC WATERIDGE REMEDIATION
Client ID: TP52-WW2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

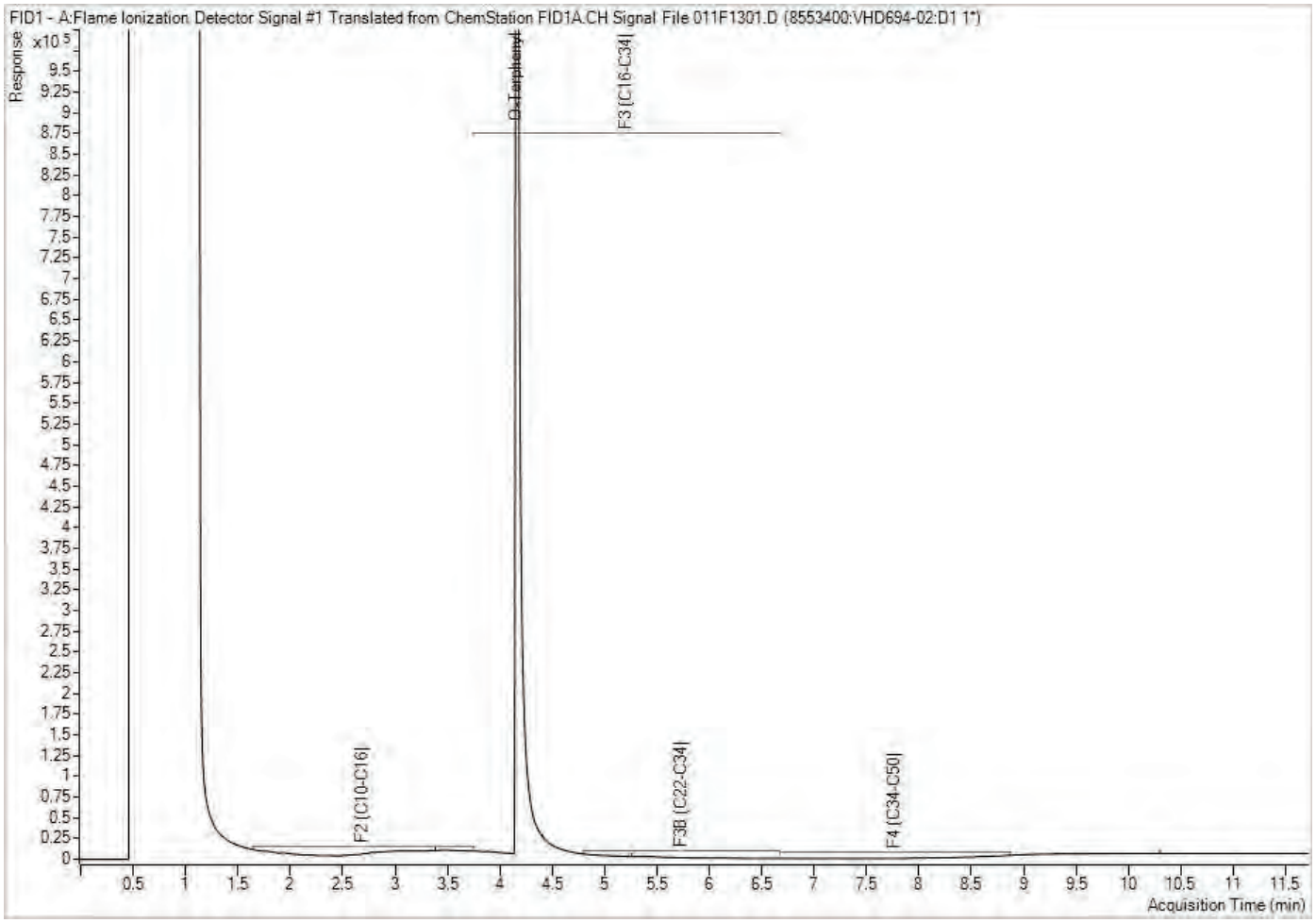


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C372370
Report Date: 2023/03/15
Bureau Veritas Sample: VHD694 Lab-Dup

WSP Canada Inc.
Client Project #: 19124906
Project name: CLC WATERIDGE REMEDIATION
Client ID: TP52-WW2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

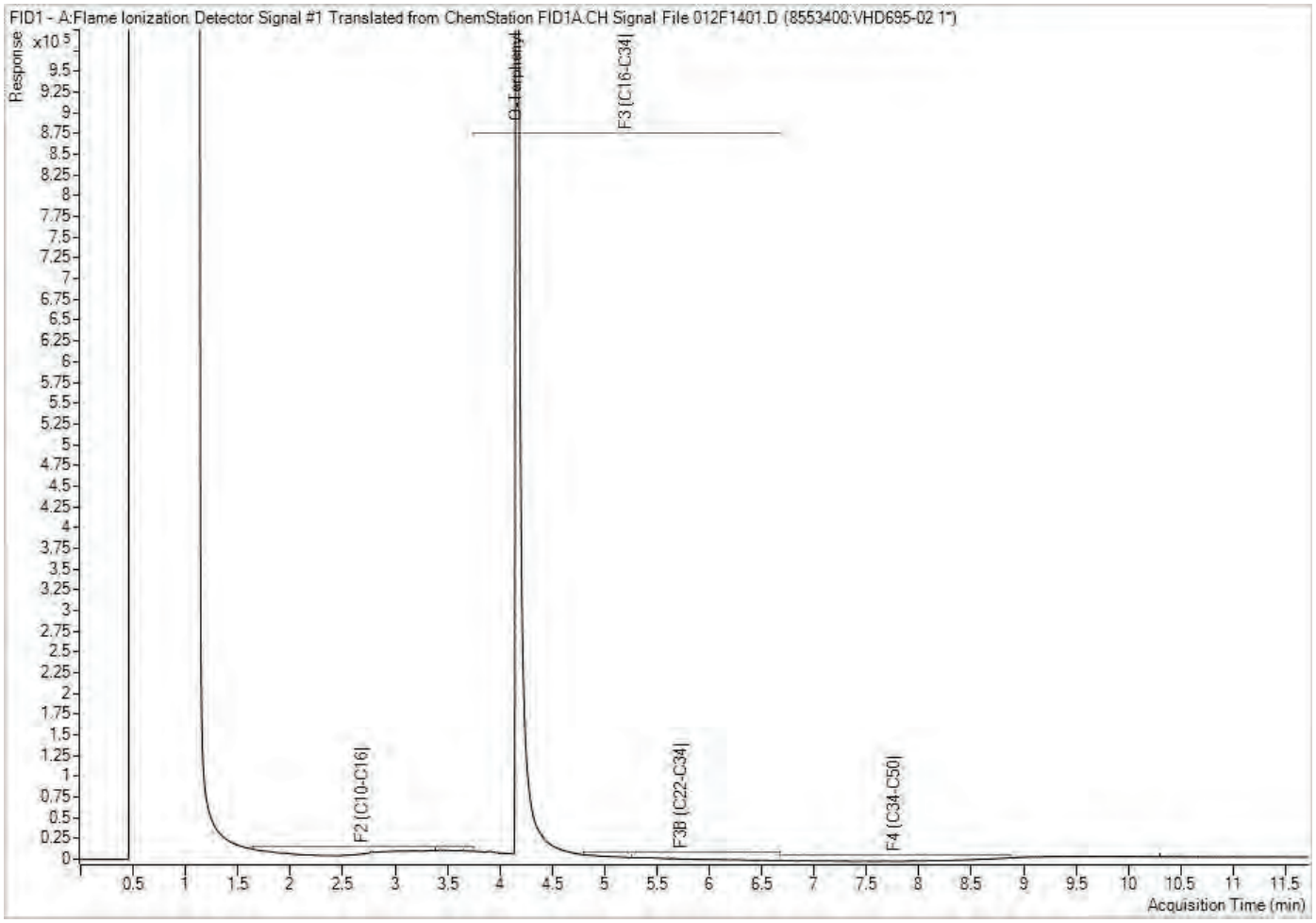


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C372370
Report Date: 2023/03/15
Bureau Veritas Sample: VHD695

WSP Canada Inc.
Client Project #: 19124906
Project name: CLC WATERIDGE REMEDIATION
Client ID: TP52-EW2

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

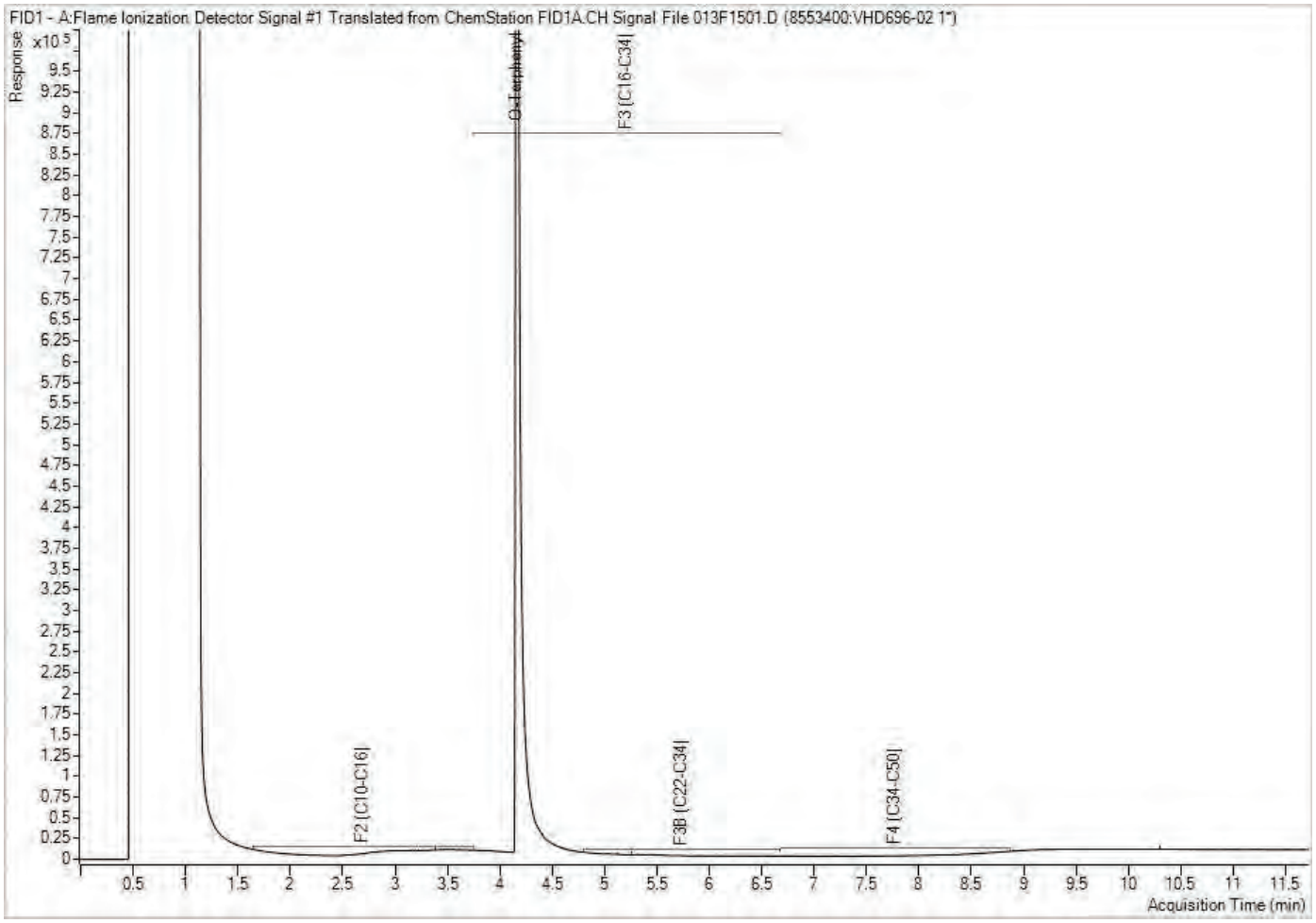


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C372370
Report Date: 2023/03/15
Bureau Veritas Sample: VHD696

WSP Canada Inc.
Client Project #: 19124906
Project name: CLC WATERIDGE REMEDIATION
Client ID: TP52-DUP1

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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

Exceedance Summary Table – Reg153/04 T1-Soil/Res

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

Your Project #: 19124906
Your C.O.C. #: 901449-19-01

Attention: Tony Lyon

WSP Canada Inc.
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2023/03/23
Report #: R7558578
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C381409
Received: 2023/03/22, 16:46

Sample Matrix: Soil
Samples Received: 3

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Methylnaphthalene Sum (1)	3	N/A	2023/03/23	CAM SOP-00301	EPA 8270D m
Petroleum Hydro. CCME F1 & BTEX in Soil (1, 2)	3	N/A	2023/03/23	CAM SOP-00315	CCME PHC-CWS m
Petroleum Hydrocarbons F2-F4 in Soil (1, 3)	3	2023/03/23	2023/03/23	CAM SOP-00316	CCME CWS m
Acid Extractable Metals by ICPMS (1)	3	2023/03/23	2023/03/23	CAM SOP-00447	EPA 6020B m
Moisture (1)	3	N/A	2023/03/23	CAM SOP-00445	Carter 2nd ed 51.2 m
PAH Compounds in Soil by GC/MS (SIM) (1)	3	2023/03/23	2023/03/23	CAM SOP-00318	EPA 8270E

Remarks:

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

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

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

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) This test was performed by Bureau Veritas Mississauga, 6740 Campobello Rd , Mississauga, ON, L5N 2L8
(2) No lab extraction date is given for F1BTEX & VOC samples that are field preserved with methanol. Extraction date is the date sampled unless otherwise stated.
(3) All CCME PHC results met required criteria unless otherwise stated in the report. The CWS PHC methods employed by Bureau Veritas conform to all prescribed elements of the reference method and performance based elements have been validated. All modifications have been validated and proven equivalent following “Alberta Environment’s Interpretation of the Reference Method for the Canada-Wide Standard for Petroleum Hydrocarbons in Soil Validation of Performance-Based Alternative Methods September 2003”. Documentation is available upon request. Modifications from Reference Method for the Canada-wide Standard for Petroleum Hydrocarbons in Soil-Tier 1 Method: F2/F3/F4 data reported using validated cold solvent extraction instead of Soxhlet extraction.

Your Project #: 19124906
Your C.O.C. #: 901449-19-01

Attention: Tony Lyon

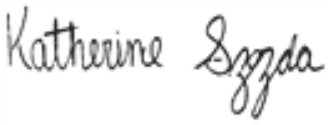
WSP Canada Inc.
1931 Robertson Rd
Ottawa, ON
CANADA K2H 5B7

Report Date: 2023/03/23
Report #: R7558578
Version: 2 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C381409
Received: 2023/03/22, 16:46

Encryption Key



Katherine Szozda
Project Manager
23 Mar 2023 19:13:07

Please direct all questions regarding this Certificate of Analysis to:
Katherine Szozda, Project Manager
Email: Katherine.Szozda@bureauveritas.com
Phone# (613)274-0573 Ext:7063633

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Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

O.REG 153 ICPMS METALS (SOIL)

Bureau Veritas ID			VIZ789	VIZ790	VIZ791		
Sampling Date			2023/03/22 15:05	2023/03/22 15:15	2023/03/22 15:35		
COC Number			901449-19-01	901449-19-01	901449-19-01		
	UNITS	Criteria	VS-TP52-SW3	VS-TP52-EW3	VS-TP52-F4	RDL	QC Batch
Metals							
Acid Extractable Antimony (Sb)	ug/g	1.3	<0.20	<0.20	<0.20	0.20	8569764
Acid Extractable Arsenic (As)	ug/g	18	2.9	<1.0	<1.0	1.0	8569764
Acid Extractable Barium (Ba)	ug/g	220	**270**	78	19	0.50	8569764
Acid Extractable Beryllium (Be)	ug/g	2.5	1.1	0.36	<0.20	0.20	8569764
Acid Extractable Boron (B)	ug/g	36	7.4	<5.0	<5.0	5.0	8569764
Acid Extractable Cadmium (Cd)	ug/g	1.2	0.35	<0.10	<0.10	0.10	8569764
Acid Extractable Chromium (Cr)	ug/g	70	**110**	20	11	1.0	8569764
Acid Extractable Cobalt (Co)	ug/g	21	**27**	6.4	4.0	0.10	8569764
Acid Extractable Copper (Cu)	ug/g	92	47	20	7.7	0.50	8569764
Acid Extractable Lead (Pb)	ug/g	120	12	4.8	2.8	1.0	8569764
Acid Extractable Molybdenum (Mo	ug/g	2	0.53	<0.50	<0.50	0.50	8569764
Acid Extractable Nickel (Ni)	ug/g	82	75	13	6.6	0.50	8569764
Acid Extractable Selenium (Se)	ug/g	1.5	<0.50	<0.50	<0.50	0.50	8569764
Acid Extractable Silver (Ag)	ug/g	0.5	<0.20	<0.20	<0.20	0.20	8569764
Acid Extractable Thallium (Tl)	ug/g	1	0.31	0.098	<0.050	0.050	8569764
Acid Extractable Uranium (U)	ug/g	2.5	1.3	0.40	0.34	0.050	8569764
Acid Extractable Vanadium (V)	ug/g	86	**94**	35	18	5.0	8569764
Acid Extractable Zinc (Zn)	ug/g	290	99	29	10	5.0	8569764

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			VIZ789			VIZ789			VIZ790		
Sampling Date			2023/03/22 15:05			2023/03/22 15:05			2023/03/22 15:15		
COC Number			901449-19-01			901449-19-01			901449-19-01		
	UNITS	Criteria	VS-TP52-SW3	RDL	QC Batch	VS-TP52-SW3 Lab-Dup	RDL	QC Batch	VS-TP52-EW3	RDL	QC Batch
Calculated Parameters											
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	0.0071	8568769				<0.0071	0.0071	8568769
Polyaromatic Hydrocarbons											
Acenaphthene	ug/g	0.072	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
Acenaphthylene	ug/g	0.093	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
Anthracene	ug/g	0.16	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
Benzo(a)anthracene	ug/g	0.36	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
Benzo(a)pyrene	ug/g	0.3	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
Benzo(b/j)fluoranthene	ug/g	0.47	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
Benzo(g,h,i)perylene	ug/g	0.68	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
Benzo(k)fluoranthene	ug/g	0.48	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
Chrysene	ug/g	2.8	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
Fluoranthene	ug/g	0.56	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
Fluorene	ug/g	0.12	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
Indeno(1,2,3-cd)pyrene	ug/g	0.23	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
1-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
2-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
Naphthalene	ug/g	0.09	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
Phenanthrene	ug/g	0.69	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
Pyrene	ug/g	1	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969	<0.0050	0.0050	8568969
Surrogate Recovery (%)											
D10-Anthracene	%	-	92		8568969	99		8568969	101		8568969
D14-Terphenyl (FS)	%	-	85		8568969	92		8568969	94		8568969
D8-Acenaphthylene	%	-	71		8568969	82		8568969	81		8568969

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

O.REG 153 PAHS (SOIL)

Bureau Veritas ID			VIZ791		
Sampling Date			2023/03/22 15:35		
COC Number			901449-19-01		
	UNITS	Criteria	VS-TP52-F4	RDL	QC Batch
Calculated Parameters					
Methylnaphthalene, 2-(1-)	ug/g	0.59	<0.0071	0.0071	8568769
Polyaromatic Hydrocarbons					
Acenaphthene	ug/g	0.072	<0.0050	0.0050	8568969
Acenaphthylene	ug/g	0.093	<0.0050	0.0050	8568969
Anthracene	ug/g	0.16	<0.0050	0.0050	8568969
Benzo(a)anthracene	ug/g	0.36	<0.0050	0.0050	8568969
Benzo(a)pyrene	ug/g	0.3	<0.0050	0.0050	8568969
Benzo(b/j)fluoranthene	ug/g	0.47	<0.0050	0.0050	8568969
Benzo(g,h,i)perylene	ug/g	0.68	<0.0050	0.0050	8568969
Benzo(k)fluoranthene	ug/g	0.48	<0.0050	0.0050	8568969
Chrysene	ug/g	2.8	<0.0050	0.0050	8568969
Dibenzo(a,h)anthracene	ug/g	0.1	<0.0050	0.0050	8568969
Fluoranthene	ug/g	0.56	<0.0050	0.0050	8568969
Fluorene	ug/g	0.12	<0.0050	0.0050	8568969
Indeno(1,2,3-cd)pyrene	ug/g	0.23	<0.0050	0.0050	8568969
1-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	8568969
2-Methylnaphthalene	ug/g	0.59	<0.0050	0.0050	8568969
Naphthalene	ug/g	0.09	<0.0050	0.0050	8568969
Phenanthrene	ug/g	0.69	<0.0050	0.0050	8568969
Pyrene	ug/g	1	<0.0050	0.0050	8568969
Surrogate Recovery (%)					
D10-Anthracene	%	-	106		8568969
D14-Terphenyl (FS)	%	-	98		8568969
D8-Acenaphthylene	%	-	83		8568969

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

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

Bureau Veritas ID			VIZ789			VIZ789			VIZ790	VIZ791		
Sampling Date			2023/03/22 15:05			2023/03/22 15:05			2023/03/22 15:15	2023/03/22 15:35		
COC Number			901449-19-01			901449-19-01			901449-19-01	901449-19-01		
	UNITS	Criteria	VS-TP52-SW3	RDL	QC Batch	VS-TP52-SW3 Lab-Dup	RDL	QC Batch	VS-TP52-EW3	VS-TP52-F4	RDL	QC Batch
BTEX & F1 Hydrocarbons												
Benzene	ug/g	0.02	<0.020	0.020	8568869	<0.020	0.020	8568869	<0.020	<0.020	0.020	8568869
Toluene	ug/g	0.2	<0.020	0.020	8568869	<0.020	0.020	8568869	<0.020	<0.020	0.020	8568869
Ethylbenzene	ug/g	0.05	<0.020	0.020	8568869	<0.020	0.020	8568869	<0.020	<0.020	0.020	8568869
o-Xylene	ug/g	-	<0.020	0.020	8568869	<0.020	0.020	8568869	<0.020	<0.020	0.020	8568869
p+m-Xylene	ug/g	-	<0.040	0.040	8568869	<0.040	0.040	8568869	<0.040	<0.040	0.040	8568869
Total Xylenes	ug/g	0.05	<0.040	0.040	8568869	<0.040	0.040	8568869	<0.040	<0.040	0.040	8568869
F1 (C6-C10)	ug/g	25	<10	10	8568869	<10	10	8568869	<10	<10	10	8568869
F1 (C6-C10) - BTEX	ug/g	25	<10	10	8568869	<10	10	8568869	<10	<10	10	8568869
F2-F4 Hydrocarbons												
F2 (C10-C16 Hydrocarbons)	ug/g	10	<10	10	8568922				<10	<10	10	8568922
F3 (C16-C34 Hydrocarbons)	ug/g	240	<50	50	8568922				<50	<50	50	8568922
F4 (C34-C50 Hydrocarbons)	ug/g	120	<50	50	8568922				<50	<50	50	8568922
Reached Baseline at C50	ug/g	-	Yes		8568922				Yes	Yes		8568922
Surrogate Recovery (%)												
1,4-Difluorobenzene	%	-	105		8568869	104		8568869	105	105		8568869
4-Bromofluorobenzene	%	-	90		8568869	91		8568869	93	88		8568869
D10-o-Xylene	%	-	116		8568869	105		8568869	97	92		8568869
D4-1,2-Dichloroethane	%	-	94		8568869	97		8568869	95	97		8568869
o-Terphenyl	%	-	92		8568922				90	95		8568922

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Reg. 153/04 (Amended April 15, 2011)
Table 1: Full Depth Background Site Condition Standards
Soil - Residential/Parkland/Institutional/Industrial/Commercial/Community Property Use

RESULTS OF ANALYSES OF SOIL

Bureau Veritas ID		VIZ789	VIZ790	VIZ791		
Sampling Date		2023/03/22 15:05	2023/03/22 15:15	2023/03/22 15:35		
COC Number		901449-19-01	901449-19-01	901449-19-01		
	UNITS	VS-TP52-SW3	VS-TP52-EW3	VS-TP52-F4	RDL	QC Batch
Inorganics						
Moisture	%	26	12	11	1.0	8568703

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

TEST SUMMARY

Bureau Veritas ID: VIZ789
Sample ID: VS-TP52-SW3
Matrix: Soil

Collected: 2023/03/22
Shipped:
Received: 2023/03/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8568769	N/A	2023/03/23	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8568869	N/A	2023/03/23	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8568922	2023/03/23	2023/03/23	Ksenia Trofimova
Acid Extractable Metals by ICPMS	ICP/MS	8569764	2023/03/23	2023/03/23	Daniel Teclu
Moisture	BAL	8568703	N/A	2023/03/23	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8568969	2023/03/23	2023/03/23	Joe Paino

Bureau Veritas ID: VIZ789 Dup
Sample ID: VS-TP52-SW3
Matrix: Soil

Collected: 2023/03/22
Shipped:
Received: 2023/03/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8568869	N/A	2023/03/23	Abdikarim Ali
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8568969	2023/03/23	2023/03/23	Joe Paino

Bureau Veritas ID: VIZ790
Sample ID: VS-TP52-EW3
Matrix: Soil

Collected: 2023/03/22
Shipped:
Received: 2023/03/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8568769	N/A	2023/03/23	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8568869	N/A	2023/03/23	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8568922	2023/03/23	2023/03/23	Ksenia Trofimova
Acid Extractable Metals by ICPMS	ICP/MS	8569764	2023/03/23	2023/03/23	Daniel Teclu
Moisture	BAL	8568703	N/A	2023/03/23	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8568969	2023/03/23	2023/03/23	Joe Paino

Bureau Veritas ID: VIZ791
Sample ID: VS-TP52-F4
Matrix: Soil

Collected: 2023/03/22
Shipped:
Received: 2023/03/22

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Methylnaphthalene Sum	CALC	8568769	N/A	2023/03/23	Automated Statchk
Petroleum Hydro. CCME F1 & BTEX in Soil	HSGC/MSFD	8568869	N/A	2023/03/23	Abdikarim Ali
Petroleum Hydrocarbons F2-F4 in Soil	GC/FID	8568922	2023/03/23	2023/03/23	Ksenia Trofimova
Acid Extractable Metals by ICPMS	ICP/MS	8569764	2023/03/23	2023/03/23	Daniel Teclu
Moisture	BAL	8568703	N/A	2023/03/23	Simrat Bhathal
PAH Compounds in Soil by GC/MS (SIM)	GC/MS	8568969	2023/03/23	2023/03/23	Joe Paino

GENERAL COMMENTS

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

Package 1	9.3°C

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

Results relate only to the items tested.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8568869	1,4-Difluorobenzene	2023/03/23	103	60 - 140	105	60 - 140	112	%		
8568869	4-Bromofluorobenzene	2023/03/23	96	60 - 140	100	60 - 140	96	%		
8568869	D10-o-Xylene	2023/03/23	118	60 - 140	93	60 - 140	109	%		
8568869	D4-1,2-Dichloroethane	2023/03/23	92	60 - 140	105	60 - 140	100	%		
8568922	o-Terphenyl	2023/03/23	85	60 - 130	87	60 - 130	88	%		
8568969	D10-Anthracene	2023/03/23	89	50 - 130	89	50 - 130	92	%		
8568969	D14-Terphenyl (FS)	2023/03/23	84	50 - 130	83	50 - 130	85	%		
8568969	D8-Acenaphthylene	2023/03/23	77	50 - 130	77	50 - 130	78	%		
8568703	Moisture	2023/03/23							0	20
8568869	Benzene	2023/03/23	112	50 - 140	97	50 - 140	<0.020	ug/g	NC	50
8568869	Ethylbenzene	2023/03/23	134	50 - 140	104	50 - 140	<0.020	ug/g	NC	50
8568869	F1 (C6-C10) - BTEX	2023/03/23					<10	ug/g	NC	30
8568869	F1 (C6-C10)	2023/03/23	121	60 - 140	100	80 - 120	<10	ug/g	NC	30
8568869	o-Xylene	2023/03/23	125	50 - 140	96	50 - 140	<0.020	ug/g	NC	50
8568869	p+m-Xylene	2023/03/23	126	50 - 140	97	50 - 140	<0.040	ug/g	NC	50
8568869	Toluene	2023/03/23	116	50 - 140	97	50 - 140	<0.020	ug/g	NC	50
8568869	Total Xylenes	2023/03/23					<0.040	ug/g	NC	50
8568922	F2 (C10-C16 Hydrocarbons)	2023/03/23	78 .0	60 - 130	91	80 - 120	<10	ug/g	74 (1)	30
8568922	F3 (C16-C34 Hydrocarbons)	2023/03/23	78 .0	60 - 130	94	80 - 120	<50	ug/g	103 (1)	30
8568922	F4 (C34-C50 Hydrocarbons)	2023/03/23	85	60 - 130	93	80 - 120	<50	ug/g	NC	30
8568969	1-Methylnaphthalene	2023/03/23	97	50 - 130	88	50 - 130	<0.0050	ug/g	NC	40
8568969	2-Methylnaphthalene	2023/03/23	88	50 - 130	80	50 - 130	<0.0050	ug/g	NC	40
8568969	Acenaphthene	2023/03/23	90	50 - 130	80	50 - 130	<0.0050	ug/g	NC	40
8568969	Acenaphthylene	2023/03/23	89	50 - 130	80	50 - 130	<0.0050	ug/g	NC	40
8568969	Anthracene	2023/03/23	96	50 - 130	83	50 - 130	<0.0050	ug/g	NC	40
8568969	Benzo(a)anthracene	2023/03/23	90	50 - 130	77	50 - 130	<0.0050	ug/g	NC	40
8568969	Benzo(a)pyrene	2023/03/23	84	50 - 130	73	50 - 130	<0.0050	ug/g	NC	40
8568969	Benzo(b/j)fluoranthene	2023/03/23	85	50 - 130	77	50 - 130	<0.0050	ug/g	NC	40
8568969	Benzo(g,h,i)perylene	2023/03/23	80	50 - 130	71	50 - 130	<0.0050	ug/g	NC	40
8568969	Benzo(k)fluoranthene	2023/03/23	83	50 - 130	71	50 - 130	<0.0050	ug/g	NC	40
8568969	Chrysene	2023/03/23	90	50 - 130	79	50 - 130	<0.0050	ug/g	NC	40
8568969	Dibenzo(a,h)anthracene	2023/03/23	74	50 - 130	64	50 - 130	<0.0050	ug/g	NC	40

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8568969	Fluoranthene	2023/03/23	96	50 - 130	84	50 - 130	<0.0050	ug/g	NC	40
8568969	Fluorene	2023/03/23	87	50 - 130	78	50 - 130	<0.0050	ug/g	NC	40
8568969	Indeno(1,2,3-cd)pyrene	2023/03/23	82	50 - 130	72	50 - 130	<0.0050	ug/g	NC	40
8568969	Naphthalene	2023/03/23	85	50 - 130	79	50 - 130	<0.0050	ug/g	NC	40
8568969	Phenanthrene	2023/03/23	88	50 - 130	78	50 - 130	<0.0050	ug/g	NC	40
8568969	Pyrene	2023/03/23	96	50 - 130	84	50 - 130	<0.0050	ug/g	NC	40
8569764	Acid Extractable Antimony (Sb)	2023/03/23	92	75 - 125	103	80 - 120	<0.20	ug/g	NC	30
8569764	Acid Extractable Arsenic (As)	2023/03/23	99	75 - 125	98	80 - 120	<1.0	ug/g	2.6	30
8569764	Acid Extractable Barium (Ba)	2023/03/23	NC	75 - 125	96	80 - 120	<0.50	ug/g	0.62	30
8569764	Acid Extractable Beryllium (Be)	2023/03/23	98	75 - 125	95	80 - 120	<0.20	ug/g	2.3	30
8569764	Acid Extractable Boron (B)	2023/03/23	98	75 - 125	97	80 - 120	<5.0	ug/g	3.7	30
8569764	Acid Extractable Cadmium (Cd)	2023/03/23	99	75 - 125	98	80 - 120	<0.10	ug/g	NC	30
8569764	Acid Extractable Chromium (Cr)	2023/03/23	102	75 - 125	97	80 - 120	<1.0	ug/g	1.4	30
8569764	Acid Extractable Cobalt (Co)	2023/03/23	97	75 - 125	96	80 - 120	<0.10	ug/g	0.53	30
8569764	Acid Extractable Copper (Cu)	2023/03/23	96	75 - 125	99	80 - 120	<0.50	ug/g	2.0	30
8569764	Acid Extractable Lead (Pb)	2023/03/23	95	75 - 125	98	80 - 120	<1.0	ug/g	3.9	30
8569764	Acid Extractable Molybdenum (Mo)	2023/03/23	100	75 - 125	98	80 - 120	<0.50	ug/g	NC	30
8569764	Acid Extractable Nickel (Ni)	2023/03/23	99	75 - 125	99	80 - 120	<0.50	ug/g	1.2	30
8569764	Acid Extractable Selenium (Se)	2023/03/23	101	75 - 125	103	80 - 120	<0.50	ug/g	NC	30
8569764	Acid Extractable Silver (Ag)	2023/03/23	101	75 - 125	101	80 - 120	<0.20	ug/g	NC	30
8569764	Acid Extractable Thallium (Tl)	2023/03/23	98	75 - 125	99	80 - 120	<0.050	ug/g	18	30
8569764	Acid Extractable Uranium (U)	2023/03/23	99	75 - 125	98	80 - 120	<0.050	ug/g	1.7	30
8569764	Acid Extractable Vanadium (V)	2023/03/23	NC	75 - 125	95	80 - 120	<5.0	ug/g	2.1	30

QUALITY ASSURANCE REPORT(CONT'D)

			Matrix Spike		SPIKED BLANK		Method Blank		RPD	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits
8569764	Acid Extractable Zinc (Zn)	2023/03/23	NC	75 - 125	90	80 - 120	<5.0	ug/g	0.037	30

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

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

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

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

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

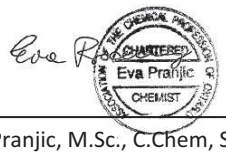
NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

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

(1) Duplicate results exceeded RPD acceptance criteria for flagged analytes. The sample extract was reanalyzed with the same results. This is likely due to sample heterogeneity.

VALIDATION SIGNATURE PAGE

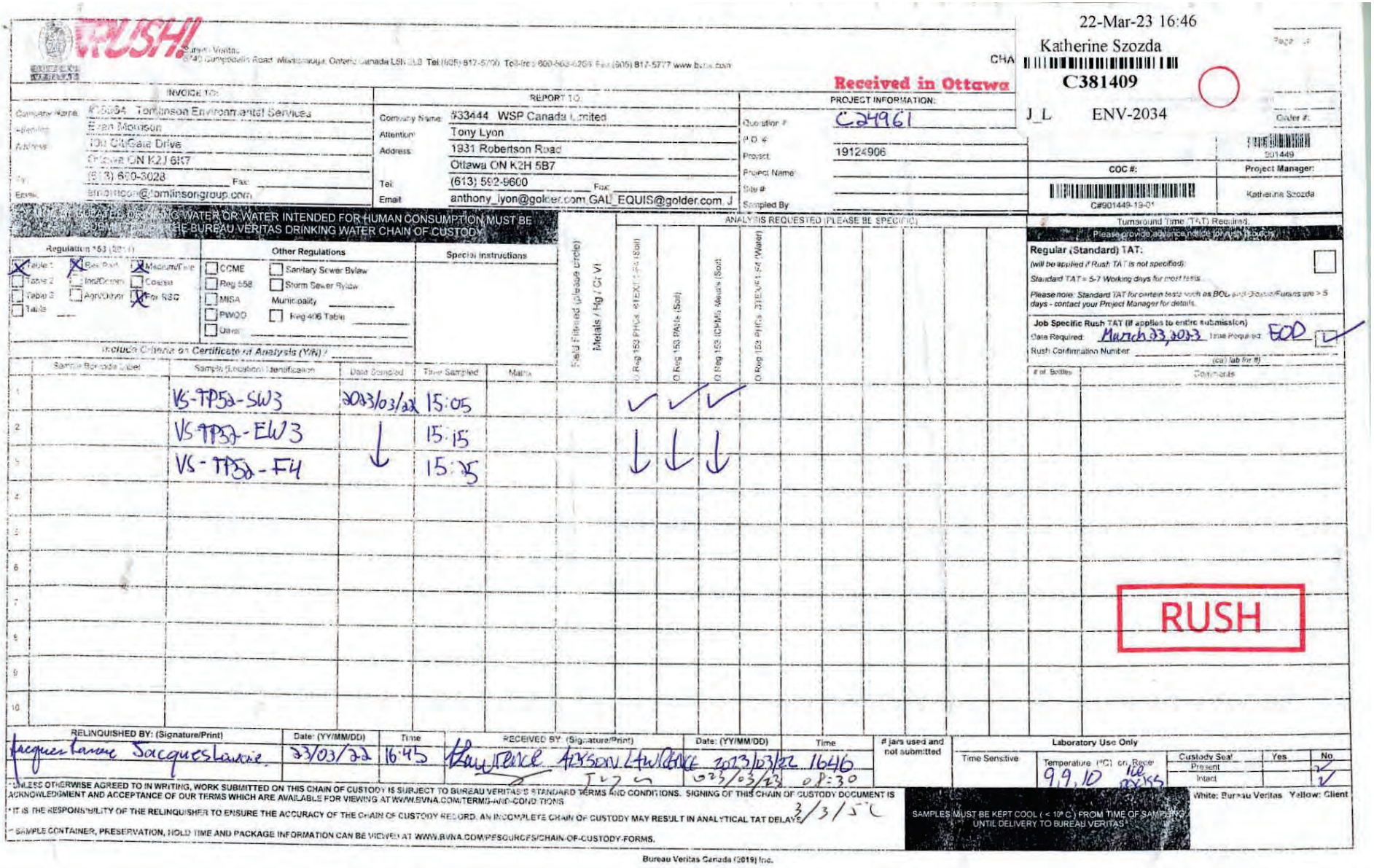
The analytical data and all QC contained in this report were reviewed and validated by:



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

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

Bureau Veritas 100 – 36 Antares Dr. Nepean, ON, K2E 7W5 Phone: 613-274-0573 Website: www.bvna.com



RUSH!

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

CHA

Received in Ottawa

22-Mar-23 16:46
Katherine Szozda
C381409
J_L ENV-2034

INVOICE TO:
Company Name: #5084 Tomlinson Environmental Services
Attention: Evan Morrison
Address: 100 Gilgate Drive
Ottawa ON K2J 6R7
Tel: (613) 600-3028 Fax:
Email: emorrison@tomlinsongroup.com

REPORT TO:
Company Name: #33444 WSP Canada Limited
Attention: Tony Lyon
Address: 1931 Robertson Road
Ottawa ON K2H 5B7
Tel: (613) 592-9600 Fax:
Email: anthony_lyon@golder.com,GAL_EQUIS@golder.com,J

PROJECT INFORMATION:
Quotation #: C24961
P.O. #:
Project: 19124906
Project Name:
Site #:
Sampled By:

Order #: 901449
COC #: C#901449-19-01
Project Manager: Katherine Szozda

FOR WATER SAMPLES INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE BUREAU VERITAS DRINKING WATER CHAIN OF CUSTODY

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

Other Regulations
CCME / Sanitary Sewer Bylaw
Reg 558 / Storm Sewer Bylaw
MISA / Municipality
PWQO / Reg 406 Table
Other

Special Instructions

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

ANALYSIS REQUESTED (PLEASE BE SPECIFIC):

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

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

Job Specific Rush TAT (if applies to entire submission)
Date Required: March 23, 2023 Time Required: EOD
Rush Confirmation Number: (call lab for #)

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI	O. Reg 153 PHCs (F1-F4) (Soil)	O. Reg 153 PAHs (Soil)	O. Reg 153 (CrVI, Metals) (Soil)	O. Reg 153 PHCs (F1-F4) (Water)	# of Bottles	Comments
1		VS-TP52-SW3	2023/03/22	15:05			✓	✓	✓			
2		VS-TP52-EW3	↓	15:15			↓	↓	↓			
3		VS-TP52-F4	↓	15:25			↓	↓	↓			
4												
5												
6												
7												
8												
9												
10												

RUSH

RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
Jacques Lavoie Jacques Lavoie	23/03/22	16:45	[illegible] ATKINSON LAWRENCE	2023/03/22	1646	
			IVZ	023/03/23	08:30	

Laboratory Use Only
Time Sensitive
Temperature (°C) on Receipt: 9.9, 10 (12)
Custody Seal Present: Yes / Intact: No

3/3/5°C

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

White: Bureau Veritas Yellow: Client

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

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

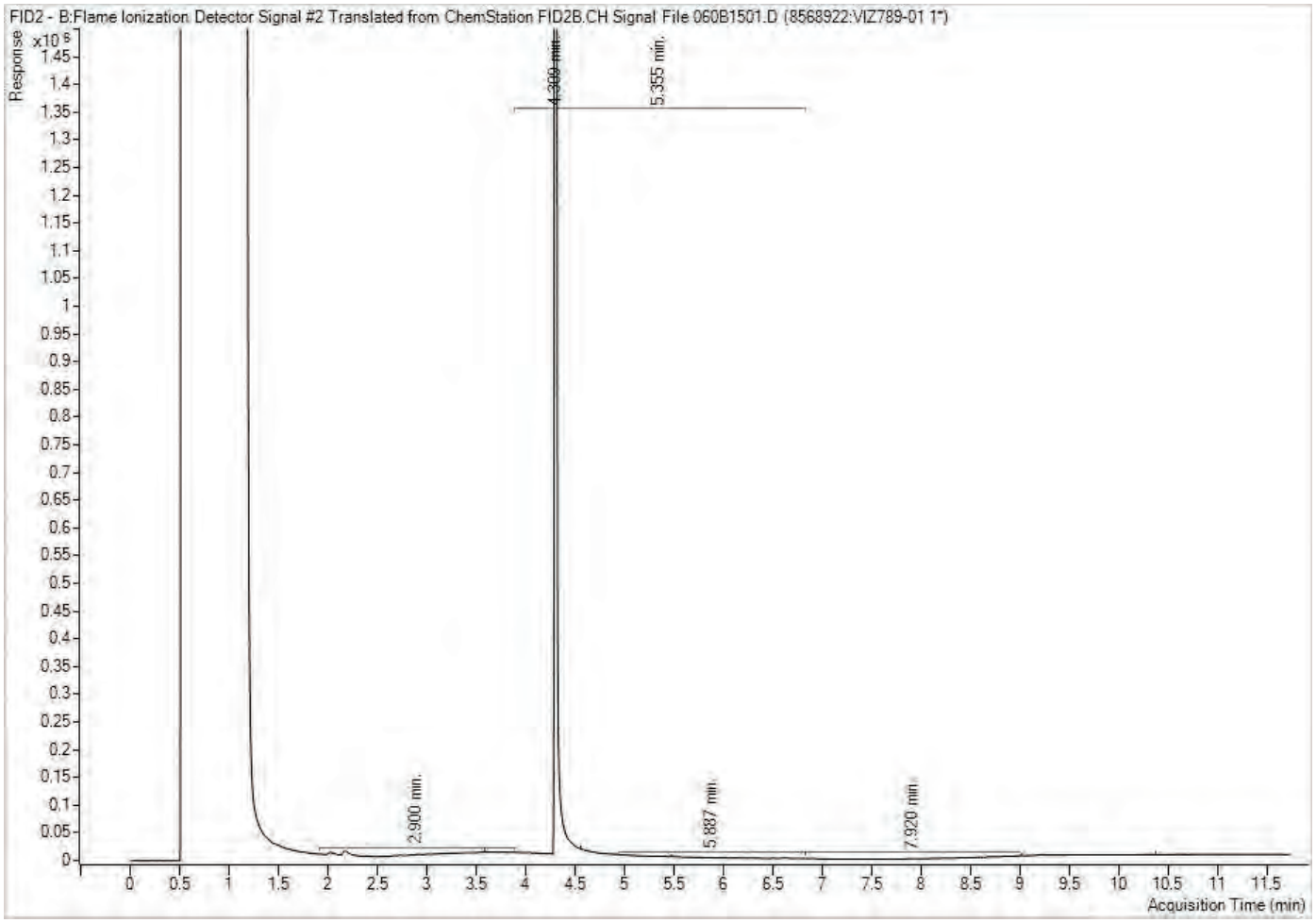
SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT WWW.BVNA.COM/RESOURCES/CHAIN-OF-CUSTODY-FORMS.

Bureau Veritas Canada (2019) Inc.

Bureau Veritas Job #: C381409
Report Date: 2023/03/23
Bureau Veritas Sample: VIZ789

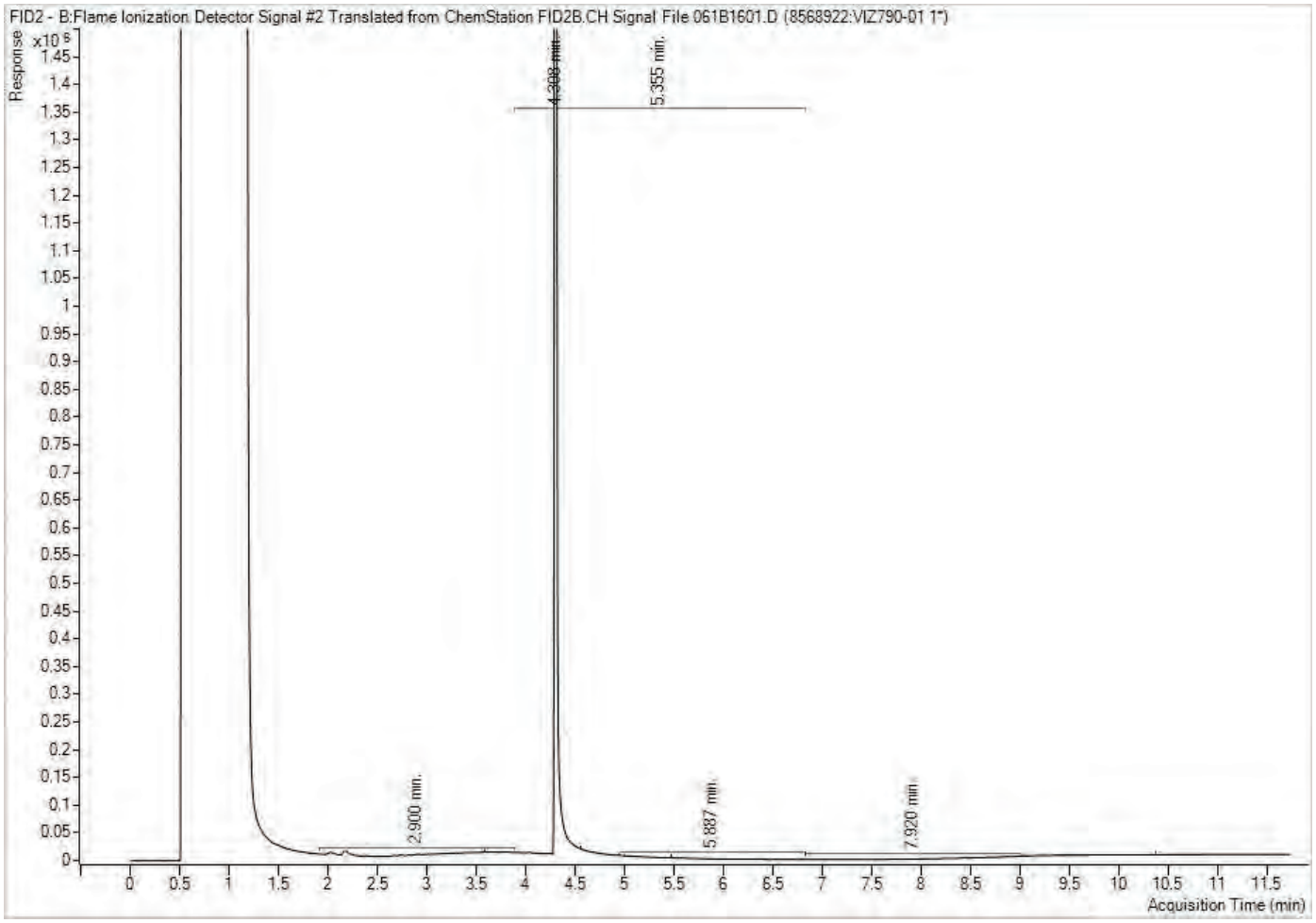
WSP Canada Inc.
Client Project #: 19124906
Client ID: VS-TP52-SW3

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram

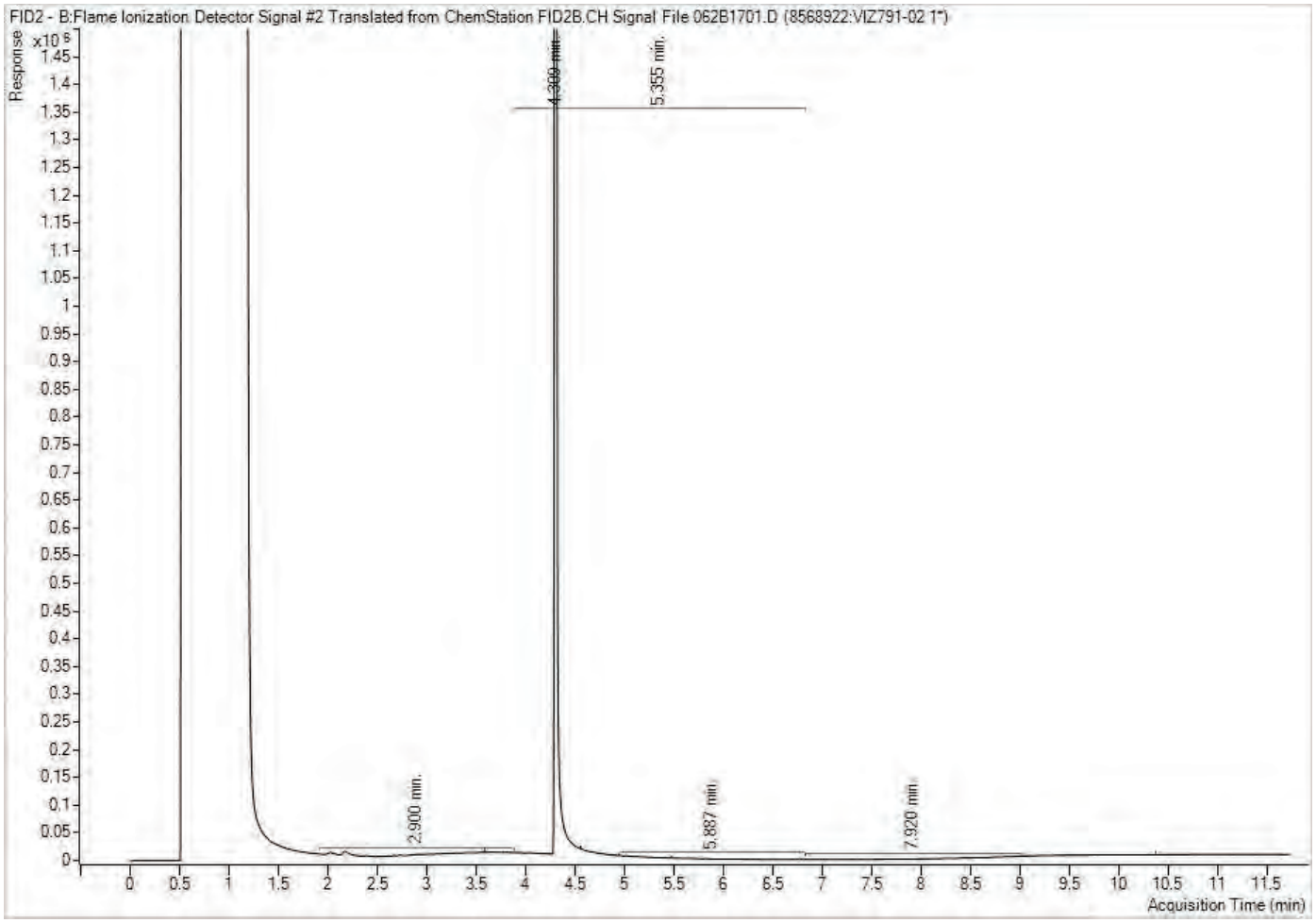


Note: This information is provided for reference purposes only. Should detailed chemist interpretation or fingerprinting be required, please contact the laboratory.

Bureau Veritas Job #: C381409
Report Date: 2023/03/23
Bureau Veritas Sample: VIZ791

WSP Canada Inc.
Client Project #: 19124906
Client ID: VS-TP52-F4

Petroleum Hydrocarbons F2-F4 in Soil Chromatogram



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

Exceedance Summary Table – Reg153/04 T1-Soil/Res

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
VS-TP52-SW3	VIZ789-01	Acid Extractable Barium (Ba)	220	270	0.50	ug/g
VS-TP52-SW3	VIZ789-01	Acid Extractable Chromium (Cr)	70	110	1.0	ug/g
VS-TP52-SW3	VIZ789-01	Acid Extractable Cobalt (Co)	21	27	0.10	ug/g
VS-TP52-SW3	VIZ789-01	Acid Extractable Vanadium (V)	86	94	5.0	ug/g

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

APPENDIX E

Historical Information

LOG OF TESTPIT TP3

DST REF. No.: OE04940
CLIENT: Canada Lands Company
PROJECT: Phase II Environmental Site Assessment
LOCATION: Canadian Forces Base, Rockcliffe, Ottawa, Ontario
SURFACE ELEV.: --/--

Testpit Data
METHOD: Backhoe
DIAMETER: N/A

DATE: October 27 2004

CCGD * PPM (○ 20 40 60 80 / □ % LEL 5 10 15 20)	PPM	SAMPLES No.	SAMPLES Type	SAMPLES SPT N-Value	SYMBL	SUBSURFACE PROFILE MATERIAL DESCRIPTION	DPTH m	ELEV m	WATER DATA	REMARKS
						SURFACE				
						GRASS COVERED				
	0	SGS1				FILL - sand, clayey, some silt, some cobbles, trace organics, black				Wood debris (plywood), glass and shoe
							0.5			
						- clay, silty, trace gravel and organics, brown to olive brown				
	0	SGS2					1.0			
						CLAY - silty, trace organics, brown				
	0	SGS3					1.5			
							2.0			
	0	SGS4								
						CLAY - trace organics, olive brown	2.5			
	0	SGS5								
						End of testpit at 3.1 m depth.	3.0			

GABTECBH (OTTAWA) OE4940 TP LOGS.GPJ 3.8"_MIN.GDT 9/1/08

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DST Consulting Engineers Inc.
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OTTAWA, ONTARIO, K1G 5T9
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Email: ottawa@dstgroup.com
Web: www.dstgroup.com

* - Catalytic Combustible Gas Detector

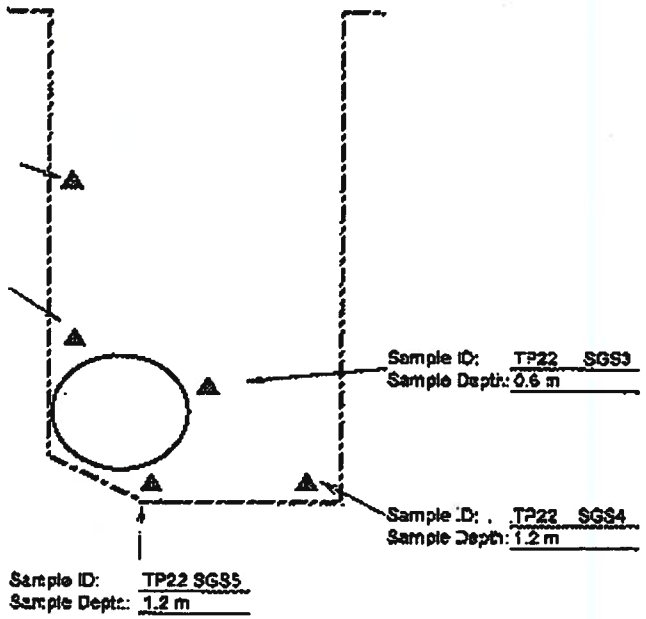
SAMPLE TYPE LEGEND

Auger Sample | Rock Core | Piston Sample
Split Spoon Sample | Slide Sampler
Thin Wall Tube | Grab Sample

APPENDIX E

FIELD TESTPIT LOG

Test Pit ID: TP22
Date: Oct. 28/04
DST Staff: JL
Contractor: Cohen & Cohen



Depth	Soil Description	Observations/Notes
0-1.2m	Sand and gravel, some silt.	Pipes in culvert insulated
		2 pipes approx. 10 cm in diameter

Steamline Pipe Construction Material Log:

Rio-Will: Galvanized steel conduit with service pipes insulated and supported therein. External surface is waterproofed.
Z-crete: Insulating concrete poured into trench around pipes with external waterproofing membrane. Look for a brownish cement-like material.
Gilsulate / Protexulate: Consists of three layers – a plastic layer at the pipe, sintered layer around the plastic, and a granular zone at the outside. Look for a chalky white powder.
Wood Casing: Typical wood casing type of conduits.
Inverted Trench: Cement conduit. Access will not be possible for these types of conduits.

Select applicable pipe material:

Rio-Will: ☐
Z-crete: ☐
Gilsulate / Protexulate: ☐
Wood Casing: ☐
Inverted Trench: ☐
Other (describe): ☐

Pipe Insulation Log:

Is the pipe covered with an insulation material? Yes ☒ No ☐

If yes, collect and submit a sample for analysis of ASBESTOS
Asbestos Sample ID: TP__22__ AS1

LOG OF TESTPIT TP26

DST REF. No.: OE04940
CLIENT: Canada Lands Company
PROJECT: Phase II Environmental Site Assessment
LOCATION: Canadian Forces Base, Rockcliffe, Ottawa, Ontario
SURFACE ELEV.: --/--

Testpit Data
METHOD: Backhoe
DIAMETER: N/A

DATE: November 03 2004

CCGD * PPM (20 40 60 80) / % LEL (5 10 15 20)	PPM	SAMPLES No.	Type	SPT N-Value	SYMBL	SUBSURFACE PROFILE MATERIAL DESCRIPTION	DPTH m	ELEV m	WATER DATA	REMARKS
						SURFACE				
	0	SGS1				FILL - sand, silty, some gravel and boulders, some asphalt, trace brickettes of gilsulate, rootlets to 0.3 m				
	5	SGS2					0.5			
							1.0			
	0	SGS3								
	0	SGS4				- sand, yellowish orange				
						GILSULATE / PROTEXULATE - surrounding one 10cm steel pipe.	1.5			
						End of Testpit at 2.0 m depth.	2.0			

GASTECH: (OTTAWA) OE04940 TP LOGS.GPJ DST_MIN.GDT 8/7/05

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Email: ottawa@dstgroup.com
Web: www.dstgroup.com

* - Catalytic Combustible Gas Detector

SAMPLE TYPE LEGEND

Auger Sample | Rock Core | Piezo Sample
Split Spoon Sample | Slide Sampler
Thin Wall Tube | Grab Sample

APPENDIX E

LOG OF TESTPIT TP27

DST REF. No.: OE04940
CLIENT: Canada Lands Company
PROJECT: Phase II Environmental Site Assessment
LOCATION: Canadian Forces Base, Rockcliffe, Ottawa, Ontario
SURFACE ELEV.: --/--

Testpit Data
METHOD: Backhoe
DIAMETER: N/A

DATE: November 03 2004

CCGD * PPM (20 40 60 80) % LEL (5 10 15 20)	PPM	SAMPLES No.	Type	SPT N-Value	SYMBL	SUBSURFACE PROFILE MATERIAL DESCRIPTION	DPTH m	ELEV m	WATER DATA	REMARKS
						SURFACE				
						ASPHALT				
						FILL - sand and silt, yellowish orange				
O	5	SGS1								
						- clay, silty, trace sand, yellowish orange to yellowish grey	0.5			
O	10	SGS2								
							1.0			
O	5	SGS3								
						End of testpit at 1.5 m depth.	1.5			

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Email: ottawa@dstgroup.com
Web: www.dstgroup.com

* - Catalytic Combustible Gas Detector

SAMPLE TYPE LEGEND

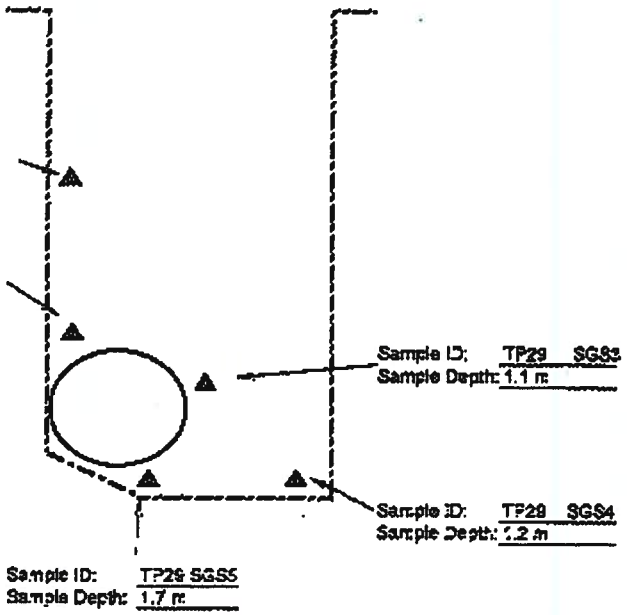
Auger Sample | Rock Core | Piston Sample
Split Spoon Sample | Slide Sampler
Thin Wall Tube | Grab Sample

APPENDIX E

GASTECBH (OTTAWA) OE04940 TP LOGS.GPJ DST_MNGDT 9/4/08

FIELD TESTPIT LOG

Test Pit ID: TP29
Date: Oct. 27/04
DST Staff: JL
Contractor: Cohen & Cohen



Depth	Soil Description	Observations/Notes
0 - 1.6m	Fill - sand, silty, trace clay	Some black insulation noted to be scattered around trench

Streamline Pipe Construction Material Log:

Ric-Wil:	Galvanized steel conduit with service pipes insulated and supported therein. External surface is waterproofed.
Z-crete:	Insulating concrete poured into trench around pipes with external waterproofing membrane. Look for a brownish cement-like material.
Glisulate / Protexulate:	Consists of three layers - a plastic layer at the pipe, sintered layer around the plastic, and a granular zone at the outside. Look for a chalky white powder.
Wood Casing:	Typical wood casing type of conduits.
Inverted Trench:	Cement conduit. Access will not be possible for these types of conduits.

Select applicable pipe material:

Ric-Wil: ☐
Z-crete: ☐
Glisulate / Protexulate: ☑
Wood Casing: ☐
Inverted Trench: ☐
Other (describe): ☐

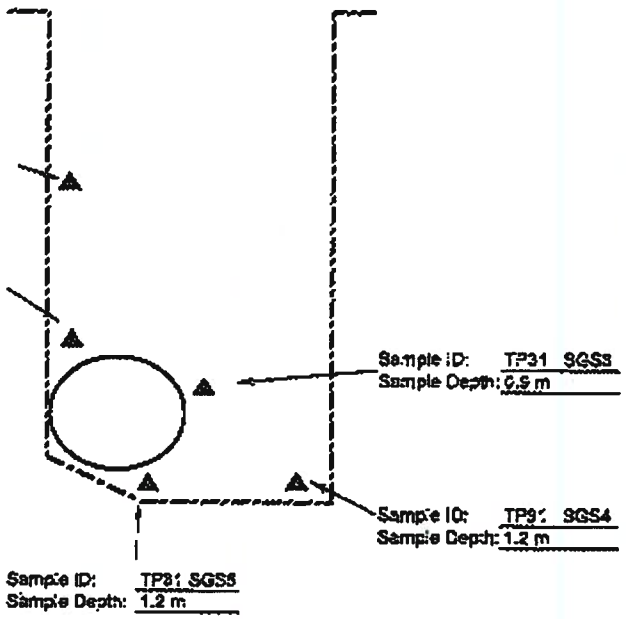
Pipe Insulation Log:

Is the pipe covered with an insulation material Yes ☑ No ☐

If yes, collect and submit a sample for analysis of ASBESTOS
Asbestos Sample ID: TP__29__ AS1

FIELD TESTPIT LOG

Test Pit ID: TP31
Date: Oct. 28/04
DST Staff: JL
Contractor: Cohen & Cohen



Depth	Soil Description	Observations/Notes
0 - 0.1 m	Asphalt	
0.1 - 0.76m	FILL - sand, silty, trace gravel	3 Pipes in culvert
0.76 - 1.2m	- sand, light brown	1 ~10 cm Not Insulated
		1 ~10 cm Insulated
		1 ~20 cm Insulated
		Construction Debris noted; concrete slab

Steamline Pipe Construction Material Log:

Rio-Will:	Galvanized steel conduit with service pipes insulated and supported therein. External surface is waterproofed.
Z-crete:	Insulating concrete poured into trench around pipes with external waterproofing membrane. Look for a brownish cement-like material.
Gilsulate / Protexulate:	Consists of three layers - a plastic layer at the pipe, sintered layer around the plastic, and a granular zone at the outside. Look for a chalky white powder.
Wood Casing:	Typical wood casing type of conduits.
Inverted Trench:	Cement conduit. Access will not be possible for these types of conduits.

Select applicable pipe material:

Rio-Will: ☑
Z-crete: ☐
Gilsulate / Protexulate: ☐
Wood Casing: ☐
Inverted Trench: ☐
Other (describe): ☐

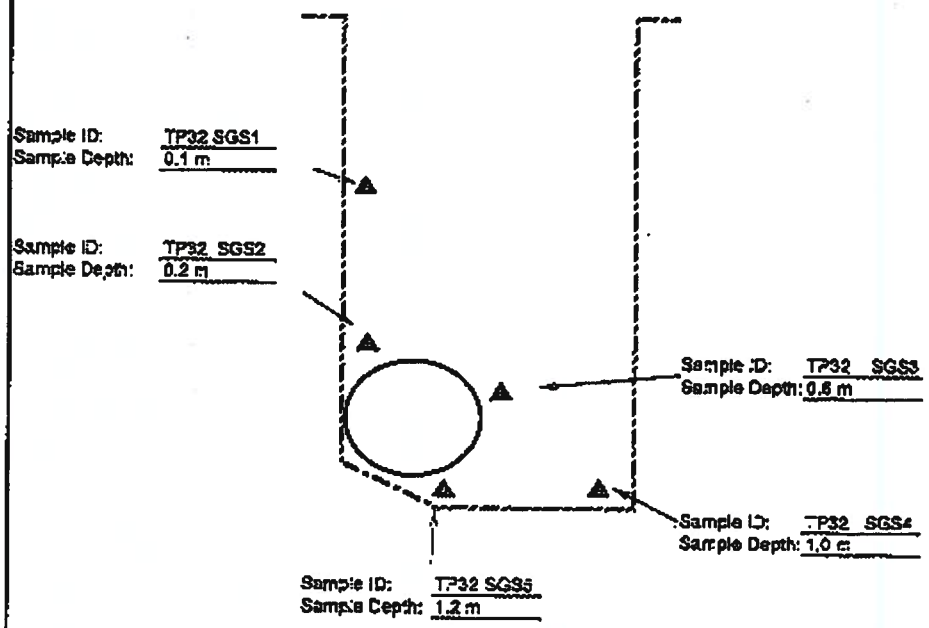
Pipe Insulation Log:

Is the pipe covered with an insulation material? Yes ☑ No ☐

If yes, collect and submit a sample for analysis of ASBESTOS
Asbestos Sample ID: TP_31_AS1
TP_31_AS2

FIELD TESTPIT LOG

Test Pit ID: TP32
Date: Oct. 26/04
DST Staff: JL
Contractor: Cohen & Cohen



Depth	Soil Description	Observations/Notes
0 - 0.1m	Asphalt	
0.1 - 0.2m	FILL - sand and gravel	Inverted trench bigger than usual (1.5 x 1.0 m)
0.2 - 0.6 m	- sand, yellowish brown	

Streamline Pipe Construction Material Log:

Rib-Will:	Galvanized steel conduit with service pipes insulated and supported therein. External surface is waterproofed.
Z-crete:	Insulating concrete poured into trench around pipes with external waterproofing membrane. Look for a brownish cement-like material.
Gilsulate / Protexulate:	Consists of three layers - a plastic layer at the pipe, sintered layer around the plastic, and a granular zone at the outside. Look for a chalky white powder.
Wood Casing:	Typical wood casing type of conduits.
Inverted Trench:	Cement conduit. Access will not be possible for these types of conduits.

Select applicable pipe material:

Rib-Will: ☐
Z-crete: ☐
Gilsulate / Protexulate: ☐
Wood Casing: ☐
Inverted Trench: ☒
Other (describe): ☐

Pipe Insulation Log:

Is the pipe covered with an insulation material? Yes ☐ No ☐

If yes, collect and submit a sample for analysis of ASBESTOS
Asbestos Sample ID: TP ____ AS1

LOG OF TESTPIT TP52

DST REF. No.: OE04940
CLIENT: Canada Lands Company
PROJECT: Phase II Environmental Site Assessment
LOCATION: Canadian Forces Base, Rockcliffe, Ottawa, Ontario
SURFACE ELEV.: --/--

Testpit Data
METHOD: Backhoe
DIAMETER: N/A

DATE: November 02 2004

CCGD * PPM (○ 20 40 60 80 / □ % LEL 5 10 15 20)	PPM	SAMPLES No.	SAMPLES Type	SAMPLES SPT N-Value	SYMBL	SUBSURFACE PROFILE MATERIAL DESCRIPTION	DPTH m	ELEV m	WATER DATA	REMARKS
						SURFACE				
⊙	10	SS1				FILL - sand, silty, brown, possible black hydrocarbon staining				Soils stratigraphy provided in this log are for information only. This testpit was advanced solely for the purpose of confirming the buried steamline.
						- Gilsulate/Protexulate	0.5			
						End of test pit at 0.6 m depth. Pipe found in Gilsulate/Protexulate.				

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203 - 2150 THURSTON DRIVE
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Web: www.dstgroup.com

* - Catalytic Combustible Gas Detector

SAMPLE TYPE LEGEND

Auger Sample; Rock Core; Penar Sample
Split Spoon Sample; Slide Sampler
Thin Wall Tube; Grab Sample

APPENDIX E

GA&TECOSH (OTTAWA) OE04940 TP LOGS.GPJ DST_MIN.GDT 9/1/05

LOG OF TESTPIT TP56

DST REF. No.: OE04940
CLIENT: Canada Lands Company
PROJECT: Phase II Environmental Site Assessment
LOCATION: Canadian Forces Base, Rockcliffe, Ottawa, Ontario
SURFACE ELEV.: --/--

Testpit Data
METHOD: Backhoe
DIAMETER: N/A

DATE: November 02 2004

CCGD * PPM (O: 20 40 60 80; □: % LEL 5 10 15 20)	PPM	SAMPLES No.	SAMPLES Type	SPT N-Value	SYMBL	SUBSURFACE PROFILE — MATERIAL DESCRIPTION	DPTH m	ELEV m	WATER DATA	REMARKS
						SURFACE				
						FILL - sand, silty, grey brown				Soils stratigraphy provided in this log are for information only. This testpit was advanced solely for the purpose of confirming the buried steamline.
O	10	SGS1				- sand, silty, yellowish orange, black cementitious possible hydrocarbon staining and silt like material	0.6			
						- Gilsulate/Protexulate				
						End of testpit at 0.6 m depth. Pipe found in Gilsulate/Protexulate.				

DST CONSULTING ENGINEERS
DST Consulting Engineers Inc.
203 - 2150 THURSTON DRIVE
OTTAWA, ONTARIO, K1G 5T9
PH: (613)748-1415
FX: (613)748-1356
Email: ottawa@dstgroup.com
Web: www.dstgroup.com

* - Catalytic Combustible Gas Detector

SAMPLE TYPE LEGEND

Auger Sample; Rock Core; Piston Sample; Split Spoon Sample; Slotted Sampler; Thin Wall Tube; Grab Sample

APPENDIX E

GASTECBH (OTTAWA) OE04940 TP LOGS.GPJ DST_KIN.GDT 9/1/05

LOG OF TESTPIT TP57

DST REF. No.: OE04940
CLIENT: Canada Lands Company
PROJECT: Phase II Environmental Site Assessment
LOCATION: Canadian Forces Base, Rockcliffe, Ottawa, Ontario
SURFACE ELEV.: --/--

Testpit Data
METHOD: Backhoe
DIAMETER: N/A

DATE: November 02 2004

CCGD * PPM (20, 40, 60, 80) / % LEL (5, 10, 15, 20)	PPM	SAMPLES No.	SAMPLES Type	SPT N-Value	SYMBL	SUBSURFACE PROFILE MATERIAL DESCRIPTION	DPTH m	ELEV m	WATER DATA	REMARKS
						SURFACE				
						FILL - clay, silty, grey, trace sand				Soils stratigraphy provided in this log are for infonnation only. This testpit was advanced solely for the purpose of confirming the buried steamline.
O	10	SGS1				- sand, silty, brown, black layers of shale like material, possible hydrocarbon staining. Pipe found at 0.4 m depth.	0.5			Four inch pipe found wrapped in aircell.
						End of testpit at 1.0 m depth.	1.0			

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Email: ottawa@dstgroup.com
Web: www.dstgroup.com

* - Catalytic Combustible Gas Detector

SAMPLE TYPE LEGEND

- Auger Sample
- Split Spoon Sample
- Thin Wall Tube
- Rock Core
- Slide Sampler
- Grab Sample
- Power Sample

APPENDIX E

GASTECBH (OTTAWA) OE4940 TP LOGS.GPJ DST_MIN.GDT 5/1/08

APPENDIX F

Rationale for Naturally Occurring Barium, Chromium, Cobalt and Vanadium in Ottawa Marine Clay Above Generic Standards to Support a Record of Site Condition (RSC)

TECHNICAL MEMORANDUM

DATE January 18, 2023 **Project No.** 19124906

TO Katherine Constantine
Canada Lands Company (CLC)

FROM Keith Holmes, MSc, PGeo **EMAIL** keith.p.holmes@wsp.com

INTENT TO APPLY SECTION 49.1 – NATURAL BACKGROUND METALS, WATERIDGE DEVELOPMENT, FORMER CFB ROCKCLIFFE, OTTAWA, ONTARIO

WSP Canada Inc. (WSP, formerly Golder Associates Ltd.) has prepared this memorandum in support of the Record of Site Condition (RSC) filing for the development of the Wateridge Development, consisting of part of the former CFB Rockcliffe, Ottawa, ON (Subject Property), including the RSC Property. The objective of this document is to provide the necessary lines of evidence required to demonstrate that the concentrations of select metals present in the subsurface within the RSC area are of natural origin and not to be considered an exceedance in the context of regulation 153/04 (Section 49.1).

1.0 BACKGROUND

1.1 Phase Two ESA Results

Elevated naturally occurring metals over the site condition standards were found in several locations evaluated as part of the Phase Two ESA. Barium, chromium, cobalt, and vanadium concentrations were identified over the MECP Table 1 Standards.

The Subject Property and surrounding Subject Area is typified by a layer of mixed fills over a thin deposit of native clay over glacial till. In many areas on the former CFB Rockliffe property, the native soils have been reworked and mixed with other imported granular fills during historical development resulting in a variable and mixed fill layer over glacial till or bedrock. Samples collected during the Phase Two ESA where elevated metals were found are typically found where the observed clay and silt content was a larger component of the soil.

Given that the concentration of barium, chromium, cobalt, and vanadium are known to occur locally across Ottawa Area at elevated levels as a result of natural deposition of marine clays of eastern Ontario it is the QPs opinion that these concentrations are of natural origin and thus not considered an exceedance in the context of Ontario Regulation 153/04. The following sections presents the multiple lines of evidence required to support this opinion.

2.0 PHASE ONE ESA – POTENTIAL FOR SOURCES OF BARIUM, CHROMIUM, COBALT AND VANADIUM

A Phase One ESA was completed for the Subject Property which identified the presence of fill as the one potentially contaminating activity (PCA) on the RSC Property. No PCAs associated with the generation of metals were identified in the Phase One ESA. There were no areas of metal fabrication, steel manufacturing, electroplating, electronics manufacturing, metal working, scrap yards, slag or other mining residues identified on the Site that may have contributed to metals impacts at the Site, specifically barium, chromium cobalt, and vanadium.

3.0 CHAMPLAIN SEA CLAY

The silty clay soils that underlie eastern Ontario and western Quebec, including the Ottawa area, were deposited about 10,000 years ago in a marine (salt water) environment within what is known as the Champlain Sea, after the retreat of the last glacier advance. Because of the marine environment, Champlain Sea clay has a particular mineralogical composition, structure and physical properties and physio-chemical characteristics, which are very different than (for example) the glacial silty clay till that was deposited in a fresh-water environment and underlies much of southern and southwestern Ontario. After the Champlain Sea receded and the land re-emerged, the upper portion of the clay deposit was leached by fresh water that reduced its salinity (salt content), which altered the properties of this portion of the deposit. Over geologic time, in most areas where the silty clay soil forms the upper part of the soil profile and the water table has been at some depth below ground surface, the upper two to four metres has been weathered to form a stiff brown crust, which again altered the clay's physical and mineralogical characteristics. Below this weathered zone, the clay is grey in colour and it has essentially not been altered by the weathering process. It is also the marine depositional environment and subsequent processes that the silty clay soil has experienced that defines the types and concentrations of metals that are naturally occurring in these soils.

Clay is typically formed by the weathering of rocks and soil, specifically in the case of the Champlain Sea deposits, the physical abrasion of Precambrian bedrock by the glaciation process. The weathering process involves physical disaggregation and chemical decomposition that change original minerals to clay minerals (USGS, http://pubs.usgs.gov/info/clays/). Given this, comparing typical metal concentrations in bedrock to the Ottawa Regional Data (and Site data) can provide additional context on the source of barium, chromium, cobalt and vanadium. In Canada (as well as outside of Canada), standard mining industry practice is to evaluate metal enrichment of mine waste rock and overburden by comparing results to typical elemental abundances in continental crust (Turekian and Wedepohl (1961)). Using a similar approach, the observed metal concentrations in Ottawa Region clay are compared to typical elemental abundances in continental crust, and those in marine clay in Table 1 below.

Table 1: Comparison of Barium, Chromium and Vanadium Concentrations in Clay to Crustal Abundance:

Data	Average Barium Concentration (µg/g)	Average Chromium Concentration (µg/g)	Average Cobalt Concentration (µg/g)	Average Vanadium Concentration (µg/g)
Typical Crustal Abundance of Continental Crust/Marine Clay	425/2300	22/90	25/74	120/120

As shown in Table 1, the typical continental crustal and marine clays indicate an abundance of these metals within values for chromium and vanadium in marine clays being very similar to what was observed on the Subject Property with the barium and cobalt on the Site being closer to the typical crustal abundance. It is noted that the ratios of the metals to also be similar to what was found on the Subject Property and are likely a product of natural deposition.

4.0 SUPPORTING STUDIES

The following section presents the findings of supporting studies completed on the Site and within the Ottawa Region of similar soils.

In addition to these studies, a previous Phase Two ESA and RSC application for neighbouring section the CFB Rockliffe property (Phase3/5) was obtained that relied on the O.Reg 49.1 exception (RSC#229794 filed on October 13, 2021). This RSC was filed by WSP (Golder) using the rationale as outlined in this memo.

4.1 Evaluation of Background Concentrations of Selected Metals in Soil, Wateridge Development, Former CFB Rockcliffe, Ottawa, Ontario. DST, March 2019

As part of the previous Phase Two ESA and RSC applications for the CFB Rockliffe property (including RSCs # 223850 and 224146, that relied on the O.Reg 49.1 exception), including the Subject Site, DST Consulting Engineers Inc. completed a study of natural background metals specific to the Subject Property, including the RSC Property. This study included a literature review of regional studies as well as site-specific background soil quality testing of the clays on the Subject Property. The on-Site evaluation included the collection and analysis of 40 site specific background soil samples of the clays on the Subject Property followed by the calculation of the 90th percentile concentration of barium, cobalt and vanadium. DST then used the site-specific testing and literature review to develop a site-specific background concentration for barium, cobalt and vanadium, which is presented in Table 2 below.

Table 2: DST Site Specific Metals Concentrations

Data	Average Barium Concentration (µg/g)	Average Cobalt Concentration (µg/g)	Average Vanadium Concentration (µg/g)
DST Local Background Concentrations	437	29	130

As part of the study DST evaluated the historical activities in the areas of the identified elevated metals and concluded that none of the activities in the vicinity of the elevated metals could be attributed to the concentration of barium, cobalt, or vanadium.

4.2 Elevated Background Metals Concentrations in Fine-Grained Champlain Sea Deposits Eastern Ontario – Ottawa Region. Geofirma and Dillon, Feb. 2018

Geofirma and Dillon were retained by the City of Ottawa to undertake a review of available datasets of clay soils across the Ottawa Region and Eastern Ontario. The study included a statistical analysis of 364 individual data points collected from the regional Champlain Sea Deposits. The results of the assessment are presented in Table 3 below.

Table 3: Geofirma and Dillon Dataset

Data	Average Barium Concentration (µg/g)	Average Chromium Concentration (µg/g)	Average Cobalt Concentration (µg/g)	Average Vanadium Concentration (µg/g)
Geofirma and Dillon Dataset Average (98th percentile)	460	145	27.9	123

4.3 WSP Dataset

WSP completed a review of fourteen project sites across the City where similarly identified natural metals in clay where identified, these sites include rural sites with no historical industry, commercial retail sites on previously vacant land as well as project sites local to the Subject Property and consists of approximately 100 individual samples taken from native clay. The average barium, chromium, cobalt and vanadium results are presented below.

Table 4: Ottawa Area Datasets

Data	Average Barium Concentration (µg/g)	Average Chromium Concentration (µg/g)	Average Cobalt Concentration (µg/g)	Average Vanadium Concentration (µg/g)
WSP Ottawa Regional Dataset	371	111	23	106

WSP has included a figure showing the location and average concentrations of these metals for each site data set. The figure demonstrates the geographical extent and separation of the data sets.

5.0 RATIOS BETWEEN METALS

As presented in the graphic below, the ratios between each of the metals from the 14 WSP sites show a consistent ratio between the concentration of barium, chromium, cobalt and vanadium. For example, in all data sets, an increase in vanadium over the MECP Table 1 background always resulted in a proportional increase in the other three metals.

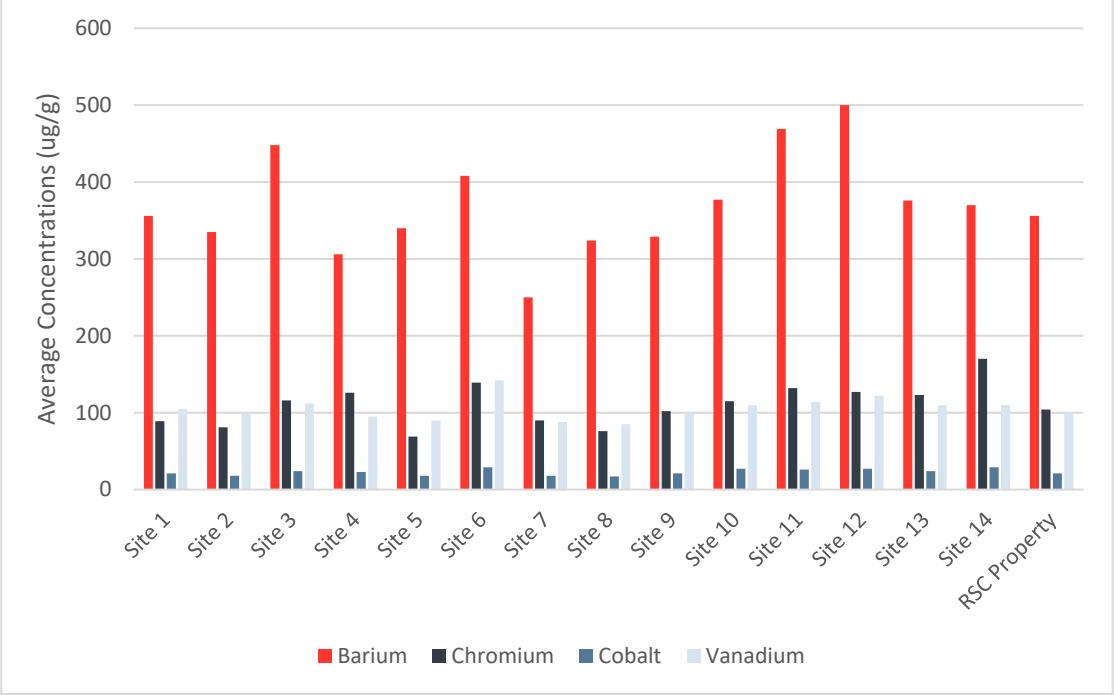


Figure 1: Average Concentrations of Select Metals in Local (Ottawa) Area Marine Clay

It would be expected that an anthropogenic source of metals would be unlikely to fall within a similar ratio due to the expected prevalence of one of the contaminants, which is not the case for the Subject Property which compares very closely to the regional average.

6.0 CONCLUSION

Based on the review of the Subject Property concentrations of barium, chromium, cobalt, and vanadium in comparison to the literature review discussed above, including a site-specific background study, it is concluded that the metals concentrations on the Subject Property are present at similar concentrations to those found in the natural background conditions local to the Ottawa Area. This is more noticeable for the sample mainly consisting of silt and clay. Where silty clay has been mixed (diluted with sandy soils) the metals are lower in concentration but found at similar ratios to those found in the background metal (i.e. corresponding increases in chromium, cobalt, and vanadium where the barium was found above background).

When combined with the Phase One ESA findings which did not identify a source for these specific compounds, it is considered that the application of the Section 49.1 of Ontario Regulation 153/04 for naturally occurring compounds is considered appropriate in this instance and are therefore not an exceedance of the site condition standards.

7.0 CLOSURE

We trust that the above document provides sufficient lines of evidence to demonstrate that the concentration of barium, chromium, cobalt and vanadium found on the RSC Property is of natural origin and result of natural depositional process and are not considered an exceedance of the site condition standards.

WSP Canada Inc.

Keith Holmes, MSc, PGeo
Senior Principal Geoscientist – Contaminated Sites

Tony Lyon, PEng
Environmental Engineer

KPH/TL/sg
https://golderassociates.sharepoint.com/sites/110705/project files/6 deliverables/phase two esas/phase two esa - phase 4-1_rsc/appendix f - naturally occuring metals/19124906-tm-natural met - final.docx

Attachments: Figure 1 - Ottawa Area Natural Concentrations of Select Metals in Clay

8.0 REFERENCES

DST, May 2015. Phase One Environmental Site Assessment, Wateridge Development, Former CFB Rockcliffe, Ottawa, Ontario.

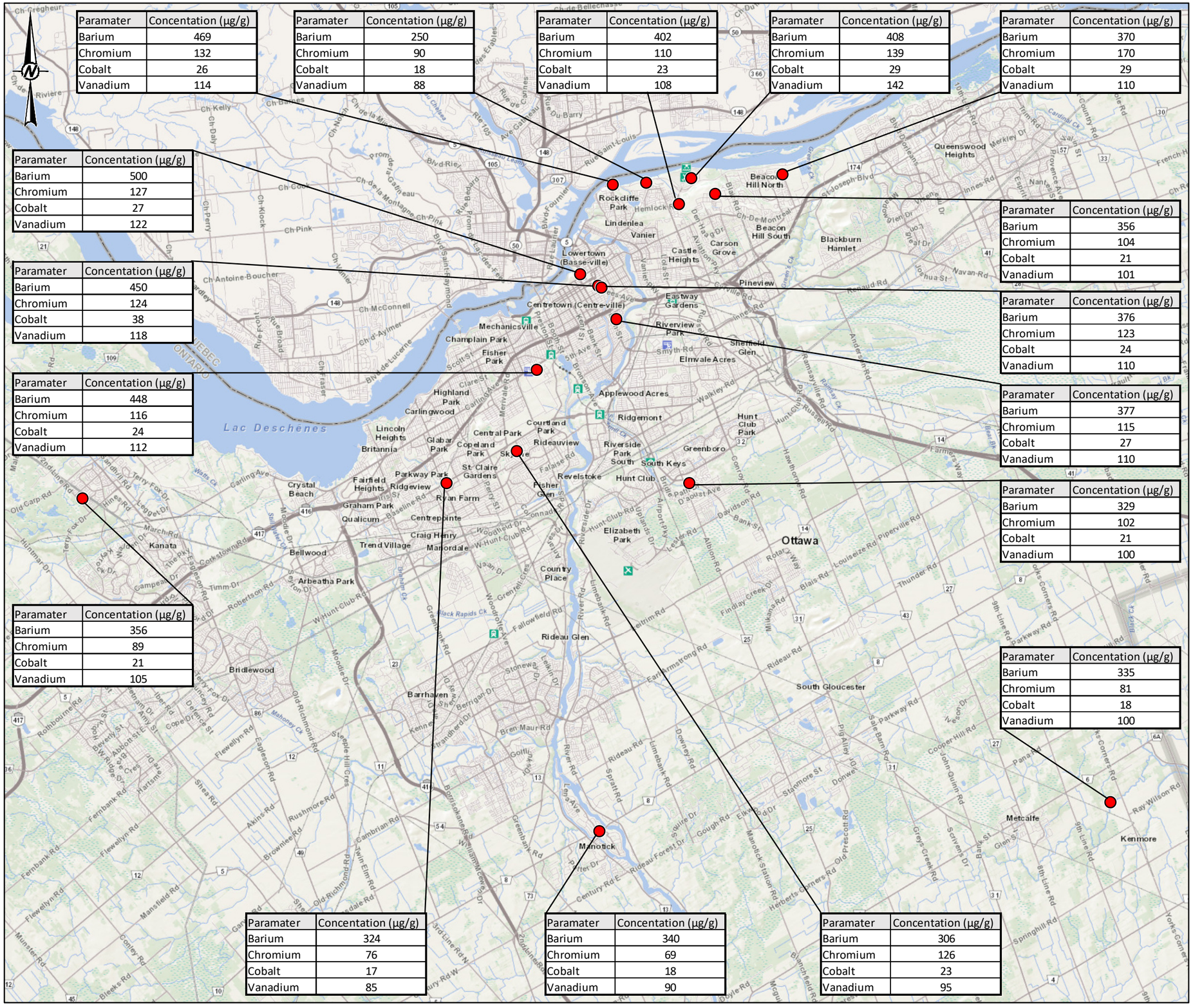
DST, May 2015. Phase Two Environmental Site Assessment, Wateridge Development, Former CFB Rockcliffe, Ottawa, Ontario.

Turekian and Wedepohl (1961). Distribution of the Elements in some major units of the Earth's crust. *Geological Society of America, Bulletin 72: 175-192).*

DST, March 2019. Evaluation of Background Concentrations of Selected Metals in Soil, Wateridge Development, Former CFB Rockcliffe, Ottawa, Ontario.

Geofirma and Dillon, Feb. 2018. Elevated Background Metals Concentrations in Fine-Grained Champlain Sea Deposits Eastern Ontario – Ottawa Region.

WSP Canada Inc. (formerly Golder Associates Ltd.) data set sourced from multiple Phase Two ESA and Excess soils projects for various private and public clients between 2015 and 2022.



LEGEND

- APPROXIMATE SAMPLING LOCATION

0 1,500 3,000 6,000

1:150,000 METRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 18N, PROJECTION: TRANSVERSE MERCATOR, DATUM: NORTH AMERICAN 1983

CLIENT

CANADA LANDS COMPANY

PROJECT

NATURALLY OCCURRING METALS MEMO
1076 HEMLOCK PRIVATE, OTTAWA, ONTARIO

TITLE

OTTAWA AREA NATURAL CONCENTRATIONS OF SELECT METALS IN CLAY

CONSULTANT

WSP GOLDER

YYYY-MM-DD	2023-01-11
DESIGNED	----
PREPARED	JEM
REVIEWED	TL
APPROVED	KPH

PROJECT NO.	CONTROL	REV.	FIGURE
19124906	0016	0	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25mm

PATH: S:\Clients\Canada_Lands_Company\Watergate_Village\99_PROJ\19124906_CLC_Enviro\0016_Metals_in_Clay\19124906-0016-HS-0001.mxd PRINTED ON: 2023-01-11 AT: 11:39:09 AM

APPENDIX G

Remediation Report

APPENDIX G

Remediation Report

Phase 7 at CLC Wateridge

Submitted to:

Canada Lands Company

1050-100 Queen Street
Ottawa, Ontario
K1P 1J9

Submitted by:

WSP Canada Inc.

1931 Robertson Road, Ottawa, Ontario
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19124906

February 2025

Distribution List

1 copy (.pdf) - Canada Lands Company

1 copy (.pdf) - WSP Canada Inc.

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REMEDIATION REPORT

This report describes the methods and results of the remediation of a parcel of land located on the north and central portions of the property located at the former Canadian Forces Base (CFB) Rockcliffe in Ottawa, Ontario (hereafter referred to as the "Site" or "RSC Property"). This document forms an appendix to the Phase Two ESA and should only be read in conjunction with the Phase Two ESA, which includes all figures and sections.

The Site has been considered as a single parcel of land in this remediation report and is part of 0 Tawadina Road. The Site has been identified as "RSC Property" as shown in Figure 1 of the Phase Two ESA. This remediation report should be read in conjunction with the Phase Two ESA report (*Phase Two Environmental Site Assessment, Wateridge Village, Phase 7, Part of 0 Tawadina Road, Ottawa, Ontario*).

Six areas of the RSC Property were remediated between September 2014 and January 2015 by another consultant for identified impacts, discussed under Section 1. Between November 2022 and May 2023, another two new remediations and expansion to three of the previous remediations were completed to remove impacts associated with poor quality fill, discussed under Section 2. The expansion of the previous remediations was required due to a change in site condition standards following the identification of sensitive species and habitats on and within 30 metres of the RSC Property.

1 HISTORICAL REMEDIATION

Based on findings of a historical Phase Two ESA, six areas of the RSC Property were identified as having exceedances of the Site Condition Standards and were remediated. The Site Condition Standards at the time of the historical remediation was MECP Tabel 3 R/P/I (residential/parkland/institutional). Discussion on the historical remedial programs in relation to the current Site Condition Standards (MECP Table 1) are discussed in Section 2. These remediated areas are identified as follows:

- Building 29, former auto club; PCA 10 Commercial Autobody Shop: Petroleum hydrocarbon and polycyclic aromatic hydrocarbon related soil and groundwater impacts (as indicated by blue polygon in Figure G1), associated with a former a former auto club, at the former building 29. This building (demolished in 1993) was located at the south-central part of the RSC Property. Remediation to address the identified soil and groundwater impacts were entirely on the RSC Property (discussed in Section 1.1).
- Building 22, former postal office and dry-cleaner (drop off); PCA 30 Importation of Fill Material of Unknown Quality: Petroleum hydrocarbon related soil and groundwater impacts (as indicated by blue polygon in Figure G1). No documented fuel storage was reported at Building 22 however, the building was demolished in 1993. In the absence of any fuel storage records, the impacts have been associated with poor quality fill including demolition debris and not as specific tank source. Building 22 was in the central part of the RSC Property. Remediation to address the identified soil and groundwater impacts was entirely on the RSC Property, (discussed in Section 1.2)
- TP31 poor quality fill; PCA 30 Importation of Fill Material of Unknown Quality: Identified metals impacts in fill in the northwestern portion of the RSC Property (as indicated by blue polygon in Figure G1). The initial exceedance was identified on the boundary of the RSC Property in the vicinity of former building 70/71 and was attributed to poor quality fill containing demolition debris. Remediation extended north from the RSC Property boundary and south, off-Site (discussed in Section 1.3).

- TP52 poor quality fill; PCA 30 Importation of Fill Material of Unknown Quality: Identified petroleum hydrocarbons and polycyclic aromatic hydrocarbons impact in fill in the eastern portion of the RSC Property (as indicated by blue polygon in Figure G1). Test pit TP52 is in the general area of former building 132 and the identified impact is attributed to building demolition debris in the fill (discussed in Section 1.4).
- Building 12, former railway and camera club; PCA 30 Importation of Fill Material of Unknown Quality: Identified metals impacts in fill in the southwestern portion of the RSC Property (as indicated by blue polygon in Figure G1 (discussed in Section 1.5).
- Building 3 former officers' quarters; PCA 30 Importation of Fill Material of Unknown Quality: Petroleum hydrocarbon related soil impacts (as indicated by blue polygon in Figure G1). No documented fuel storage was reported at Building 3 however, the building was demolished in 1993. In the absence of any fuel storage records, the impacts have been associated with poor quality fill including demolition debris and not as specific tank source. Building 3 was located at the north central portion of the RSC Property and remedial information is (discussed in Section 1.6.)

During the remediation work associated with above remediations, excavated soil was screened and separated into impacted soil exhibiting staining and/or distinct petroleum odors, which was immediately loaded and transported to licensed waste disposal facilities (BFI Canada and Lafleche Environmental Inc.) and non-impacted soil which was stockpiled on Site for subsequent evaluation. Stockpile samples were collected from each stockpile however, based on the results the stockpiles were later removed.

Interim and confirmatory wall and floor samples were collected from each excavation to confirm if the impacted material was removed. Excavation walls were sampled using grids of approximately 3 m^2, while excavation floors were sampled using grids of approximately 9 m^2. Samples from each excavation were submitted for laboratory analysis of COCs and were selected based on field screening results. Based on laboratory analytical results, excavations were extended laterally and/or vertically as necessary in the areas of reported impact until final confirmatory sampling indicated that no contaminated soil remained within the limits of the excavations and clean remedial excavation boundaries were established.

For each excavation, the final number of confirmatory soil samples, from the remedial limit and stockpiles, submitted for laboratory analyses was equal to or greater than the minimum requirements set out in Table 3 of Schedule E, O.Reg. 153/04 (as amended). Soil samples were collected in accordance with the Ontario Ministry of Environment, Conservation and Parks (MECP) sampling guidelines: “Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario”, December 1996 (as amended) as well as Ontario Regulation 153/04 Records of Site Condition (as amended).

1.1 Remediation at Building 29

Contaminants of concern at BLD 29 included PAHs, metals, PHC fractions F1-F4, and BTEX, present at a depth of between 0.5 to 2.0 meters below ground surface (mbgs). Remedial soil excavation work at Building 29 was completed between and September 2014 and December 2014 and included the excavation of 3,750 m^3 of contaminated soil. Remediation was completed to bedrock with average remedial depth of 2 metres or less, except in the south where topography increased extending to as much as 4 metres below ground surface.

The southern limit and floor of the remediation was defined by exposed bedrock with the northern, eastern and western walls were defined by a series of interim samples and remedial exploratory test pits until clean walls had

been achieved allowing the collection of validation samples. In total 96 screening samples were collected, and eight (8) confirmatory samples were submitted to the laboratory.

Backfilling of the excavation was completed on December 4, 2014, and included placement of 850 m^3 of imported crushed stone from Bearbrook Quarry, a licensed aggregate pit. Due to the topography, this remedial excavation only required partial backfilling.

1.1.1 Groundwater Quality at Building 29

COC in groundwater included PHCs which had been identified in monitoring well BHMW-12, located immediately south of the soil remediation. During soil remediation, groundwater infiltrating into the former Building 29 remedial excavation was found to contain PHC odours and sheen and was therefore pumped and treated on site by the contractor using a mobile water treatment system supplied by Clean Water Works (MECP Registration 3664-6GGPRM) and discharged to sanitary sewer.

Following soil remediation and backfilling, monitoring wells were installed within the remediation (BHMW29-1 and BHMW29-2) to validate the groundwater quality including previous existing monitoring well BHMW-12. Groundwater sampling completed after soil remediation at BHMW-12, BHMW29-1 and BHMW29-2, identified PHC (PHC F2 and F3) and PAH (methylnaphthalene and phenanthrene) at BHMW29-1 above site condition standards. Both BHMW-12 and BHMW29-2 satisfied site condition standards. As a result, additional groundwater extraction was undertaken from on-Site monitoring wells in the vicinity of BHMW29-1 in early 2015.

In total, approximately 1,000 m^3 of groundwater was removed and discharged to the sewer.

Following the additional groundwater extraction, groundwater sampling completed at Building 29 was carried out at BHMW29-1 in June 2020, June 2021 and November 2021; at BHMW29-2 in March 2015, April 2016 and June 2020); and, at BHMW-12 in April 2015, April 2016 and June 2020. During each of these sampling events, groundwater satisfied the site condition standards for both PHC F1 - F4, BTEX, PAHs and metals.

1.2 Remediation at Building 22

COCs at BLD 22 included PHC fractions F1 – F4, BTEX, PAHs and metals identified in six locations (BHMW22-5, BHMW22-1, TP56, TP22-1, TP22-4 and TP 22-5, present between 0.0 to 3.0 metres depth. Remedial excavation activities were complete between December 2014 and January 2015. Excavation began in the northern extents where the contamination was initially identified and extended southward, following bedrock surface. Contaminated soil was excavated down to bedrock throughout the entirety of the excavation. Remediation included the removal of stained bedrock in several locations, primarily in the southeastern portion. During excavation, impacted groundwater was observed entering the excavation and was subsequently pumped and disposed from the excavation, as discussed in 1.2.1 below. Following the collection of clean wall validation samples the excavation was backfilled. In total 259 soil samples were screened for COCs, and fifteen (15) confirmatory wall samples and two (2) test pit confirmatory samples were submitted to the laboratory. Contaminated soil was excavated down to bedrock, and as such no confirmatory floor samples were collected.

Based on the topography and shallow bedrock, the excavation was not backfilled and graded into surrounding land.

1.2.1 Groundwater Quality at Building 22

COCs in groundwater included PHC which had been identified in monitoring well BHMW-21, located immediately west of the soil remediation. During soil remediation, groundwater infiltrating into the former Building 22 remedial excavation was found to contain PHC odours and sheen and was therefore pumped and treated on site by the contractor using a mobile water treatment system supplied by Clean Water Works (MECP Registration 3664-6GGPRM) and discharged to sanitary sewer.

Following soil remediation and backfilling, monitoring wells were installed within the remediation (BHMW22-1, BHMW22-2) to validate the groundwater quality along with existing well BHMW23. Groundwater sampling completed after soil remediation at these three locations satisfied the site condition standards.

In total, approximately 1,000 m^3 of groundwater was removed and discharged to the sewer.

1.3 Remediation at TP31

Metal impacts were identified at TP31, located at northwest portion of the RSC Property which also extended off the RSC Property to the south with about half the remediation on either side of the property boundary. As discussed in section 2.1, the remediation completed in 2014/15 was done to MECP Table 3 Standards and required further remediation due to residual MECP Table 3 Standards. The following discussed the initial remediation to MECP Table 3 Standards.

In total, twenty-one (21) wall samples and twenty-three (23) floor samples were collected and screened. Of the samples collected and screened, eight (8) confirmatory samples, including five (5) wall samples and three (3) floor samples, were submitted for laboratory analysis.

Based on the results of the confirmatory samples, clean remedial excavation boundaries were established and 220 m^3 of impacted soil was disposed at a licensed waste facility. The excavation was backfilled between October 14 and 17, 2014 using crushed stone imported from Bearbrook Quarry, a licensed aggregate pit.

1.3.1 Groundwater Quality at TP31

To evaluate groundwater quality in the vicinity of this excavation, a monitoring well (BHMW 31-1) was installed on February 11, 2015, using a high torque track-mounted CME 850 drill rig to a depth of 4.87 mbgs. Following development of the newly installed monitoring well, a sample was collected and analyzed for metals. Analytical results indicated that each parameter concentrations were below the applicable site conditions standards.
No visual or olfactory evidence of petroleum impacts were observed during purging or sampling. As such no groundwater remediation was required or completed.

1.4 Remediation at TP52

COCs at TP52 were PAHs, PHC (F2-F4) in sample from TP52 taken from 0-0.4 metres depth. Soil remediation consisting of soil excavation from 0.0 to 0.6 metres depth, below the previously documented exceedance in September 2014. In total, forty-one (41) soil samples were screened for COCs, three (3) floor samples and five (5) wall samples were submitted to the laboratory. Clean remedial excavation boundaries were established based upon results of soil sample analysis indicating no exceedances of applicable MECP standards.

Based on the results of the confirmatory samples, clean remedial excavation boundaries were established and 180 m^3 of impacted soil was disposed at a licensed waste facility. The excavation was backfilled between December 4, 2014, using 110 m^3 of crushed stone imported from Bearbrook Quarry, a Licensed aggregate pit.

1.4.1 Groundwater Quality at TP52

No groundwater remediation was completed or required at this location as groundwater was assessed prior to the remediation at monitoring well BHMW52-1, installed following the remediation work. There were no detectable PHCs or PAHs present in the groundwater at this location requiring remediation.

1.5 Remediation at Building 12

COCs at BLD 12 included metals (lead, zinc and/or mercury in TP12-3 and TP12-2 at depths of 0 to 1 metres depth. Soil remediation consisting of excavation from surface to 1.0 meters. Remedial work was completed in December 2014. Upon completion of the remediation, forty-eight (48) walls samples and forty-three (43) floor samples were screened for CVCs. Thirteen (13) confirmatory soil samples comprising nine (9) wall samples and four (4) floor samples, were submitted to the laboratory for analysis of metals.

Clean remedial excavation boundaries were established based upon results of soil sample analysis indicating no exceedances of applicable standards. In total 600 m^3 of contaminated soil was removed for disposal off site at a licenced waste disposal facility.

The excavation was not backfilled due to the shallow depth and was safely sloped and left as is.

1.5.1 Groundwater Quality at Building 12

No groundwater remediation was completed or required at this location as groundwater was assessed prior to the remediation at monitoring well BHMW11, installed as part of the previous Phase Two ESA and BHMW12-1 and BHMW12-2 installed after the remediation was completed. There were no metals exceedances present in the groundwater at this location requiring remediation.

1.6 Remediation at Building 3

PHC impacts were identified at Building 3 (PHC heavy oils at a depth of 0-2.3 metres). Soil was excavated from between November 27 and 29, 2014 to a depth of approximately 2 metres and clean remedial excavation boundaries were established based on results of confirmatory soil sampling. In total, (49) forty-nine samples were screened and eight (8) confirmatory soil samples comprising three (3) floor samples and five (5) wall samples, were collected and submitted for laboratory analysis.

Based on the results of the confirmatory samples, clean remedial excavation boundaries were established, and 200 m^3 of impacted soil was disposed at a licensed waste facility. The excavation was backfilled on December 4, 2014 using approximately 200 m^3 of crushed stone imported from Bearbrook Quarry, a Licensed aggregate pit.

1.6.1 Groundwater Quality at Building 3

No groundwater remediation was completed or required at this location as groundwater was assessed prior to and after the remediation at monitoring well BHMW20, installed as part of the previous Phase Two ESA. On both occasions there were no detectable PHCs present in the groundwater.

2 2022 REMEDIAL ACTIONS

Due to the change in site condition standards from MECP Table 3 to Table 1 standards, additional exceedances were identified in the previous 2015 Phase Two ESA at TP 57(confirmed by 2021 test pit TP21-10) and at TP32. Additionally, a review of remedial verification samples collected in 2015 identified further remediation was required

at Building 29, TP31 and TP52 (verified by 2021 TP21-16). A summary of the remediation activities completed in 2022 is summarized below.

2.1 Additional Remediation at Building 29

The remedial excavation at Building 29 was extended 16 m^2 further southeast of the previous wall sample BLD-EW-SS32 where xylene 0.11 ug/g at 1 metre was identified over MECP Table 1 Standards. Two additional wall samples (VS-BLD-29-NW-1 and VS-BLD-EW1) were collected to revalidate the removal of the previous wall sample failure. The floor of the excavation was on bedrock and no floor samples were collected. The bedrock was at approximately 3.3 metres depth at this location. The excavation was subsequently backfilled with available on-Site soil, discussed in section 4.3.

No groundwater remediation was completed or required at this location as groundwater was previously validated during the 2014/15 remedial program.

2.2 Additional Remediation at TP31

Remedial excavation at TP31 was deepened to around 2-2.5 m to bedrock in the north portion of the remediation and widened 3 m to the east and west of the previous remediation at TP31 to address Table 1 Standards exceedance of PHC F2 of 20 ug/g in samples previously collected at TP31. Six new wall samples (VS-TP-EW1, VS-TP31- EW3, VS-TP-EW4 (east wall), VS-TP31-WW1 and VS-TP31-WW2 (west wall), VS-TP31-SW2 (southeast wall) and VS-TP31-F1 and VS-TP-F2 (floor) were collected to re-validate the remediation. The north wall was not extended and not re-sampled, and bedrock was present in the north portion of the floor. The excavation was subsequently backfilled with available on-Site soil, discussed in section 4.3.

No groundwater remediation was completed or required at this location as groundwater was previously validated during the 2014/15 remedial program.

2.3 Additional Remediation at TP52/TP21-16

The remedial excavation at TP52 was extended 120 m^2 area (4 m X 30 m) to the south of previous wall samples identified to be over MECP Table 1 Standards (TP52-WL-SS4 with benzene of 0.05 ug/g at 0.14 metres depth and TP21-16 with PHC F2 of 14 ug/g at 0.5 metres depth). TP21-16 was in the general area of the previous wall sample. The extended remediation was re-validated by the collection of six wall samples (VS-TP52-EW1, VS-TP52-EW2, VS-TP52-EW3, VS-TP52-WW1, VS-TP52-WW2, VS-TP52-SW3) and four floor samples (VS-TP53-FL1 through VS-TP-53-FL4). The excavation was between 1.0 and 1.8 meters in depth. The excavation was subsequently backfilled with available on-Site soil, discussed in section 4.3.

No groundwater remediation was completed or required at this location as groundwater was previously validated during the 2014/15 remedial program.

2.4 Remediation at TP32

A review of the previous Phase Two ESA identified a PHC F2 exceedances of the new MECP Table 1 Standards (PHC F2 of 20 ug/g at 0.1 m, delineated by a deeper sample at 0.5 metres depth). A remedial excavation was completed to a depth of 0.5 metres and validated by one floor samples (VS-TP32-F2) and three wall samples (VS-TP32-NW1, VS-TP32-EW1, VS-TP32-WW1). The excavation was subsequently backfilled with available on-Site soil, discussed in section 4.3.

Given the magnitude and depth of the exceedances, groundwater remediation was not required.

2.5 Remediation at TP57/TP21-10

A review of the previous Phase Two ESA identified a PHC F4 exceedances of the new MECP Table 1 Standards (PHC F4 of 560 ug/g at 0.1-1.0 metres) with additional identification of PAH exceedances at 2021 test pit TP21-10 (benzo(a)anthracene 0.45 ug/g, benzo(a)pyrene 0.47 and benzo(b)fluoranthene 0.7 ug/g at 0.5 metres). A remedial excavation was completed to a depth of 1.5 metres to bedrock and validated by two wall samples (VS-TP57-NW1, VS-TP57-EW1). The excavation was subsequently backfilled with available on-Site soil, discussed in section 4.3.

Given the magnitude and depth of the exceedances, groundwater remediation was not required.

2.6 Description of Soil Excavation Activities

2.6.1 Rationale and Methodology for Soil Removal and Treatment

The Site was remediated by excavating, removal and off-site disposal of the impacted fill that was identified in the Phase Two ESA (test pit and drilling program). This included the expansion of previous remedial excavations where historical remedial validation samples were identified as exceeding MECP Table 1 Standards. COCs identified in the fill were one or more of petroleum hydrocarbons (PHCs F1 to F4), BTEX, polycyclic aromatic hydrocarbons (PAHs) and metals.

Excavations were done using typical excavation techniques to bedrock refusal or to a depth exceeding the previous exceedances. Excavations were monitored in the field by DST (historical remediations) and WSP (2022 remediations) until clean validation samples were achieved. The limits of the excavation were determined based on field screening, interim sampling and exploratory test pits. In all cases, the excavations removed the documented exceedances found in the Phase Two ESA and validation samples collected satisfied the MECP Table 1 standards.

Excavated overburden was hauled to the Navan Road Waste Management and the West Carleton Environmental Centre landfills for disposal. No separation of soil or reuse of soil on the Site was carried out. No on-site treatment of excavated soil took place as part of this remediation work.

The bulk of the remediation occurred on-Site, however, the remediation of TP31, Building 22 and Building 29 extended off-Site.

2.6.2 Soil Treatment

No treatment of the soil was completed.

2.6.3 Location of Remedial Action

The impacted overburden was excavated and removed from the Site as indicated on Figure 1. Samples from the floor and sidewalls of the excavation were collected to confirm compliance with applicable site condition standards, where not consisting of exposed bedrock. The RSC Property is defined on the Survey Plan provided in Appendix E of the Phase Two ESA report and the location of this remedial excavation is shown on Figures 1, 3A-3F, 4A-4F and 5A-5F and cross sections Figures 9 to 16 of the Phase Two ESA.

2.7 Quantities of Soil Removed from the Property

At total volume of soil removed from the Site was reported to be approximately 9,000 m^3 during the 2014/15 remediations completed by DST. The additional 2022 expanded remedial program included the removal of an additional 570 m^3 of contaminated soil.

2.8 Groundwater Removal and Treatment

Groundwater treatment was undertaken at two of the remedial areas where groundwater exceedances were noted.

PHC impacted groundwater was removed from the remedial excavation at Building 22 by pump and removal method using a vacuum truck and in-situ carbon treatment and sewer disposal operated by Clean Water Works (MPECC Registration 3664-6GGPRM).

PHC impacted groundwater was removed from monitoring wells at Building 29 and treated with carbon filtration before sewer disposal.

2.8.1 Rationale and Methodology for Groundwater Removal and Treatment

Impacted groundwater was identified pre-remediation at Building 22 in monitoring well BHWM21 and was observed entering the excavation which extended up to BHWM21. Remediation was achieved in conjunction with the groundwater management of the excavation.

At Building 29, the excavation was not sufficiently deep to encounter groundwater and subsequently required the installation of extraction wells and pumping from within the bedrock to remove the documented PHC exceedances at monitoring well BHMW12.

2.8.2 Groundwater Treatment

No in-situ treatment of groundwater was required or completed other than carbon filtration required for off-site sewer discharge.

2.8.3 Location of Remedial Action

Pumping from within the building 22 remedial excavation and monitoring wells installed around the remedial excavation of building 29

2.8.4 Quantities of Groundwater Removed from the Property

Groundwater pumping during the remedial excavation of Building 22 removed 83,000 litres of water for disposal at a licensed waste disposal facility an additional 1,250 m3 of water was treated for sewer disposal (based on DST report of 2,500 m3 of groundwater treatment during remediation from two sites, including Building 22).

Groundwater pumped and treated for sewer disposal following the soil excavation at Building 29 removed upwards of 1,000 m3 of contaminated groundwater (based on DST report of 3,000m3 removed from three sites, one of which was Building 29, exact quantity not reported).

2.9 Sediment Removal and Treatment

2.9.1 Rationale and Methodology for Sediment Removal and Treatment

No sediment existed on the Site, and as such no treatment or remediation of sediment was required.

2.9.2 Sediment Treatment

No treatment of sediment was completed.

2.9.3 Location of Remedial Action

No remedial actions for sediment were completed.

2.9.4 Quantities of Sediment Removed from the Property

No sediment was removed from the property.

2.10 Permits

No permits were issued for this remediation work.

In 2022 Contaminated soil from the Site was hauled and disposed by R.W. Tomlinson Limited (Tomlinson) at the Waste Management West Carleton Environmental Centre landfill, Carp (Ottawa), Ontario which operates under a Certificate of Approval with the Ontario Ministry of the Environment.

Historically (2014/15) contaminated soil from the Site was hauled and disposed by Demo Plus at the BFI Canada (currently Waste Connections Canada), Navan (Ottawa), Ontario and Lafleche Environmental in Moose Creek, Ontario, which operate under a Certificates of Approval with the Ontario Ministry of the Environment.

2.11 Contaminants Introduced to the Property

No significant spills, leaks or releases were noted during the remediation process. No other contaminants were introduced to the Site.

To mitigate the accidental introduction of contaminants to the Site during the remediation process, the following control measures were implemented:

- Best practices were used for storage or handling of fuels and oils;
- Refueling procedures for machinery involved fuelling in non-remediated areas to more easily allow for cleanup of any potential spills;
- Validation of remediation completed in sections that did not require further vehicle traffic; and,
- Visual inspection of areas of the Site for any potential signs of contamination.

2.12 Baseline Conditions and Monitoring for Increases in Contaminants

The analytical baseline condition for the Site used to monitor any increase in contaminants was the Phase Two ESA sampling results. Monitoring for increases in contaminants was done by the WSP technician present on Site full time during the remediation. Similarly, a DST technician was present during the historical 2014/15 remedial work. All remedial work was monitored and documented any unexpected conditions throughout the remediation.

2.13 Groundwater Monitoring Well Selection

The monitoring wells installed on the RSC Property were completed for the Phase Two ESA. As described in the Phase Two ESA, supplemented by monitoring wells in within the remedial footprint following remediation. These wells were located to replace previous Phase Two ESA wells abandoned during the remediation or in areas of observed maximum contamination identified during remediation. Additional rationale for the monitoring locations is described in the Phase Two ESA report.

3 FREE FLOWING PRODUCT

3.1 Observations during Remediation

DST documented sheen and oily water entering the excavation of Building 22 and 29 which was pumped and removed along with all the contaminated groundwater.

3.2 Volume of Product Present and Removed

No flowing measurable product was observed or removed during the remediation process.

3.3 Product Recovery and Remediation

No flowing product was recovered from the Site during the remediation process however several thousand litres of PHC contaminated groundwater was pumped and discharged, after treatment, to the City of Ottawa sanitary sewer.

4 RESULTS OF CONFIRMATORY SAMPLING AND ANALYSIS

Upon completion of the remedial excavation, all soil on the RSC Property met the applicable Ontario Ministry of the Environment, Conservations and Parks (MECP) Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act Table 1: Generic Site Condition Standards for Residential Property Use, coarse-textured soil, dated April 15, 2011 (MECP Table 1 Standards). A limited number of confirmation samples had concentrations of one or more of barium, chromium (total), cobalt, or vanadium above the MECP Table 1 Standards, which were interpreted to be natural background metals.

Refer to Appendix F of the Phase Two ESA report provided in the attachments for further details.

4.1 Description of Confirmatory Sampling

4.1.1 Description of Confirmatory Sampling for Historical Remediation

Confirmatory soil samples (including duplicates) were collected during the various remedial excavations in 2014/15 (discussed in Section 1) and in 2022 (discussed in Section 2) at the RSC Property. The table below outlines the number of floor and wall confirmation samples collected at each remedial excavation during both remedial programs.

Table 1: Soil Validation Samples

Excavation Location	Wall Sample: 2014/15 (2022)	Floor Sample: 2014/15 (2022)
BLD 29	8 (2)	Bedrock
BLD 22	15 (0)	Bedrock
TP 31	5 (6)	3 (1)
TP 52	5 (6)	3 (4)
BLD 12	9 (0)	4 (0)
BLD 3	8 (0)	5 (0)
TP 32	0 (3)	0 (1)
TP 57	0 (2)	Bedrock

4.1.2 Description of Confirmatory Sampling for 2022 Remediation

A total of sixty-nine (69) wall and twenty-one (21) confirmatory soil samples were collected during the two remedial programs from eight separate remedial excavations. All confirmatory samples collected during the remediation met MECP Table 1 Standards, excluding the two 2014/15 wall samples that were identified to be between Table 3 (previous remedial standard) and Table 1 (were removed by the 2022 remedial work). Three of the remediations extended down to bedrock or included partial bedrock floors, reducing the number of floor samples collected. Remedial excavations at BLD 22, BLD 29 and TP 31 extended off-Site due to the establishment of the RSC Property boundary after the completion of remediation. The result being nine confirmatory samples were located off-Site.

During the remediations, several progress samples were collected that exceeded the SCS and were removed. These samples were used to guide the excavations to their final validation walls and floors. Field screening using a combustible vapour metre was undertaken for samples collected on a grid along each wall and floor such that the samples with the highest contaminant potential were submitted for analysis.

Soil samples were collected by hand directly from the excavation at all locations using a cleaned stainless steel hand trowel. Disposable nitrile gloves were worn by WSP/DST personnel during soil sampling and gloves were changed between samples. Soil samples were placed in glass jars and vials supplied by the analytical laboratory for chemical analysis of one or more of PHC F1 to F4, BTEX, PAHs and metals, depending on the nature of the exceedance found in the Phase Two ESA. Soil samples were kept on ice and were delivered to the analytical laboratory, Bureau Veritas Laboratories (BV), AGAT Laboratories or Paracel Laboratories.

Details regarding the collection and screening of soil samples have been discussed under respective remedial tasks (sections 1 and 2). Details of soil samples submitted for laboratory analysis, including quality assurance/quality control (QA/QC) samples, are provided in the Phase Two ESA laboratory report tables.

Groundwater validation was completed where COCs were present above SCS at BLD 22 (PHC F1 to F4, BTEX) and BLD 29 (PHC F1 to F4, BTEX and PAHs). Monitoring wells were installed through the remedial backfill and screened in the bedrock below the excavation. Monitoring wells were installed to replace previously abandoned wells where exceedances were noted with consideration to the worst-case soil impacts observed during remediation. Sampling was completed at BLD 29 at monitoring well BHMW12 (existing), BHMW29-1 and BHMW29-2 and at BLD 22 at BHMW22-1, BHMW22-2 and BHMW23 (existing). At least two consecutive samples meeting the Table 1 SCS were collected from each of these locations following remediation, as follows.

Table 2: Groundwater Validation Samples

Remedial Excavation	Monitoring Well	Post Remediation Sampling dates: Consecutive Samples Meeting Table 1 SCS
BLD 29	BHMW12	April 2015, June 2020
	BHMW29-1	June 2020, June 2021, November 2021
	BHMW29-2	March 2015, April 2016
BLD 22	BHMW22-1	March 2015, April 20016
	BHMW22-2	March 2015, April 2016
	BHMW23	March 2015, April 2016

No Phase Two ESA groundwater exceedances were present at any of the other remedial locations.

4.2 Rationale and Methodology for Confirmatory Sampling – 2022 Remediation

4.2.1 Contaminants of Concern (COCs)

Confirmatory sampling was conducted to ensure that all contaminated soil was removed from the Site. As documented in the Phase Two ESA, the COCs for the Site are PHCs, PAHs and metals for soil. More specifically, Phase Two ESA exceedances by remedial location are outlined below. The 2014/2015 remedial validation of BLD 22 did not include PAHs in validation testing, however, being associated with very high concentrations of PHCs concentrations it was considered as having been removed by the validation for PHCs.

Table 3: Phase Two ESA Exceedances

Remedial Location	Phase Two ESA Exceedance: COCs for Remediation	
	Soil	Groundwater
BLD 29	PHC/BTEX (PHC F2-F4), PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, methylnaphthalene, naphthalene, phenanthrene) and xylenes	PHC/BTEX (PHC F2, F3) and PAHs (Naphthalene and Phenanthrene)
BLD 22	PHC/BTEX (PHC F2-F4) and PAHs (dibenzo(a,h)anthanthrene)	PHC/BTEX (PHC F2)
TP 31	PHC/BTEX (PHC F2) and metals (zinc)	None
TP 52	PHC/BTEX (PHC F2-F4) and PAHs (dibenzo(a,h)anthracene)	None
BLD 12	Metals (lead, zinc, mercury)	None
BLD 3	PHC/BTEX (TPH h/o (PHC F3, F4))	None
TP 32	PHC/BTEX (PHC F2)	None
TP 57	PHC/BTEX (PHC F4) and PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(a)fluoranthene)	None

4.2.2 Sampling Frequency, Number of Verification Samples

The verification sampling program included the collection of samples as per the guidance for sampling and analysis frequency is provided in O. Reg 153/04, as amended, Schedule E, Table 3 (Minimum Confirmation Sampling Requirements for Excavation), with exception of where bedrock was encountered.

Table 4: Remediation Size and Verification Sampling Frequency

Excavation Location	Excavation Area (m2)	Wall Sample/153 T3 Schedule E	Floor Sample/153 T3 Schedule E
BLD 29	2,235	10/5	Bedrock/NA
BLD 22	1,600	15/5	Bedrock/NA
TP 31	157	11/3	4/5[a]
TP 52	330	11/3	7/5
BLD 12	500	9/4	4/6[a]
BLD 3	160	8/3	5/5
TP 32	10	3/2	1/2[a]
TP 57	22	2/2	Bedrock/NA

Notes: “a”: Phase Two ESA vertical delineation samples at TP32, TP12-2 and TP12-3 and TP31 used to supplement the floor samples to meet required density.

As indicated in the above table, the sample frequency meets the minimum soil sampling frequency target for the remediation.

4.2.3 Sampling Locations and Depths

Sampling locations are shown on the site plan and cross sections contained in Figures 3, 4, 5 (A-F) and 9 through 16 of the Phase Two ESA report. Generally, the samples are described as follows:

Floor Samples: Floor samples were collected at the base of the remediation where no bedrock was present. Where available Phase Two ESA vertical delineation samples collected from below the remedial base were used to supplement the validation. Sampling locations was based on a combination of visual observations and combustible vapour readings taken on screening grid. The depth of floor samples by remediation area is as follows:

Table 5: Remediation Floor Validation Depth

Excavation Location	Approximate Base of Remediation (mbgs)
BLD 29	1.8-4.0
BLD 22	2.0-4.0
TP 31	2.0
TP 52	0.6-1.8
BLD 12	1.0
BLD 3	2.4
TP 32	0.5
TP 57	1.5

Wall Samples: Sampling locations was based on a combination of visual observations and combustible vapour readings taken on screening grid. The depth of wall samples varied based and were spatially distributed around the excavations. The range of validation wall sampling depth is presented below.

Table 6: Remediation Wall Validation Sample Depth

Excavation Location	Approximate Wall Sample Depth (mbgs)
BLD 29	0.4-3.8
BLD 22	0.55-4.0
TP 31	0.35-2.4
TP 52	0.14-0.48
BLD 12	0.4-0.85
BLD 3	0.8-1.9
TP 32	0.5
TP 57	1.5

4.3 On-Site Backfill

285 cubic metres of native soil that had been stockpiled at the south end of the RSC property, located south of the Building 12 Remediation, was used to backfill the 2022 remediations. The stockpile from which the material originated was sampled in accordance with the stockpile frequency under O.Reg 153/04 and analysed for metals, PAH, and PHC+BTEX for a stockpile approximately 5,000 m^3 in size. This included thirty-nine samples plus 3 duplicates from the stockpile on the development property. Each of the samples was found to meet the MECP Table 1 Standards, excluding naturally elevated metals (barium, chromium, cobalt and vanadium) which were interpreted to be natural background metals, and which were also present in some of the confirmatory wall and floor samples.

Refer to Appendix F of the Phase Two ESA report provided in the attachments for further details.

4.4 Quarterly Groundwater Sampling

As discussed in the Phase Two ESA, groundwater exceedances at the RSC Property was present at two locations, BLD 22 and BLD 29. Following the groundwater remediation activities (removal and disposal via treatment and sewer disposal), two or more groundwater samples were collected at the two locations. The monitoring well locations sampled, and dates of the sampling are presented in Section 4.1.2.

4.4.1 Groundwater Levels and Well Construction Details

The following is a summary of the well construction details and water levels for the monitoring wells used to validate the groundwater at the two remedial excavations.

Table 7: Groundwater Validation Well Details

Remedial Excavation	Monitoring Well	Screen Depth (mbgs)	Water Level (mbgs) March 2015
BLD 29	BHMW12	3.6-6.6	5.03
	BHMW29-1	2.8-4.9	2.35
	BHMW29-2	2.8-5.8	3.59
BLD 22	BHMW22-1	3.3-6.3	3.00
	BHMW22-2	2.5-5.5	3.98
	BHMW23	3.3-6.0	1.98

4.5 Quality Assurance and Quality Control Results

The data collected as part of the remediation field program was evaluated for its validity: precision, accuracy, completeness, representativeness and comparability.

WSP and the previous consultant collected a series of duplicates during the remedial programs. WSP collected three duplicate samples in 2022 and DST collected 11 for all COCs. This represents 10% of the total number of samples collected (140). Calculated RPDs for PHCs (not calculated, below MDL), metals (0-26%) and PAHs (22-73%) were within acceptable limits except for 6 individual PAH parameters with RDLs over 50%. Most of the sampling was completed in fill which has a high degree of sample heterogeneity affecting the RPDs in some instances.

As part of the remediation, WSP implemented the following measures to ensure that representative data was obtained:

- An appropriate and representative number of samples were analyzed;
- Use of dedicated or cleaned sampling equipment between samples;
- Use of appropriate laboratory supplied sampling jars and bottles;
- Analysis within an acceptable holding time as specified in the MECP document "*Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act",* March 9, 2004 (amended as of July 1, 2011);
- Delivery of samples under a Chain of Custody; and,
- Laboratory analysis by SCC accredited laboratory.
- Field procedures and analytical methods were consistent with industry-approved standards to allow for comparison of data with the applicable MECP standards.

Based on the above, it is considered that the data collected at the RSC Property during the remediation is representative of the RSC Property environmental conditions at the time the work was completed. Accordingly, the analytical data generated during the investigation are valid and representative and may be used in this remediation report without further qualification.

5 SOIL BROUGHT TO THE PHASE TWO PROPERTY

To backfill the remedial excavation, DST imported 1,380 m^3 of crushed rock fill from a licensed quarry (Bearbrook Quarry) for use as backfill at the completion of the 2014/2015 remediation. The Bearbrook Quarry is a MNRF licenced quarry. As prescribed under Ontario Regulation 406/19, neither rock or material from a licensed source require testing to satisfy the excess soil regulation and by default satisfies the testing requirements of Ontario Regulation 153/04.

The 2022 remediation program utilized 285 m^3 soil from a soil stockpile south of the Building 12 Remediation, located at the southern limit of the RSC Property, and was not considered as soil brought to the Phase Two Property. Backfill is discussed in the remedial confirmation section.

6 CONCLUSIONS

The remediation of the Site included removal of all impacted soil from the RSC Property. This was completed by mechanical means using hydraulic excavators. Following the excavation, soil verification samples were collected and submitted to BV Labs for the Contaminants of Concern. Based on the verification samples, all of which met the MECP Table 1 Standards and the fact that the groundwater was found to meet the Site standards during the Phase Two ESA, it is concluded that all media on the RSC Property satisfied the MECP Table 1 Standards following remediation.

7 SIGNATURES

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https://wsponline.sharepoint.com/sites/gld-110705/project files/6 deliverables/phase two esas/phase two esa - phase 4-2 & 7_rsc/rsc filing_feb 2025/8. phase two csm_parcel 7/19124906_app g rsc_rem parcel 7_final_28aug2025.docx

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