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**PRELIMINARY HYDROGEOLOGIC BASELINE STUDY
237 BRANT STREET
HAMILTON, ONTARIO**

Prepared for:

COBRIC CHEMICALS INC.
150 Albert Street
Midland, Ontario
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Attention: Mr. Thomas Stephenson

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- Attachment A Regional Physiography
- Attachment B Regional Bedrock Geology
- Attachment C Regional Water Table Elevation and Inferred Groundwater Flow
- Attachment D MECP Water Well Records Summary
- Attachment E Site Plans
- Attachment F Monitoring Well Logs
- Attachment G Laboratory Certificates of Analysis

1. INTRODUCTION

1.1 Project Understanding, Purpose, and Use

Further to your request, XCG Consulting Limited (XCG) is pleased to provide Cobric Chemicals Inc. (Cobric) and GFL Environmental Services Inc. (GFL) with our summary report for the Preliminary Hydrogeologic Baseline Study (Study) conducted by XCG at 237 Brant Street, Hamilton, Ontario (Facility). Refer to the site location map shown on Figure 1.

It is understood that Cobric and GFL have proposed the construction of an Electric Arc Furnace Dust (EAFD) recycling operation at the Facility and are in the process of completing an Environmental Screening Review (ESR) as defined by Ontario Regulation (O. Reg.) 101/07 – Waste Management Projects under the Environmental Assessment Act. It is XCG’s understanding that the Study has been undertaken to support the ESR. The purpose of the Study is to determine the baseline groundwater characteristics/chemistry, to provide analysis on how the EAFD recycling Facility could impact current groundwater conditions, and to develop a long-term monitoring plan for implementation once the EAFD recycling Facility is operational.

This document provides a summary of the Study, including the field activities and methods, findings of the investigation, sample analytical results, and a comparison to current Ministry Standards.

1.2 Assessment Criteria

The environmental conditions on the subject site have been compared to the generic site condition standards (SCS) published by the Ministry of the Environment (MOE, or the Ministry¹) in the document “Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act*,” dated April 15, 2011 (MOE SCS).

Based on the site location, current and proposed future land use, the MOE SCS for industrial/community/commercial (ICC) land uses in a non-potable groundwater situation (i.e., MOE Table 3 SCS) will be used for assessment purposes.

1.3 Scope of Work

To achieve the project objectives, XCG completed the following scope of work:

Desktop Study

- Review of site activities and features to inform potential areas of concern and contaminants of concern (COCs).
- Review of published hydrogeologic features of the subject site and surrounding area.

¹ Previously known as the MOE, the Ministry of the Environment and Energy (MOEE), and the Ministry of the Environment and Climate Change (MOECC). Currently known as the Ministry of the Environment, Conservation and Parks (MECP).



- Review of surface water drainage features, storm sewer connections, and outflow locations.

Field Study

- XCG coordinated the mobilization and demobilization of all personnel and equipment required to complete the work. Prior to the subsurface investigations, public and private utility locates were completed in all of the areas where subsurface work was conducted.
- Advancement of six boreholes on the subject site to investigate soil stratigraphy and current soil conditions. The boreholes were completed to depths ranging from 6.1 to 7.6 metres below ground surface (mbgs).
- Instrumentation of each of the six boreholes as monitoring wells, to investigate the current groundwater quality.
- Collection of soil samples from each borehole location and field screening for evidence of impacts, including staining, odours, and the presence of total organic vapours (TOVs), which were measured using a handheld gas meter (e.g., RKI Eagle portable gas detector).
- Development and collection of groundwater samples from all newly installed groundwater monitoring wells.
- Submission of select soil samples from each borehole for chemical analysis of one or more of petroleum hydrocarbons (PHCs) (Fractions F1 to F4), volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), and metals. One 'worst case' soil sample and one deeper sample were collected. One field duplicate soil sample was also collected.
- Submission of groundwater samples for chemical analysis of PHCs (F1 to F4), VOCs, PAHs, and metals from each monitoring well including one field duplicate sample.
- Surveyed the new monitoring wells, and measurement of the depth to groundwater for confirmation of the inferred direction of shallow groundwater flow.
- Collection of a composite soil sample from the soil cuttings created during the drilling activities and submission for leachate analysis using the toxicity characteristic leaching procedure (TCLP) for waste characterization and appropriate soil cuttings drums disposal after the investigations (undertaken by GFL internal resources).
- Review and assessment of field and analytical data.
- The described sampling program was conducted in general accordance with the MOE sampling protocols, including quality assurance and quality control (QA/QC) methods, as described in the MOE document, "Guide for Completing Phase Two Environmental Site Assessments under Ontario Regulation 153/04," dated June 2011 and in the MOE document "Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the



Environmental Protection Act,” dated March 9, 2004, amended as of July 1, 2011 (Analytical Protocol).



2. HYDROGEOLOGICAL SETTING

A review of available literature and databases was carried out prior to the initiation of site work to determine the general geological, hydrogeological, and physiographic characteristics of the study area. Soil, bedrock, groundwater, and topographic information were obtained from various sources such as MECP water well records, various Ontario Geological Survey mapping studies, Source Water Protection (SWP) studies, and the Hamilton Conservation Authority (HCA) website.

2.1 Regional Setting

2.1.1 Regional Physiography

The Facility is located within the physiographic region known as the Iroquois Plain, which occupies most of the Niagara Peninsula that lies north of the Niagara Escarpment. The Iroquois Plain can generally be described as beach deposits formed along lake shoreline and lacustrine plain extending to Lake Ontario which represents lake bottom sediments smoothed by wave action. A map of the regional physiography is provided in Attachment A.

2.1.2 Regional Geology and Hydrogeology

The surficial geology in the vicinity of the Facility comprises two units, described as follows:

- Unit 1-Modern alluvial deposits of clay, silt, sand and gravel; and,
- Unit 2-Coarse-textured glaciolacustrine deposits of sand, gravel, gravel, minor silt and clay.

The surficial geology mapping shown on Figure 2 was produced from the Ontario Geological Survey (OGS) Miscellaneous Release- Data (MRD) 128-Rev, dated 2010. Figure 2 depicts most of the surficial geology within the Facility boundaries being comprised of Unit 2. However, direct observations made by XCG during borehole drilling and soil sampling activities suggest the surficial geology of the Facility in the areas of investigation was comprised of clay soil best corresponding to Unit 1 described above.

Based on the available bedrock geology mapping provided by the OGS MRD126-Rev1, dated 2011, the bedrock geology underlying the Facility can be described as shale, limestone, dolostone and siltstone belonging to the Queenston Formation. A map of the regional bedrock geology is provided in Attachment B.

The regional water table elevation and inferred direction of groundwater flow are shown on the map provided in Attachment C. The direction of shallow (water table) groundwater flow is inferred to be to the north, in the general direction of Hamilton Harbour, which is located about 650 metres north of the Facility.



2.1.3 Existing Water Records

Water Well Records (WWR) were obtained online from the MECP database and reviewed and summarized to assess the wells located within approximately 500 m of the Facility. A tabulated summary of these WWR is provided in Attachment D.

Twenty-nine WWR were identified as being located within 500 m of the Facility, none of which were identified to be within the property boundaries of the Facility. The locations of these WWR are shown on Figure 3.

Of the 29 WWR reviewed, four were identified as being used for supply wells, twelve did not describe any well use, and the remainder were identified as observation/monitoring wells or test holes.

With respect to the supply wells noted above, based on the Facility's urban setting and their dates of installation (1962 or earlier), it is considered unlikely that any of these supply wells are still active, and so they are not considered a concern with respect to future development plans.

2.2 Site Setting

2.2.1 Site Servicing

The Facility is located in an urbanized area of Hamilton and is fully serviced by municipal water supply and sewers. Plan drawings showing Site Servicing and Site Grading are provided in Attachment E.

As shown on these plan drawings, various underground utilities are present immediately offset from the north, south, east, and west property boundaries.

The on-site storm water services comprise a series of catch basins and sewers which collect and direct the storm water across the Facility generally in a westerly direction towards Birch Avenue, where they connect to the municipal storm sewer system.

Paved surfaces within the Facility are sloped such that surface flow is directed towards the series of storm water catch basins.

2.2.2 Local Topography

The topography in the central and eastern portions of the Facility is relatively flat, with a moderate westerly slope toward Birch Avenue in the western area of the Facility.

As shown on the monitoring well logs in Attachment F, the surface elevation across the Facility ranges from a high of 79.3 metres above mean sea level (m asl) in the east area of the Facility, to a low of 76.8 m asl at the west property boundary near Birch Avenue.

2.2.3 Local Geology and Hydrogeology

Based on the observations made during the borehole advancement and monitoring well installations undertaken by XCG, the general subsurface stratigraphy consists of the following units (top to bottom):

- **Asphalt** layer ranging from approximately 0.05 m to 0.10 m thick.



- **Granular Fill** consisting mainly of sand and gravel, greyish in colour, with occasional asphalt and brick debris, and some field evidence of petroleum hydrocarbons. The thickness of this unit varied from approximately 0.5 m to 2.0 m.
- **Native Clay**, with trace silt, glaciolacustrine in origin, having medium to high plasticity, light to grey colour, and exhibiting no field evidence of impacts. This unit extended to the maximum depth of the borehole advancement (7.6 m).
- **Bedrock** was not encountered in any of the boreholes advanced by XCG as part of the Study. However, WWR 6804369, located approximately 100 metres south of the Facility, indicates that the base of the native clay and the top of the bedrock coincide at approximately 15 mbgs.

The monitoring well locations installed as part of the preliminary hydrogeologic baseline study are shown on Figure 4. The property boundaries as shown on Figure 4 are based on those shown on the Site Grading Plan provided in Attachment E. However, the west property boundary near monitoring well MW1 does not appear to extend to the full limit of the asphalt-covered (in use) area, suggesting the property boundary as shown may not be current, and may need to be updated.

Geologic cross sections shown on Figure 5A and Figure 5B were developed using the recently collected borehole information, as well as information provided in the WWR.



3. INVESTIGATION METHODS

3.1 General

Prior to commencing on-site drilling activities, all public utility services were cleared by Ontario One Call members. XCG also retained Landshark Locates to clear all work areas on the Facility for any private underground utilities.

The sampling program was conducted in general accordance with the Ministry sampling protocols, including QA/QC methods, as described in the Ministry document “*Guide for Completing Phase Two ESAs under Ontario Regulation (O. Reg.) 153/04*,” dated June 2011. All chemical analyses were performed in accordance with O. Reg. 153/04 (as amended), and specifically, the related document entitled *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act, March 2004 (amended as of July 1, 2011)*.

XCG’s review of site activities and features did not identify any particular or anomalous areas of concerns, other than the main building itself. The investigative (monitoring well) locations were selected primarily to provide coverage near the property boundaries to confirm if contaminants have entered the subsurface from historical activities and if there is potential for impacted groundwater to migrate off-site.

The compounds selected for chemical analyses (PHC, VOC, PAH, and metals) were selected based on historic and planned activities undertaken at the Facility, as well as to assess for potential impacts associated with local fill materials.

3.2 Drilling

A total of six new boreholes (MW1, MW2, MW3, MW4, MW5 and MW6) were drilled on the Facility on May 5 and May 6, 2022. All six boreholes were installed as groundwater monitoring wells, identified as MW1, MW2, MW3, MW4, MW5, and MW6.

All boreholes were drilled by Aardvark Drilling Inc. of Guelph, Ontario (Aardvark). Aardvark is a MECP-licensed drilling contractor. The drilling activities were observed by representatives of XCG.

All six new boreholes were advanced using a CME-75 track-mounted drilling rig equipped with split spoon samplers and hollow-stem augers to a maximum depth of 7.6 mbgs (25 feet).

The approximate locations of the boreholes (monitoring wells) are shown on Figure 4. Borehole logs completed for the above-mentioned newly installed monitoring wells are provided in Attachment F.

3.3 Soil Sampling

During the advancement of the six new boreholes using the CME-75 truck-mounted drilling rig, soil samples were retrieved using 0.6-metre split-spoon samplers advanced at 0.76-metre intervals.



Soil samples collected from each borehole were logged for physical characteristics, as well as olfactory and visual evidence of contamination. Soil samples were collected in sealable plastic bags. Soil samples from each borehole were screened for visual and olfactory evidence of organic vapour using the headspace method using a calibrated RKI Eagle portable gas detector. Vapour measurements were taken from the headspace in the sample bags.

Two soil samples were submitted from each borehole and submitted for analysis of PHC (F1 to F4), PAH, VOC, and metals. At five of the locations (MW2 through MW6), one sample each was submitted from the granular fill and the underlying native clay. At MW1, two samples of the native clay were submitted for analysis.

The granular fill samples were submitted for analysis because they were considered to be “worst-case” based on field observations, while the samples of the underlying native clay were submitted for analysis to verify that any impacts present in the granular fill did not extend downward into the native clay.

All soil samples were logged for geologic detail and recorded on XCG standard stratigraphic log forms.

3.4 Groundwater Monitoring Well Installation

As described in Section 3.2, the drilling activities were completed by Aardvark using a CME-75 truck-mounted drilling rig. Following the completion of drilling and soil sampling activities, all six new boreholes were instrumented as monitoring wells and identified as MW1 through MW6.

All newly installed monitoring wells were constructed using 51-millimetre (2-inch) diameter PVC Schedule 40 pipe, equipped with 10-slot, 3.0-metre-long screens. For each newly installed monitoring well, a clean silica sand filter pack was placed around the screen, extending approximately 0.15 metres to 0.3 metres above the top of the screen and a bentonite seal was placed above the filter packs to backfill the remaining borehole annulus. All newly installed monitoring wells were completed with a well cap and a protective casing set into a concrete collar at grade.

The monitoring well development activities at the newly installed monitoring wells were completed on May 13, 2022.

3.5 Elevation Surveying

The six newly advanced monitoring wells were surveyed by XCG on May 13, 2022 to establish reference elevations on the riser pipes (measuring points) and ground surface. The site datum (benchmark) used was the catch basin located adjacent to the south end of the weigh scale, having an elevation of 257 feet a msl (78.39 m amsl) provided on the Grading Plan provided in Attachment E.

The elevations were measured using a Topcon RC-H3A rotating laser level. The elevations of the ground surface and top of riser pipe (TOP) at each monitoring well location are shown in Table 1 and are also shown on the monitoring well logs.



3.6 Groundwater Monitoring and Sampling

The water levels at the six new monitoring wells were measured on May 13, 2022 and again on May 20, 2022. These water level measurements and corresponding elevations are summarized in Table 1.

The groundwater elevations measured on May 20, 2022 are presented as interpolated elevation contours on Figure 6.

The groundwater samples were collected on May 20, 2022. The samples were transferred directly into laboratory-prepared and supplied containers using dedicated sampling equipment. The samples were submitted under chain-of-custody protocol for laboratory analysis. All samples that were analyzed for dissolved metals were pre-filtered in the field using 0.45-micron disposable filters.

3.7 Analytical Testing

All soil and groundwater samples were submitted under chain of custody protocols to ALS Environmental (Waterloo) for analysis.

The soil and groundwater samples were analyzed for PHCs (F1 to F4), VOCs, PAHs, and metals. These analytes were chosen to provide a baseline of the groundwater and soil quality at the Facility.

The laboratory certificates of analysis are provided in Appendix G.

3.8 Quality Assurance and Quality Control Measures

All groundwater sample containers were prepared and supplied by the laboratory performing the analysis. The sample containers for each suite of parameters were prepared as required by laboratory protocols.

The laboratory QA/QC program included laboratory replicates, method blanks, matrix spikes and surrogate percent recoveries.

All sample containers were labelled with all required information, including preservation, sample identification, company identification, project identification, date and time of sample collection, and requested analysis. Following the sample collection, all samples were placed in a cooler with icepacks to maintain a temperature less than 10 degrees Celsius. All samples were submitted using chain of custody protocols to the laboratory for analysis.

4. RESULTS

4.1 Monitoring Well Details

The monitoring wells installed as part of the study consisted of the following:

- Six monitoring wells (MW1 through MW6) were installed at depths ranging from 6.1 mbgs to 7.6 mbgs.
- All the monitoring wells were constructed with 50 mm diameter, 3.1 metre length slotted PVC well screens, which were installed entirely within the native clay soil.
- The water levels observed on May 20, 2022, ranged from approximately 1.5 to 6.5 mbgs.

Monitoring well instrumentation logs are provided in Attachment F, and the monitoring well locations are shown on Figure 4.

4.2 Water Level Monitoring

Groundwater levels were measured at the newly installed monitoring wells on May 13, 2022 and May 20, 2022. These measurements and resultant groundwater elevations are summarized in Table 1.

As noted above, the groundwater depths measured at the newly installed monitoring wells ranged from approximately 1.5 mbgs to 6.5 mbgs.

The groundwater elevations at the monitoring wells and the interpolated elevation contours are shown on Figure 6, using measurements collected on May 20, 2022. The inferred direction of local shallow (water table) groundwater flow is generally to the west/southwest, as indicated by the flow direction arrows on the figure.

As described Section 2.1.2, on a regional scale the direction of shallow groundwater flow is inferred to flow in a northerly direction toward Hamilton Harbour. The observed discrepancy between the groundwater flow direction observed locally (Figure 6) and regionally (Attachment C) is likely due the local buried utilities interfering with the natural flow of groundwater, or possibly localized topographic effects.

4.3 Groundwater Quality

The groundwater analytical results are provided in Tables 2 to 5, attached, and are summarized as follows:

PHCs: As shown in Table 2, there were no exceedances of the MOE Table 3 generic SCS for PHCs (F1-F4) in any of the groundwater samples from any of the monitoring wells. There were no PHC compounds detected above the laboratory reportable detection limit (RDL) in any of the samples.

Metals: As shown in Table 3, there were no exceedances of the MOE Table 3 generic SCS for metals in any of the samples.

PAHs: As shown in Table 4, there were no exceedances of the MOE Table 3 generic SCS for PAHs detected in any of the samples from any of the monitoring wells.



VOCs: As shown in Table 5, no VOCs were detected in any of the samples from any of the monitoring wells, other than a low-level detection of chloroform at monitoring well MW1.

4.4 Soil Quality

The soil analytical results are provided in Tables 6 to 9, attached, and are summarized as follows:

PHCs: As shown in Table 5, there were no exceedances of the MOE Table 3 generic SCS for PHCs (F1-F4) in any of the analyzed soil samples.

Metals: As shown in Table 5, there were exceedances of the MOE Table 3 generic SCS for at least two metals parameters, specifically cadmium, lead and zinc, in the samples of the shallow granular fill collected at MW2, MW3, MW4, MW5, and MW6. There were no metals exceedances in any of the samples collected from the deeper native clay soil.

PAHs: As shown in Table 4, there were no exceedances of the MOE Table 3 generic SCS for PAHs detected in any of the samples from any of the monitoring wells.

VOCs: As shown in Table 5, no VOCs were detected in any of the soil samples (granular fill or native clay) from any of the monitoring wells.



5. LIMITATIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Limitations

The scope of this report is limited to the matters expressly covered. This report was prepared for the sole benefit of Cobric Chemicals Inc. and GFL Environmental Services Inc. in support of the proposed construction of an Electric Arc Furnace Dust recycling operation at the Facility.

This report may not be relied upon by any other person or entity. Any use or reuse of this document (or the findings and conclusions represented herein), by parties other than those listed above, is at the sole risk of those parties.

The conclusions drawn were based on information collected during the preliminary hydrogeological assessment. Conditions between and beyond these locations may become apparent, during future investigations or on-site work, which could not be detected or anticipated at the time of this investigation. As such, XCG cannot be held responsible for environmental conditions that were not apparent from the available information.

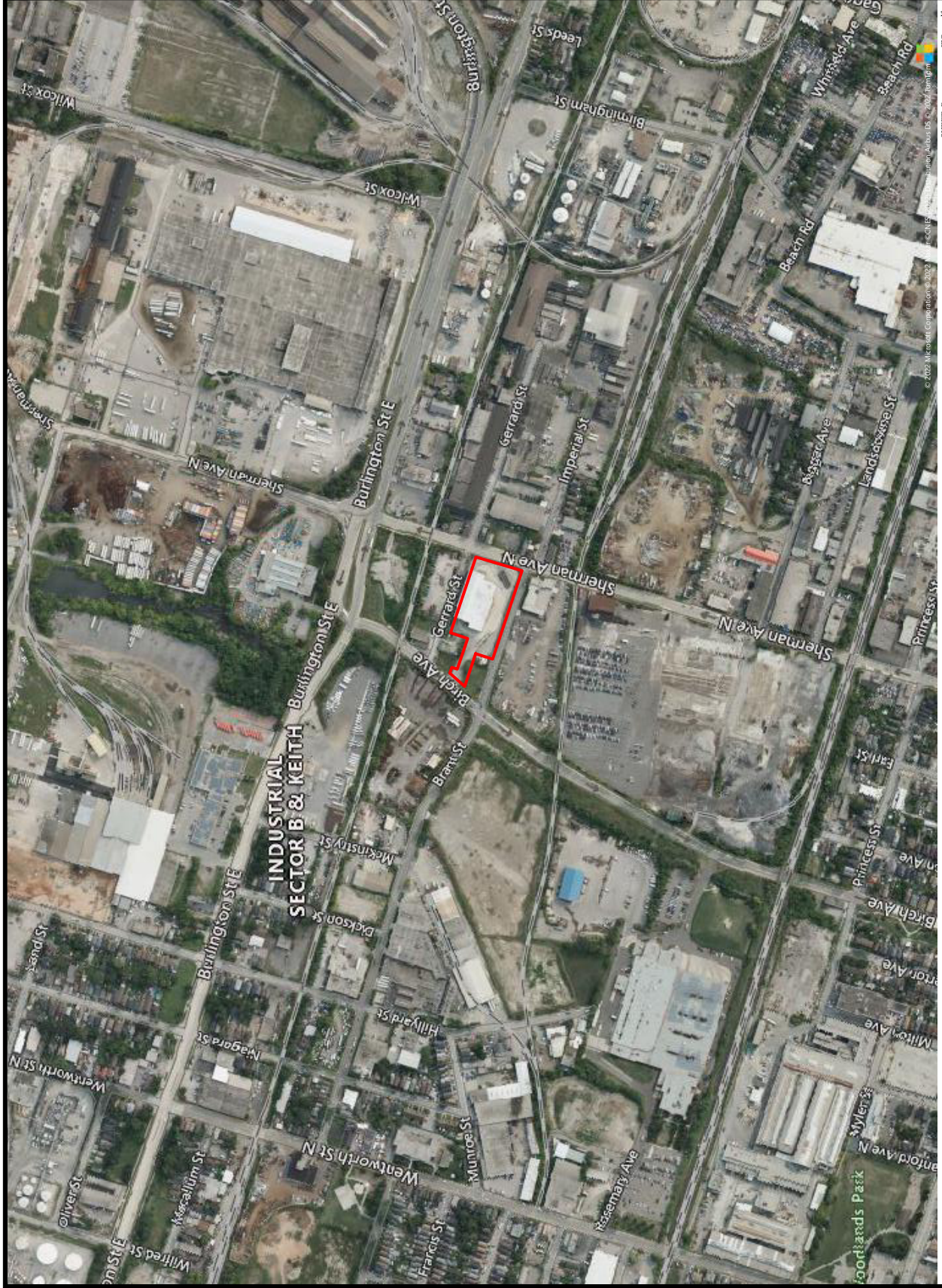
5.2 Conclusions

The overall conclusions of the preliminary hydrogeological study are as follows:

- The Facility is underlain by a layer of granular fill material with a thickness ranging from approximately 0.5 m to 2.0 m.
- Underlying the granular fill material is a native clay, with a confirmed depth of occurrence of at least 7.6 mbgs.
- The available information suggests the base of the native clay and the bedrock surface coincide at approximately 15 mbgs in the area of the Facility.
- The regional shallow groundwater reportedly flows in a northerly direction.
- The local shallow groundwater is inferred to flow to the west/southwest in the immediate area of the Facility. Buried utilities may be locally disrupting the natural flow of groundwater.
- The recent groundwater analytical results from May 2022 indicate that the groundwater quality at the newly installed monitoring wells (MW1 through MW6) did not exceed any of the MOE Table 3 generic SCS for PHC, VOC, PAH, or metals.
- The recent soil analytical results from May 2022 indicate that the granular fill underlying the Facility contains concentrations of metals (cadmium, lead, zinc) which exceed the respective MOE Table 3 generic SCS.
- The recent soil analytical results from May 2022 indicate that the native clay did not exceed any MOE Table 3 generic SCS for PHC, VOC, PAH, or metals.



FIGURES



LEGEND:
 APPROXIMATE SUBJECT
 PROPERTY BOUNDARIES



SITE LOCATION MAP

237 BRANT STREET
 HAMILTON, ONTARIO



DATE	JOB NO.	FIGURE NO.
MAY 2022	5-5030-01-02	1

DRAWING REFERENCE: Base drawing supplied by City of Hamilton online mapping, grading plans provided by the client and XCG field notes.
 NOTE: Location of building, underground utilities, etc. are for reference only and should not be relied upon for detailed design, renovation, or construction purposes. Property boundary and building locations shown may not represent actual surveyed boundaries.

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LEGEND:

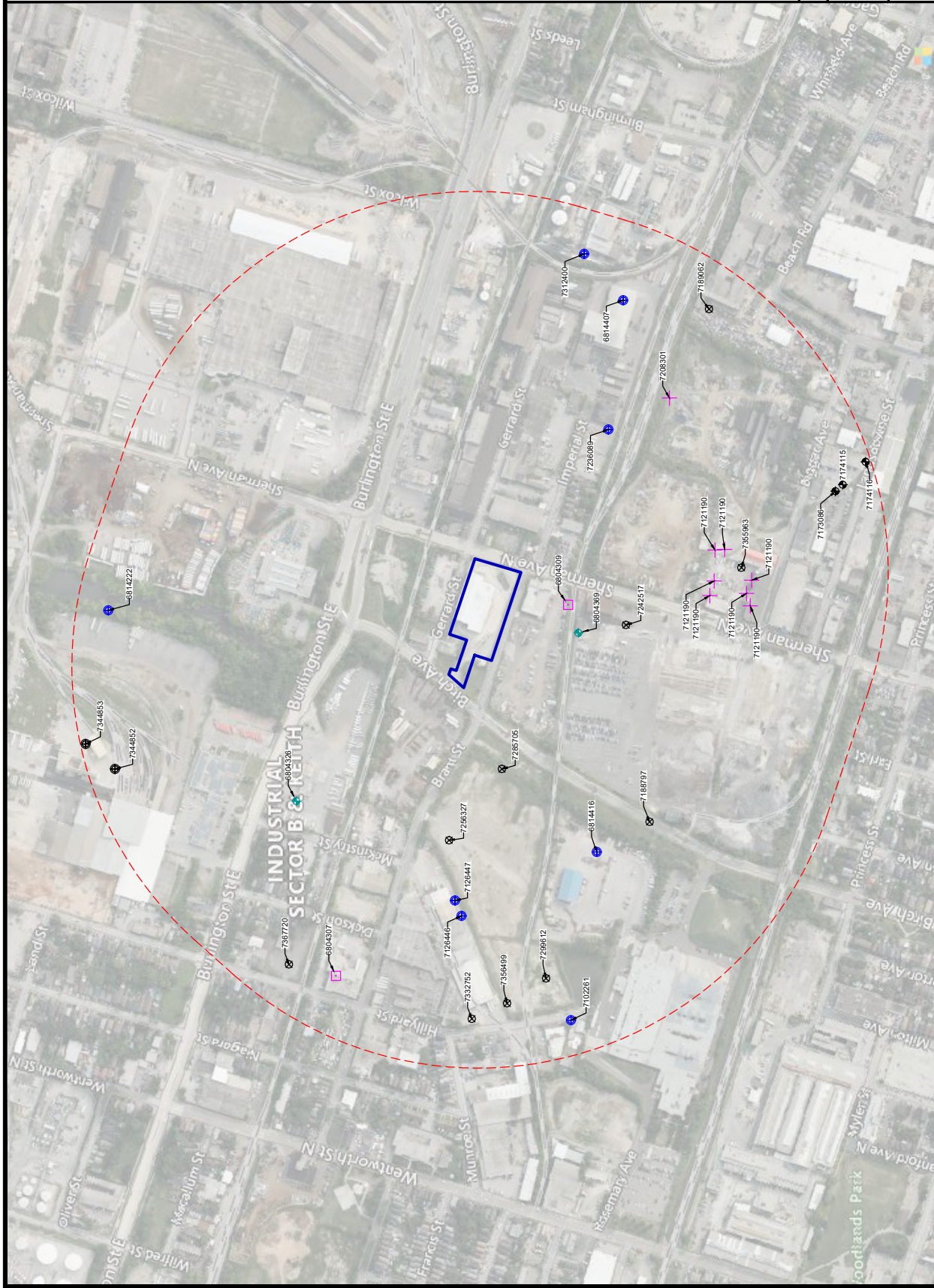
- APPROXIMATE SUBJECT PROPERTY BOUNDARIES
- 1M MODERN ALLUVIAL DEPOSITS: CLAY, SILT, SAND, GRAVEL, MAY CONTAIN ORGANIC REMAINS
- 8 COARSE-TEXTURED GLACIOLACUSTRINE DEPOSITS: SAND, GRAVEL, MINOR SILT AND CLAY



SURFICIAL GEOLOGY	
237 BRANT STREET HAMILTON, ONTARIO	
DATE	MAY 2022
JOB NO.	5-5030-01-02
FIGURE NO.	2

DRAWING REFERENCE: Base drawing supplied by City of Hamilton online mapping, grading plans provided by the client and XCG field notes.
 NOTE: Location of building, underground utilities, etc. are for reference only and should not be relied upon for detailed design, renovation, or construction purposes. Property boundary and building locations shown may not represent actual surveyed boundaries.

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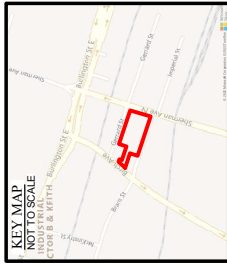
- LEGEND:**
- APPROXIMATE SUBJECT PROPERTY BOUNDARIES
 - - - 500m BUFFER
 - DOMESTIC WATER WELL
 - INDUSTRIAL WATER WELL
 - UNUSED WATER WELL
 - ⊗ UNKNOWN WATER WELL
 - ⊕ TEST HOLE WATER WELL
 - ⊖ MONITORING OR OBSERVATION WATER WELL



MECP WATER WELL RECORD MAP
(WITHIN 500m)

237 BRANT STREET
HAMILTON, ONTARIO

XCG
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- LEGEND:**
- APPROXIMATE SUBJECT PROPERTY BOUNDARIES
 - APPROXIMATE PROPERTY BOUNDARIES
 - ▭ STRUCTURE
 - ⊕ APPROXIMATE MONITORING WELL LOCATION (MAY 2022, XGS)

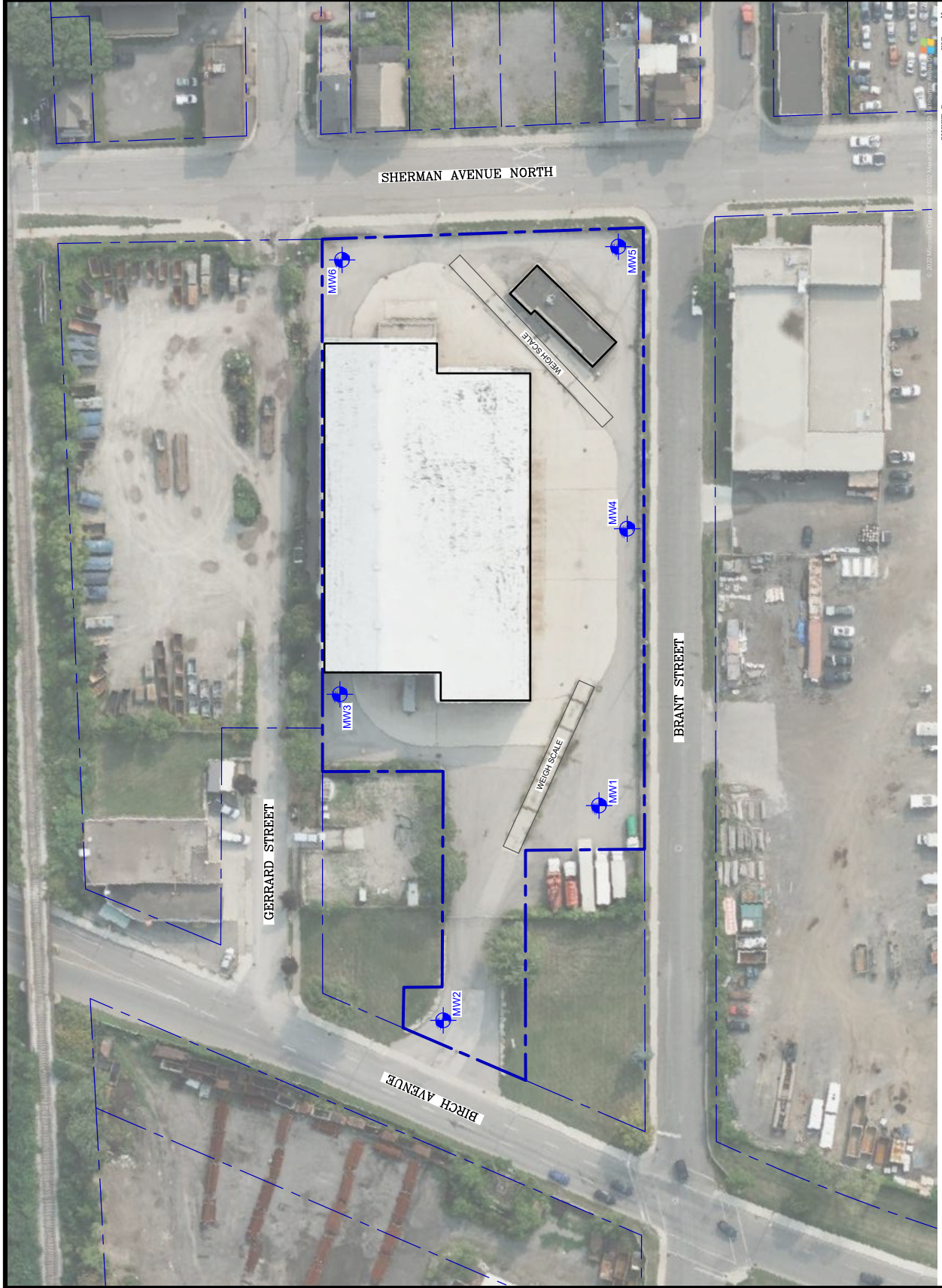


MONITORING WELL LOCATIONS

237 BRANT STREET
HAMILTON, ONTARIO



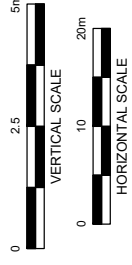
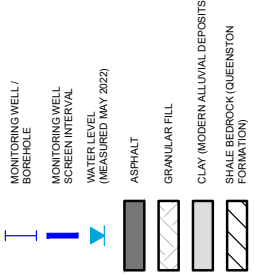
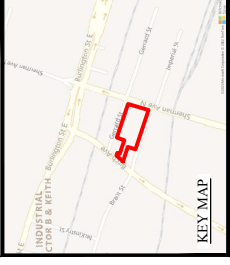
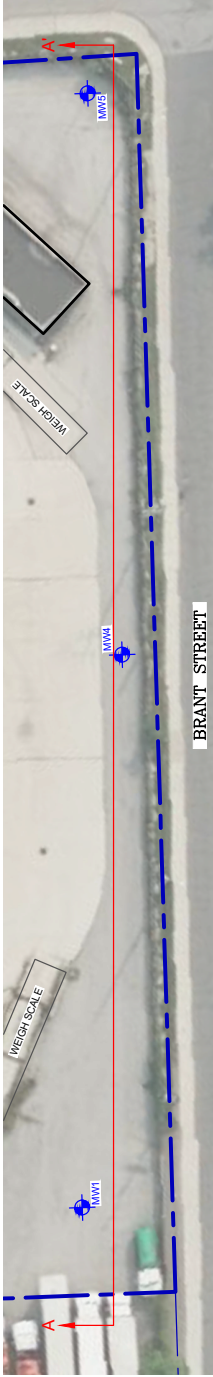
DATE: MAY 2022
JOB NO.: 5-5030-01-02
FIGURE NO.: 4



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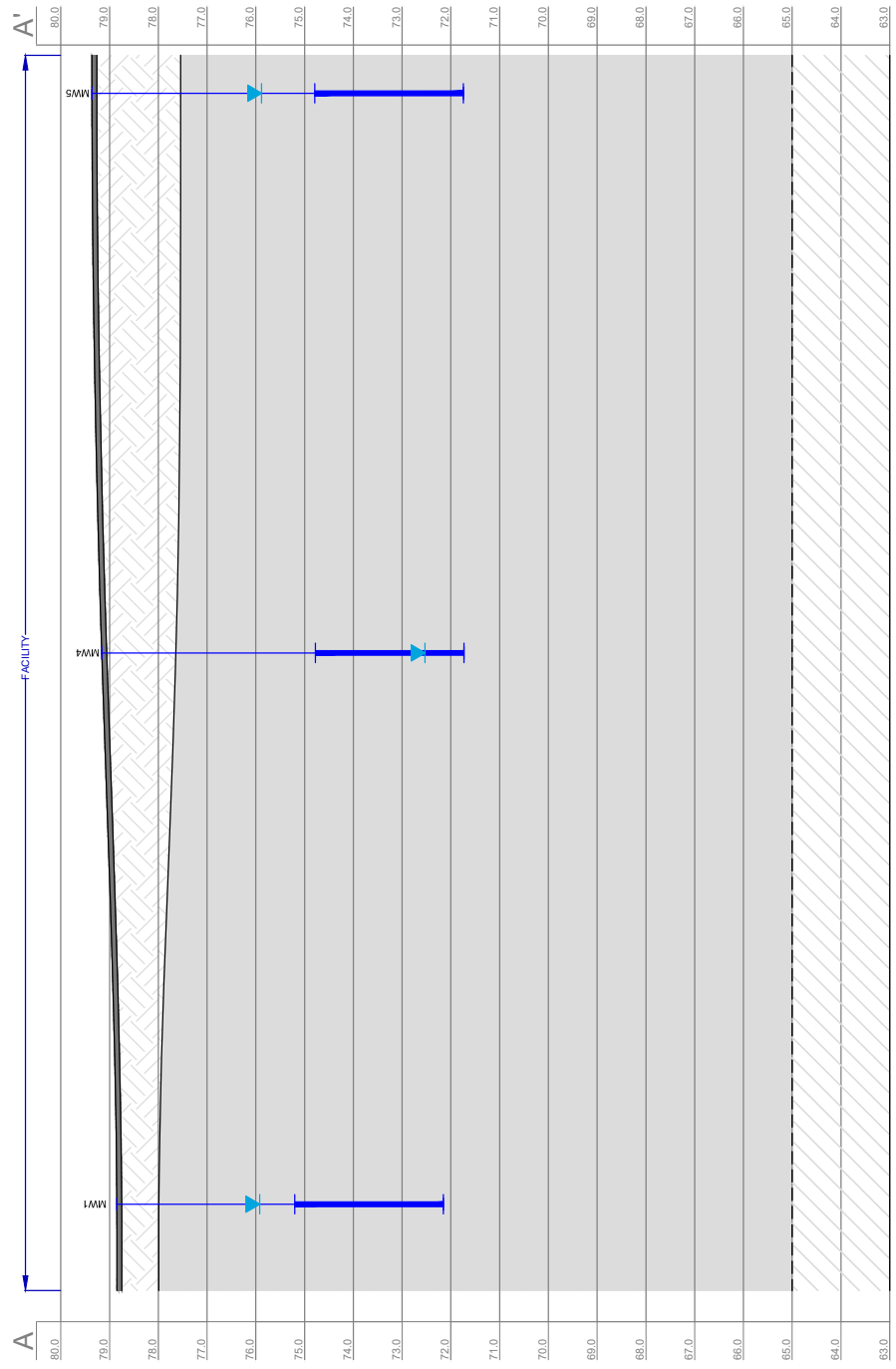
DRAWING REFERENCE: Base drawing supplied by City of Hamilton online mapping, grading plans provided by the client and XCG field notes.
NOTE: Location of building, underground utilities, etc. are for reference only and should not be relied upon for detailed design, renovation, or construction purposes. Property boundary and building locations shown may not represent actual surveyed boundaries.

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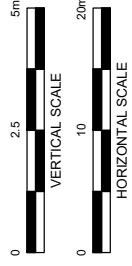
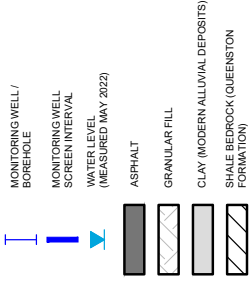
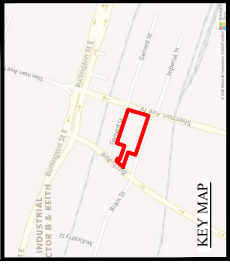
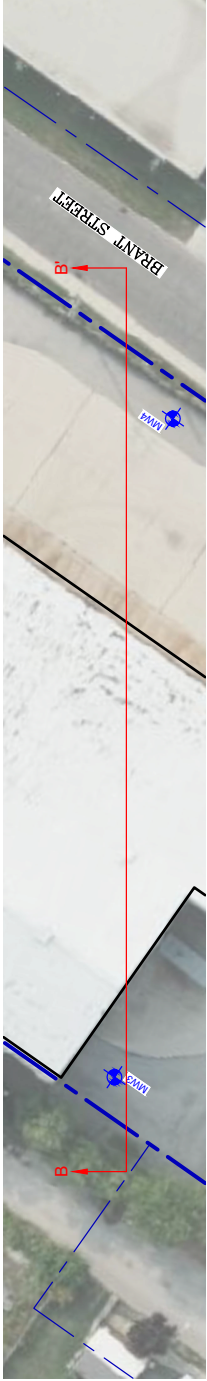


CROSS SECTION A - A'
 237 BRANT STREET
 HAMILTON, ONTARIO

DATE: JUN. 2022
 JOB NO.: 5-5030-01-02
 FIGURE NO.: 5A



SHEET: R59300020001T02A.pdf
 FILE: R59300020001.dwg
 DRAWING REFERENCE: Base drawing supplied by City of Hamilton online mapping, grading plans provided by the client and XCG field notes.
 NOTE: Location of building, underground utilities, etc. are for reference only and should not be relied upon for detailed design, renovation, or construction purposes. Property boundary and building locations shown may not represent actual surveyed boundaries.

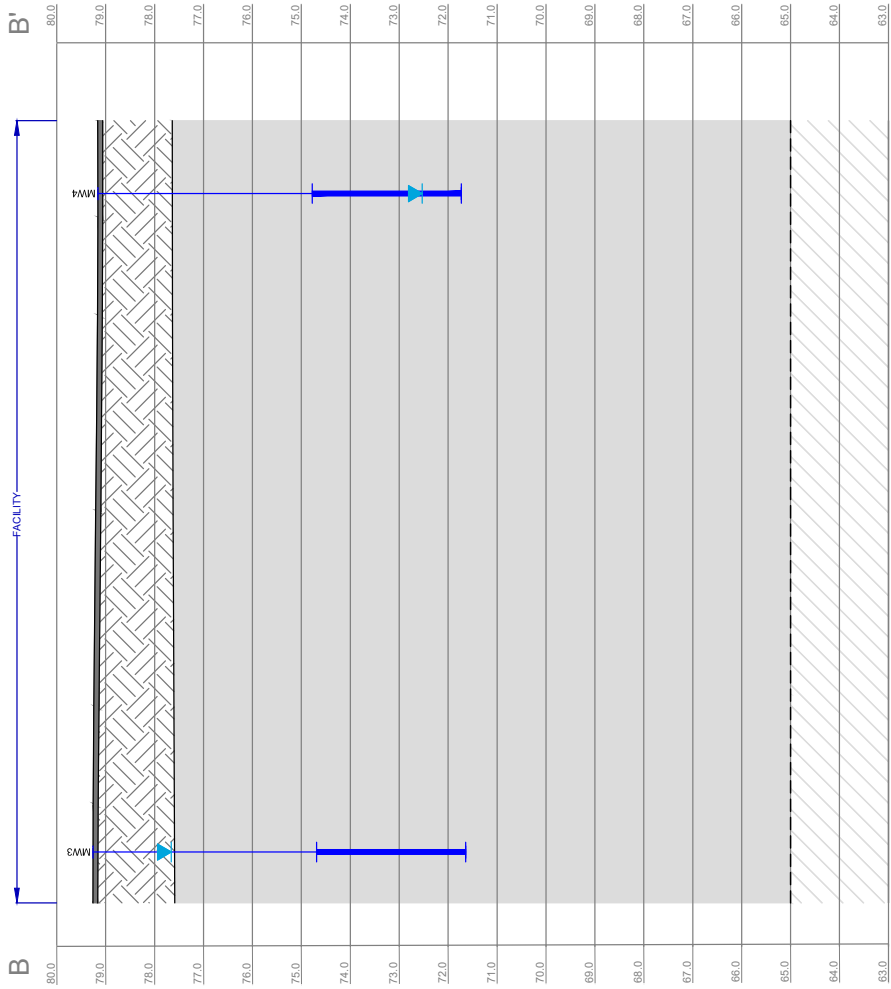


CROSS SECTION B - B'

237 BRANT STREET
HAMILTON, ONTARIO

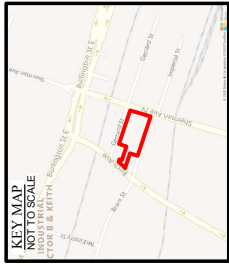


DATE	JUN. 2022
JOB NO.	5-5030-01-02
FIGURE NO.	5B

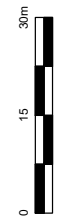


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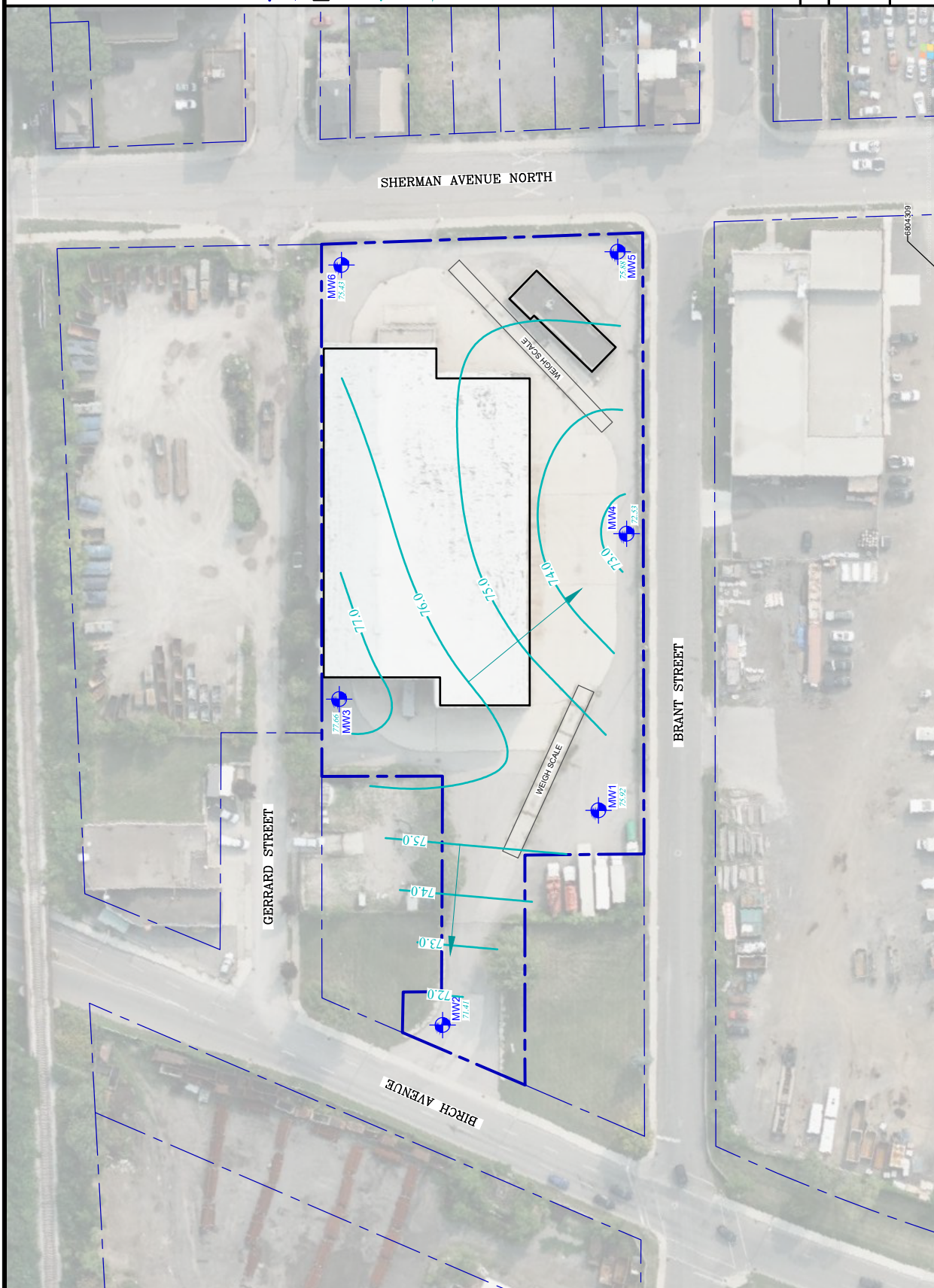
DRAWING REFERENCE: Base drawing supplied by City of Hamilton online mapping, grading plans provided by the client and XCG field notes.
NOTE: Location of building, underground utilities, etc. are for reference only and should not be relied upon for detailed design, renovation, or construction purposes. Property boundary and building locations shown may not represent actual surveyed boundaries.



- LEGEND:**
- APPROXIMATE SUBJECT PROPERTY BOUNDARIES
 - - - APPROXIMATE PROPERTY BOUNDARIES
 - ▭ STRUCTURE
 - ⊕ APPROXIMATE MONITORING WELL LOCATION (MAY 2022, XGS)
 - GROUNDWATER CONTOURS (MAY 20, 2022)
 - GROUNDWATER ELEVATION (MAY 20, 2022)
 - INFERRED GROUNDWATER FLOW DIRECTION



SHALLOW GROUNDWATER ELEVATIONS (MAY 20, 2022)	
237 BRANT STREET HAMILTON, ONTARIO	
DATE	MAY 2022
JOB NO.	5-5030-01-02
FIGURE NO.	6



SHEET: R593001020001TG04.pdf
 FILE: R593001020001.dwg
 DRAWING REFERENCE: Base drawing supplied by City of Hamilton online mapping, grading plans provided by the client and XCG field notes.
 NOTE: Location of building, underground utilities, etc. are for reference only and should not be relied upon for detailed design, renovation, or construction purposes. Property boundary and building locations shown may not represent actual surveyed boundaries.



TABLES

Table 1 Groundwater Elevations

Monitoring Well ID	Date Installed	Installed By	Screen Interval (mbgs)	Ground Surface Elevation (masl)	Top of Pipe Elevation (masl)	Depth to Groundwater		Groundwater Elevation
						13-May-22	20-May-22	
MW1	05-May-22	XCG	3.6-6.7	78.85	78.67	3.72	2.75	75.92
MW2	05-May-22	XCG	3.0-6.1	76.77	76.62	5.58	5.21	71.41
MW3	05-May-22	XCG	4.5-7.6	79.26	79.14	1.42	1.48	77.66
MW4	05-May-22	XCG	4.5-7.6	79.16	79.03	7.1	6.5	72.53
MW5	06-May-22	XCG	4.5-7.6	79.36	79.24	3.90	3.36	75.88
MW6	06-May-22	XCG	3.0-6.1	79.29	79.16	NM	-	75.43

Notes:
 Benchmark was finished floor elevation of 260.00 feet above sea level (asl) [79.30 masl] provided on Grading Plan K-1283-1, dated July 18, 1991.
 Groundwater elevations measured on May 13 and May 20, 2022
 mbgs Metres below ground surface
 mbtop Metres below top of pipe
 masl Metres above sea level

Table 2 Summary of Analytical Results for PHCs (F1-F4) in Groundwater

Sample ID	RDL	2011 MOE Table 3	MW1	MW2	MW3	MW4	MW5	MW6
Laboratory ID		Non-Potable Groundwater	WT2204232- 001	WT2204232- 002	WT2204232- 003	WT2204232- 004	WT2204232- 005	WT2204232- 006
Units		µg/L	20-May-22	20-May-22	20-May-22	20-May-22	20-May-22	20-May-22
F1 (C6 - C10)	100		<25	<25	<25	<25	<25	<25
F1 (minus BTEX)	100	750	<25	<25	<25	<25	<25	<25
F2 (C>10 - C16)	100	150	<100	<100	<100	<100	<100	<100
F3 (C>16 - C34)	100	500	<250	<250	<250	<250	<250	<250
F4 (>C34)	100	500	<250	<250	<250	<250	<250	<250

Notes:

2011 MOE Table 3 Ontario Ministry of the Environment's (MOE) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (April 15, 2011), Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition.

RDL Laboratory Reportable Detection Limit

() Criterion value in brackets applies to medium and fine textured soils.

< Less than the RDL

Exceeds MOE Table 3 Standard

Table 3 Summary of Analytical Results for Metals in Groundwater

Sample ID	2011 MOE Table 3	MW1	MW2	MW3	MW4	MW5	MW6
Laboratory ID	Non-Potable Groundwater	WT2204232-001	WT2204232-002	WT2204232-003	WT2204232-004	WT2204232-005	WT2204232-006
Units	µg/L	20-May-2022	20-May-2022	20-May-2022	20-May-2022	20-May-2022	20-May-2022
Antimony	20,000	0.38	0.61	0.21	0.66	0.32	0.44
Arsenic	1,900	1.00	1.06	0.90	1.22	1.00	1.11
Barium	29,000	70.9	117	120	55.7	57.1	85.4
Beryllium	67	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Boron(Total)	45000	0.0318	42	55	187	97	88
Cadmium	2.7	0.0318	0.0479	0.0111	0.0123	0.0102	0.0066
Chromium	810	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chromium VI	140	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cobalt	66	0.34	0.46	0.60	0.15	0.49	0.46
Copper	87	1.27	1.33	0.85	2.06	0.93	1.53
Lead	25	<0.050	0.498	<0.050	0.061	<0.050	<0.050
Mercury	(2.8)0.29	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Molybdenum	9,200	4.94	6.62	3.58	13.8	4.50	8.15
Nickel	490	0.84	1.76	6.28	0.50	1.15	1.00
Selenium	63	0.729	1.39	0.250	0.906	0.605	0.727
Silver	2	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Sodium	2,300,000	41700	40000	101000	61900	99800	109000
Thallium	510	0.034	0.046	0.030	0.045	0.041	0.047
Uranium	420	8.31	3.91	4.14	5.94	8.68	8.16
Vanadium	250	1.23	1.16	1.03	1.28	1.15	1.21
Zinc	1,100	24.7	13.3	1.1	6.7	2.9	4.7

Notes:

2011 MOE Table 3 Ontario Ministry of the Environment's (MOE) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (April 15, 2011), Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition.

RDL Laboratory Reportable Detection Limit

() Criterion value in brackets applies to medium and fine textured soils.

< Less than the RDL

Exceeds MOE Table 3 Standard

Table 4 Summary of Analytical Results for PAHs in Groundwater

Sample ID	2011 MOE Table 3	MW1	MW2	MW3	MW4	MW5	MW6
Laboratory ID	Non-Potable Groundwater	WT2204232- 001	WT2204232- 002	WT2204232- 003	WT2204232- 004	WT2204232- 005	WT2204232- 006
Units	µg/L	20-May-22	20-May-22	20-May-22	20-May-22	20-May-22	20-May-22
Acenaphthene	(1,700) 600	<0.019	<0.058	<0.010	<0.042	<0.019	<0.053
Acenaphthylene	1.8	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Anthracene	2.4	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Benzo(a)anthracene	4.7	<0.010	<0.010	<0.010	<0.010	0.014	<0.010
Benzo(a)pyrene	0.81	<0.0050	<0.0050	<0.0050	<0.0050	0.0130	<0.0050
Benzo(b)fluoranthene	0.75	<0.010	<0.010	<0.010	<0.010	0.020	<0.010
Benzo(ghi)perylene	0.2	<0.010	<0.010	<0.010	<0.010	0.011	<0.010
Benzo(k)fluoranthene	0.4	<0.010	<0.010	<0.010	<0.010	0.011	<0.010
Chrysene	1	<0.010	<0.010	<0.010	<0.010	0.017	<0.010
Dibenzo(a,h)anthracene	0.52	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Fluoranthene	130	<0.010	0.018	<0.010	<0.010	0.044	<0.010
Fluorene	400	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Indeno(1,2,3-cd)pyrene	0.2	<0.010	<0.010	<0.010	<0.010	0.012	<0.010
methylnaphthalene, 1+2-		<0.015	0.018	<0.015	<0.015	<0.015	<0.015
1-Methylnaphthalene*	1,800	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
2-Methylnaphthalene*	1,800	<0.010	0.018	<0.010	0.011	0.012	0.010
Naphthalene	(6,400) 1,400	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phenanthrene	580	<0.020	0.028	<0.020	<0.020	0.031	<0.020
Pyrene	68	<0.010	0.013	<0.010	<0.010	0.033	<0.010

Notes:

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

2011 MOE Table 3 Ontario Ministry of the Environment's (MOE) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (April 15, 2011), Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition.

RDL Laboratory Reportable Detection Limit

() Criterion value in brackets applies to medium and fine textured soils.

< Less than the RDL

Exceeds MOE Table 3 Standard

Table 5 Summary of Analytical Results for VOCs in Groundwater

Sample ID	2011 MOE Table 3	MW1	MW2	MW3		MW4	MW5	MW6
Laboratory ID	Non-Potable Groundwater	WT2204232-001	WT2204232-002	WT2204232-003	WT2204232-007	WT2204232-004	WT2204232-005	WT2204232-006
Units	µg/L	20-May-22	20-May-22	20-May-22	20-May-22	20-May-22	20-May-22	20-May-22
Acetone	130,000	<20	<20	<20	<20	<20	<20	<20
Benzene	(430) 44	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane	85,000	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	(770) 380	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Bromomethane	(56) 5.6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Carbon Tetrachloride	(8.4) 0.79	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Chlorobenzene	630	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Chloroform	(22) 2.4	0.54	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	82,000	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dibromoethane, 1,2-		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
1,2-Dichlorobenzene	(9,600) 4,600	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,3-Dichlorobenzene	9,600	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,4-Dichlorobenzene	(67) 8	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane (FREON 12)	4,400	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethane	(3,100) 320	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,2-Dichloroethane	(12) 1.6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1-Dichloroethylene	(17) 1.6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cis-1,2-Dichloroethylene	(17) 1.6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trans-1,2-Dichloroethylene	(17) 1.6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
dichloromethane	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	(140) 16	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Cis-1,3-Dichloropropylene	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Trans-1,3-Dichloropropylene	-	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Ethylbenzene	2,300	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Hexane	(520) 51	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl Ethyl Ketone	(1,500,000) 470,000	<20	<20	<20	<20	<20	<20	<20
Methyl Isobutyl Ketone	(580,000) 140,000	<20	<20	<20	<20	<20	<20	<20
Methyl-tert-Butyl Ether (MTBE)	(1,400) 190	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Styrene	(9,100) 1,300	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1,2-Tetrachloroethane	(28) 3.3	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1,2,2-Tetrachloroethane	(15) 3.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethylene	(17) 1.6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	18,000	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,1-Trichloroethane	(6,700) 640	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	(30) 0.47	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	(17) 1.6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trichlorofluoromethane (FREON 11)	2,500	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl Chloride	(1.7) 0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
m-Xylene & p-Xylene	4,200	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
o-Xylene		<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Total Xylenes	4,200	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Notes:
 2011 MOE Table 3 Ontario Ministry of the Environment's (MOE) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act"
 Table 3 (April 15, 2011), Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition.

RDL Laboratory Reportable Detection Limit
 () Criterion value in brackets applies to medium and fine textured soils.
 < Less than the RDL
Bold Exceeds MOE Table 3 Standard

Table 6 Summary of Analytical Results for PHCs (F1-F4) in Soil

Sample ID	Depth (m)	Laboratory ID	Units	2011 MOE Table 3		MW1 SS3	MW1 SS7	MW2 SS1	MW2 SS2	MW3 SS1	MW3 SS3	MW4 SS1	MW4 SS3	MW5 SS1	MW5 SS2	MW6 SS1	MW6 SS2
				Non-Potable Groundwater	Industrial / Commercial	µg/g	mbgs	mbgs	mbgs	mbgs	mbgs	mbgs	mbgs	mbgs	mbgs	mbgs	mbgs
						WT2203520-001	WT2203520-002	WT2203520-003	WT2203520-004	WT2203520-005	WT2203520-006	WT2203520-008	WT2203520-009	WT2203520-011	WT2203520-012	WT2203520-013	WT2203520-014
						05-May-2022	05-May-2022	05-May-2022	05-May-2022	06-May-2022	06-May-2022	05-May-2022	05-May-2022	06-May-2022	06-May-2022	06-May-2022	06-May-2022
						<5.0	<5.0	<5.0	<5.0	6.0	<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
						<10	25	20	<10	25	<10	28	<10	21	<10	17	<10
						<50	132	84	<50	156	<50	200	<50	191	<50	156	<50
						<50	<50	80	<50	238	<50	386	140	510	<50	558	<50

Notes:
 2011 MOE Table 3 Ontario Ministry of the Environment's (MOE) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (April 15, 2011), Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition.

RDL Laboratory Reportable Detection Limit
 () Criterion value in brackets applies to medium and fine textured soils.
 < Less than the RDL
Exceeds MOE Table 3 Standard

Table 7 Summary of Analytical Results for Metals in Soil

Sample ID	2011 MOE Table 3	RDL	MW											
			MW1 SS3	MW1 SS7	MW2 SS1	MW2 SS2	MW3 SS1	MW3 SS3	MW4 SS1	MW4 SS3	MW5 SS1	MW5 SS2	MW6 SS1	MW6 SS2
Depth (m)	Non-Potable Groundwater		1.5-2.1 mbgs	4.3-4.9 mbgs	0.1-0.65mbgs	0.65-1.25 mbgs	0.1-0.65mbgs	1.5-2.1 mbgs	0.1-0.65mbgs	1.7-2.2 mbgs	0.1-0.65 mbgs	1.5-2.1 mbgs	0.1-0.65 mbgs	1.5-2.1 mbgs
Laboratory ID	Industrial / Commercial		WT2203520-001	WT2203520-002	WT2203520-003	WT2203520-004	WT2203520-005	WT2203520-006	WT2203520-008	WT2203520-009	WT2203520-011	WT2203520-012	WT2203520-013	WT2203520-014
Units	µg/g		05-May-2022	05-May-2022	05-May-2022	05-May-2022	06-May-2022	06-May-2022	05-May-2022	05-May-2022	06-May-2022	06-May-2022	06-May-2022	06-May-2022
Antimony	(50) 40	0.10	<0.10	<0.10	<0.10	<0.10	0.22	0.11	0.12	<0.10	0.25	<0.10	0.22	<0.10
Arsenic	18	0.10	3.30	3.18	1.33	3.98	2.24	6.29	1.76	3.72	2.68	3.99	2.24	3.59
Barium	670	0.50	173	162	13.7	173	26.1	128	17.1	172	47.3	187	32.6	183
Beryllium	(10) 8	0.10	0.82	0.81	0.11	0.89	0.22	0.82	0.16	0.85	0.30	0.86	0.24	0.85
Boron (Total)	5.0	5.0	14.0	15.5	15.5	15.9	21.4	12.5	15.6	12.3	21.7	14.4	16.6	13.8
Cadmium	0.020	0.020	0.098	0.062	2.53	0.082	6.46	0.084	2.81	0.083	2.78	0.081	2.58	0.090
Chromium	160	0.50	29.2	28.2	4.60	29.3	11.2	27.2	8.00	28.2	18.7	27.9	18.1	27.4
Cobalt	(100) 80	0.10	11.5	11.2	2.12	12.8	3.28	14.4	2.64	12.0	3.64	11.6	3.14	13.5
Copper	(300) 230	0.50	21.1	20.9	6.32	21.4	12.4	27.2	10.1	21.7	19.2	20.3	17.1	21.6
Lead	120	0.50	12.3	11.9	148	13.9	173	14.0	120	14.2	151	14.2	11.6	13.8
Molybdenum	40	0.10	0.38	0.41	1.02	0.42	1.76	0.44	2.16	0.40	1.21	0.37	1.36	0.46
Nickel	(340) 270	0.50	27.3	26.2	5.32	33.8	9.06	30.8	7.39	30.8	10.6	27.8	9.37	31.9
Selenium	5.0	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.30	<0.20	0.22	<0.20
Silver	(50) 40	0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.51	<0.10	0.35	<0.10
Thallium	3.3	0.050	0.175	0.124	0.144	0.234	0.206	0.209	0.158	0.195	0.166	0.166	0.163	0.156
Uranium	33	0.050	0.639	1.11	1.32	0.626	1.66	0.538	1.46	0.624	1.36	0.723	1.35	0.669
Vanadium	86	0.20	38.3	37.2	7.82	41.4	13.2	37.2	10.3	38.6	15.2	37.7	14.1	36.9
Zinc	340	2.0	60.1	54.4	798	58.9	2360	65.4	1350	58.8	1060	56.5	976	59.2

Notes:

* The boron standards are for hot water soluble extract for all surface soils. For subsurface soils the standards are for total boron (mixed strong acid digest), since plant protection for soils below the root zone is not a significant concern.

2011 MOE Table 3 Ontario Ministry of the Environment's (MOE) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (April 15, 2011).

Table 3 Full Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition.

RDL Laboratory Reportable Detection Limit

() Criterion value in brackets applies to medium and fine textured soils.

< Less than the RDL

Bold Exceeds MOE Table 2 Standard

Table 8 Summary of Analytical Results for PAHs in Soil

Sample ID	2011 MOE Table 3		RDL	MW2 SS1		MW2 SS2		MW3 SS1		MW3 SS3		MW4 SS1		MW4 SS3		MW5 SS1		MW5 SS2		MW6 SS1		MW6 SS2	
	Depth (m)	Laboratory ID		0.1-0.65mbgs	0.65-1.25 mbgs	0.1-0.65mbgs	1.5-2.1 mbgs	1.5-2.4 mbgs	0.1-0.65mbgs	1.7-2.2 mbgs	0.1-0.65mbgs	1.5-2.1 mbgs	1.5-2.1 mbgs	0.1-0.65mbgs	1.7-2.2 mbgs	0.1-0.65 mbgs	1.5-2.1 mbgs	0.1-0.65 mbgs	1.5-2.1 mbgs	0.1-0.65 mbgs	1.5-2.1 mbgs	0.1-0.65 mbgs	1.5-2.1 mbgs
			µg/g																				
Acenaphthene			96	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acenaphthylene			(0.17) 0.15	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene			(0.74) 0.67	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)anthracene			0.96	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene			0.3	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(b)fluoranthene			0.96	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(g)herylene			9.6	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene			0.96	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chrysene			9.6	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene			0.1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene			9.6	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene			(69) 62	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1,2,3-cd)pyrene			(0.95) 0.76	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
1-Methylnaphthalene*			(85) 76	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
2-Methylnaphthalene*			(85) 76	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Naphthalene			(28) 9.6	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Phenanthrene			(16) 12	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyrene			96	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Notes:

* The methylnaphthalene standards are applicable to both 1-methylnaphthalene and 2-methylnaphthalene, with the provision that if both are detected, the sum of the two must not exceed the standard.
 2011 MOE Table 3 Ontario Ministry of the Environment's (MOE) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (April 15, 2011), Full Table 3 - Depth Generic Site Condition Standards in a Non-Potable Ground Water Condition.

RDL Laboratory Reportable Detection Limit
 () Criterion value in brackets applies to medium and fine textured soils.
 < Less than the RDL
Bold Exceeds MOE Table 3 Standard



Table 9 Summary of Analytical Results for VOCs in Soil

Table with columns: Sample ID, Depth (m), Laboratory ID, Units, 2011 MOE Table 3, RDL, MW1 SS3, MW1 SS7, MW2 SS1, MW2 SS2, MW3 SS1, MW3 SS3, MW4 SS1, MW4 SS3, MW5 SS1, MW5 SS2, MW6 SS1, MW6 SS2, MW6 SS2. Rows list various VOCs like Acetone, Benzene, Bromochloromethane, etc., with corresponding detection limits and values.

Notes: 2011 MOE Table 3 Ontario Ministry of the Environment's (MOE) "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act" (April 15, 2011), Full Depth Generic Site Condition. Standards in a Non-Potable Ground Water Condition.

RDL Laboratory Reportable Detection Limit
() Criterion value in brackets applies to medium and fine textured soils.
< Less than the RDL.
Exceeds MOE Table 3 Standard



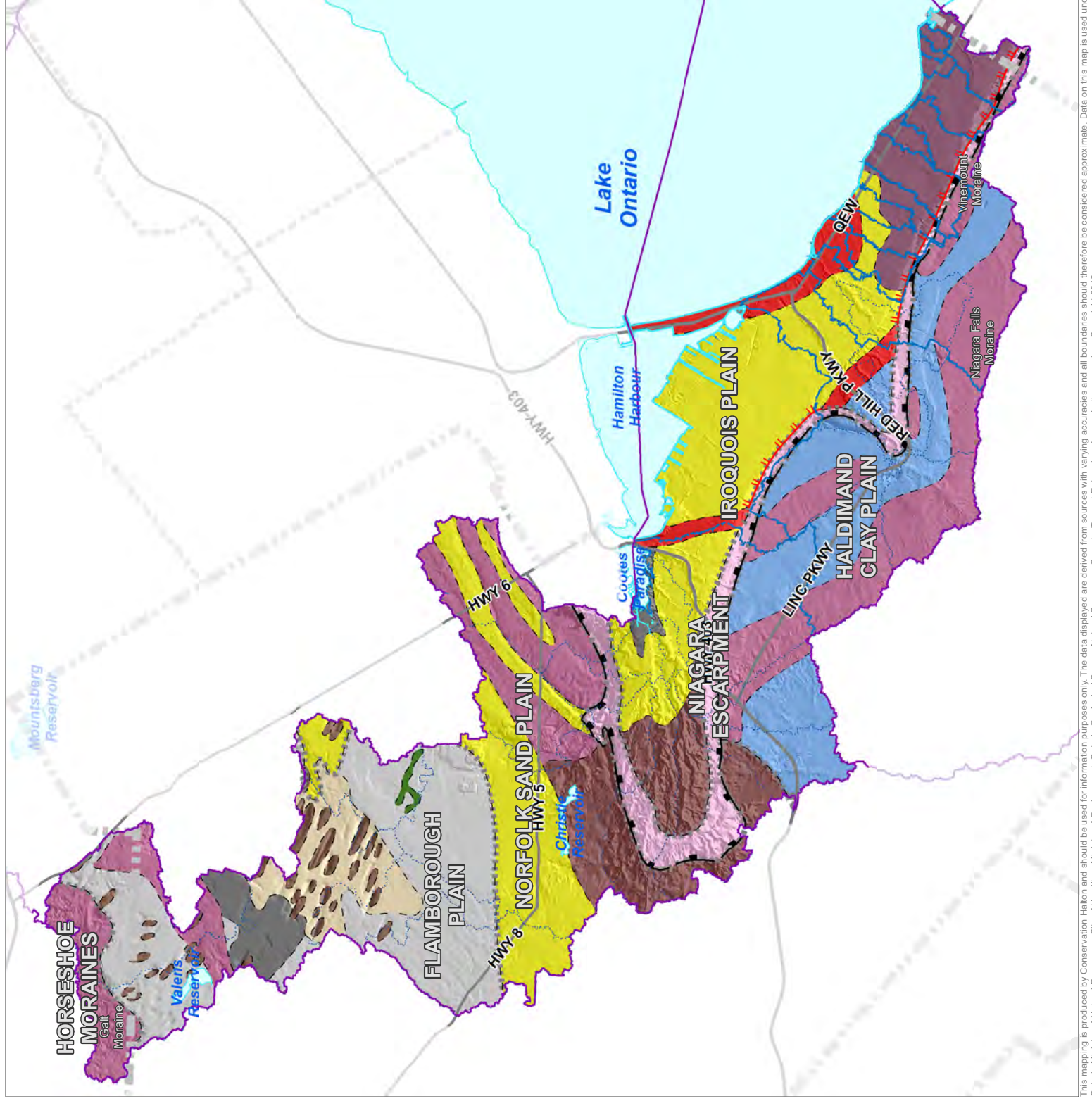
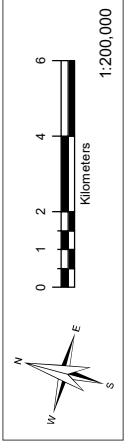
ATTACHMENT A
REGIONAL PHYSIOGRAPHY

Figure 2.2

Physiography

- Legend**
- Source Protection Area
 - Watersheds
 - Subwatersheds
 - Upper Tier Municipality
 - Lower Tier Municipality
 - Highway
 - Waterbody
 - Physiography**
 - Contact
 - Escarpment
 - Shorecliff
 - Physiographic Region**
 - 1: Escarpments
 - 2: Till Moraines
 - 4: Kame Moraines
 - 6: Till Plains (Drumlinized)
 - 7: Drumlins
 - 9: Limestone Plains
 - 10: Shale Plains
 - 11: Sand Plains
 - 12: Clay Plains
 - 13: Eskers
 - 14: Beaches
 - 17: Peat And Muck

Source : Physiography (2007), Ontario Geological Survey, Chapman & Putnam.
 Projection : UTM NAD 83 Zone 17
 Date : November 2014



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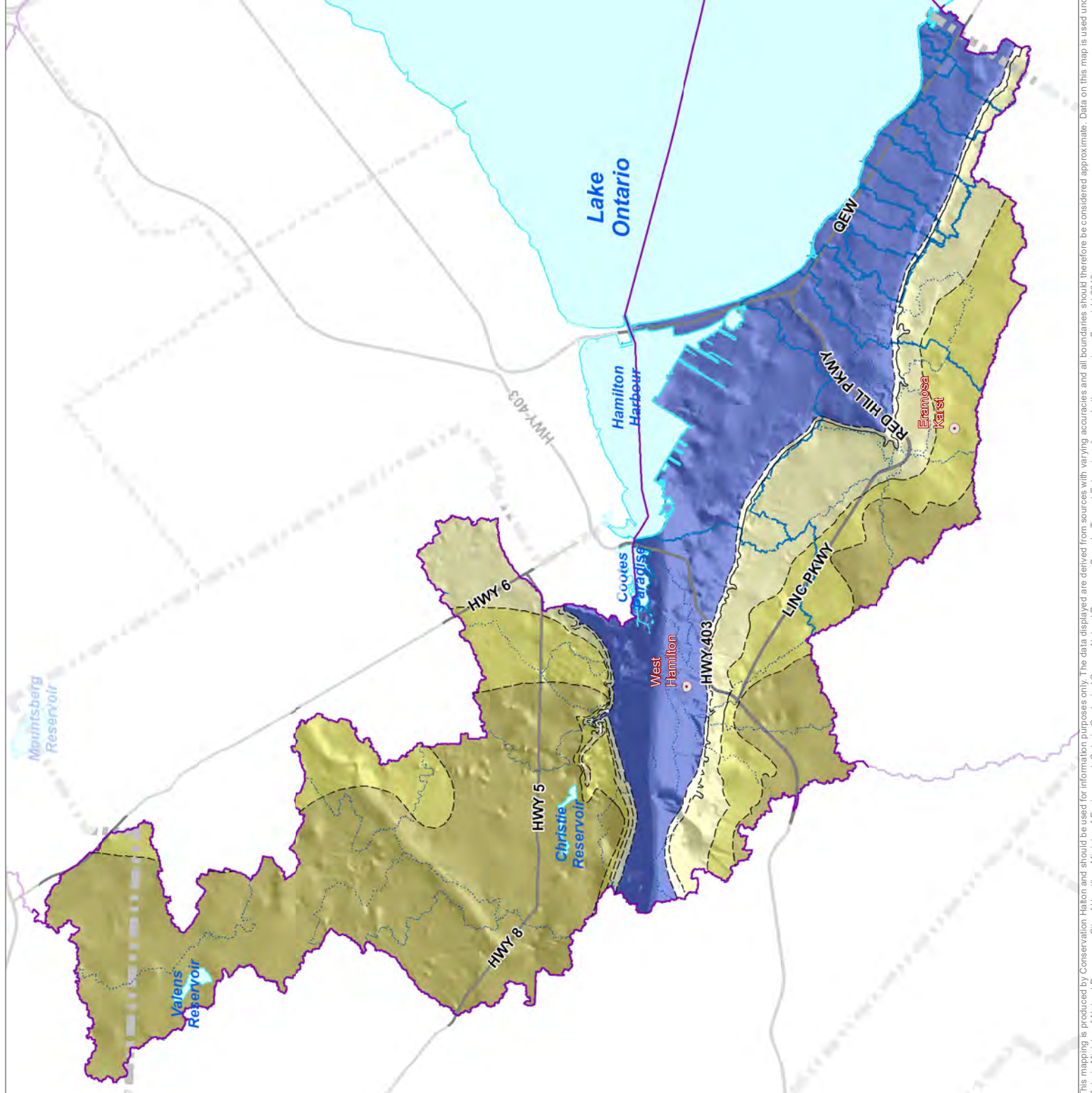
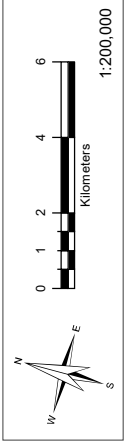
ATTACHMENT B
REGIONAL BEDROCK GEOLOGY

Figure 2.5

Bedrock Geology

- Legend**
- Source Protection Area
 - Watersheds
 - Subwatersheds
 - Upper Tier Municipality
 - Lower Tier Municipality
 - Highway
 - Waterbody
 - Karst Sites
 - Karst Areas
- Bedrock Formation / Member**
- Queenston
 - Cataract - Clinton
 - Gasport - Goat Island
 - Eramosa
 - Guelph

Source : Paleozoic Geology for Southern Ontario, Ministry of Northern Development & Mines (2007), modified based on Brunton (2009), Brunton, F.R. & Dodge, J.E.P. Karst Map of Southern Ontario, OGS GR3005 (2008), Bedrock Topography hillshade from City of Hamilton / EarthRx (2009).
Projection : UTM NAD 83 Zone 17
Date : November 2014











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
ATTACHMENT C
REGIONAL WATER TABLE

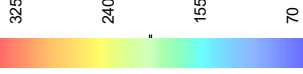
Figure 4.5
Water Table Elevation and Inferred Groundwater Flow

Legend

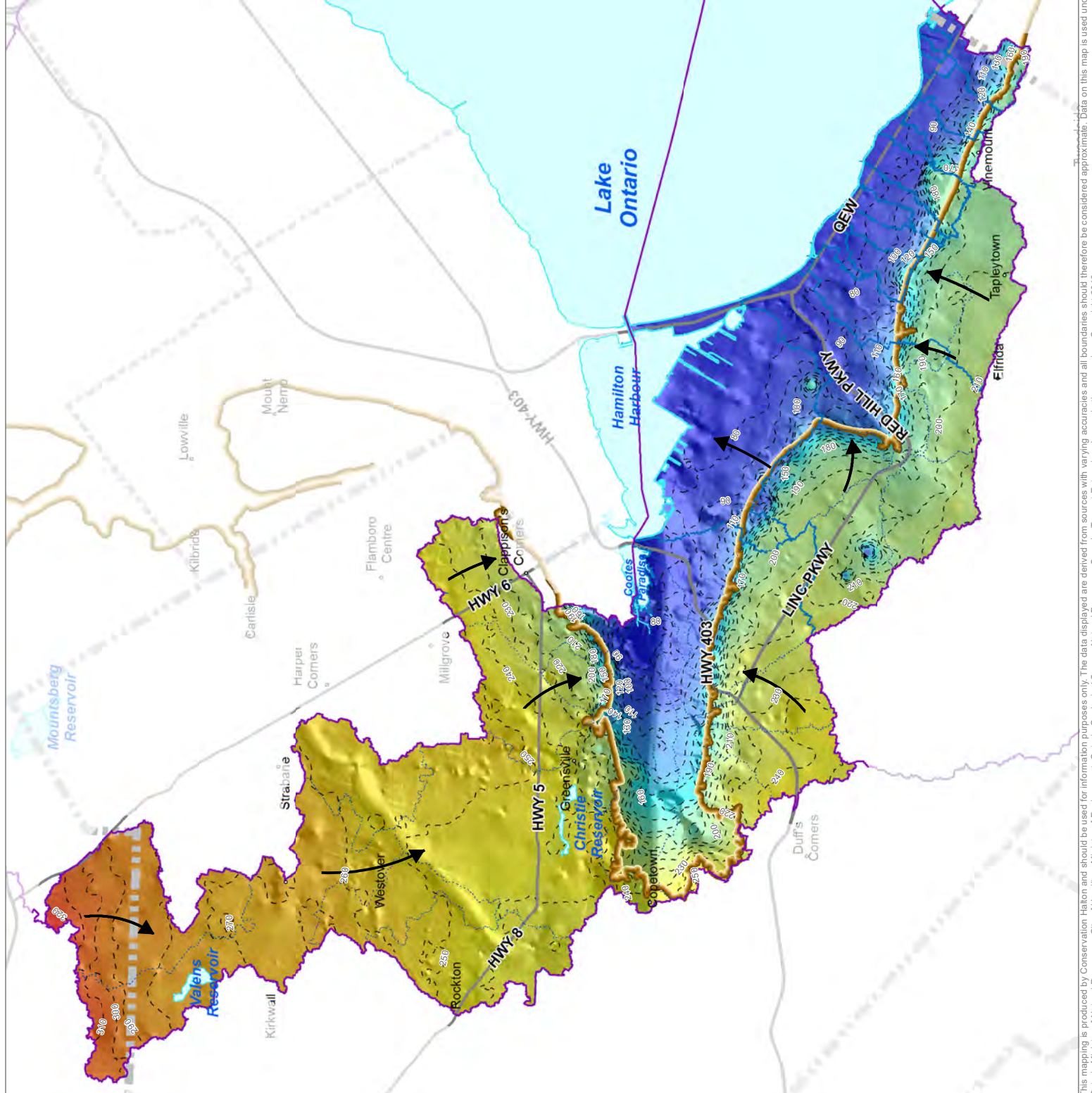
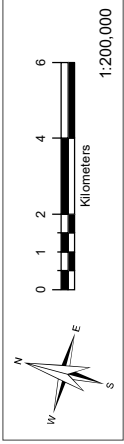
-  Source Protection Area
-  Watersheds
-  Subwatersheds
-  Upper Tier Municipality
-  Lower Tier Municipality
-  Niagara Escarpment
-  Highway
-  Waterbody

Water Table Elevation

-  Inferred Groundwater Flow
-  Contours (10 metre interval)
-  Water Table (m amsl)



Note : (m amsl) : metres above mean sea level
 Source : Hamilton Conservation Authority / Ontario Geological Survey, Groundwater Resources Improvement Program Study (2005).
 Projection : UTM NAD 83 Zone 17
 Date : November 2014



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ATTACHMENT D
MECP WATER WELL RECORDS

Attachment D - MECP Water Record Search Results (500 m radius of facility)

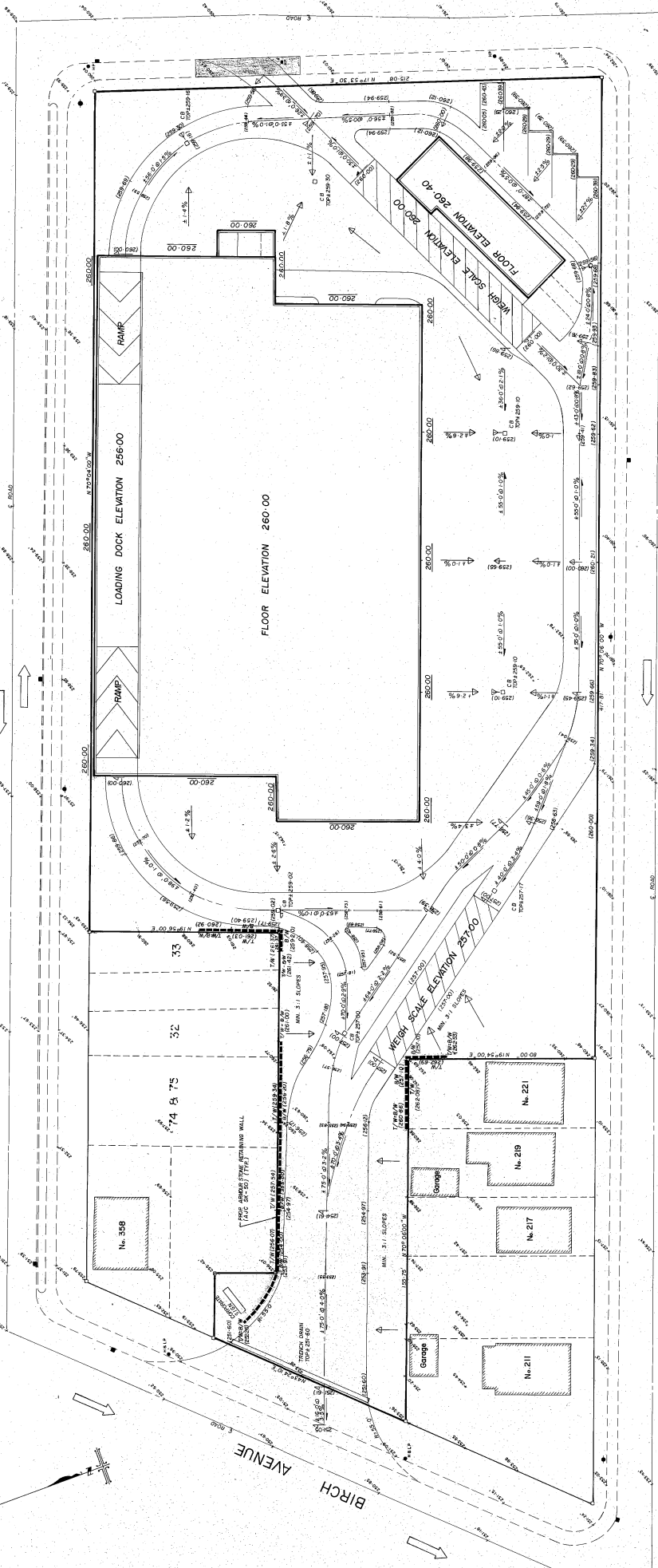
WWR_ID	Easting83	Northing83	Purpose	Installation_Date
6804307	594140	4790992	Water Supply	4-Sep-1956
6804309	594645	4790676	Water Supply	19-Aug-1957
6804326	594377	4791046	Water Supply	7-Apr-1960
6804369	594606	4790662	Water Supply	24-Jan-1962
6814207	593894	4791420	Observation Wells	23-Mar-2005
6814222	594637	4791302	Observation Wells	26-Apr-2005
6814407	595059	4790601	Observation Wells	19-Dec-2005
6814416	594308	4790637	Observation Wells	1-May-2006
7102261	594079	4790672	Observation Wells	26-Feb-2008
7121190	594657	4790483	Test Hole	3-Dec-2009
7126446	594221	4790821		29-Jul-2009
7126447	594242	4790830		29-Jul-2009
7173086	594799	4790312	Abandoned-Other	12-May-2011
7174115	594808	4790302	Abandoned-Other	29-Dec-2011
7174116	594839	4790271	Abandoned-Other	29-Dec-2011
7188797	594349	4790565		18-Jul-2012
7189062	595047	4790484		22-Sep-2012
7208301	594926	4790538	Test Hole	24-Sep-2013
7236089	594883	4790621	Monitoring and Test Hole	21-Jan-2015
7242517	594617	4790597		6-Sep-2015
7256327	594324	4790838		19-Jan-2016
7285705	594421	4790766		26-Apr-2017
7299612	594136	4790706		21-Nov-2017
7312400	595122	4790654	Observation Wells	6-Nov-2018
7332752	594081	4790807		5-Jul-2019
7344853	594455	4791333	Monitoring and Test Hole	10-Sep-2019
7355963	594695	4790440		24-Mar-2020
7356499	594102	4790759		4-Jul-2020
7367720	594155	4791056		14-Sep-2020



ATTACHMENT E
SITE PLANS

GERRARD STREET

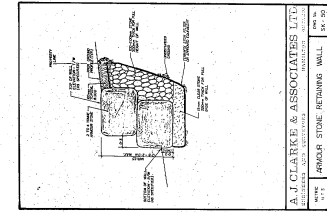
SHERMAN AVENUE NORTH



BRANT STREET

SHERMAN AVENUE NORTH

- NOTES:
- All work involved in the construction, relocation, relocation to the satisfaction of the Commissioner of Regional Engineering and at the expense of the owner.
 - Fire Route Signs and 3-way fire hydrants shall be provided at the intersection of the property line with the Department and at the expense of the property owner.
 - Main drive dimension at the property line boundaries are plus or minus 7.5m unless otherwise stated.
 - All driveways from property lines for first 7.5m shall be within 5% maximum grade, thereafter, all driveways shall be within 10% maximum grade.
 - The approval of this plan does not exempt the owner's various permits normally required to complete a project. The following are included in the project, such as, but not limited to the following:
 - Road cut permits
 - Storm and water permits
 - Approach permits
 - Relocation of services
 - Encroachment agreements
 - Committee of Adjustments
 - (If required)



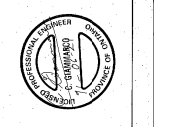
A.J. CLARKE & ASSOCIATES LTD.
 1717 ANCHOR STONE RETAINING WALL

CITY OF HAMILTON
 DEPARTMENT OF BUILDINGS
 JUL 18 1991

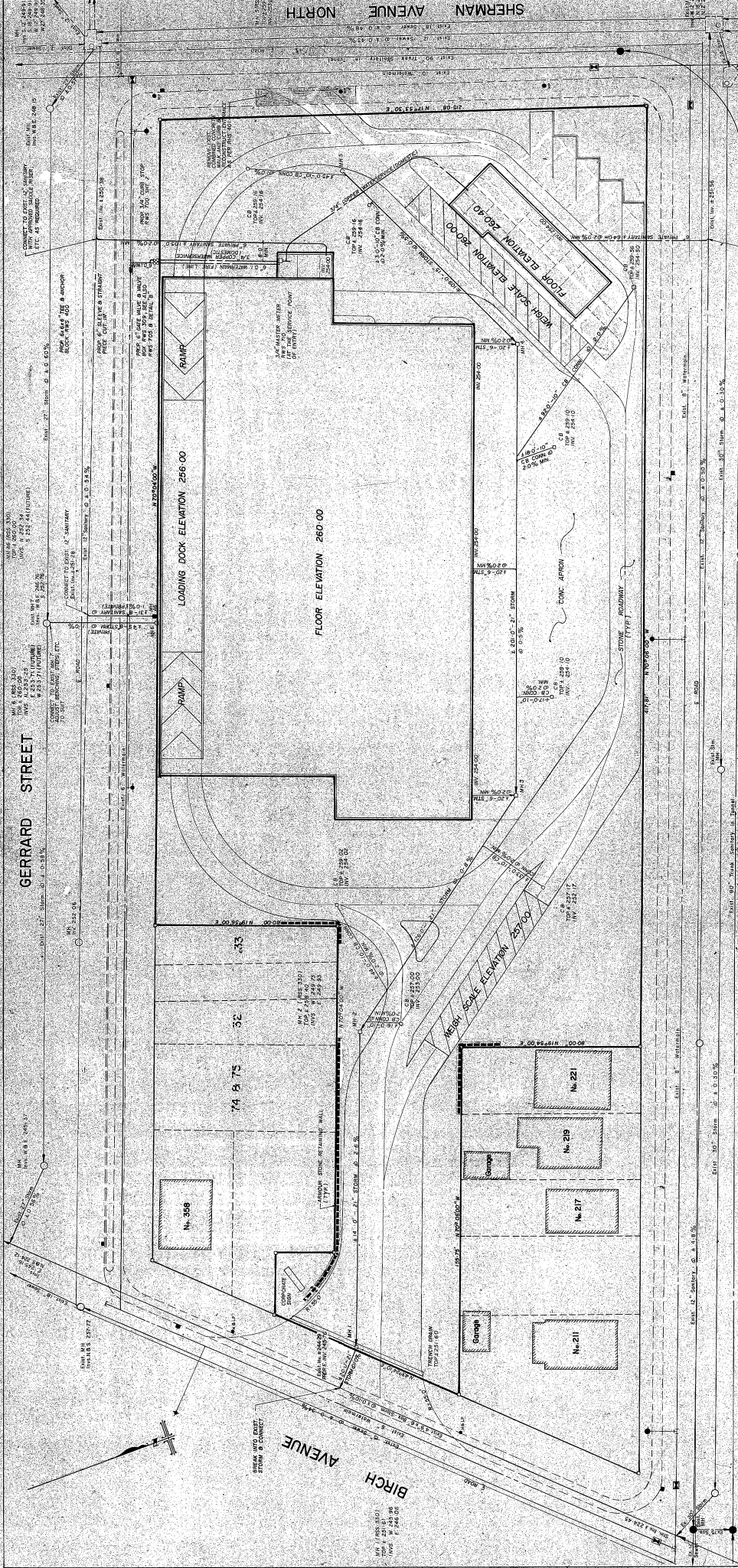
LEGEND:
 --- EXIST. GROUND ELEVATION
 --- PROP. GROUND ELEVATION
 --- PROP. FINISHED GRADE AT DWELLING
 --- DIRECTION OF SURFACE DRAINAGE
 --- DIRECTION OF SHEET FLOW
 --- PROP. RETAINING WALL

ISSUED
 JUL 18 1991
 A. J. CLARKE & ASSOCIATES LTD.
 CIVIL ENGINEERS
 1000 SHEPPARD AVENUE EAST, SUITE 201
 SCARBOROUGH, ONTARIO M1S 1T2
 PHONE: (416) 291-1111

NOT ISSUED FOR CONSTRUCTION	
A.J. Clarke & Associates Ltd. CIVIL ENGINEERS	DESIGN: C. GILBERT
CITY OF HAMILTON	DRAWN: R. LAM
PHILIP ENVIRONMENTAL GROUP	SCALE: 1"=20'
YARD No. 1	DATE: DECEMBER 1990
SITE GRADING PLAN	DWG: K-1282-1



PLANNING SERVICES REVIEWED
 APPROVED BY THE BOARD OF ENGINEERS
 C.E. JUN 79



BRANT STREET
GERRARD STREET
SHERMAN AVENUE NORTH

NOT ISSUED FOR CONSTRUCTION
CITY OF HAMILTON
YARD No. 1

PHILIP ENVIRONMENTAL GROUP
SITE SERVICING PLAN
DATE: 12/23/11

REV. I. PRIVATE SANITARY AND WATER ADDED C.G. JUNE 1991
DRAINAGE INFORMATION
Ground contours were taken, proposed
drainage shown with 1/2" contours
at 1' in 25' VERTICAL INTERVAL

STANDARD NOTES
1. All construction of services on this project shall be in accordance with Regional Standards and Specifications (refer to Region of Hamilton-Wentworth Books A & B).
2. All construction shall be in accordance with the Region of Hamilton-Wentworth Book C.
3. Contractor shall verify all locations of shallow utilities, including water, gas, electric and telephone lines, sanitary and storm sewers and all existing private sewers, by using utility location equipment prior to construction.
4. Storm pipe up to 12" shall be 6.5" Concrete Pipe, in accordance with CSA A 287.1 C1.3 with rubber gasket joints, Type 50 Cement or PVC 50 (20" or 35") (where not in bedding as per BSS-205 except as noted below).
5. Catch basin and bedding as per BSS-205, CSH 2457.2.150 with Rubber Gasket Joints, Type 50 Cement and bedding as per BSS-205.
6. Catch basin bedding shall be 10" dia. P/PPE for single catch basins and 12" for Precast single catch basins as per BSS-205.2 and double catch basin as per BSS-205.2. Catch basins shall be concrete type and bedding as per BSS-205 except as noted below.
7. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
8. All road cuts shall be bedded with clean, w. material compacted to min. 95% SDP unless otherwise specified.
9. All disturbed curb and gutters, sidewalks, private drains and water services, utility lines, water pipes, etc. shall be replaced to existing condition or better.
10. EROSION CONTROL
11. All road cuts shall be bedded with clean, w. material compacted to min. 95% SDP unless otherwise specified.
12. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.

DETAIL B
1/2" VERTICAL INTERVAL
1/4" HORIZONTAL INTERVAL

1. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
2. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
3. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
4. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
5. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
6. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
7. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
8. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
9. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
10. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.

1. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
2. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
3. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
4. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
5. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
6. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
7. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
8. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
9. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.
10. All bedding and backfill material, road sub grades, gravel or road bases and compacted for min. 95% SDP unless otherwise specified.



ATTACHMENT F
MONITORING WELL LOGS



Project #: 5-5030-01-02

Privileged and Confidential

Project: Baseline Study

LOG OF: MW1

Client: Corbic Chemicals Inc.

Location: 237 Brant Street, Hamilton, Ontario

Driller: Aardvark Drilling Company

Monitoring Well Diameter: 20 cm

Drill Method: CME75

Start Date: May 05, 2022

Checked By: MPS

Sample Method: Split Spoon

Completed: May 05, 2022

Logged By: RE

Depth	Sample No.	Recovery (%)	Vapour Conc (ppm)	Graphic Log	Geology Description	Elevation (masd)	Well Completion	Well Details
0					Ground Surface			
0	SS1	50	0/0		ASPHALT	78.75		Flushmount casing Concrete collar
2					SAND & GRAVEL-FILL Medium dense, coarse-grained, light grey, slightly moist, slight hydrocarbon odour, no staining.	78.24		
4	SS2	75	0/0			77.79		
6	SS3*	100	0/0		SAND Some clay, medium dense, fine-grained, dark brown, slightly moist, no odours or staining.			Bentonite pellets
8	SS4	100	0/0		CLAY Some silt, hard, low plasticity, light brown, slightly moist, no odours or staining.			
10	SS5	100	0/1		Stiff, medium plastic, slightly grey at 1.5 metres bgs.			
12					Medium to highly plastic at 2.3 metres bgs.			Sand pack
14	SS6	0						
16	SS7*	100	0/1		Grey, very soft, highly plastic, very moist at 4.5 metres bgs.			5 cm Dia. 10-Slot PVC Screen
18	SS8	100	0/0		WET at 5.5 metres bgs.			
20						72.15		
22					End of Borehole			
24					Vapour/ Conc column reads hexane/ isobutylene			
26					* - indicates samples were submitted for laboratory analysis for PHCs, VOCs, PAHs, and metals			
28								
30								

Groundwater Elevation: 74.95 masd (,)

Screening Tool: RKI Eagle 2

T.O.P. Elevation: 78.67 masd

FOR ENVIRONMENTAL PURPOSES ONLY

Ground Surface Elevation: 78.85 masd

Sheet: 1 of 1



Project #: 5-5030-01-02

Privileged and Confidential

Project: Baseline Study

LOG OF: MW2

Client: Corbic Chemicals Inc.

Location: 237 Brant Street, Hamilton, Ontario

Driller: Aardvark Drilling Company

Monitoring Well Diameter: 20 cm

Drill Method: CME75

Start Date: May 05, 2022

Checked By: MPS

Sample Method: Split Spoon

Completed: May 05, 2022

Logged By: RE

Depth	Sample No.	Recovery (%)	Vapour Conc (ppm)	Graphic Log	Geology Description	Elevation (masd)	Well Completion	Well Details
0					Ground Surface			
0	SS1*	50	0/20		ASPHALT	76.67		Flushmount casing Concrete collar
2						76.16		
2	SS2*	80	0/0		SAND&GRAVEL-FILL Medium dense, coarse-grained, light grey, slightly moist, slight hydrocarbon odour, no staining.			
4								
4	SS3	100	0/0		CLAY Some silt, stiff, medium plastic, light brown, slightly moist, no odours or staining.			Bentonite pellets
6								
6	SS4	100	0/0					
8								
8	SS5	50	0/0		Soft, moist, light grey at 3.35 metres bgs.			
10								
10	SS6	90	0/0		Very soft, highly plastic, very moist at 3.8 metres bgs.			
12								
12	SS7	100	0/0		WET at 4.6 metres bgs.			
14								
14								
16								
16								
18								
18								
20						70.67		
20					End of Borehole			
22					Vapour/ Conc column: hexane/ isobutylene			
24					* - indicates samples were submitted for laboratory analysis for PHCs, VOCs, PAHs, and metals			
26								
26								
28								
28								
30								
30								

Groundwater Elevation: 71.04 masd (,)

Screening Tool: RKI Eagle 2

T.O.P. Elevation: 76.62 masd

FOR ENVIRONMENTAL PURPOSES ONLY

Ground Surface Elevation: 76.77 masd

Sheet: 1 of 1



Project #: 5-5030-01-02

Privileged and Confidential

Project: Baseline Study

LOG OF: MW3

Client: Corbic Chemicals Inc.

Location: 237 Brant Street, Hamilton, Ontario

Driller: Aardvark Drilling Company

Monitoring Well Diameter: 20 cm

Drill Method: CME75

Start Date: May 06, 2022

Checked By: MPS

Sample Method: Split Spoon

Completed: May 06, 2022

Logged By: RE

Depth	Sample No.	Recovery (%)	Vapour Conc (ppm)	Graphic Log	Geology Description	Elevation (masd)	Well Completion	Well Details
0					Ground Surface			
0	SS1*	50	0/3		ASPHALT	79.16		Flushmount casing Concrete collar
2								
4	SS2	60	0/2		SAND&GRAVEL-FILL Medium dense, coarse-grained, light grey, slightly moist, slight hydrocarbon odour, no staining.			
6								
6	SS3*	80	0/0		Trace recycled asphalt, dense, light brown-orange.	77.59		
8								Bentonite pellets
8	SS4	100	0/0		CLAY Trace silt, hard, low plasticity, light brown, slightly moist, no odours or staining.			
10								
10	SS5	100	0/0		Stiff, medium plastic at 2.4 metres bgs.			
12								
14	SS6	10	0/0					
16								
16	SS7	100	0/0		Soft, slightly grey, moist.			Sand pack
18								
18	SS8	100	0/0		Very soft, highly plastic, grey, very moist at 5.5 metres bgs.			
20								
20	SS9	100	0/0		WET at 6.1 metres bgs.			5 cm Dia. 10-Slot PVC Screen
22								
24								
24						71.64		
26					End of Borehole			
28					Vapour/ Conc column: hexane/ isobutylene * - indicates samples were submitted for laboratory analysis for PHCs, VOCs, PAHs, and metals			
30								

Groundwater Elevation: 77.72 masd (,)

Screening Tool: RKI Eagle 2

T.O.P. Elevation: 79.14 masd

FOR ENVIRONMENTAL PURPOSES ONLY

Ground Surface Elevation: 79.26 masd

Sheet: 1 of 1



Project #: 5-5030-01-02

Privileged and Confidential

Project: Baseline Study

LOG OF: MW4

Client: Corbic Chemicals Inc.

Location: 237 Brant Street, Hamilton, Ontario

Driller: Aardvark Drilling Company

Monitoring Well Diameter: 20 cm

Drill Method: CME75

Start Date: May 05, 2022

Checked By: MPS

Sample Method: Split Spoon

Completed: May 05, 2022

Logged By: RE

Depth	Sample No.	Recovery (%)	Vapour Conc (ppm)	Graphic Log	Geology Description	Elevation (masd)	Well Completion	Well Details
0					Ground Surface			
0	SS1*	75	185/4		ASPHALT	79.06		Flushmount casing Concrete collar
2					SAND&GRAVEL-FILL Medium dense, coarse-grained, light grey, slightly moist, no odours or staining.			
4	SS2	80	0/0		Trace cobble at 0.9 metres bgs.	77.64		
6					CLAY Some silt, stiff, medium plasticity, light brown, slightly moist, no odours or staining.			
8	SS3*	80	0/0					Bentonite pellets
10	SS4	80	0/0					
12	SS5	100	0/0					
14	SS6	100	0/0		Soft, highly plastic at 3.65 metres bgs.			
16	SS7	100	0/0					
18	SS8	100	0/0		Grey, moist at 5 metres bgs.			
20	SS9	100	0/0		Very soft, WET at 5.5 metres bgs.			
22								
24	SS10	100	0/0					
26						71.54		
28					End of Borehole			
30								

Groundwater Elevation: 72.53 masd (,)

Screening Tool: RKI Eagle 2

T.O.P. Elevation: 79.03 masd

FOR ENVIRONMENTAL PURPOSES ONLY

Ground Surface Elevation: 79.16 masd

Sheet: 1 of 1



Project #: 5-5030-01-02

Privileged and Confidential

Project: Baseline Study

LOG OF: MW5

Client: Corbic Chemicals Inc.

Location: 237 Brant Street, Hamilton, Ontario

Driller: Aardvark Drilling Company

Monitoring Well Diameter: 20 cm

Drill Method: CME75

Start Date: May 06, 2022

Checked By: MPS

Sample Method: Split Spoon

Completed: May 06, 2022

Logged By: RE

Depth	Sample No.	Recovery (%)	Vapour Conc (ppm)	Graphic Log	Geology Description	Elevation (masd)	Well Completion	Well Details
0					Ground Surface	79.26		Flushmount casing Concrete collar
0 - 2	SS1*	60	0/7		ASPHALT SAND & GRAVEL-FILL Medium dense, coarse-grained, grey, slightly moist, no odours or staining.			
2 - 6	SS2*	50	0/0		CLAY Trace silt, hard, medium plasticity, light brown, slightly moist, no odours or staining.	77.54		Bentonite pellets
6 - 8	SS3	90	0/0					
8 - 10					Stiff, trace cobble at 3.05 metres bgs.			
10 - 14	SS4	100	0/0					
14 - 16	SS5	10	0/0					Sand pack
16 - 18	SS6	100	0/0					
18 - 20	SS7	100	0/0		Soft, light grey, very moist at 5.8 metres bgs.			
20 - 22					Very soft, highly plastic, WET at 6.1 metres bgs.			5 cm Dia. 10-Slot PVC Screen
22 - 24								
24 - 26						71.74		
26 - 30					End of Borehole Vapour/ Conc column: hexane/ isobutylene * - indicates samples were submitted for laboratory analysis for PHCs, VOCs, PAHs, and metals			

Groundwater Elevation: 75.34 masd (,)

Screening Tool: RKI Eagle 2

T.O.P. Elevation: 79.24 masd

FOR ENVIRONMENTAL PURPOSES ONLY

Ground Surface Elevation: 79.36 masd

Sheet: 1 of 1



Project #: 5-5030-01-02

Privileged and Confidential

Project: Baseline Study

LOG OF: MW6

Client: Corbic Chemicals Inc.

Location: 237 Brant Street, Hamilton, Ontario

Driller: Aardvark Drilling Company

Monitoring Well Diameter: 20 cm

Drill Method: CME75

Start Date: May 06, 2022

Checked By: MPS

Sample Method: Split Spoon

Completed: May 06, 2022

Logged By: RE

Depth	Sample No.	Recovery (%)	Vapour Conc (ppm)	Graphic Log	Geology Description	Elevation (masd)	Well Completion	Well Details
0					Ground Surface	79.19		Flushmount casing Concrete collar
0 - 2	SS1*	50	0/0		SAND & GRAVEL Medium dense, coarse-grained, light grey, slightly moist, slight hydrocarbon odour, no staining. Trace brick debris, loose.	77.31		Bentonite pellets
2 - 4	SS2*	100			CLAY Hard, low plasticity, light brown, slightly moist, no odours or staining.			
4 - 6	SS3	100	0/0		Stiff, medium plasticity at 3.05 metres bgs.			Sand pack
6 - 8	SS4	100	0/0		Soft, light grey, moist at 4.1 metres bgs.			
8 - 12	SS5	100	0/0		Very soft, WET at 4.9 metres bgs.			
12 - 14	SS6	100	0/0					5 cm Dia. 10-Slot PVC Screen
14 - 20						73.19		
20					End of Borehole			
22								
24								
26								
28								
30								

Groundwater Elevation: 75.43 masd (,)

Screening Tool: RKI Eagle 2

T.O.P. Elevation: 79.16 masd

FOR ENVIRONMENTAL PURPOSES ONLY

Ground Surface Elevation: 79.29 masd

Sheet: 1 of 1



ATTACHMENT G
LABORATORY CERTIFICATES OF ANALYSIS



Environmental

CERTIFICATE OF ANALYSIS

Work Order : **WT2203520** **Page** : 1 of 14

Client : **XCG Consulting Limited** **Laboratory** : **Waterloo - Environmental**

Contact : **Michael Schriver** **Account Manager** : **Andrew Martin**

Address : **820 Trillium Drive** **Address** : **60 Northland Road, Unit 1**
Kitchener ON Canada N2R 1K4 **Waterloo ON Canada N2V 2B8**

Telephone : **519 741 5774** **Telephone** : **+1 519 886 6910**

Project : **5-5030-01-02** **Date Samples Received** : **06-May-2022 15:45**

PO : **----** **Date Analysis Commenced** : **08-May-2022**

C-O-C number : **----** **Issue Date** : **17-May-2022 11:41**

Sampler : **CLIENT**

Site : **----**

Quote number : **Gold 2022 SOA**

No. of samples received : **16**

No. of samples analysed : **13**

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Amanda Ganouri-Lumsden	Department Manager - Microbiology and Prep	Centralized Prep, Waterloo, Ontario
Greg Pokocky	Supervisor - Inorganic	Metals, Waterloo, Ontario
Jeremy Gingras	Team Leader - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Jocelyn Kennedy	Department Manager - Semi-Volatile Organics	Organics, Waterloo, Ontario
Sarah Birch	Team Leader - Volatiles	Organics, Waterloo, Ontario



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key : CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances
LOR: Limit of Reporting (detection limit).

<i>Unit</i>	<i>Description</i>
-	No Unit
%	percent
mg/kg	milligrams per kilogram

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.



Analytical Results

Sub-Matrix: Soil		Client sample ID									
(Matrix: Soil/Solid)		Client sampling date / time									
Analyte	CAS Number	Method	LOR	Unit	MW1 SS3	MW1 SS7	MW2 SS1	MW2 SS2	MW3 SS1	MW3 SS1	
					05-May-2022 14:30	05-May-2022 14:40	05-May-2022 12:30	05-May-2022 12:40	06-May-2022 07:55	WT2203520-001	WT2203520-002
Physical Tests				Result		Result		Result		Result	
moisture	---	E144	0.25	%	20.4	22.7	4.37	22.2	5.06		
Metals											
antimony	7440-36-0	E440	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	0.22		
arsenic	7440-38-2	E440	0.10	mg/kg	3.30	3.18	1.33	3.98	2.24		
barium	7440-39-3	E440	0.50	mg/kg	173	162	13.7	173	26.1		
beryllium	7440-41-7	E440	0.10	mg/kg	0.82	0.81	0.11	0.89	0.22		
boron	7440-42-8	E440	5.0	mg/kg	14.0	15.5	15.5	15.9	21.4		
cadmium	7440-43-9	E440	0.020	mg/kg	0.098	0.062	2.53	0.082	6.46		
chromium	7440-47-3	E440	0.50	mg/kg	29.2	28.2	4.60	29.3	11.2		
cobalt	7440-48-4	E440	0.10	mg/kg	11.5	11.2	2.12	12.8	3.28		
copper	7440-50-8	E440	0.50	mg/kg	21.1	20.9	6.32	21.4	12.4		
lead	7439-92-1	E440	0.50	mg/kg	12.3	11.9	148	13.9	173		
molybdenum	7439-98-7	E440	0.10	mg/kg	0.38	0.41	1.02	0.42	1.76		
nickel	7440-02-0	E440	0.50	mg/kg	27.3	26.2	5.32	33.8	9.06		
selenium	7782-49-2	E440	0.20	mg/kg	<0.20	<0.20	<0.20	<0.20	<0.20		
silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	<0.10	<0.10	<0.10		
thallium	7440-28-0	E440	0.050	mg/kg	0.175	0.124	0.144	0.234	0.206		
uranium	7440-61-1	E440	0.050	mg/kg	0.639	1.11	1.32	0.626	1.66		
vanadium	7440-62-2	E440	0.20	mg/kg	38.3	37.2	7.82	41.4	13.2		
zinc	7440-66-6	E440	2.0	mg/kg	60.1	54.4	798	58.9	2360		
Volatile Organic Compounds											
acetone	67-64-1	E611D	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50		
benzene	71-43-2	E611D	0.0050	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050		
bromodichloromethane	75-27-4	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050		
bromoform	75-25-2	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050		
bromomethane	74-83-9	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050		
carbon tetrachloride	56-23-5	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050		
chlorobenzene	108-90-7	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050		
chloroform	67-66-3	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050		
dibromochloromethane	124-48-1	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050		



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)		Client sample ID							
Analyte	CAS Number	Method	LOR	Unit	MW1 SS3	MW1 SS7	MW2 SS1	MW2 SS2	MW3 SS1
					05-May-2022 14:30 WT2203520-001	05-May-2022 14:40 WT2203520-002	05-May-2022 12:30 WT2203520-003	05-May-2022 12:40 WT2203520-004	06-May-2022 07:55 WT2203520-005
Client sampling date / time					Result	Result	Result	Result	Result
Volatile Organic Compounds									
dibromoethane, 1,2-	106-93-4	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
dichlorobenzene, 1,2-	95-50-1	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
dichlorobenzene, 1,3-	541-73-1	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
dichlorobenzene, 1,4-	106-46-7	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
dichlorodifluoromethane	75-71-8	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
dichloroethane, 1,1-	75-34-3	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
dichloroethane, 1,2-	107-06-2	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
dichloroethylene, 1,1-	75-35-4	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
dichloroethylene, cis-1,2-	156-59-2	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
dichloroethylene, trans-1,2-	156-60-5	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
dichloromethane	75-09-2	E611D	0.045	mg/kg	<0.045	<0.045	<0.045	<0.045	<0.045
dichloropropane, 1,2-	78-87-5	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
dichloropropylene, cis+trans-1,3-	542-75-6	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
dichloropropylene, cis-1,3-	10061-01-5	E611D	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
dichloropropylene, trans-1,3-	10061-02-6	E611D	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030
ethylbenzene	100-41-4	E611D	0.015	mg/kg	<0.015	<0.015	<0.015	<0.015	<0.015
hexane, n-	110-54-3	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	0.054
methyl ethyl ketone [MEK]	78-93-3	E611D	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50
methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.50	mg/kg	<0.50	<0.50	<0.50	<0.50	<0.50
methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.040	mg/kg	<0.040	<0.040	<0.040	<0.040	<0.040
styrene	100-42-5	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
tetrachloroethylene	127-18-4	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
toluene	108-88-3	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
trichloroethane, 1,1,1-	71-55-6	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
trichloroethane, 1,1,2-	79-00-5	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
trichloroethylene	79-01-6	E611D	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010
trichlorofluoromethane	75-69-4	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050
vinyl chloride	75-01-4	E611D	0.020	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020
xylene, m+ p-	179601-23-1	E611D	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030



Analytical Results

Sub-Matrix: Soil		Client sample ID									
(Matrix: Soil/Solid)		Client sampling date / time									
Analyte	CAS Number	Method	LOR	Unit	MW1 SS3	MW1 SS7	MW2 SS1	MW2 SS2	MW3 SS1	MW3 SS2	MW3 SS3
					Result	Result	Result	Result	Result	Result	Result
Polycyclic Aromatic Hydrocarbons											
indeno(1,2,3-c,d)pyrene	193-39-5	E642F	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
methylnaphthalene, 1-	90-12-0	E642F	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
methylnaphthalene, 1+2-	----	E642F	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
methylnaphthalene, 2-	91-57-6	E642F	0.030	mg/kg	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
naphthalene	91-20-3	E642F	0.010	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
phenanthrene	85-01-8	E642F	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
pyrene	129-00-0	E642F	0.050	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Polycyclic Aromatic Hydrocarbons Surrogates											
fluorobiphenyl, 2-	321-60-8	E642F	0.1	%	91.5	90.6	84.5	90.0	91.5	90.0	91.5
terphenyl-d14, p-	1718-51-0	E642F	0.1	%	88.7	87.4	79.8	86.8	88.7	86.8	87.3

Please refer to the General Comments section for an explanation of any qualifiers detected.



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)		Client sample ID				
Analyte	CAS Number	Method	LOR	Client sampling date / time		
				Unit	Result	
Physical Tests						
moisture	----	E144	0.25	%	18.7	
Metals						
antimony	7440-36-0	E440	0.10	mg/kg	0.12	
arsenic	7440-38-2	E440	0.10	mg/kg	1.76	
barium	7440-39-3	E440	0.50	mg/kg	17.1	
beryllium	7440-41-7	E440	0.10	mg/kg	0.16	
boron	7440-42-8	E440	5.0	mg/kg	15.6	
cadmium	7440-43-9	E440	0.020	mg/kg	2.81	
chromium	7440-47-3	E440	0.50	mg/kg	8.00	
cobalt	7440-48-4	E440	0.10	mg/kg	2.64	
copper	7440-50-8	E440	0.50	mg/kg	10.1	
lead	7439-92-1	E440	0.50	mg/kg	120	
molybdenum	7439-98-7	E440	0.10	mg/kg	2.16	
nickel	7440-02-0	E440	0.50	mg/kg	7.39	
selenium	7782-49-2	E440	0.20	mg/kg	<0.20	
silver	7440-22-4	E440	0.10	mg/kg	<0.10	
thallium	7440-28-0	E440	0.050	mg/kg	0.158	
uranium	7440-61-1	E440	0.050	mg/kg	1.46	
vanadium	7440-62-2	E440	0.20	mg/kg	10.3	
zinc	7440-66-6	E440	2.0	mg/kg	1350	
Volatile Organic Compounds						
acetone	67-64-1	E611D	0.50	mg/kg	<0.50	
benzene	71-43-2	E611D	0.0050	mg/kg	0.0050	
bromodichloromethane	75-27-4	E611D	0.050	mg/kg	<0.050	
bromoform	75-25-2	E611D	0.050	mg/kg	<0.050	
bromomethane	74-83-9	E611D	0.050	mg/kg	<0.050	
carbon tetrachloride	56-23-5	E611D	0.050	mg/kg	<0.050	
chlorobenzene	108-90-7	E611D	0.050	mg/kg	<0.050	
chloroform	67-66-3	E611D	0.050	mg/kg	<0.050	
dibromochloromethane	124-48-1	E611D	0.050	mg/kg	<0.050	
dibromoethane, 1,2-	106-93-4	E611D	0.050	mg/kg	<0.050	
MW3 SS3						
	06-May-2022 08:00	WT2203520-006	Result			
	05-May-2022 10:30	WT2203520-008	Result	4.14		
	05-May-2022 10:40	WT2203520-009	Result	20.5		
	06-May-2022 12:20	WT2203520-011	Result	9.26		
	06-May-2022 12:30	WT2203520-012	Result	21.3		
MW4 SS1						
	05-May-2022 10:30	WT2203520-008	Result	4.14		
	05-May-2022 10:40	WT2203520-009	Result	20.5		
	06-May-2022 12:20	WT2203520-011	Result	9.26		
	06-May-2022 12:30	WT2203520-012	Result	21.3		
MW4 SS3						
	06-May-2022 08:00	WT2203520-006	Result	18.7		
	05-May-2022 10:30	WT2203520-008	Result	4.14		
	05-May-2022 10:40	WT2203520-009	Result	20.5		
	06-May-2022 12:20	WT2203520-011	Result	9.26		
	06-May-2022 12:30	WT2203520-012	Result	21.3		
MW5 SS1						
	05-May-2022 10:30	WT2203520-008	Result	4.14		
	05-May-2022 10:40	WT2203520-009	Result	20.5		
	06-May-2022 12:20	WT2203520-011	Result	9.26		
	06-May-2022 12:30	WT2203520-012	Result	21.3		



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)		Client sample ID								
Analyte	CAS Number	Method	LOR	Unit	Client sampling date / time	MW3 SS3	MW4 SS1	MW4 SS3	MW5 SS1	MW5 SS2
						Result	Result	Result	Result	Result
Volatile Organic Compounds										
dichlorobenzene, 1,2-	95-50-1	E611D	0.050	mg/kg	06-May-2022 08:00	<0.050	<0.050	<0.050	<0.050	<0.050
dichlorobenzene, 1,3-	541-73-1	E611D	0.050	mg/kg	05-May-2022 10:30	<0.050	<0.050	<0.050	<0.050	06-May-2022 12:30
dichlorobenzene, 1,4-	106-46-7	E611D	0.050	mg/kg	WT2203520-006	<0.050	<0.050	<0.050	06-May-2022 12:20	WT2203520-012
dichlorodifluoromethane	75-71-8	E611D	0.050	mg/kg	WT2203520-008	<0.050	<0.050	<0.050	WT2203520-011	Result
dichloroethane, 1,1-	75-34-3	E611D	0.050	mg/kg	WT2203520-009	<0.050	<0.050	<0.050	Result	Result
dichloroethane, 1,2-	107-06-2	E611D	0.050	mg/kg		<0.050	<0.050	<0.050		
dichloroethylene, 1,1-	75-35-4	E611D	0.050	mg/kg		<0.050	<0.050	<0.050		
dichloroethylene, cis-1,2-	156-59-2	E611D	0.050	mg/kg		<0.050	<0.050	<0.050		
dichloroethylene, trans-1,2-	156-60-5	E611D	0.050	mg/kg		<0.050	<0.050	<0.050		
dichloromethane	75-09-2	E611D	0.045	mg/kg		<0.045	<0.045	<0.045		
dichloropropane, 1,2-	78-87-5	E611D	0.050	mg/kg		<0.050	<0.050	<0.050		
dichloropropylene, cis+trans-1,3-	542-75-6	E611D	0.050	mg/kg		<0.050	<0.050	<0.050		
dichloropropylene, cis-1,3-	10061-01-5	E611D	0.030	mg/kg		<0.030	<0.030	<0.030		
dichloropropylene, trans-1,3-	10061-02-6	E611D	0.030	mg/kg		<0.030	<0.030	<0.030		
ethylbenzene	100-41-4	E611D	0.015	mg/kg		<0.015	<0.015	<0.015		
hexane, n-	110-54-3	E611D	0.050	mg/kg		<0.050	<0.050	<0.050		
methyl ethyl ketone [MEK]	78-93-3	E611D	0.50	mg/kg		<0.50	<0.50	<0.50		
methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.50	mg/kg		<0.50	<0.50	<0.50		
methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.040	mg/kg		<0.040	<0.040	<0.040		
styrene	100-42-5	E611D	0.050	mg/kg		<0.050	<0.050	<0.050		
tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.050	mg/kg		<0.050	<0.050	<0.050		
tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.050	mg/kg		<0.050	<0.050	<0.050		
tetrachloroethylene	127-18-4	E611D	0.050	mg/kg		<0.050	<0.050	<0.050		
toluene	108-88-3	E611D	0.050	mg/kg		<0.050	<0.050	<0.050		
trichloroethane, 1,1,1-	71-55-6	E611D	0.050	mg/kg		<0.050	<0.050	<0.050		
trichloroethane, 1,1,2-	79-00-5	E611D	0.050	mg/kg		<0.050	<0.050	<0.050		
trichloroethylene	79-01-6	E611D	0.010	mg/kg		<0.010	<0.010	<0.010		
trichlorofluoromethane	75-69-4	E611D	0.050	mg/kg		<0.050	<0.050	<0.050		
vinyl chloride	75-01-4	E611D	0.020	mg/kg		<0.020	<0.020	<0.020		
xylylene, m+p-	179601-23-1	E611D	0.030	mg/kg		<0.030	<0.030	<0.030		
xylylene, o-	95-47-6	E611D	0.030	mg/kg		<0.030	<0.030	<0.030		



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)		Client sample ID												
Analyte	CAS Number	Method	LOR	Unit	MW3 SS3		MW4 SS1		MW4 SS3		MW5 SS1		MW5 SS2	
					Result	WT2203520-006	Result	WT2203520-008	Result	WT2203520-009	Result	WT2203520-011	Result	WT2203520-012
Client sampling date / time														
Volatile Organic Compounds														
xylenes, total	1330-20-7	E611D	0.050	mg/kg	<0.050		<0.050		<0.050		<0.050		<0.050	
BTEX, total	----	E611D	0.10	mg/kg	<0.10		<0.10		<0.10		<0.10		<0.10	
Volatile Organic Compounds Surrogates														
bromofluorobenzene, 4-	460-00-4	E611D	0.10	%	119		117		78.8		83.2		85.1	
difluorobenzene, 1,4-	540-36-3	E611D	0.10	%	78.6		78.0		88.3		94.1		97.0	
Hydrocarbons														
F1 (C6-C10)	----	E581.F1	5.0	mg/kg	<5.0		<5.0		<5.0		<5.0		<5.0	
F2 (C10-C16)	----	E601.SG-L	10	mg/kg	<10		28		<10		21		<10	
F3 (C16-C34)	----	E601.SG-L	50	mg/kg	<50		200		<50		191		<50	
F4 (C34-C50)	----	E601.SG-L	50	mg/kg	<50		386		140		510		<50	
F4G-Sg	----	E601.F4G-L	250	mg/kg	---		1230		---		1890		---	
F1-BTEX	----	EC580	5.0	mg/kg	<5.0		<5.0		<5.0		<5.0		<5.0	
hydrocarbons, total (C6-C50)	----	EC581	80	mg/kg	<80		614		140		722		<80	
chromatogram to baseline at nC50	n/a	E601.SG-L	-	-	YES		NO		NO		NO		YES	
Hydrocarbons Surrogates														
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	E601.SG-L	1.0	%	79.2		82.4		84.9		71.2		82.6	
dichlorotoluene, 3,4-	97-75-0	E581.F1	1.0	%	106		95.4		74.4		77.1		84.0	
Polycyclic Aromatic Hydrocarbons														
acenaphthene	83-32-9	E642F	0.050	mg/kg	<0.050		<0.050		<0.050		<0.050		<0.050	
acenaphthylene	208-96-8	E642F	0.050	mg/kg	<0.050		<0.050		<0.050		<0.050		<0.050	
anthracene	120-12-7	E642F	0.050	mg/kg	<0.050		0.063		<0.050		0.058		<0.050	
benz(a)anthracene	56-55-3	E642F	0.050	mg/kg	<0.050		0.158		<0.050		0.214		<0.050	
benzo(a)pyrene	50-32-8	E642F	0.050	mg/kg	<0.050		0.156		<0.050		0.252		<0.050	
benzo(b+j)fluoranthene	n/a	E642F	0.050	mg/kg	<0.050		0.154		<0.050		0.264		<0.050	
benzo(g,h,i)perylene	191-24-2	E642F	0.050	mg/kg	<0.050		0.087		<0.050		0.170		<0.050	
benzo(k)fluoranthene	207-08-9	E642F	0.050	mg/kg	<0.050		0.069		<0.050		0.119		<0.050	
chrysene	218-01-9	E642F	0.050	mg/kg	<0.050		0.148		<0.050		0.216		<0.050	
dibenz(a,h)anthracene	53-70-3	E642F	0.050	mg/kg	<0.050		<0.050		<0.050		<0.050		<0.050	
fluoranthene	206-44-0	E642F	0.050	mg/kg	<0.050		0.298		<0.050		0.373		<0.050	
fluorene	86-73-7	E642F	0.050	mg/kg	<0.050		<0.050		<0.050		<0.050		<0.050	
indeno(1,2,3-c,d)pyrene	193-39-5	E642F	0.050	mg/kg	<0.050		0.086		<0.050		0.159		<0.050	



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)		Client sample ID								
Analyte	CAS Number	Method	LOR	Unit	Client sampling date / time	MW3 SS3	MW4 SS1	MW4 SS3	MW5 SS1	MW5 SS2
						Result	Result	Result	Result	Result
Polycyclic Aromatic Hydrocarbons										
methylnaphthalene, 1-	90-12-0	E642F	0.030	mg/kg	06-May-2022 08:00	<0.030	0.033	<0.030	0.030	<0.030
methylnaphthalene, 1+2-	----	E642F	0.050	mg/kg	05-May-2022 10:30	<0.050	<0.050	<0.050	0.061	<0.050
methylnaphthalene, 2-	91-57-6	E642F	0.030	mg/kg	05-May-2022 10:40	<0.030	<0.030	<0.030	0.031	<0.030
naphthalene	91-20-3	E642F	0.010	mg/kg	06-May-2022 12:20	<0.010	<0.010	<0.010	0.018	<0.010
phenanthrene	85-01-8	E642F	0.050	mg/kg	WT2203520-006	<0.050	0.173	<0.050	0.165	<0.050
pyrene	129-00-0	E642F	0.050	mg/kg	WT2203520-008	<0.050	0.255	<0.050	0.343	<0.050
Polycyclic Aromatic Hydrocarbons Surrogates										
fluorobiphenyl, 2-	321-60-8	E642F	0.1	%	WT2203520-009	83.1	82.8	90.7	83.6	83.3
terphenyl-d14, p-	1718-51-0	E642F	0.1	%	WT2203520-011	80.2	78.3	88.3	80.7	81.4

Please refer to the General Comments section for an explanation of any qualifiers detected.



Analytical Results

Sub-Matrix: Soil		Client sample ID			
(Matrix: Soil/Solid)		(Matrix: Soil/Solid)			
Analyte	CAS Number	Method	LOR	Client sampling date / time	
				Unit	Result
Physical Tests					
moisture	----	E144	0.25	%	6.57
Metals					
antimony	7440-36-0	E440	0.10	mg/kg	0.22
arsenic	7440-38-2	E440	0.10	mg/kg	2.24
barium	7440-39-3	E440	0.50	mg/kg	32.6
beryllium	7440-41-7	E440	0.10	mg/kg	0.24
boron	7440-42-8	E440	5.0	mg/kg	16.6
cadmium	7440-43-9	E440	0.020	mg/kg	2.58
chromium	7440-47-3	E440	0.50	mg/kg	18.1
cobalt	7440-48-4	E440	0.10	mg/kg	3.14
copper	7440-50-8	E440	0.50	mg/kg	17.1
lead	7439-92-1	E440	0.50	mg/kg	116
molybdenum	7439-98-7	E440	0.10	mg/kg	1.36
nickel	7440-02-0	E440	0.50	mg/kg	9.37
selenium	7782-49-2	E440	0.20	mg/kg	0.22
silver	7440-22-4	E440	0.10	mg/kg	0.35
thallium	7440-28-0	E440	0.050	mg/kg	0.163
uranium	7440-61-1	E440	0.050	mg/kg	1.35
vanadium	7440-62-2	E440	0.20	mg/kg	14.1
zinc	7440-66-6	E440	2.0	mg/kg	976
Volatile Organic Compounds					
acetone	67-64-1	E611D	0.50	mg/kg	<0.50
benzene	71-43-2	E611D	0.0050	mg/kg	0.0102
bromodichloromethane	75-27-4	E611D	0.050	mg/kg	<0.050
bromoform	75-25-2	E611D	0.050	mg/kg	<0.050
bromomethane	74-83-9	E611D	0.050	mg/kg	<0.050
carbon tetrachloride	56-23-5	E611D	0.050	mg/kg	<0.050
chlorobenzene	108-90-7	E611D	0.050	mg/kg	<0.050
chloroform	67-66-3	E611D	0.050	mg/kg	<0.050
dibromochloromethane	124-48-1	E611D	0.050	mg/kg	<0.050
dibromoethane, 1,2-	106-93-4	E611D	0.050	mg/kg	<0.050
RE101					
				05-May-2022	12:00
				06-May-2022	10:30
				WT2203520-013	WT2203520-014
				WT2203520-016	WT2203520-016
				Result	Result
				22.0	22.0
MW6 SS1					
				06-May-2022	10:20
				WT2203520-013	WT2203520-014
				WT2203520-016	WT2203520-016
				Result	Result
				6.57	20.3
MW6 SS2					
				06-May-2022	10:30
				WT2203520-013	WT2203520-014
				WT2203520-016	WT2203520-016
				Result	Result
				22.0	22.0



Analytical Results

Analyte	CAS Number	Method	LOR	Unit	Client sample ID			
					MW6 SS1	MW6 SS2	RE101	
Sub-Matrix: Soil								
(Matrix: Soil/Solid)								
Client sampling date / time								
					06-May-2022 10:20	06-May-2022 10:30	05-May-2022 12:00	
					WT2203520-013	WT2203520-014	WT2203520-016	
					Result	Result	Result	
Volatile Organic Compounds								
dichlorobenzene, 1,2-	95-50-1	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
dichlorobenzene, 1,3-	541-73-1	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
dichlorobenzene, 1,4-	106-46-7	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
dichlorodifluoromethane	75-71-8	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
dichloroethane, 1,1-	75-34-3	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
dichloroethane, 1,2-	107-06-2	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
dichloroethylene, 1,1-	75-35-4	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
dichloroethylene, cis-1,2-	156-59-2	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
dichloroethylene, trans-1,2-	156-60-5	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
dichloromethane	75-09-2	E611D	0.045	mg/kg	<0.045	<0.045	<0.045	
dichloropropane, 1,2-	78-87-5	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
dichloropropylene, cis+trans-1,3-	542-75-6	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
dichloropropylene, cis-1,3-	10061-01-5	E611D	0.030	mg/kg	<0.030	<0.030	<0.030	
dichloropropylene, trans-1,3-	10061-02-6	E611D	0.030	mg/kg	<0.030	<0.030	<0.030	
ethylbenzene	100-41-4	E611D	0.015	mg/kg	<0.015	<0.015	<0.015	
hexane, n-	110-54-3	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
methyl ethyl ketone [MEK]	78-93-3	E611D	0.50	mg/kg	<0.50	<0.50	<0.50	
methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.50	mg/kg	<0.50	<0.50	<0.50	
methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.040	mg/kg	<0.040	<0.040	<0.040	
styrene	100-42-5	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
tetrachloroethylene	127-18-4	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
toluene	108-88-3	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
trichloroethane, 1,1,1-	71-55-6	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
trichloroethane, 1,1,2-	79-00-5	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
trichloroethylene	79-01-6	E611D	0.010	mg/kg	<0.010	<0.010	<0.010	
trichlorofluoromethane	75-69-4	E611D	0.050	mg/kg	<0.050	<0.050	<0.050	
vinyl chloride	75-01-4	E611D	0.020	mg/kg	<0.020	<0.020	<0.020	
xylylene, m+p-	179601-23-1	E611D	0.030	mg/kg	<0.030	<0.030	<0.030	
xylylene, o-	95-47-6	E611D	0.030	mg/kg	<0.030	<0.030	<0.030	



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)		Client sample ID					
Analyte	CAS Number	Method	LOR	Unit	MW6 SS1	MW6 SS2	RE101
					06-May-2022 10:20 WT2203520-013 Result	06-May-2022 10:30 WT2203520-014 Result	05-May-2022 12:00 WT2203520-016 Result
Client sampling date / time							
Volatile Organic Compounds							
xylene, total	1330-20-7	E611D	0.050	mg/kg	<0.050	<0.050	<0.050
BTEX, total	----	E611D	0.10	mg/kg	<0.10	<0.10	<0.10
Volatile Organic Compounds Surrogates							
bromofluorobenzene, 4-	460-00-4	E611D	0.10	%	84.7	76.7	82.9
difluorobenzene, 1,4-	540-36-3	E611D	0.10	%	95.5	88.6	96.7
Hydrocarbons							
F1 (C6-C10)	----	E581.F1	5.0	mg/kg	<5.0	<5.0	<5.0
F2 (C10-C16)	----	E601.SG-L	10	mg/kg	17	<10	<10
F3 (C16-C34)	----	E601.SG-L	50	mg/kg	156	<50	<50
F4 (C34-C50)	----	E601.SG-L	50	mg/kg	558	<50	<50
F4G-g	----	E601.F4G-L	250	mg/kg	2440	---	---
F1-BTEX	----	EC580	5.0	mg/kg	<5.0	<5.0	<5.0
hydrocarbons, total (C6-C50)	----	EC581	80	mg/kg	731	<80	<80
chromatogram to baseline at nC50	n/a	E601.SG-L	-	-	NO	YES	YES
Hydrocarbons Surrogates							
bromobenzotrifluoride, 2- (F2-F4 surr)	392-83-6	E601.SG-L	1.0	%	71.7	82.6	63.5
dichlorotoluene, 3,4-	97-75-0	E581.F1	1.0	%	80.2	81.0	86.4
Polycyclic Aromatic Hydrocarbons							
acenaphthene	83-32-9	E642F	0.050	mg/kg	<0.050	<0.050	<0.050
acenaphthylene	208-96-8	E642F	0.050	mg/kg	<0.050	<0.050	<0.050
anthracene	120-12-7	E642F	0.050	mg/kg	<0.050	<0.050	<0.050
benz(a)anthracene	56-55-3	E642F	0.050	mg/kg	0.189	<0.050	<0.050
benzo(a)pyrene	50-32-8	E642F	0.050	mg/kg	0.214	<0.050	<0.050
benzo(b+j)fluoranthene	n/a	E642F	0.050	mg/kg	0.205	<0.050	<0.050
benzo(g,h,i)perylene	191-24-2	E642F	0.050	mg/kg	0.168	<0.050	<0.050
benzo(k)fluoranthene	207-08-9	E642F	0.050	mg/kg	0.093	<0.050	<0.050
chrysene	218-01-9	E642F	0.050	mg/kg	0.189	<0.050	<0.050
dibenz(a,h)anthracene	53-70-3	E642F	0.050	mg/kg	<0.050	<0.050	<0.050
fluoranthene	206-44-0	E642F	0.050	mg/kg	0.302	<0.050	<0.050
fluorene	86-73-7	E642F	0.050	mg/kg	<0.050	<0.050	<0.050
indeno(1,2,3-c,d)pyrene	193-39-5	E642F	0.050	mg/kg	0.126	<0.050	<0.050



Analytical Results

Sub-Matrix: Soil (Matrix: Soil/Solid)		Client sample ID		Client sampling date / time		Client sampling date / time		Client sampling date / time	
Analyte	CAS Number	Method	LOR	Unit	MW6 SS1	MW6 SS2	RE101	Result	Result
Polycyclic Aromatic Hydrocarbons									
methylnaphthalene, 1-	90-12-0	E642F	0.030	mg/kg	0.044	<0.030	<0.030	<0.030	<0.030
methylnaphthalene, 1+2-	---	E642F	0.050	mg/kg	0.086	<0.050	<0.050	<0.050	<0.050
methylnaphthalene, 2-	91-57-6	E642F	0.030	mg/kg	0.042	<0.030	<0.030	<0.030	<0.030
naphthalene	91-20-3	E642F	0.010	mg/kg	0.016	<0.010	<0.010	<0.010	<0.010
phenanthrene	85-01-8	E642F	0.050	mg/kg	0.156	<0.050	<0.050	<0.050	<0.050
pyrene	129-00-0	E642F	0.050	mg/kg	0.307	<0.050	<0.050	<0.050	<0.050
Polycyclic Aromatic Hydrocarbons Surrogates									
fluorobiphenyl, 2-	321-60-8	E642F	0.1	%	89.9	91.1	90.2	91.1	90.2
terphenyl-d14, p-	1718-51-0	E642F	0.1	%	84.9	88.3	87.6	84.9	87.6

Please refer to the General Comments section for an explanation of any qualifiers detected.



QUALITY CONTROL INTERPRETIVE REPORT

Work Order : WT2203520 **Page** : 1 of 16
Client : XCG Consulting Limited **Laboratory** : Waterloo - Environmental
Contact : Michael Schriver **Account Manager** : Andrew Martin
Address : 820 Trillium Drive **Address** : 60 Northland Road, Unit 1
Kitchener ON Canada N2R 1K4 **Waterloo, Ontario Canada N2V 2B8**
Telephone : 519 741 5774 **Telephone** : +1 519 886 6910
Project : 5-5030-01-02 **Date Samples Received** : 06-May-2022 15:45
PO : --- **Issue Date** : 17-May-2022 11:41
C-O-C number : ---
Sampler : CLIENT
Site : ---
Quote number : Gold 2022 SOA
No. of samples received : 16
No. of samples analysed : 13

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers **Outliers : Quality Control Samples**

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Matrix Spike outliers occur.
- Laboratory Control Sample (LCS) outliers occur - please see following pages for full details.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- No Analysis Holding Time Outliers exist.

Outliers : Frequency of Quality Control Samples

- Quality Control Sample Frequency Outliers occur - please see following pages for full details.



Page : 3 of 16
 Work Order : WT2203520
 Client : XCG Consulting Limited
 Project : 5-5030-01-02

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Sol/Solid**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Laboratory Control Sample (LCS) Recoveries								
Volatile Organic Compounds	QC-MRG2-4810810 02	----	dichlorodifluoromethane	75-71-8	E611D	47.2 % MES	50.0-140%	Recovery less than lower control limit

Result Qualifiers

Qualifier Description

MES Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCME).



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Soil/Solid** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group	Method	Sampling Date	Extraction / Preparation			Analysis							
			Preparation Date	Holding Times		Analysis Date	Holding Times						
				Rec	Actual		Eval	Rec	Actual	Eval			
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID													
Glass soil methanol vial [ON MECP]													
MW5 SS1	E581.F1	06-May-2022	08-May-2022	14 days	2 days	✓	10-May-2022	40 days	1 days	✓			
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID													
Glass soil methanol vial [ON MECP]													
MW5 SS2	E581.F1	06-May-2022	08-May-2022	14 days	2 days	✓	10-May-2022	40 days	1 days	✓			
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID													
Glass soil methanol vial [ON MECP]													
MW1 SS3	E581.F1	05-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	0 days	✓			
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID													
Glass soil methanol vial [ON MECP]													
MW1 SS7	E581.F1	05-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	0 days	✓			
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID													
Glass soil methanol vial [ON MECP]													
MW2 SS1	E581.F1	05-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	0 days	✓			
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID													
Glass soil methanol vial [ON MECP]													
MW2 SS2	E581.F1	05-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	0 days	✓			
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID													
Glass soil methanol vial [ON MECP]													
MW3 SS1	E581.F1	06-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	0 days	✓			



Matrix: **Soil/Solid** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group	Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation			Analysis				
				Preparation Date	Holding Times		Analysis Date	Holding Times			
					Rec	Actual		Rec	Actual		
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID											
Glass soil methanol vial [ON MECP]	MW3 SS3	E581.F1	06-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID											
Glass soil methanol vial [ON MECP]	MW6 SS1	E581.F1	06-May-2022	08-May-2022	14 days	3 days	✓	10-May-2022	40 days	1 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID											
Glass soil methanol vial [ON MECP]	MW6 SS2	E581.F1	06-May-2022	08-May-2022	14 days	3 days	✓	10-May-2022	40 days	1 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID											
Glass soil methanol vial [ON MECP]	RE101	E581.F1	05-May-2022	08-May-2022	14 days	3 days	✓	10-May-2022	40 days	1 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID											
Glass soil methanol vial [ON MECP]	MW4 SS1	E581.F1	05-May-2022	08-May-2022	14 days	4 days	✓	09-May-2022	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID											
Glass soil methanol vial [ON MECP]	MW4 SS3	E581.F1	05-May-2022	08-May-2022	14 days	4 days	✓	10-May-2022	40 days	1 days	✓
Hydrocarbons : CCME PHCs - F4G by Gravimetry (Low Level)											
Glass soil jar/Teflon lined cap	MW3 SS1	E601.F4G-L	06-May-2022	09-May-2022	14 days	3 days	✓	17-May-2022	40 days	8 days	✓
Hydrocarbons : CCME PHCs - F4G by Gravimetry (Low Level)											
Glass soil jar/Teflon lined cap	MW4 SS1	E601.F4G-L	05-May-2022	09-May-2022	14 days	4 days	✓	17-May-2022	40 days	8 days	✓
Hydrocarbons : CCME PHCs - F4G by Gravimetry (Low Level)											
Glass soil jar/Teflon lined cap	MW5 SS1	E601.F4G-L	06-May-2022	13-May-2022	14 days	7 days	✓	13-May-2022	40 days	0 days	✓



Matrix: **Soil/Solid** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group	Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation			Analysis				
				Preparation Date	Holding Times		Analysis Date	Holding Times			
					Rec	Actual		Rec	Actual		
Hydrocarbons : CCME PHCs - F4G by Gravimetry (Low Level)											
Glass soil jar/Teflon lined cap	MW6 SS1	E601.F4G-L	06-May-2022	13-May-2022	14 days	7 days	✓	13-May-2022	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)											
Glass soil jar/Teflon lined cap	MW5 SS1	E601.SG-L	06-May-2022	09-May-2022	14 days	2 days	✓	13-May-2022	40 days	5 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)											
Glass soil jar/Teflon lined cap	MW5 SS2	E601.SG-L	06-May-2022	09-May-2022	14 days	2 days	✓	13-May-2022	40 days	5 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)											
Glass soil jar/Teflon lined cap	MW6 SS1	E601.SG-L	06-May-2022	09-May-2022	14 days	3 days	✓	13-May-2022	40 days	5 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)											
Glass soil jar/Teflon lined cap	MW6 SS2	E601.SG-L	06-May-2022	09-May-2022	14 days	3 days	✓	13-May-2022	40 days	5 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)											
Glass soil jar/Teflon lined cap	MW1 SS3	E601.SG-L	05-May-2022	08-May-2022	14 days	3 days	✓	16-May-2022	40 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)											
Glass soil jar/Teflon lined cap	MW1 SS7	E601.SG-L	05-May-2022	08-May-2022	14 days	3 days	✓	16-May-2022	40 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)											
Glass soil jar/Teflon lined cap	MW2 SS1	E601.SG-L	05-May-2022	08-May-2022	14 days	3 days	✓	16-May-2022	40 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)											
Glass soil jar/Teflon lined cap	MW2 SS2	E601.SG-L	05-May-2022	08-May-2022	14 days	3 days	✓	16-May-2022	40 days	8 days	✓



Matrix: **Soil/Solid** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group	Method	Sampling Date	Extraction / Preparation			Analysis				
			Preparation Date	Holding Times		Analysis Date	Holding Times			
				Rec	Actual		Rec	Actual		
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap MW3 SS1	E601.SG-L	06-May-2022	08-May-2022	14 days	3 days	✓	16-May-2022	40 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap MW3 SS3	E601.SG-L	06-May-2022	08-May-2022	14 days	3 days	✓	16-May-2022	40 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap MW4 SS1	E601.SG-L	05-May-2022	08-May-2022	14 days	3 days	✓	16-May-2022	40 days	8 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap MW4 SS3	E601.SG-L	05-May-2022	09-May-2022	14 days	4 days	✓	13-May-2022	40 days	5 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap RE101	E601.SG-L	05-May-2022	09-May-2022	14 days	4 days	✓	13-May-2022	40 days	5 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap MW1 SS3	E440	05-May-2022	08-May-2022	----	----		09-May-2022	180 days	4 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap MW1 SS7	E440	05-May-2022	08-May-2022	----	----		09-May-2022	180 days	4 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap MW2 SS1	E440	05-May-2022	08-May-2022	----	----		09-May-2022	180 days	4 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap MW2 SS2	E440	05-May-2022	08-May-2022	----	----		09-May-2022	180 days	4 days	✓



Matrix: **Soil/Solid** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group	Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation			Analysis			
				Preparation Date	Holding Times		Analysis Date	Holding Times		Eval
					Rec	Actual		Rec	Actual	
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap	MW3 SS1	E440	06-May-2022	08-May-2022	----	----	09-May-2022	180 days	4 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap	MW3 SS3	E440	06-May-2022	08-May-2022	----	----	09-May-2022	180 days	4 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap	MW4 SS1	E440	05-May-2022	08-May-2022	----	----	09-May-2022	180 days	4 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap	MW5 SS1	E440	06-May-2022	09-May-2022	----	----	10-May-2022	180 days	5 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap	MW5 SS2	E440	06-May-2022	09-May-2022	----	----	10-May-2022	180 days	5 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap	MW6 SS1	E440	06-May-2022	09-May-2022	----	----	10-May-2022	180 days	5 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap	MW6 SS2	E440	06-May-2022	09-May-2022	----	----	10-May-2022	180 days	5 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap	MW4 SS3	E440	05-May-2022	09-May-2022	----	----	10-May-2022	180 days	6 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS										
Glass soil jar/Teflon lined cap	RE101	E440	05-May-2022	09-May-2022	----	----	10-May-2022	180 days	6 days	✓



Matrix: **Soil/Solid** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group	Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation			Analysis			
				Preparation Date	Holding Times		Analysis Date	Holding Times		Eval
					Rec	Actual		Rec	Actual	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap	MW1 SS3	E144	05-May-2022	----	----	----	----	08-May-2022	----	----
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap	MW1 SS7	E144	05-May-2022	----	----	----	----	08-May-2022	----	----
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap	MW2 SS1	E144	05-May-2022	----	----	----	----	08-May-2022	----	----
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap	MW2 SS2	E144	05-May-2022	----	----	----	----	08-May-2022	----	----
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap	MW3 SS1	E144	06-May-2022	----	----	----	----	08-May-2022	----	----
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap	MW3 SS3	E144	06-May-2022	----	----	----	----	08-May-2022	----	----
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap	MW4 SS1	E144	05-May-2022	----	----	----	----	08-May-2022	----	----
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap	MW4 SS3	E144	05-May-2022	----	----	----	----	08-May-2022	----	----
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap	MW5 SS1	E144	06-May-2022	----	----	----	----	08-May-2022	----	----



Matrix: **Soil/Solid** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group	Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation			Analysis			
				Preparation Date	Holding Times		Analysis Date	Holding Times		
					Rec	Actual		Rec	Actual	Eval
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap MW5 SS2		E144	06-May-2022	----	----	----	----	08-May-2022	----	----
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap MW6 SS1		E144	06-May-2022	----	----	----	----	08-May-2022	----	----
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap MW6 SS2		E144	06-May-2022	----	----	----	----	08-May-2022	----	----
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap RE101		E144	05-May-2022	----	----	----	----	08-May-2022	----	----
Polycyclic Aromatic Hydrocarbons : PAHs by MeOH:Tol GC-MS										
Glass soil jar/Teflon lined cap MW3 SS1		E642F	06-May-2022	08-May-2022	14 days	2 days	✓	09-May-2022	40 days	1 days
Polycyclic Aromatic Hydrocarbons : PAHs by MeOH:Tol GC-MS										
Glass soil jar/Teflon lined cap MW3 SS3		E642F	06-May-2022	08-May-2022	14 days	2 days	✓	09-May-2022	40 days	1 days
Polycyclic Aromatic Hydrocarbons : PAHs by MeOH:Tol GC-MS										
Glass soil jar/Teflon lined cap MW5 SS1		E642F	06-May-2022	08-May-2022	14 days	2 days	✓	09-May-2022	40 days	1 days
Polycyclic Aromatic Hydrocarbons : PAHs by MeOH:Tol GC-MS										
Glass soil jar/Teflon lined cap MW5 SS2		E642F	06-May-2022	08-May-2022	14 days	2 days	✓	09-May-2022	40 days	1 days
Polycyclic Aromatic Hydrocarbons : PAHs by MeOH:Tol GC-MS										
Glass soil jar/Teflon lined cap MW6 SS1		E642F	06-May-2022	08-May-2022	14 days	2 days	✓	09-May-2022	40 days	1 days



Matrix: **Soil/Solid** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group	Method	Sampling Date	Extraction / Preparation			Analysis				
			Preparation Date	Holding Times		Analysis Date	Holding Times			
				Rec	Actual		Rec	Actual		
Polycyclic Aromatic Hydrocarbons : PAHs by MeOH:Tol GC-MS										
Glass soil jar/Teflon lined cap MW6 SS2	E642F	06-May-2022	08-May-2022	14 days	2 days	✓	09-May-2022	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by MeOH:Tol GC-MS										
Glass soil jar/Teflon lined cap MW1 SS3	E642F	05-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by MeOH:Tol GC-MS										
Glass soil jar/Teflon lined cap MW1 SS7	E642F	05-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by MeOH:Tol GC-MS										
Glass soil jar/Teflon lined cap MW2 SS1	E642F	05-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by MeOH:Tol GC-MS										
Glass soil jar/Teflon lined cap MW2 SS2	E642F	05-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by MeOH:Tol GC-MS										
Glass soil jar/Teflon lined cap MW4 SS1	E642F	05-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by MeOH:Tol GC-MS										
Glass soil jar/Teflon lined cap MW4 SS3	E642F	05-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs by MeOH:Tol GC-MS										
Glass soil jar/Teflon lined cap RE101	E642F	05-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	1 days	✓
Volatile Organic Compounds : VOCs (ON List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP] MW5 SS1	E611D	06-May-2022	08-May-2022	14 days	2 days	✓	10-May-2022	40 days	1 days	✓



Matrix: **Soil/Solid** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group	Method	Sampling Date	Extraction / Preparation			Analysis				
			Preparation Date	Holding Times		Analysis Date	Holding Times			
				Rec	Actual		Rec	Actual		
Volatlie Organic Compounds : VOCs (ON List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP] MW5 SS2	E611D	06-May-2022	08-May-2022	14 days	2 days	✓	10-May-2022	40 days	1 days	✓
Volatlie Organic Compounds : VOCs (ON List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP] MW1 SS3	E611D	05-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	0 days	✓
Volatlie Organic Compounds : VOCs (ON List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP] MW1 SS7	E611D	05-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	0 days	✓
Volatlie Organic Compounds : VOCs (ON List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP] MW2 SS1	E611D	05-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	0 days	✓
Volatlie Organic Compounds : VOCs (ON List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP] MW2 SS2	E611D	05-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	0 days	✓
Volatlie Organic Compounds : VOCs (ON List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP] MW3 SS1	E611D	06-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	0 days	✓
Volatlie Organic Compounds : VOCs (ON List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP] MW3 SS3	E611D	06-May-2022	08-May-2022	14 days	3 days	✓	09-May-2022	40 days	0 days	✓
Volatlie Organic Compounds : VOCs (ON List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP] MW6 SS1	E611D	06-May-2022	08-May-2022	14 days	3 days	✓	10-May-2022	40 days	1 days	✓
Volatlie Organic Compounds : VOCs (ON List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP] MW6 SS2	E611D	06-May-2022	08-May-2022	14 days	3 days	✓	10-May-2022	40 days	1 days	✓



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 Client : XCG Consulting Limited
 Project : 5-5030-01-02

Matrix: **Soil/Solid** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group	Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation		Analysis Date	Analysis		Eval		
				Preparation Date	Holding Times Rec Actual		Preparation Date	Holding Times Rec Actual			
Volatile Organic Compounds : VOCs (ON List) by Headspace GC-MS											
Glass soil methanol vial [ON MECP]	RE101	E611D	05-May-2022	08-May-2022	14 days	3 days	✓	10-May-2022	40 days	1 days	✓
Volatile Organic Compounds : VOCs (ON List) by Headspace GC-MS											
Glass soil methanol vial [ON MECP]	MW4 SS1	E611D	05-May-2022	08-May-2022	14 days	4 days	✓	09-May-2022	40 days	0 days	✓
Volatile Organic Compounds : VOCs (ON List) by Headspace GC-MS											
Glass soil methanol vial [ON MECP]	MW4 SSS	E611D	05-May-2022	08-May-2022	14 days	4 days	✓	10-May-2022	40 days	1 days	✓

Legend & Qualifier Definitions

Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Soil/Solid** Evaluation: * = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type	Method	QC Lot #	Count			Frequency (%)		Evaluation
			QC	Regular	Actual	Expected		
Analytical Methods								
Laboratory Duplicates (DUP)								
CCME PHC - F1 by Headspace GC-FID	E581.F1	481086	2	32	6.2	5.0	✓	
CCME PHCs - F4G by Gravimetry (Low Level)	E601.F4G-L	489612	0	4	0.0	5.0	✗	
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L	481075	2	13	15.3	5.0	✓	
Metals in Soil/Solid by CRC ICPLMS	E440	481090	2	13	15.3	5.0	✓	
Moisture Content by Gravimetry	E144	481070	1	13	7.6	5.0	✓	
PAHs by MeOH: Tol GC-MS	E642F	480934	1	13	7.6	5.0	✓	
VOCs (ON List) by Headspace GC-MS	E611D	481085	2	32	6.2	5.0	✓	
Laboratory Control Samples (LCS)								
CCME PHC - F1 by Headspace GC-FID	E581.F1	481086	2	32	6.2	5.0	✓	
CCME PHCs - F4G by Gravimetry (Low Level)	E601.F4G-L	489612	2	4	50.0	5.0	✓	
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L	481075	2	13	15.3	5.0	✓	
Metals in Soil/Solid by CRC ICPLMS	E440	481090	4	13	30.7	10.0	✓	
Moisture Content by Gravimetry	E144	481070	1	13	7.6	5.0	✓	
PAHs by MeOH: Tol GC-MS	E642F	480934	1	13	7.6	5.0	✓	
VOCs (ON List) by Headspace GC-MS	E611D	481085	2	32	6.2	5.0	✓	
Method Blanks (MB)								
CCME PHC - F1 by Headspace GC-FID	E581.F1	481086	2	32	6.2	5.0	✓	
CCME PHCs - F4G by Gravimetry (Low Level)	E601.F4G-L	489612	2	4	50.0	5.0	✓	
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L	481075	2	13	15.3	5.0	✓	
Metals in Soil/Solid by CRC ICPLMS	E440	481090	2	13	15.3	5.0	✓	
Moisture Content by Gravimetry	E144	481070	1	13	7.6	5.0	✓	
PAHs by MeOH: Tol GC-MS	E642F	480934	1	13	7.6	5.0	✓	
VOCs (ON List) by Headspace GC-MS	E611D	481085	2	32	6.2	5.0	✓	
Matrix Spikes (MS)								
CCME PHC - F1 by Headspace GC-FID	E581.F1	481086	2	32	6.2	5.0	✓	
CCME PHCs - F4G by Gravimetry (Low Level)	E601.F4G-L	489612	0	4	0.0	5.0	✗	
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L	481075	2	13	15.3	5.0	✓	
PAHs by MeOH: Tol GC-MS	E642F	480934	1	13	7.6	5.0	✓	
VOCs (ON List) by Headspace GC-MS	E611D	481085	2	32	6.2	5.0	✓	



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Moisture Content by Gravimetry	E144 Waterloo - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	Moisture is measured gravimetrically by drying the sample at 105°C. Moisture content is calculated as the weight loss (due to water) divided by the wet weight of the sample, expressed as a percentage.
Metals in Soil/Solid by CRC ICPCMS	E440 Waterloo - Environmental	Soil/Solid	EPA 6020B (mod)	This method is intended to liberate metals that may be environmentally available. Samples are dried, then sieved through a 2 mm sieve, and digested with HNO ₃ and HCl. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, V, W, and Zr. Silicate minerals are not solubilized. Volatile forms of sulfur (including sulfide) may not be captured, as they may be lost during sampling, storage, or digestion. This method does not adequately recover elemental sulfur, and is unsuitable for assessment of elemental sulfur standards or guidelines.
CCME PHC - F1 by Headspace GC-FID	E581.F1 Waterloo - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	Analysis is by Collision/Reaction Cell ICPCMS. CCME Fraction 1 (F1) is analyzed by static headspace GC-FID. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
CCME PHCs - F4G by Gravimetry (Low Level)	E601.F4G-L Waterloo - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	A portion of the silica gel treated sample extract is filtered and dried at 105°C and the mass of the residual gravimetric heavy hydrocarbons (F4G) is determined gravimetrically.
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L Waterloo - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	Sample extracts are subjected to in-situ silica gel treatment prior to analysis by GC-FID for CCME hydrocarbon fractions (F2-F4).
VOCs (ON List) by Headspace GC-MS	E611D Waterloo - Environmental	Soil/Solid	EPA 8260D (mod)	Volatile Organic Compounds (VOCs) are analyzed by static headspace GC-MS. Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.
PAHs by MeOH:ToI GC-MS	E642F Waterloo - Environmental	Soil/Solid	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are extracted with methanol/toluene and analyzed by GC-MS. If reported, IACR (index of additive cancer risk, unitless) and B(a)P toxic potency equivalent (in soil concentration units) are calculated as per CCME PAH Soil Quality Guidelines fact sheet (2010) or ABT1.
F1-BTEX	EC580 Waterloo - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).



Analytical Methods		Method / Lab	Matrix	Method Reference	Method Descriptions
Sum F1 to F4 (C6-C50)	EC581 Waterloo - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1	Hydrocarbons, total (C6-C50) is the sum of CCME Fractions F1(C6-C10), F2(C10-C16), F3(C16-C34), and F4(C34-C50). F4G-sg is not used within this calculation due to overlap with other fractions.	
Preparation Methods		Method / Lab	Matrix	Method Reference	Method Descriptions
Digestion for Metals and Mercury	EP440 Waterloo - Environmental	Soil/Solid	EPA 200.2 (mod)	Samples are dried, then sieved through a 2 mm sieve, and digested with HNO3 and HCl. This method is intended to liberate metals that may be environmentally available.	
VOCs Methanol Extraction for Headspace Analysis	EP581 Waterloo - Environmental	Soil/Solid	EPA 5035A (mod)	VOCs in samples are extracted with methanol. Extracts are then prepared in headspace vials and are heated and agitated on the headspace autosampler, causing VOCs to partition between the aqueous phase and the headspace in accordance with Henry's law.	
PHCs and PAHs Hexane-Acetone Tumbler Extraction	EP601 Waterloo - Environmental	Soil/Solid	CCME PHC in Soil - Tier 1 (mod)	Samples are subsampled and Petroleum Hydrocarbons (PHC) and PAHs are extracted with 1:1 hexane:acetone using a rotary extractor.	
Pesticides, PCB, PAH, and Neutral Extractable Chlorinated Hydrocarbons Extraction (High Level)	EP660-H Waterloo - Environmental	Soil/Solid	EPA 3570 (mod)	A homogenized subsample is extracted with organic solvents using a mechanical shaker.	

<p>Work Order : WT2203520</p> <p>Client : XCG Consulting Limited</p> <p>Contact : Michael Schriver</p> <p>Address : 820 Trillium Drive Kitchener ON Canada N2R 1K4</p> <p>Telephone : 519 741 5774</p> <p>Project : 5-5030-01-02</p> <p>PO : ----</p> <p>C-O-C number : ----</p> <p>Sampler : CLIENT</p> <p>Site : ----</p> <p>Quote number : Gold 2022 SOA</p> <p>No. of samples received : 16</p> <p>No. of samples analysed : 13</p>	<p>Page : 1 of 23</p> <p>Laboratory : Waterloo - Environmental</p> <p>Account Manager : Andrew Martin</p> <p>Address : 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8</p> <p>Telephone : +1 519 886 6910</p> <p>Date Samples Received : 06-May-2022 15:45</p> <p>Date Analysis Commenced : 08-May-2022</p> <p>Issue Date : 17-May-2022 11:41</p>
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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Reference Material (RM) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
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General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QC) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Laboratory Duplicate (DUP) Report											
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 481070)											
WT2203520-001	MW1 SS3	moisture	----	E144	0.25	%	20.4	20.3	0.506%	20%	----
Metals (QC Lot: 481069)											
WT2203520-001	MW1 SS3	antimony	7440-36-0	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		arsenic	7440-38-2	E440	0.10	mg/kg	3.30	3.42	3.64%	30%	----
		barium	7440-39-3	E440	0.50	mg/kg	173	183	5.86%	40%	----
		beryllium	7440-41-7	E440	0.10	mg/kg	0.82	0.83	0.654%	30%	----
		boron	7440-42-8	E440	5.0	mg/kg	14.0	14.6	0.6	Diff <2x LOR	----
		cadmium	7440-43-9	E440	0.020	mg/kg	0.098	0.075	0.022	Diff <2x LOR	----
		chromium	7440-47-3	E440	0.50	mg/kg	29.2	29.5	0.868%	30%	----
		cobalt	7440-48-4	E440	0.10	mg/kg	11.5	11.8	2.19%	30%	----
		copper	7440-50-8	E440	0.50	mg/kg	21.1	21.5	1.71%	30%	----
		lead	7439-92-1	E440	0.50	mg/kg	12.3	12.3	0.0811%	40%	----
		molybdenum	7439-98-7	E440	0.10	mg/kg	0.38	0.40	0.02	Diff <2x LOR	----
		nickel	7440-02-0	E440	0.50	mg/kg	27.3	27.7	1.41%	30%	----
		selenium	7782-49-2	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		thallium	7440-28-0	E440	0.050	mg/kg	0.175	0.180	0.005	Diff <2x LOR	----
		uranium	7440-61-1	E440	0.050	mg/kg	0.639	0.640	0.253%	30%	----
		vanadium	7440-62-2	E440	0.20	mg/kg	38.3	38.9	1.59%	30%	----
		zinc	7440-66-6	E440	2.0	mg/kg	60.1	56.0	7.00%	30%	----
Metals (QC Lot: 481090)											
WT2203520-009	MW4 SS3	antimony	7440-36-0	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		arsenic	7440-38-2	E440	0.10	mg/kg	3.72	3.60	3.12%	30%	----
		barium	7440-39-3	E440	0.50	mg/kg	172	172	0.327%	40%	----
		beryllium	7440-41-7	E440	0.10	mg/kg	0.85	0.86	1.31%	30%	----
		boron	7440-42-8	E440	5.0	mg/kg	12.3	12.3	0.008	Diff <2x LOR	----
		cadmium	7440-43-9	E440	0.020	mg/kg	0.083	0.081	0.002	Diff <2x LOR	----
		chromium	7440-47-3	E440	0.50	mg/kg	28.2	26.8	4.91%	30%	----
		cobalt	7440-48-4	E440	0.10	mg/kg	12.0	11.8	1.17%	30%	----
		copper	7440-50-8	E440	0.50	mg/kg	21.7	21.2	2.21%	30%	----
		lead	7439-92-1	E440	0.50	mg/kg	14.2	14.7	3.50%	40%	----



Sub-Matrix: Soil/Solid

Laboratory Duplicate (DUP) Report											
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Metals (QC Lot: 481090) - continued											
WT2203520-009	MMW4 SS3	molybdenum	7439-98-7	E440	0.10	mg/kg	0.40	0.41	0.01	Diff <2x LOR	----
		nickel	7440-02-0	E440	0.50	mg/kg	30.8	30.0	2.34%	30%	----
		selenium	7782-49-2	E440	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		silver	7440-22-4	E440	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		thallium	7440-28-0	E440	0.050	mg/kg	0.195	0.192	0.003	Diff <2x LOR	----
		uranium	7440-61-1	E440	0.050	mg/kg	0.624	0.635	1.78%	30%	----
		vanadium	7440-62-2	E440	0.20	mg/kg	38.6	36.9	4.36%	30%	----
		zinc	7440-66-6	E440	2.0	mg/kg	58.8	57.1	2.89%	30%	----
Volatile Organic Compounds (QC Lot: 481082)											
WT2203493-001	Anonymous	acetone	67-64-1	E611D	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		benzene	71-43-2	E611D	0.0050	mg/kg	0.0051	0.0051	0	Diff <2x LOR	----
		bromodichloromethane	75-27-4	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		bromoforn	75-25-2	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		bromomethane	74-83-9	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		carbon tetrachloride	56-23-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		chlorobenzene	108-90-7	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		chloroform	67-66-3	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dibromochloromethane	124-48-1	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dibromoethane, 1,2-	106-93-4	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichlorobenzene, 1,2-	95-50-1	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichlorobenzene, 1,3-	541-73-1	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichlorobenzene, 1,4-	106-46-7	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichlorodifluoromethane	75-71-8	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichloroethane, 1,1-	75-34-3	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichloroethane, 1,2-	107-06-2	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichloroethylene, 1,1-	75-35-4	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichloroethylene, cis-1,2-	156-59-2	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichloroethylene, trans-1,2-	156-60-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichloromethane	75-09-2	E611D	0.045	mg/kg	<0.045	<0.045	0	Diff <2x LOR	----
		dichloropropane, 1,2-	78-87-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichloropropylene, cis-1,3-	10061-01-5	E611D	0.030	mg/kg	<0.030	<0.030	0	Diff <2x LOR	----
		dichloropropylene, trans-1,3-	10061-02-6	E611D	0.030	mg/kg	<0.030	<0.030	0	Diff <2x LOR	----
		ethylbenzene	100-41-4	E611D	0.015	mg/kg	0.020	0.021	0.0003	Diff <2x LOR	----
		hexane, n-	110-54-3	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		methyl ethyl ketone [MEK]	78-93-3	E611D	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----



Sub-Matrix: Soil/Solid

Laboratory Duplicate (DUP) Report											
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Volatile Organic Compounds (QC Lot: 481082) - continued											
WT2203493-001	Anonymous	methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.040	mg/kg	<0.040	<0.040	0	Diff <2x LOR	----
		styrene	100-42-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		tetrachloroethylene	127-18-4	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		toluene	108-88-3	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		trichloroethane, 1,1,1-	71-55-6	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		trichloroethane, 1,1,2-	79-00-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		trichloroethylene	79-01-6	E611D	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----
		trichlorofluoromethane	75-69-4	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		vinyl chloride	75-01-4	E611D	0.020	mg/kg	<0.020	<0.020	0	Diff <2x LOR	----
		xylene, m+p-	179601-23-1	E611D	0.030	mg/kg	0.084	0.086	0.002	Diff <2x LOR	----
		xylene, o-	95-47-6	E611D	0.030	mg/kg	0.048	0.050	0.0010	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 481085)											
WT2203484-001	Anonymous	acetone	67-64-1	E611D	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		benzene	71-43-2	E611D	0.050	mg/kg	<0.0050	<0.0050	0	Diff <2x LOR	----
		bromodichloromethane	75-27-4	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		bromoform	75-25-2	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		bromomethane	74-83-9	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		carbon tetrachloride	56-23-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		chlorobenzene	108-90-7	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		chloroform	67-66-3	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dibromochloromethane	124-48-1	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dibromoethane, 1,2-	106-93-4	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichlorobenzene, 1,2-	95-50-1	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichlorobenzene, 1,3-	541-73-1	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichlorobenzene, 1,4-	106-46-7	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichlorodifluoromethane	75-71-8	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichloroethane, 1,1-	75-34-3	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichloroethane, 1,2-	107-06-2	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichloroethylene, 1,1-	75-35-4	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichloroethylene, cis-1,2-	156-59-2	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichloroethylene, trans-1,2-	156-60-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichloromethane	75-09-2	E611D	0.045	mg/kg	<0.045	<0.045	0	Diff <2x LOR	----



Sub-Matrix: Soil/Solid

Laboratory Duplicate (DUP) Report											
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Volatile Organic Compounds (QC Lot: 481085) - continued											
WT2203484-001	Anonymous	dichloropropane, 1,2-	78-87-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		dichloropropylene, cis-1,3-	10061-01-5	E611D	0.030	mg/kg	<0.030	<0.030	0	Diff <2x LOR	----
		dichloropropylene, trans-1,3-	10061-02-6	E611D	0.030	mg/kg	<0.030	<0.030	0	Diff <2x LOR	----
		ethylbenzene	100-41-4	E611D	0.015	mg/kg	<0.015	<0.015	0	Diff <2x LOR	----
		hexane, n-	110-54-3	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		methyl ethyl ketone [MEK]	78-93-3	E611D	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.50	mg/kg	<0.50	<0.50	0	Diff <2x LOR	----
		methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.040	mg/kg	<0.040	<0.040	0	Diff <2x LOR	----
		styrene	100-42-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		tetrachloroethylene	127-18-4	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		toluene	108-88-3	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		trichloroethane, 1,1,1-	71-55-6	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		trichloroethane, 1,1,2-	79-00-5	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		trichloroethylene	79-01-6	E611D	0.010	mg/kg	0.015	0.014	0.0007	Diff <2x LOR	----
		trichlorofluoromethane	75-69-4	E611D	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		vinyl chloride	75-01-4	E611D	0.020	mg/kg	<0.020	<0.020	0	Diff <2x LOR	----
		xylene, m+p-	179601-23-1	E611D	0.030	mg/kg	<0.030	<0.030	0	Diff <2x LOR	----
		xylene, o-	95-47-6	E611D	0.030	mg/kg	<0.030	<0.030	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 481068)											
WT2203520-001	MMW1 SS3	F2 (C10-C16)	----	E601.SG-L	10	mg/kg	<10	<10	0	Diff <2x LOR	----
		F3 (C16-C34)	----	E601.SG-L	50	mg/kg	<50	<50	0	Diff <2x LOR	----
		F4 (C34-C50)	----	E601.SG-L	50	mg/kg	<50	<50	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 481075)											
WT2203520-009	MMW4 SS3	F2 (C10-C16)	----	E601.SG-L	10	mg/kg	<10	<10	0	Diff <2x LOR	----
		F3 (C16-C34)	----	E601.SG-L	50	mg/kg	<50	<50	0	Diff <2x LOR	----
		F4 (C34-C50)	----	E601.SG-L	50	mg/kg	140	<50	90	Diff <2x LOR	----
Hydrocarbons (QC Lot: 481081)											
WT2203493-001	Anonymous	F1 (C6-C10)	----	E581.F1	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 481086)											
WT2203484-001	Anonymous	F1 (C6-C10)	----	E581.F1	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	----
Polycyclic Aromatic Hydrocarbons (QC Lot: 480934)											
WT2203520-001	MMW1 SS3	acenaphthene	83-32-9	E642F	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		acenaphthylene	208-96-8	E642F	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----



Sub-Matrix: Soil/Solid

Laboratory Duplicate (DUP) Report

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(% or Difference)	Duplicate Limits	Qualifier	
WT2203520-001	MW1 SS3	Polycyclic Aromatic Hydrocarbons (QC Lot: 480934) - continued										
		anthracene	120-12-7	E642F	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----	
		benz(a)anthracene	56-55-3	E642F	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----	
		benzo(a)pyrene	50-32-8	E642F	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----	
		benzo(b+g)fluoranthene	n/a	E642F	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----	
		benzo(g,h,i)perylene	191-24-2	E642F	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----	
		benzo(k)fluoranthene	207-08-9	E642F	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----	
		chrysene	218-01-9	E642F	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----	
		dibenz(a,h)anthracene	53-70-3	E642F	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----	
		fluoranthene	206-44-0	E642F	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----	
		fluorene	86-73-7	E642F	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----	
		indeno(1,2,3-c,d)pyrene	193-39-5	E642F	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----	
		methylnaphthalene, 1-	90-12-0	E642F	0.030	mg/kg	<0.030	<0.030	0	Diff <2x LOR	----	
		methylnaphthalene, 2-	91-57-6	E642F	0.030	mg/kg	<0.030	<0.030	0	Diff <2x LOR	----	
		naphthalene	91-20-3	E642F	0.010	mg/kg	<0.010	<0.010	0	Diff <2x LOR	----	
		phenanthrene	85-01-8	E642F	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----	
		pyrene	129-00-0	E642F	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----	



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QLot: 481070)						
moisture	---	E144	0.25	%	<0.25	---
Metals (QLot: 481069)						
antimony	7440-36-0	E440	0.1	mg/kg	<0.10	---
arsenic	7440-38-2	E440	0.1	mg/kg	<0.10	---
barium	7440-39-3	E440	0.5	mg/kg	<0.50	---
beryllium	7440-41-7	E440	0.1	mg/kg	<0.10	---
boron	7440-42-8	E440	5	mg/kg	<5.0	---
cadmium	7440-43-9	E440	0.02	mg/kg	<0.020	---
chromium	7440-47-3	E440	0.5	mg/kg	<0.50	---
cobalt	7440-48-4	E440	0.1	mg/kg	<0.10	---
copper	7440-50-8	E440	0.5	mg/kg	<0.50	---
lead	7439-92-1	E440	0.5	mg/kg	<0.50	---
molybdenum	7439-98-7	E440	0.1	mg/kg	<0.10	---
nickel	7440-02-0	E440	0.5	mg/kg	<0.50	---
selenium	7782-49-2	E440	0.2	mg/kg	<0.20	---
silver	7440-22-4	E440	0.1	mg/kg	<0.10	---
thallium	7440-28-0	E440	0.05	mg/kg	<0.050	---
uranium	7440-61-1	E440	0.05	mg/kg	<0.050	---
vanadium	7440-62-2	E440	0.2	mg/kg	<0.20	---
zinc	7440-66-6	E440	2	mg/kg	<2.0	---
Metals (QLot: 481090)						
antimony	7440-36-0	E440	0.1	mg/kg	<0.10	---
arsenic	7440-38-2	E440	0.1	mg/kg	<0.10	---
barium	7440-39-3	E440	0.5	mg/kg	<0.50	---
beryllium	7440-41-7	E440	0.1	mg/kg	<0.10	---
boron	7440-42-8	E440	5	mg/kg	<5.0	---
cadmium	7440-43-9	E440	0.02	mg/kg	<0.020	---
chromium	7440-47-3	E440	0.5	mg/kg	<0.50	---
cobalt	7440-48-4	E440	0.1	mg/kg	<0.10	---
copper	7440-50-8	E440	0.5	mg/kg	<0.50	---
lead	7439-92-1	E440	0.5	mg/kg	<0.50	---
molybdenum	7439-98-7	E440	0.1	mg/kg	<0.10	---
nickel	7440-02-0	E440	0.5	mg/kg	<0.50	---



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Metals (QCLot: 481090) - continued						
selenium	7782-49-2	E440	0.2	mg/kg	<0.20	---
silver	7440-22-4	E440	0.1	mg/kg	<0.10	---
thallium	7440-28-0	E440	0.05	mg/kg	<0.050	---
uranium	7440-61-1	E440	0.05	mg/kg	<0.050	---
vanadium	7440-62-2	E440	0.2	mg/kg	<0.20	---
zinc	7440-66-6	E440	2	mg/kg	<2.0	---
Volatile Organic Compounds (QCLot: 481082)						
acetone	67-64-1	E611D	0.5	mg/kg	<0.50	---
benzene	71-43-2	E611D	0.005	mg/kg	<0.0050	---
bromodichloromethane	75-27-4	E611D	0.05	mg/kg	<0.050	---
bromoform	75-25-2	E611D	0.05	mg/kg	<0.050	---
bromomethane	74-83-9	E611D	0.05	mg/kg	<0.050	---
carbon tetrachloride	56-23-5	E611D	0.05	mg/kg	<0.050	---
chlorobenzene	108-90-7	E611D	0.05	mg/kg	<0.050	---
chloroform	67-66-3	E611D	0.05	mg/kg	<0.050	---
dibromochloromethane	124-48-1	E611D	0.05	mg/kg	<0.050	---
dibromoethane, 1,2-	106-93-4	E611D	0.05	mg/kg	<0.050	---
dichlorobenzene, 1,2-	95-50-1	E611D	0.05	mg/kg	<0.050	---
dichlorobenzene, 1,3-	541-73-1	E611D	0.05	mg/kg	<0.050	---
dichlorobenzene, 1,4-	106-46-7	E611D	0.05	mg/kg	<0.050	---
dichlorodifluoromethane	75-71-8	E611D	0.05	mg/kg	<0.050	---
dichloroethane, 1,1-	75-34-3	E611D	0.05	mg/kg	<0.050	---
dichloroethane, 1,2-	107-06-2	E611D	0.05	mg/kg	<0.050	---
dichloroethylene, 1,1-	75-35-4	E611D	0.05	mg/kg	<0.050	---
dichloroethylene, cis-1,2-	156-59-2	E611D	0.05	mg/kg	<0.050	---
dichloroethylene, trans-1,2-	156-60-5	E611D	0.05	mg/kg	<0.050	---
dichloromethane	75-09-2	E611D	0.045	mg/kg	<0.045	---
dichloropropane, 1,2-	78-87-5	E611D	0.05	mg/kg	<0.050	---
dichloropropylene, cis-1,3-	10061-01-5	E611D	0.03	mg/kg	<0.030	---
dichloropropylene, trans-1,3-	10061-02-6	E611D	0.03	mg/kg	<0.030	---
ethylbenzene	100-41-4	E611D	0.015	mg/kg	<0.015	---
hexane, n-	110-54-3	E611D	0.05	mg/kg	<0.050	---
methyl ethyl ketone [MEK]	78-93-3	E611D	0.5	mg/kg	<0.50	---
methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.5	mg/kg	<0.50	---
methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.04	mg/kg	<0.040	---
styrene	100-42-5	E611D	0.05	mg/kg	<0.050	---



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatiles Organic Compounds (QCLot: 481082) - continued						
tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.05	mg/kg	<0.050	----
tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.05	mg/kg	<0.050	----
tetrachloroethylene	127-18-4	E611D	0.05	mg/kg	<0.050	----
toluene	108-88-3	E611D	0.05	mg/kg	<0.050	----
trichloroethane, 1,1,1-	71-55-6	E611D	0.05	mg/kg	<0.050	----
trichloroethane, 1,1,2-	79-00-5	E611D	0.05	mg/kg	<0.050	----
trichloroethylene	79-01-6	E611D	0.01	mg/kg	<0.010	----
trichlorofluoromethane	75-69-4	E611D	0.05	mg/kg	<0.050	----
vinyl chloride	75-01-4	E611D	0.02	mg/kg	<0.020	----
xylene, m+p-	179601-23-1	E611D	0.03	mg/kg	<0.030	----
xylene, o-	95-47-6	E611D	0.03	mg/kg	<0.030	----
Volatiles Organic Compounds (QCLot: 481085)						
acetone	67-64-1	E611D	0.5	mg/kg	<0.50	----
benzene	71-43-2	E611D	0.005	mg/kg	<0.0050	----
bromodichloromethane	75-27-4	E611D	0.05	mg/kg	<0.050	----
bromoform	75-25-2	E611D	0.05	mg/kg	<0.050	----
bromomethane	74-83-9	E611D	0.05	mg/kg	<0.050	----
carbon tetrachloride	56-23-5	E611D	0.05	mg/kg	<0.050	----
chlorobenzene	108-90-7	E611D	0.05	mg/kg	<0.050	----
chloroform	67-66-3	E611D	0.05	mg/kg	<0.050	----
dibromochloromethane	124-48-1	E611D	0.05	mg/kg	<0.050	----
dibromoethane, 1,2-	106-93-4	E611D	0.05	mg/kg	<0.050	----
dichlorobenzene, 1,2-	95-50-1	E611D	0.05	mg/kg	<0.050	----
dichlorobenzene, 1,3-	541-73-1	E611D	0.05	mg/kg	<0.050	----
dichlorobenzene, 1,4-	106-46-7	E611D	0.05	mg/kg	<0.050	----
dichlorodifluoromethane	75-71-8	E611D	0.05	mg/kg	<0.050	----
dichloroethane, 1,1-	75-34-3	E611D	0.05	mg/kg	<0.050	----
dichloroethane, 1,2-	107-06-2	E611D	0.05	mg/kg	<0.050	----
dichloroethylene, 1,1-	75-35-4	E611D	0.05	mg/kg	<0.050	----
dichloroethylene, cis-1,2-	156-59-2	E611D	0.05	mg/kg	<0.050	----
dichloroethylene, trans-1,2-	156-60-5	E611D	0.05	mg/kg	<0.050	----
dichloromethane	75-09-2	E611D	0.045	mg/kg	<0.045	----
dichloropropane, 1,2-	78-87-5	E611D	0.05	mg/kg	<0.050	----
dichloropropylene, cis-1,3-	10061-01-5	E611D	0.03	mg/kg	<0.030	----
dichloropropylene, trans-1,3-	10061-02-6	E611D	0.03	mg/kg	<0.030	----
ethylbenzene	100-41-4	E611D	0.015	mg/kg	<0.015	----



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatle Organic Compounds (QCLot: 481085) - continued						
hexane, n-	110-54-3	E611D	0.05	ng/kg	<0.050	----
methyl ethyl ketone [MEK]	78-93-3	E611D	0.5	ng/kg	<0.50	----
methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.5	ng/kg	<0.50	----
methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.04	ng/kg	<0.040	----
styrene	100-42-5	E611D	0.05	ng/kg	<0.050	----
tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.05	ng/kg	<0.050	----
tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.05	ng/kg	<0.050	----
tetrachloroethylene	127-18-4	E611D	0.05	ng/kg	<0.050	----
toluene	108-88-3	E611D	0.05	ng/kg	<0.050	----
trichloroethane, 1,1,1-	71-55-6	E611D	0.05	ng/kg	<0.050	----
trichloroethane, 1,1,2-	79-00-5	E611D	0.05	ng/kg	<0.050	----
trichloroethylene	79-01-6	E611D	0.01	ng/kg	<0.010	----
trichlorofluoromethane	75-69-4	E611D	0.05	ng/kg	<0.050	----
vinyl chloride	75-01-4	E611D	0.02	ng/kg	<0.020	----
xylene, m+p-	179601-23-1	E611D	0.03	ng/kg	<0.030	----
xylene, o-	95-47-6	E611D	0.03	ng/kg	<0.030	----
Hydrocarbons (QCLot: 481068)						
F2 (C10-C16)	---	E601.SG-L	10	ng/kg	<10	----
F3 (C16-C34)	---	E601.SG-L	50	ng/kg	<50	----
F4 (C34-C50)	---	E601.SG-L	50	ng/kg	<50	----
Hydrocarbons (QCLot: 481075)						
F2 (C10-C16)	---	E601.SG-L	10	ng/kg	<10	----
F3 (C16-C34)	---	E601.SG-L	50	ng/kg	<50	----
F4 (C34-C50)	---	E601.SG-L	50	ng/kg	<50	----
Hydrocarbons (QCLot: 481081)						
F1 (C6-C10)	---	E581.F1	5	ng/kg	<5.0	----
Hydrocarbons (QCLot: 481086)						
F1 (C6-C10)	---	E581.F1	5	ng/kg	<5.0	----
Hydrocarbons (QCLot: 487345)						
F4G-sg	---	E601.F4G-L	250	ng/kg	<250	----
Hydrocarbons (QCLot: 489612)						
F4G-sg	---	E601.F4G-L	250	ng/kg	<250	----
Polycyclic Aromatic Hydrocarbons (QCLot: 480934)						
acenaphthene	83-32-9	E642F	0.05	ng/kg	<0.050	----
acenaphthylene	208-96-8	E642F	0.05	ng/kg	<0.050	----
anthracene	120-12-7	E642F	0.05	ng/kg	<0.050	----



Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 480934) - continued						
benz(a)anthracene	56-55-3	E642F	0.05	mg/kg	<0.050	----
benzo(a)pyrene	50-32-8	E642F	0.05	mg/kg	<0.050	----
benzo(b+g)fluoranthene	n/a	E642F	0.05	mg/kg	<0.050	----
benzo(g,h,i)perylene	191-24-2	E642F	0.05	mg/kg	<0.050	----
benzo(k)fluoranthene	207-08-9	E642F	0.05	mg/kg	<0.050	----
chrysene	218-01-9	E642F	0.05	mg/kg	<0.050	----
dibenz(a,h)anthracene	53-70-3	E642F	0.05	mg/kg	<0.050	----
fluoranthene	206-44-0	E642F	0.05	mg/kg	<0.050	----
fluorene	86-73-7	E642F	0.05	mg/kg	<0.050	----
indeno(1,2,3-c,d)pyrene	193-39-5	E642F	0.05	mg/kg	<0.050	----
methylnaphthalene, 1-	90-12-0	E642F	0.03	mg/kg	<0.030	----
methylnaphthalene, 2-	91-57-6	E642F	0.03	mg/kg	<0.030	----
naphthalene	91-20-3	E642F	0.01	mg/kg	<0.010	----
phenanthrene	85-01-8	E642F	0.05	mg/kg	<0.050	----
pyrene	129-00-0	E642F	0.05	mg/kg	<0.050	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Soil/Solid

Analyte	CAS Number	Method	LOR	Unit	Spike Concentration	Laboratory Control Sample (LCS) Report			Qualifier
						Recovery (%)	Low	High	
Physical Tests (QCLot: 481070)									
moisture	----	E144	0.25	%	50 %	100	90.0	110	----
Metals (QCLot: 481069)									
antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	99.8	80.0	120	----
arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	102	80.0	120	----
barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	104	80.0	120	----
beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	94.9	80.0	120	----
boron	7440-42-8	E440	5	mg/kg	100 mg/kg	92.5	80.0	120	----
cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	102	80.0	120	----
chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	98.2	80.0	120	----
cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	97.9	80.0	120	----
copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	96.9	80.0	120	----
lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	99.8	80.0	120	----
molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	99.6	80.0	120	----
nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	98.3	80.0	120	----
selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	103	80.0	120	----
silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	88.9	80.0	120	----
thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	99.1	80.0	120	----
uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	96.2	80.0	120	----
vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	99.9	80.0	120	----
zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	98.6	80.0	120	----
Metals (QCLot: 481090)									
antimony	7440-36-0	E440	0.1	mg/kg	100 mg/kg	104	80.0	120	----
arsenic	7440-38-2	E440	0.1	mg/kg	100 mg/kg	96.1	80.0	120	----
barium	7440-39-3	E440	0.5	mg/kg	25 mg/kg	94.6	80.0	120	----
beryllium	7440-41-7	E440	0.1	mg/kg	10 mg/kg	99.5	80.0	120	----
boron	7440-42-8	E440	5	mg/kg	100 mg/kg	96.2	80.0	120	----
cadmium	7440-43-9	E440	0.02	mg/kg	10 mg/kg	99.8	80.0	120	----
chromium	7440-47-3	E440	0.5	mg/kg	25 mg/kg	96.6	80.0	120	----
cobalt	7440-48-4	E440	0.1	mg/kg	25 mg/kg	96.1	80.0	120	----
copper	7440-50-8	E440	0.5	mg/kg	25 mg/kg	93.4	80.0	120	----
lead	7439-92-1	E440	0.5	mg/kg	50 mg/kg	99.2	80.0	120	----
molybdenum	7439-98-7	E440	0.1	mg/kg	25 mg/kg	97.3	80.0	120	----
nickel	7440-02-0	E440	0.5	mg/kg	50 mg/kg	95.7	80.0	120	----



Sub-Matrix: Soil/Solid

Laboratory Control Sample (LCS) Report									
Analyte	CAS Number	Method	LOR	Unit	Spike Concentration	Recovery Limits (%)			Qualifier
						LCS	Low	High	
Metals (QCLot: 481090) - continued									
selenium	7782-49-2	E440	0.2	mg/kg	100 mg/kg	98.8	80.0	120	---
silver	7440-22-4	E440	0.1	mg/kg	10 mg/kg	93.7	80.0	120	---
thallium	7440-28-0	E440	0.05	mg/kg	100 mg/kg	100.0	80.0	120	---
uranium	7440-61-1	E440	0.05	mg/kg	0.5 mg/kg	94.9	80.0	120	---
vanadium	7440-62-2	E440	0.2	mg/kg	50 mg/kg	98.5	80.0	120	---
zinc	7440-66-6	E440	2	mg/kg	50 mg/kg	94.4	80.0	120	---
Volatile Organic Compounds (QCLot: 481082)									
acetone	67-64-1	E611D	0.5	mg/kg	3.475 mg/kg	111	60.0	140	---
benzene	71-43-2	E611D	0.005	mg/kg	3.475 mg/kg	91.8	70.0	130	---
bromodichloromethane	75-27-4	E611D	0.05	mg/kg	3.475 mg/kg	101	50.0	140	---
bromoform	75-25-2	E611D	0.05	mg/kg	3.475 mg/kg	103	70.0	130	---
bromomethane	74-83-9	E611D	0.05	mg/kg	3.475 mg/kg	71.7	50.0	140	---
carbon tetrachloride	56-23-5	E611D	0.05	mg/kg	3.475 mg/kg	89.8	70.0	130	---
chlorobenzene	108-90-7	E611D	0.05	mg/kg	3.475 mg/kg	85.0	70.0	130	---
chloroform	67-66-3	E611D	0.05	mg/kg	3.475 mg/kg	89.6	70.0	130	---
dibromochloromethane	124-48-1	E611D	0.05	mg/kg	3.475 mg/kg	97.2	60.0	130	---
dibromoethane, 1,2-	106-93-4	E611D	0.05	mg/kg	3.475 mg/kg	77.7	70.0	130	---
dichlorobenzene, 1,2-	95-50-1	E611D	0.05	mg/kg	3.475 mg/kg	91.3	70.0	130	---
dichlorobenzene, 1,3-	541-73-1	E611D	0.05	mg/kg	3.475 mg/kg	88.5	70.0	130	---
dichlorobenzene, 1,4-	106-46-7	E611D	0.05	mg/kg	3.475 mg/kg	88.2	70.0	130	---
dichlorodifluoromethane	75-71-8	E611D	0.05	mg/kg	3.475 mg/kg	# 47.2	50.0	140	MES
dichloroethane, 1,1-	75-34-3	E611D	0.05	mg/kg	3.475 mg/kg	88.6	60.0	130	---
dichloroethane, 1,2-	107-06-2	E611D	0.05	mg/kg	3.475 mg/kg	99.4	60.0	130	---
dichloroethylene, 1,1-	75-35-4	E611D	0.05	mg/kg	3.475 mg/kg	82.0	60.0	130	---
dichloroethylene, cis-1,2-	156-59-2	E611D	0.05	mg/kg	3.475 mg/kg	78.4	70.0	130	---
dichloroethylene, trans-1,2-	156-60-5	E611D	0.05	mg/kg	3.475 mg/kg	84.3	60.0	130	---
dichloromethane	75-09-2	E611D	0.045	mg/kg	3.475 mg/kg	87.0	70.0	130	---
dichloropropane, 1,2-	78-87-5	E611D	0.05	mg/kg	3.475 mg/kg	94.4	70.0	130	---
dichloropropylene, cis-1,3-	10061-01-5	E611D	0.03	mg/kg	3.475 mg/kg	96.3	70.0	130	---
dichloropropylene, trans-1,3-	10061-02-6	E611D	0.03	mg/kg	3.475 mg/kg	86.7	70.0	130	---
ethylbenzene	100-41-4	E611D	0.015	mg/kg	3.475 mg/kg	88.2	70.0	130	---
hexane, n-	110-54-3	E611D	0.05	mg/kg	3.475 mg/kg	76.6	70.0	130	---
methyl ethyl ketone [MEK]	78-93-3	E611D	0.5	mg/kg	3.475 mg/kg	94.2	60.0	140	---
methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.5	mg/kg	3.475 mg/kg	100	60.0	140	---
methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.04	mg/kg	3.475 mg/kg	92.5	70.0	130	---
styrene	100-42-5	E611D	0.05	mg/kg	3.475 mg/kg	81.0	70.0	130	---
tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.05	mg/kg	3.475 mg/kg	90.4	60.0	130	---



Sub-Matrix: **Soil/Solid**

Laboratory Control Sample (LCS) Report									
Analyte	CAS Number	Method	LOR	Unit	Recovery Limits (%)			Qualifier	
					Concentration	LCS	Low		High
Volatile Organic Compounds (QCLot: 481082) - continued									
tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.05	mg/kg	3.475 mg/kg	92.3	60.0	130	----
tetrachloroethylene	127-18-4	E611D	0.05	mg/kg	3.475 mg/kg	82.1	60.0	130	----
toluene	108-88-3	E611D	0.05	mg/kg	3.475 mg/kg	82.9	70.0	130	----
trichloroethane, 1,1,1-	71-55-6	E611D	0.05	mg/kg	3.475 mg/kg	84.5	60.0	130	----
trichloroethane, 1,1,2-	79-00-5	E611D	0.05	mg/kg	3.475 mg/kg	81.2	60.0	130	----
trichloroethylene	79-01-6	E611D	0.01	mg/kg	3.475 mg/kg	93.2	60.0	130	----
trichlorofluoromethane	75-69-4	E611D	0.05	mg/kg	3.475 mg/kg	75.8	50.0	140	----
vinyl chloride	75-01-4	E611D	0.02	mg/kg	3.475 mg/kg	65.0	60.0	140	----
xylylene, m+p-	179601-23-1	E611D	0.03	mg/kg	6.95 mg/kg	88.8	70.0	130	----
xylylene, o-	95-47-6	E611D	0.03	mg/kg	3.475 mg/kg	89.8	70.0	130	----
Volatile Organic Compounds (QCLot: 481085)									
acetone	67-64-1	E611D	0.5	mg/kg	3.475 mg/kg	107	60.0	140	----
benzene	71-43-2	E611D	0.005	mg/kg	3.475 mg/kg	106	70.0	130	----
bromodichloromethane	75-27-4	E611D	0.05	mg/kg	3.475 mg/kg	110	50.0	140	----
bromoform	75-25-2	E611D	0.05	mg/kg	3.475 mg/kg	104	70.0	130	----
bromomethane	74-83-9	E611D	0.05	mg/kg	3.475 mg/kg	86.7	50.0	140	----
carbon tetrachloride	56-23-5	E611D	0.05	mg/kg	3.475 mg/kg	103	70.0	130	----
chlorobenzene	108-90-7	E611D	0.05	mg/kg	3.475 mg/kg	90.3	70.0	130	----
chloroform	67-66-3	E611D	0.05	mg/kg	3.475 mg/kg	103	70.0	130	----
dibromochloromethane	124-48-1	E611D	0.05	mg/kg	3.475 mg/kg	98.2	60.0	130	----
dibromoethane, 1,2-	106-93-4	E611D	0.05	mg/kg	3.475 mg/kg	85.3	70.0	130	----
dichlorobenzene, 1,2-	95-50-1	E611D	0.05	mg/kg	3.475 mg/kg	98.9	70.0	130	----
dichlorobenzene, 1,3-	54-1-73-1	E611D	0.05	mg/kg	3.475 mg/kg	98.3	70.0	130	----
dichlorobenzene, 1,4-	106-46-7	E611D	0.05	mg/kg	3.475 mg/kg	98.3	70.0	130	----
dichlorodifluoromethane	75-71-8	E611D	0.05	mg/kg	3.475 mg/kg	66.0	50.0	140	----
dichloroethane, 1,1-	75-34-3	E611D	0.05	mg/kg	3.475 mg/kg	99.8	60.0	130	----
dichloroethane, 1,2-	107-06-2	E611D	0.05	mg/kg	3.475 mg/kg	103	60.0	130	----
dichloroethylene, 1,1-	75-35-4	E611D	0.05	mg/kg	3.475 mg/kg	95.0	60.0	130	----
dichloroethylene, cis-1,2-	156-59-2	E611D	0.05	mg/kg	3.475 mg/kg	99.3	70.0	130	----
dichloroethylene, trans-1,2-	156-60-5	E611D	0.05	mg/kg	3.475 mg/kg	96.7	60.0	130	----
dichloromethane	75-09-2	E611D	0.045	mg/kg	3.475 mg/kg	101	70.0	130	----
dichloropropane, 1,2-	78-87-5	E611D	0.05	mg/kg	3.475 mg/kg	107	70.0	130	----
dichloropropylene, cis-1,3-	10061-01-5	E611D	0.03	mg/kg	3.475 mg/kg	102	70.0	130	----
dichloropropylene, trans-1,3-	10061-02-6	E611D	0.03	mg/kg	3.475 mg/kg	83.8	70.0	130	----
ethylbenzene	100-41-4	E611D	0.015	mg/kg	3.475 mg/kg	93.6	70.0	130	----
hexane, n-	110-54-3	E611D	0.05	mg/kg	3.475 mg/kg	91.1	70.0	130	----
methyl ethyl ketone [MEK]	78-93-3	E611D	0.5	mg/kg	3.475 mg/kg	108	60.0	140	----



Sub-Matrix: **Soil/Solid**

Laboratory Control Sample (LCS) Report								
Analyte	CAS Number	Method	LOR	Unit	Recovery Limits (%)			Qualifier
					LCS	Low	High	
Volatile Organic Compounds (QCLot: 481085) - continued								
methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.5	mg/kg	99.7	60.0	140	----
methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.04	mg/kg	107	70.0	130	----
styrene	100-42-5	E611D	0.05	mg/kg	91.5	70.0	130	----
tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.05	mg/kg	92.3	60.0	130	----
tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.05	mg/kg	90.7	60.0	130	----
tetrachloroethylene	127-18-4	E611D	0.05	mg/kg	87.9	60.0	130	----
toluene	108-88-3	E611D	0.05	mg/kg	92.4	70.0	130	----
trichloroethane, 1,1,1-	71-55-6	E611D	0.05	mg/kg	103	60.0	130	----
trichloroethane, 1,1,2-	79-00-5	E611D	0.05	mg/kg	90.7	60.0	130	----
trichloroethylene	79-01-6	E611D	0.01	mg/kg	104	60.0	130	----
trichlorofluoromethane	75-69-4	E611D	0.05	mg/kg	94.0	50.0	140	----
vinyl chloride	75-01-4	E611D	0.02	mg/kg	78.2	60.0	140	----
xylene, m+p-	179601-23-1	E611D	0.03	mg/kg	94.3	70.0	130	----
xylene, o-	95-47-6	E611D	0.03	mg/kg	93.6	70.0	130	----
Hydrocarbons (QCLot: 481068)								
F2 (C10-C16)	----	E601.SG-L	10	mg/kg	94.7	70.0	130	----
F3 (C16-C34)	----	E601.SG-L	50	mg/kg	95.6	70.0	130	----
F4 (C34-C50)	----	E601.SG-L	50	mg/kg	97.8	70.0	130	----
Hydrocarbons (QCLot: 481075)								
F2 (C10-C16)	----	E601.SG-L	10	mg/kg	85.6	70.0	130	----
F3 (C16-C34)	----	E601.SG-L	50	mg/kg	82.7	70.0	130	----
F4 (C34-C50)	----	E601.SG-L	50	mg/kg	102	70.0	130	----
Hydrocarbons (QCLot: 481081)								
F1 (C6-C10)	----	E581.F1	5	mg/kg	97.1	80.0	120	----
Hydrocarbons (QCLot: 481086)								
F1 (C6-C10)	----	E581.F1	5	mg/kg	94.7	80.0	120	----
Hydrocarbons (QCLot: 487345)								
F4G-sg	----	E601.F4G-L	250	mg/kg	80.2	70.0	130	----
Hydrocarbons (QCLot: 489612)								
F4G-sg	----	E601.F4G-L	250	mg/kg	73.8	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 480934)								
acenaphthene	83-32-9	E642F	0.05	mg/kg	93.6	60.0	130	----
acenaphthylene	208-96-8	E642F	0.05	mg/kg	103	60.0	130	----
anthracene	120-12-7	E642F	0.05	mg/kg	100.0	60.0	130	----
benz(a)anthracene	56-55-3	E642F	0.05	mg/kg	97.5	60.0	130	----



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 Work Order : WT2203520
 Client : XCG Consulting Limited
 Project : 5-5030-01-02

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				Qualifier
					Recovery (%)		Recovery Limits (%)		
					Concentration	LCS	Low	High	
Polycyclic Aromatic Hydrocarbons (QCLot: 480934) - continued									
benzo(a)pyrene	50-32-8	E642F	0.05	mg/kg	0.8 mg/kg	106	60.0	130	---
benzo(b+)]fluoranthene	n/a	E642F	0.05	mg/kg	0.8 mg/kg	95.6	60.0	130	---
benzo(g,h,i)perylene	191-24-2	E642F	0.05	mg/kg	0.8 mg/kg	88.5	60.0	130	---
benzo(k)fluoranthene	207-08-9	E642F	0.05	mg/kg	0.8 mg/kg	91.3	60.0	130	---
chrysene	218-01-9	E642F	0.05	mg/kg	0.8 mg/kg	91.6	60.0	130	---
dibenz(a,h)anthracene	53-70-3	E642F	0.05	mg/kg	0.8 mg/kg	91.0	60.0	130	---
fluoranthene	206-44-0	E642F	0.05	mg/kg	0.8 mg/kg	93.0	60.0	130	---
fluorene	86-73-7	E642F	0.05	mg/kg	0.8 mg/kg	96.8	60.0	130	---
indeno(1,2,3-c,d)pyrene	193-39-5	E642F	0.05	mg/kg	0.8 mg/kg	92.1	60.0	130	---
methylnaphthalene, 1-	90-12-0	E642F	0.03	mg/kg	0.8 mg/kg	91.9	60.0	130	---
methylnaphthalene, 2-	91-57-6	E642F	0.03	mg/kg	0.8 mg/kg	95.2	60.0	130	---
naphthalene	91-20-3	E642F	0.01	mg/kg	0.8 mg/kg	92.8	60.0	130	---
phenanthrene	85-01-8	E642F	0.05	mg/kg	0.8 mg/kg	89.0	60.0	130	---
pyrene	129-00-0	E642F	0.05	mg/kg	0.8 mg/kg	92.3	60.0	130	---

Qualifiers

Qualifier Description

MES

Data Quality Objective was marginally exceeded (by < 10% absolute) for < 10% of analytes in a Multi-Element Scan / Multi-Parameter Scan (considered acceptable as per OMOE & CCIME).



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Sub-Matrix: Soil/Solid

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Spike		Recovery Limits (%)		Qualifier	
					Concentration	Target	MS	Low		High
Matrix Spike (MS) Report										
Volatile Organic Compounds (QCLot: 481082)										
WT2203493-001	Anonymous	acetone	67-64-1	E611D	2.22 mg/kg	3.125 mg/kg	103	50.0	140	---
		benzene	71-43-2	E611D	1.89 mg/kg	3.125 mg/kg	87.8	50.0	140	---
		bromodichloromethane	75-27-4	E611D	2.01 mg/kg	3.125 mg/kg	93.0	50.0	140	---
		bromoforn	75-25-2	E611D	1.99 mg/kg	3.125 mg/kg	92.4	50.0	140	---
		bromomethane	74-83-9	E611D	1.63 mg/kg	3.125 mg/kg	75.7	50.0	140	---
		carbon tetrachloride	56-23-5	E611D	1.93 mg/kg	3.125 mg/kg	89.7	50.0	140	---
		chlorobenzene	108-90-7	E611D	1.80 mg/kg	3.125 mg/kg	83.4	50.0	140	---
		chloroform	67-66-3	E611D	1.88 mg/kg	3.125 mg/kg	87.3	50.0	140	---
		dibromochloromethane	124-48-1	E611D	1.93 mg/kg	3.125 mg/kg	89.4	50.0	140	---
		dibromoethane, 1,2-	106-93-4	E611D	1.58 mg/kg	3.125 mg/kg	73.1	50.0	140	---
		dichlorobenzene, 1,2-	95-50-1	E611D	1.39 mg/kg	3.125 mg/kg	64.4	50.0	140	---
		dichlorobenzene, 1,3-	541-73-1	E611D	1.38 mg/kg	3.125 mg/kg	64.1	50.0	140	---
		dichlorobenzene, 1,4-	106-46-7	E611D	1.34 mg/kg	3.125 mg/kg	62.4	50.0	140	---
		dichlorodifluoromethane	75-71-8	E611D	1.86 mg/kg	3.125 mg/kg	86.1	50.0	140	---
		dichloroethane, 1,1-	75-34-3	E611D	1.88 mg/kg	3.125 mg/kg	87.2	50.0	140	---
		dichloroethane, 1,2-	107-06-2	E611D	2.05 mg/kg	3.125 mg/kg	95.0	50.0	140	---
		dichloroethylene, 1,1-	75-35-4	E611D	1.93 mg/kg	3.125 mg/kg	89.4	50.0	140	---
		dichloroethylene, cis-1,2-	156-59-2	E611D	1.66 mg/kg	3.125 mg/kg	76.8	50.0	140	---
		dichloroethylene, trans-1,2-	156-60-5	E611D	1.84 mg/kg	3.125 mg/kg	85.1	50.0	140	---
		dichloromethane	75-09-2	E611D	1.84 mg/kg	3.125 mg/kg	85.4	50.0	140	---
		dichloropropane, 1,2-	78-87-5	E611D	2.00 mg/kg	3.125 mg/kg	92.7	50.0	140	---
		dichloropropylene, cis-1,3-	10061-01-5	E611D	1.87 mg/kg	3.125 mg/kg	86.8	50.0	140	---
		dichloropropylene, trans-1,3-	10061-02-6	E611D	1.75 mg/kg	3.125 mg/kg	81.3	50.0	140	---
		ethylbenzene	100-41-4	E611D	1.92 mg/kg	3.125 mg/kg	89.0	50.0	140	---
		hexane, n-	110-54-3	E611D	1.81 mg/kg	3.125 mg/kg	83.8	50.0	140	---
		methyl ethyl ketone [MEK]	78-93-3	E611D	1.84 mg/kg	3.125 mg/kg	85.4	50.0	140	---
		methyl isobutyl ketone [MIBK]	108-10-1	E611D	1.99 mg/kg	3.125 mg/kg	92.5	50.0	140	---
		methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	1.95 mg/kg	3.125 mg/kg	90.4	50.0	140	---
		styrene	100-42-5	E611D	1.52 mg/kg	3.125 mg/kg	70.7	50.0	140	---
		tetrachloroethane, 1,1,1,2-	630-20-6	E611D	1.92 mg/kg	3.125 mg/kg	89.3	50.0	140	---
		tetrachloroethane, 1,1,2,2-	79-34-5	E611D	1.91 mg/kg	3.125 mg/kg	88.8	50.0	140	---
		tetrachloroethylene	127-18-4	E611D	1.72 mg/kg	3.125 mg/kg	79.9	50.0	140	---
		toluene	108-88-3	E611D	1.79 mg/kg	3.125 mg/kg	83.0	50.0	140	---



Sub-Matrix: **Soil/Solid**

				Matrix Spike (MS) Report							
Laboratory sample ID	Client sample ID	Analyte	Method	Spike		Recovery Limits (%)					
				Concentration	Target	MS	Low	High	Qualifier		
Volatile Organic Compounds (QCLot: 481082) - continued											
WT2203493-001	Anonymous	trichloroethane, 1,1,1-	E611D	1.79 mg/kg	3.125 mg/kg	83.0	50.0	140	---		
		trichloroethane, 1,1,2-	E611D	1.65 mg/kg	3.125 mg/kg	76.7	50.0	140	---		
		trichloroethylene	E611D	1.95 mg/kg	3.125 mg/kg	90.6	50.0	140	---		
		trichlorofluoromethane	E611D	1.79 mg/kg	3.125 mg/kg	83.0	50.0	140	---		
		vinyl chloride	E611D	1.86 mg/kg	3.125 mg/kg	86.3	50.0	140	---		
		xylene, m+p-	E611D	3.86 mg/kg	6.25 mg/kg	89.6	50.0	140	---		
		xylene, o-	E611D	1.95 mg/kg	3.125 mg/kg	90.4	50.0	140	---		
		Volatile Organic Compounds (QCLot: 481085)									
		WT2203484-001	Anonymous	acetone	E611D	2.46 mg/kg	3.125 mg/kg	111	50.0	140	---
				benzene	E611D	2.14 mg/kg	3.125 mg/kg	96.4	50.0	140	---
				bromodichloromethane	E611D	2.30 mg/kg	3.125 mg/kg	104	50.0	140	---
				bromoforn	E611D	2.43 mg/kg	3.125 mg/kg	109	50.0	140	---
				bromomethane	E611D	1.85 mg/kg	3.125 mg/kg	83.3	50.0	140	---
				carbon tetrachloride	E611D	2.09 mg/kg	3.125 mg/kg	93.9	50.0	140	---
				chlorobenzene	E611D	1.86 mg/kg	3.125 mg/kg	83.7	50.0	140	---
				chloroform	E611D	2.18 mg/kg	3.125 mg/kg	98.1	50.0	140	---
dibromochloromethane	E611D			2.04 mg/kg	3.125 mg/kg	91.7	50.0	140	---		
dibromoethane, 1,2-	E611D			1.91 mg/kg	3.125 mg/kg	86.1	50.0	140	---		
dichlorobenzene, 1,2-	E611D			2.17 mg/kg	3.125 mg/kg	97.5	50.0	140	---		
dichlorobenzene, 1,3-	E611D			2.12 mg/kg	3.125 mg/kg	95.4	50.0	140	---		
dichlorobenzene, 1,4-	E611D			2.10 mg/kg	3.125 mg/kg	94.3	50.0	140	---		
dichlorodifluoromethane	E611D			1.76 mg/kg	3.125 mg/kg	79.4	50.0	140	---		
dichloroethane, 1,1-	E611D			2.06 mg/kg	3.125 mg/kg	92.9	50.0	140	---		
dichloroethane, 1,2-	E611D			2.32 mg/kg	3.125 mg/kg	104	50.0	140	---		
dichloroethylene, 1,1-	E611D			2.05 mg/kg	3.125 mg/kg	92.2	50.0	140	---		
dichloroethylene, cis-1,2-	E611D			2.14 mg/kg	3.125 mg/kg	96.4	50.0	140	---		
dichloroethylene, trans-1,2-	E611D			2.02 mg/kg	3.125 mg/kg	90.8	50.0	140	---		
dichloromethane	E611D			2.19 mg/kg	3.125 mg/kg	98.3	50.0	140	---		
dichloropropane, 1,2-	E611D			2.35 mg/kg	3.125 mg/kg	106	50.0	140	---		
dichloropropylene, cis-1,3-	E611D			2.16 mg/kg	3.125 mg/kg	97.2	50.0	140	---		
dichloropropylene, trans-1,3-	E611D			1.87 mg/kg	3.125 mg/kg	84.0	50.0	140	---		
ethylbenzene	E611D	1.95 mg/kg	3.125 mg/kg	87.7	50.0	140	---				
hexane, n-	E611D	1.92 mg/kg	3.125 mg/kg	86.3	50.0	140	---				
methyl ethyl ketone [MEK]	E611D	2.51 mg/kg	3.125 mg/kg	113	50.0	140	---				
methyl isobutyl ketone [MIBK]	E611D	2.32 mg/kg	3.125 mg/kg	104	50.0	140	---				
methyl-tert-butyl ether [MTBE]	E611D	2.23 mg/kg	3.125 mg/kg	100	50.0	140	---				



Sub-Matrix: **Soil/Solid**

							Matrix Spike (MS) Report				
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Spike		Recovery (%)		Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High		
Volatile Organic Compounds (QCLot: 481085) - continued											
WT2203484-001	Anonymous	styrene	100-42-5	E611D	1.69 mg/kg	3.125 mg/kg	75.9	50.0	140	---	
		tetrachloroethane, 1,1,1,2-	630-20-6	E611D	1.95 mg/kg	3.125 mg/kg	87.6	50.0	140	---	
		tetrachloroethane, 1,1,2,2-	79-34-5	E611D	2.01 mg/kg	3.125 mg/kg	90.4	50.0	140	---	
		tetrachloroethylene	127-18-4	E611D	1.79 mg/kg	3.125 mg/kg	80.4	50.0	140	---	
		toluene	108-88-3	E611D	1.91 mg/kg	3.125 mg/kg	85.8	50.0	140	---	
		trichloroethane, 1,1,1-	71-55-6	E611D	2.12 mg/kg	3.125 mg/kg	95.6	50.0	140	---	
		trichloroethane, 1,1,2-	79-00-5	E611D	2.01 mg/kg	3.125 mg/kg	90.2	50.0	140	---	
		trichloroethylene	79-01-6	E611D	2.10 mg/kg	3.125 mg/kg	94.6	50.0	140	---	
		trichlorofluoromethane	75-69-4	E611D	2.02 mg/kg	3.125 mg/kg	90.8	50.0	140	---	
		vinyl chloride	75-01-4	E611D	1.84 mg/kg	3.125 mg/kg	82.8	50.0	140	---	
		xylene, m+p-	179601-23-1	E611D	3.90 mg/kg	6.25 mg/kg	87.6	50.0	140	---	
		xylene, o-	95-47-6	E611D	1.99 mg/kg	3.125 mg/kg	89.5	50.0	140	---	
Hydrocarbons (QCLot: 481068)											
WT2203520-001	MW1 SS3	F2 (C10-C16)	----	E601.SG-L	725 mg/kg	879.48 mg/kg	103	60.0	140	---	
		F3 (C16-C34)	----	E601.SG-L	900 mg/kg	1100.325 mg/kg	102	60.0	140	---	
		F4 (C34-C50)	----	E601.SG-L	797 mg/kg	920.5875 mg/kg	108	60.0	140	---	
Hydrocarbons (QCLot: 481075)											
WT2203520-009	MW4 SS3	F2 (C10-C16)	----	E601.SG-L	656 mg/kg	879.48 mg/kg	93.6	60.0	140	---	
		F3 (C16-C34)	----	E601.SG-L	814 mg/kg	1100.325 mg/kg	92.8	60.0	140	---	
		F4 (C34-C50)	----	E601.SG-L	666 mg/kg	920.5875 mg/kg	90.8	60.0	140	---	
Hydrocarbons (QCLot: 481081)											
WT2203493-001	Anonymous	F1 (C6-C10)	----	E581.F1	32.7 mg/kg	62.5 mg/kg	75.9	60.0	140	---	
Hydrocarbons (QCLot: 481086)											
WT2203484-001	Anonymous	F1 (C6-C10)	----	E581.F1	38.1 mg/kg	62.5 mg/kg	85.8	60.0	140	---	
Polycyclic Aromatic Hydrocarbons (QCLot: 480934)											
WT2203520-001	MW1 SS3	acenaphthene	83-32-9	E642F	0.744 mg/kg	0.8 mg/kg	93.4	50.0	140	---	
		acenaphthylene	208-96-8	E642F	0.790 mg/kg	0.8 mg/kg	99.2	50.0	140	---	
		anthracene	120-12-7	E642F	0.802 mg/kg	0.8 mg/kg	100	50.0	140	---	
		benz(a)anthracene	56-55-3	E642F	0.776 mg/kg	0.8 mg/kg	97.4	50.0	140	---	
		benzo(a)pyrene	50-32-8	E642F	0.853 mg/kg	0.8 mg/kg	107	50.0	140	---	
		benzo(b+g)fluoranthene	n/a	E642F	0.774 mg/kg	0.8 mg/kg	97.2	50.0	140	---	
		benzo(g,h,i)perylene	191-24-2	E642F	0.691 mg/kg	0.8 mg/kg	86.7	50.0	140	---	
		benzo(k)fluoranthene	207-08-9	E642F	0.747 mg/kg	0.8 mg/kg	93.7	50.0	140	---	
		chrysene	218-01-9	E642F	0.753 mg/kg	0.8 mg/kg	94.5	50.0	140	---	
		dibenz(a,h)anthracene	53-70-3	E642F	0.732 mg/kg	0.8 mg/kg	91.9	50.0	140	---	



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 Work Order : WT2203520
 Client : XCG Consulting Limited
 Project : 5-5030-01-02

Sub-Matrix: **Soil/Solid**

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Matrix Spike (MS) Report					
					Spike		Recovery Limits (%)			
					Concentration	Target	MS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 480934) - continued										
WT2203520-001	MW1 SS3	fluoranthene	206-44-0	E642F	0.752 mg/kg	0.8 mg/kg	94.4	50.0	140	---
		fluorene	86-73-7	E642F	0.752 mg/kg	0.8 mg/kg	94.4	50.0	140	---
		indeno(1,2,3-c,d)pyrene	193-39-5	E642F	0.722 mg/kg	0.8 mg/kg	90.7	50.0	140	---
		methylhaphthalene, 1-	90-12-0	E642F	0.735 mg/kg	0.8 mg/kg	92.2	50.0	140	---
		methylhaphthalene, 2-	91-57-6	E642F	0.755 mg/kg	0.8 mg/kg	94.8	50.0	140	---
		naphthalene	91-20-3	E642F	0.736 mg/kg	0.8 mg/kg	92.4	50.0	140	---
		phenanthrene	85-01-8	E642F	0.729 mg/kg	0.8 mg/kg	91.5	50.0	140	---
		pyrene	129-00-0	E642F	0.744 mg/kg	0.8 mg/kg	93.4	50.0	140	---



Reference Material (RM) Report

A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as percent recovery of the target analyte concentration. RM targets may be certified target concentrations provided by the RM supplier, or may be ALS long-term mean values (for empirical test methods).

Sub-Matrix:

Laboratory Sample ID	Reference Material ID	Analyte	CAS Number	Method	Reference Material (RM) Report				Qualifier
					RM Concentration	Recovery (%)	RM	Recovery Limits (%)	
					Low	High			
Metals (QCLot: 481069)									
RM		antimony	7440-36-0	E440	3.99 mg/kg	99.3	70.0	130	---
RM		arsenic	7440-38-2	E440	3.73 mg/kg	104	70.0	130	---
RM		barium	7440-39-3	E440	105 mg/kg	107	70.0	130	---
RM		beryllium	7440-41-7	E440	0.349 mg/kg	105	70.0	130	---
RM		boron	7440-42-8	E440	8.5 mg/kg	107	40.0	160	---
RM		cadmium	7440-43-9	E440	0.91 mg/kg	99.4	70.0	130	---
RM		chromium	7440-47-3	E440	101 mg/kg	103	70.0	130	---
RM		cobalt	7440-48-4	E440	6.9 mg/kg	104	70.0	130	---
RM		copper	7440-50-8	E440	123 mg/kg	103	70.0	130	---
RM		lead	7439-92-1	E440	267 mg/kg	103	70.0	130	---
RM		molybdenum	7439-98-7	E440	1.03 mg/kg	102	70.0	130	---
RM		nickel	7440-02-0	E440	26.7 mg/kg	104	70.0	130	---
RM		silver	7440-22-4	E440	4.06 mg/kg	108	70.0	130	---
RM		thallium	7440-28-0	E440	0.0786 mg/kg	97.5	40.0	160	---
RM		uranium	7440-61-1	E440	0.52 mg/kg	99.3	70.0	130	---
RM		vanadium	7440-62-2	E440	32.7 mg/kg	103	70.0	130	---
RM		zinc	7440-66-6	E440	297 mg/kg	101	70.0	130	---
Metals (QCLot: 481090)									
RM		antimony	7440-36-0	E440	3.99 mg/kg	102	70.0	130	---
RM		arsenic	7440-38-2	E440	3.73 mg/kg	112	70.0	130	---
RM		barium	7440-39-3	E440	105 mg/kg	99.2	70.0	130	---
RM		beryllium	7440-41-7	E440	0.349 mg/kg	104	70.0	130	---
RM		boron	7440-42-8	E440	8.5 mg/kg	107	40.0	160	---
RM		cadmium	7440-43-9	E440	0.91 mg/kg	106	70.0	130	---
RM		chromium	7440-47-3	E440	101 mg/kg	105	70.0	130	---
RM		cobalt	7440-48-4	E440	6.9 mg/kg	109	70.0	130	---
RM		copper	7440-50-8	E440	123 mg/kg	108	70.0	130	---
RM		lead	7439-92-1	E440	267 mg/kg	106	70.0	130	---
RM		molybdenum	7439-98-7	E440	1.03 mg/kg	107	70.0	130	---



Page : 23 of 23
 Work Order : WT2203520
 Client : XCG Consulting Limited
 Project : 5-5030-01-02

Sub-Matrix:

Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Reference Material (RM) Report				
					RM Target Concentration	Recovery (%) RM	Recovery Limits (%) Low	High	Qualifier
Metals (QCLot: 481090) - continued									
	RM	nickel	7440-02-0	E440	26.7 mg/kg	110	70.0	130	---
	RM	silver	7440-22-4	E440	4.06 mg/kg	85.9	70.0	130	---
	RM	thallium	7440-28-0	E440	0.0786 mg/kg	99.9	40.0	160	---
	RM	uranium	7440-61-1	E440	0.52 mg/kg	94.6	70.0	130	---
	RM	vanadium	7440-62-2	E440	32.7 mg/kg	106	70.0	130	---
	RM	zinc	7440-66-6	E440	297 mg/kg	103	70.0	130	---



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Report To
 Contact and company name below will appear on the final report
 Company: XCG Consulting Limited (Kitchener)
 Contact: Michael Schriver
 Phone:
 Company address below will appear on the final report
 Street: 820 Trillium Drive
 City/Province: Kitchener, ON
 Postal Code: N2R 1K4
Invoice To
 Same as Report To YES NO
 Copy of Invoice with Report YES NO
Company:
 Contact:
Project Information
 ALS Account # / Quote #: XCGC100 / 2022 SOA
 Job #: 5-5030-01-02
 PO / AFE:
 LSD:
ALS Lab Work Order # (ALS use only):

Reports / Recipients
 Select Report Format: PDF EXCEL BDD (DIGITAL)
 Merge QC/QCI Reports with COA YES NO N/A
 Compare Results to Criteria on Report - provide details below if box checked
 Select Distribution: EMAIL MAIL FAX
 Email 1 or Fax michael.schriver@xcg.com
 Email 2 dyan.ebberts@xcg.com
 Email 3
Invoice Recipients
 Select Invoice Distribution: EMAIL MAIL FAX
 Email 1 or Fax accountings@xcg.com
 Email 2
Oil and Gas Required Fields (client use)
 AFE/Cost Center: PO#
 Major/Minor Code: Routing Code:
 Requisitioner:
 Location:
ALS Contact: Emily Smith
Sampler:

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type
MW1 553		05-05-22	14:30	SP11
MW1 557			14:40	
MW2 551			18:30	
MW2 552			18:40	
MW3 551		06-05-22	7:55	
MW3 553		06-05-22	8:00	
MW3 555		06-05-22	8:10	
MW4 551		05-05-22	10:30	
MW4 553		05-05-22	10:40	
MW4 556		05-05-22	10:50	
MW5 551		06-05-22	12:00	
MW5 552		06-05-22	12:30	

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

Drinking Water (DW) Samples (client use)
 YES NO
 YES NO
 YES NO
 Are samples taken from a Regulated DW System?
 YES NO
 Are samples for human consumption/ use?
 YES NO

SHIPMENT RELEASE (client use)
 Released by: [Signature] Date: 06-05-22 Time: 13:30
 Received by: HK Date: 05/06/22

INITIAL SHIPMENT RECEPTION (ALS use only)
 Received by: [Signature] Date: 05/06/22
 Time: 15:45

FINAL SHIPMENT RECEPTION (ALS use only)
 Received by: [Signature] Date: 05/06/22
 Time: 17:30

Drinking Water (DW) Samples (client use)
 YES NO
 YES NO
 YES NO
 Are samples taken from a Regulated DW System?
 YES NO
 Are samples for human consumption/ use?
 YES NO

NUMBER OF CONTAINERS	Metals	PAHs	Flta	VOCs	Analysis Req	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
4	X	X	X	X				
4	X	X	X	X		X		
4	X	X	X	X				
4	X	X	X	X				
4	X	X	X	X				
4	X	X	X	X		X		
4	X	X	X	X		X		
4	X	X	X	X				
4	X	X	X	X				
4	X	X	X	X				



Telephone: +1 519 668 8910

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION
 Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.
 1. If any water samples are taken from a Regulated Drinking Water (DW) System, please submit using an Authorized DW COC form.



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Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 20 -

Page 2 of 2

Report To Contact and company name below will appear on the final report Company: XCG Consulting Limited (Kitchener) Contact: Michael Schriver Phone: Company address below will appear on the final report Street: 820 Trillium Drive City/Province: Kitchener, ON Postal Code: N2R 1K4		Reports / Recipients Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) Merge QC/QC/CO Reports with COA <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX Email 1 or Fax: <u>michael.schriver@xcg.com</u> Email 2: <u>ryan.abberts@xcg.com</u> Email 3:		Turnaround Time (TAT) Requested <input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply <input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum <input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum <input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum <input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum <input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge - Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests																																																	
Invoice To Same as Report To <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		Date and Time Required for all E&P TATs: For all tests with rush TATs requested, please contact your AM to confirm availability.		AFFIX ALS BARCODE LABEL HERE (ALS use only)																																																	
Company: Contact:		Invoice Recipients Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX Email 1 or Fax: <u>accounting@xcg.com</u>		Analysis Request Indicate Filtered (F), Preserved (P) or Filtered and Preserved (FIP) below																																																	
Project Information ALS Account # / Quote #: XCGC100 / 2022 SOA Job #: 5-5030-01-02 PO / AFE: LSD:		Oil and Gas Required Fields (client use) AFE/Cost Center: Major/Minor Code: Requisitioner: Location:		<table border="1"> <thead> <tr> <th>NUMBER OF CONTAINERS</th> <th>Metals</th> <th>PAHs</th> <th>FT-FA</th> <th>VOCS</th> <th>SAMPLES ON HOLD</th> <th>EXTENDED STORAGE REQUIRED</th> <th>SUSPECTED HAZARD (see notes)</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> </tr> </tbody> </table>		NUMBER OF CONTAINERS	Metals	PAHs	FT-FA	VOCS	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)	4	X	X	X	X				4	X	X	X	X				4	X	X	X	X				4	X	X	X	X				2	X	X	X	X	X		
NUMBER OF CONTAINERS	Metals	PAHs	FT-FA	VOCS	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)																																														
4	X	X	X	X																																																	
4	X	X	X	X																																																	
4	X	X	X	X																																																	
4	X	X	X	X																																																	
2	X	X	X	X	X																																																
ALS Lab Work Order # (ALS use only): W12203520		ALS Contact: Emily Smith		Sampler:																																																	
ALS Sample # (ALS use only) Mwb 551 Mwb 552 Mwb 554 RE101 TULP		Date (dd-mm-yy) 06-05-22 06-05-22 06-05-22 05-05-22 06-05-22		Time (hh:mm) 10:20 10:30 10:40 12:00 12:00																																																	
Drinking Water (DW) Samples¹ (client use) <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> Are samples for human consumption/ use? <input type="checkbox"/> YES <input type="checkbox"/> NO		Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)		SAMPLE RECEIPT DETAILS (ALS use only) Cooling Method: <input type="checkbox"/> NONE <input checked="" type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO Cooler Custody Seals Intact: <input checked="" type="checkbox"/> YES <input type="checkbox"/> N/A <input type="checkbox"/> Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A INITIAL COOLER TEMPERATURES °C: 15.8 FINAL COOLER TEMPERATURES °C: 16.1																																																	
Released by: [Signature] Date: 06-05-22 Time: 10:30		SHIPMENT RELEASE (client use) Date: 05/06/22 Time: 15:45		INITIAL SHIPMENT RECEPTION (ALS use only) Received by: H.K. Date: 05/06/22 Time: 15:45																																																	
REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION Failure to complete all portions of this form may delay analysis. Please fill in this form LEGIBLY. By the use of this form the user acknowledges and agrees with the Terms and Conditions as specified on the back page of the white - report copy.		WHITE - LABORATORY COPY YELLOW - CLIENT COPY		FINAL SHIPMENT RECEPTION (ALS use only) Received by: _____ Date: _____ Time: _____																																																	

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

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

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order : WT2204232
Client : XCG Consulting Limited
Contact : Michael Schriver
Address : 820 Trillium Drive
 Kitchener ON Canada N2R 1K4
Telephone : 519 741 5774
Project : 5-5030-01-02
PO : ----
C-O-C number : ----
Sampler : ----
Site : ----
Quote number : Gold 2022 SOA (Q88234)
No. of samples received : 7
No. of samples analysed : 7

Page : 1 of 30
Laboratory : Waterloo - Environmental
Account Manager : Andrew Martin
Address : 60 Northland Road, Unit 1
 Waterloo, Ontario Canada N2V 2B8
Telephone : +1 519 886 6910
Date Samples Received : 20-May-2022 14:30
Date Analysis Commenced : 21-May-2022
Issue Date : 31-May-2022 14:08

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Guideline Comparison

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Greg Pokocky	Supervisor - Inorganic	Metals, Waterloo, Ontario
Jeremy Gingras	Team Leader - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Jocelyn Kennedy	Department Manager - Semi-Volatile Organics	Organics, Waterloo, Ontario
Sarah Birch	Team Leader - Volatiles	Organics, Waterloo, Ontario

General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

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

Key : LOR: Limit of Reporting (detection limit).

Unit	Description
-	No Unit
µg/L	micrograms per litre

> : greater than.

< : less than.

Red shading is applied where the result is greater than the Guideline Upper Limit or the result is lower than the Guideline Lower Limit.

For drinking water samples, Red shading is applied where the result for E.coli, fecal or total coliforms is greater than or equal to the Guideline Upper Limit.

Qualifiers

Qualifier	Description
DLQ	Detection Limit raised due to co-eluting interference. GCMS qualifier ion ratio did not meet acceptance criteria.



Analytical Results

Analyte	Method	LOR	Unit	Client sample ID		ON153/04 T3-NPGW-C-AI
				Sub-Matrix: Water (Matrix: Water)	Sampling date/time	
				MW1	20-May-2022 11:20	
				WT2204232-001		
Dissolved Metals						
antimony, dissolved	E421	0.10	µg/L	0.38		20000 µg/L
arsenic, dissolved	E421	0.10	µg/L	1.00		1900 µg/L
barium, dissolved	E421	0.10	µg/L	70.9		29000 µg/L
beryllium, dissolved	E421	0.020	µg/L	<0.020		67 µg/L
boron, dissolved	E421	10	µg/L	58		45000 µg/L
cadmium, dissolved	E421	0.0050	µg/L	0.0318		2.7 µg/L
chromium, dissolved	E421	0.50	µg/L	<0.50		810 µg/L
cobalt, dissolved	E421	0.10	µg/L	0.34		66 µg/L
copper, dissolved	E421	0.20	µg/L	1.27		87 µg/L
lead, dissolved	E421	0.050	µg/L	<0.050		25 µg/L
mercury, dissolved	E509	0.0050	µg/L	<0.0050		0.29 µg/L
molybdenum, dissolved	E421	0.050	µg/L	4.94		9200 µg/L
nickel, dissolved	E421	0.50	µg/L	0.84		490 µg/L
selenium, dissolved	E421	0.050	µg/L	0.729		63 µg/L
silver, dissolved	E421	0.010	µg/L	<0.010		1.5 µg/L
sodium, dissolved	E421	50	µg/L	41700		2300000 µg/L
thallium, dissolved	E421	0.010	µg/L	0.034		510 µg/L
uranium, dissolved	E421	0.010	µg/L	8.31		420 µg/L
vanadium, dissolved	E421	0.50	µg/L	1.23		250 µg/L
zinc, dissolved	E421	1.0	µg/L	24.7		1100 µg/L
dissolved mercury filtration location	EP509		-	Field		
dissolved metals filtration location	EP421		-	Field		
Speciated Metals						
chromium, hexavalent [Cr+VI], dissolved	E532A	0.50	µg/L	<0.50		
Volatile Organic Compounds						
acetone	E611D	20	µg/L	<20		130000 µg/L
benzene	E611D	0.50	µg/L	<0.50		44 µg/L
bromodichloromethane	E611D	0.50	µg/L	<0.50		85000 µg/L



Analyte	Method	LOR	Unit	WT2204232-001 (Continued)	ON153/04 T3-NPGW-C-AI
Volatile Organic Compounds - Continued					
bromoform	E611D	0.50	µg/L	<0.50	380 µg/L
bromomethane	E611D	0.50	µg/L	<0.50	5.6 µg/L
carbon tetrachloride	E611D	0.20	µg/L	<0.20	0.79 µg/L
chlorobenzene	E611D	0.50	µg/L	<0.50	630 µg/L
chloroform	E611D	0.50	µg/L	0.54	2.4 µg/L
dibromochloromethane	E611D	0.50	µg/L	<0.50	82000 µg/L
dibromoethane, 1,2-	E611D	0.20	µg/L	<0.20	0.25 µg/L
dichlorobenzene, 1,2-	E611D	0.50	µg/L	<0.50	4600 µg/L
dichlorobenzene, 1,3-	E611D	0.50	µg/L	<0.50	9600 µg/L
dichlorobenzene, 1,4-	E611D	0.50	µg/L	<0.50	8 µg/L
dichlorodifluoromethane	E611D	0.50	µg/L	<0.50	4400 µg/L
dichloroethane, 1,1-	E611D	0.50	µg/L	<0.50	320 µg/L
dichloroethane, 1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, 1,1-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, cis-1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, trans-1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloromethane	E611D	1.0	µg/L	<1.0	610 µg/L
dichloropropane, 1,2-	E611D	0.50	µg/L	<0.50	16 µg/L
dichloropropylene, cis+trans-1,3-	E611D	0.50	µg/L	<0.50	5.2 µg/L
dichloropropylene, cis-1,3-	E611D	0.30	µg/L	<0.30	
dichloropropylene, trans-1,3-	E611D	0.30	µg/L	<0.30	
ethylbenzene	E611D	0.50	µg/L	<0.50	2300 µg/L
hexane, n-	E611D	0.50	µg/L	<0.50	51 µg/L
methyl ethyl ketone [MEK]	E611D	20	µg/L	<20	470000 µg/L
methyl isobutyl ketone [MIBK]	E611D	20	µg/L	<20	140000 µg/L
methyl-tert-butyl ether [MTBE]	E611D	0.50	µg/L	<0.50	190 µg/L
styrene	E611D	0.50	µg/L	<0.50	1300 µg/L
tetrachloroethane, 1,1,1,2-	E611D	0.50	µg/L	<0.50	3.3 µg/L
tetrachloroethane, 1,1,2,2-	E611D	0.50	µg/L	<0.50	3.2 µg/L
tetrachloroethylene	E611D	0.50	µg/L	<0.50	1.6 µg/L
toluene	E611D	0.50	µg/L	<0.50	18000 µg/L
trichloroethane, 1,1,1-	E611D	0.50	µg/L	<0.50	640 µg/L
trichloroethane, 1,1,2-	E611D	0.50	µg/L	<0.50	4.7 µg/L



Analyte	Method	LOR	Unit	WT2204232-001 (Continued)	ON153/04 T3-NPGW-C-AI
Volatile Organic Compounds - Continued					
trichloroethylene	E611D	0.50	µg/L	<0.50	1.6 µg/L
trichlorofluoromethane	E611D	0.50	µg/L	<0.50	2500 µg/L
vinyl chloride	E611D	0.50	µg/L	<0.50	0.5 µg/L
xylene, m+p-	E611D	0.40	µg/L	<0.40	
xylene, o-	E611D	0.30	µg/L	<0.30	
xylenes, total	E611D	0.50	µg/L	<0.50	4200 µg/L
BTEX, total	E611D	1.0	µg/L	<1.0	
bromofluorobenzene, 4-	E611D	1.0	%	80.9	
difluorobenzene, 1,4-	E611D	1.0	%	98.4	
Hydrocarbons					
F1 (C6-C10)	E581.F1-L	25	µg/L	<25	750 µg/L
F2 (C10-C16)	E601.SG	100	µg/L	<100	150 µg/L
F2-naphthalene	EC600SG	100	µg/L	<100	
F3 (C16-C34)	E601.SG	250	µg/L	<250	500 µg/L
F3-PAH	EC600SG	250	µg/L	<250	
F4 (C34-C50)	E601.SG	250	µg/L	<250	500 µg/L
F1-BTEX	EC580	25	µg/L	<25	750 µg/L
hydrocarbons, total (C6-C50)	EC581SG	240	µg/L	<370	
chromatogram to baseline at nC50	E601.SG		-	YES	
bromobenzotrifluoride, 2-(F2-F4 surr)	E601.SG	1.0	%	76.3	
dichlorotoluene, 3,4-	E581.F1-L	1.0	%	80.7	
Polycyclic Aromatic Hydrocarbons					
acenaphthene	E641A	0.010	µg/L	<0.019 DLQ	600 µg/L
acenaphthylene	E641A	0.010	µg/L	<0.010	1.8 µg/L
anthracene	E641A	0.010	µg/L	<0.010	2.4 µg/L
benz(a)anthracene	E641A	0.010	µg/L	<0.010	4.7 µg/L
benzo(a)pyrene	E641A	0.0050	µg/L	<0.0050	0.81 µg/L
benzo(b+)]fluoranthene	E641A	0.010	µg/L	<0.010	0.75 µg/L
benzo(g,h,i)perylene	E641A	0.010	µg/L	<0.010	0.2 µg/L
benzo(k)fluoranthene	E641A	0.010	µg/L	<0.010	0.4 µg/L
chrysene	E641A	0.010	µg/L	<0.010	1 µg/L
dibenz(a,h)anthracene	E641A	0.0050	µg/L	<0.0050	0.52 µg/L



Analyte	Method	LOR	Unit	WT2204232-001 (Continued)	ON153/04 T3-NPGW-C-AI
Polycyclic Aromatic Hydrocarbons - Continued					
fluoranthene	E641A	0.010	µg/L	<0.010	130 µg/L
fluorene	E641A	0.010	µg/L	<0.010	400 µg/L
indeno(1,2,3-c,d)pyrene	E641A	0.010	µg/L	<0.010	0.2 µg/L
methylanthralene, 1+2-	E641A	0.015	µg/L	<0.015	1800 µg/L
methylanthralene, 1-	E641A	0.010	µg/L	<0.010	1800 µg/L
methylanthralene, 2-	E641A	0.010	µg/L	<0.010	1800 µg/L
naphthalene	E641A	0.050	µg/L	<0.050	1400 µg/L
phenanthrene	E641A	0.020	µg/L	<0.020	580 µg/L
pyrene	E641A	0.010	µg/L	<0.010	68 µg/L
chrysene-d12	E641A	0.1	%	107	
naphthalene-d8	E641A	0.1	%	95.7	
phenanthrene-d10	E641A	0.1	%	102	

Please refer to the General Comments section for an explanation of any qualifiers detected.

No Breaches Found

Key:

ON153/04 Ontario Regulation 153/04 - April 15, 2011 Standards (JUL, 2011)
 T3-NPGW-C-All T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)



Analytical Results

Analyte	Method	LOR	Unit	Client sample ID		ON153/04 T3-NPGW-C-AI
				Sub-Matrix: Water (Matrix: Water)	Sampling date/time	
				MW2	20-May-2022 10:35	
				WT2204232-002		
Dissolved Metals						
antimony, dissolved	E421	0.10	µg/L	0.61		20000 µg/L
arsenic, dissolved	E421	0.10	µg/L	1.06		1900 µg/L
barium, dissolved	E421	0.10	µg/L	117		29000 µg/L
beryllium, dissolved	E421	0.020	µg/L	<0.020		67 µg/L
boron, dissolved	E421	10	µg/L	42		45000 µg/L
cadmium, dissolved	E421	0.0050	µg/L	0.0479		2.7 µg/L
chromium, dissolved	E421	0.50	µg/L	<0.50		810 µg/L
cobalt, dissolved	E421	0.10	µg/L	0.46		66 µg/L
copper, dissolved	E421	0.20	µg/L	1.33		87 µg/L
lead, dissolved	E421	0.050	µg/L	0.498		25 µg/L
mercury, dissolved	E509	0.0050	µg/L	<0.0050		0.29 µg/L
molybdenum, dissolved	E421	0.050	µg/L	6.62		9200 µg/L
nickel, dissolved	E421	0.50	µg/L	1.76		490 µg/L
selenium, dissolved	E421	0.050	µg/L	1.39		63 µg/L
silver, dissolved	E421	0.010	µg/L	<0.010		1.5 µg/L
sodium, dissolved	E421	50	µg/L	40000		2300000 µg/L
thallium, dissolved	E421	0.010	µg/L	0.046		510 µg/L
uranium, dissolved	E421	0.010	µg/L	3.91		420 µg/L
vanadium, dissolved	E421	0.50	µg/L	1.16		250 µg/L
zinc, dissolved	E421	1.0	µg/L	13.3		1100 µg/L
dissolved mercury filtration location	EP509		-	Field		
dissolved metals filtration location	EP421		-	Field		
Speciated Metals						
chromium, hexavalent [Cr VI], dissolved	E532A	0.50	µg/L	<0.50		
Volatile Organic Compounds						
acetone	E611D	20	µg/L	<20		130000 µg/L
benzene	E611D	0.50	µg/L	<0.50		44 µg/L
bromodichloromethane	E611D	0.50	µg/L	<0.50		85000 µg/L



Analyte	Method	LOR	Unit	WT2204232-002 (Continued)	ON153/04 T3-NPGW-C-AI
Volatile Organic Compounds - Continued					
bromoform	E611D	0.50	µg/L	<0.50	380 µg/L
bromomethane	E611D	0.50	µg/L	<0.50	5.6 µg/L
carbon tetrachloride	E611D	0.20	µg/L	<0.20	0.79 µg/L
chlorobenzene	E611D	0.50	µg/L	<0.50	630 µg/L
chloroform	E611D	0.50	µg/L	<0.50	2.4 µg/L
dibromochloromethane	E611D	0.50	µg/L	<0.50	82000 µg/L
dibromoethane, 1,2-	E611D	0.20	µg/L	<0.20	0.25 µg/L
dichlorobenzene, 1,2-	E611D	0.50	µg/L	<0.50	4600 µg/L
dichlorobenzene, 1,3-	E611D	0.50	µg/L	<0.50	9600 µg/L
dichlorobenzene, 1,4-	E611D	0.50	µg/L	<0.50	8 µg/L
dichlorodifluoromethane	E611D	0.50	µg/L	<0.50	4400 µg/L
dichloroethane, 1,1-	E611D	0.50	µg/L	<0.50	320 µg/L
dichloroethane, 1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, 1,1-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, cis-1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, trans-1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloromethane	E611D	1.0	µg/L	<1.0	610 µg/L
dichloropropane, 1,2-	E611D	0.50	µg/L	<0.50	16 µg/L
dichloropropylene, cis+trans-1,3-	E611D	0.50	µg/L	<0.50	5.2 µg/L
dichloropropylene, cis-1,3-	E611D	0.30	µg/L	<0.30	
dichloropropylene, trans-1,3-	E611D	0.30	µg/L	<0.30	
ethylbenzene	E611D	0.50	µg/L	<0.50	2300 µg/L
hexane, n-	E611D	0.50	µg/L	<0.50	51 µg/L
methyl ethyl ketone [MEK]	E611D	20	µg/L	<20	470000 µg/L
methyl isobutyl ketone [MIBK]	E611D	20	µg/L	<20	140000 µg/L
methyl-tert-butyl ether [MTBE]	E611D	0.50	µg/L	<0.50	190 µg/L
styrene	E611D	0.50	µg/L	<0.50	1300 µg/L
tetrachloroethane, 1,1,1,2-	E611D	0.50	µg/L	<0.50	3.3 µg/L
tetrachloroethane, 1,1,2,2-	E611D	0.50	µg/L	<0.50	3.2 µg/L
tetrachloroethylene	E611D	0.50	µg/L	<0.50	1.6 µg/L
toluene	E611D	0.50	µg/L	<0.50	18000 µg/L
trichloroethane, 1,1,1-	E611D	0.50	µg/L	<0.50	640 µg/L
trichloroethane, 1,1,2-	E611D	0.50	µg/L	<0.50	4.7 µg/L



Analyte	Method	LOR	Unit	WT2204232-002 (Continued)	ON153/04 T3-NPGW-C-AI
Volatile Organic Compounds - Continued					
trichloroethylene	E611D	0.50	µg/L	<0.50	1.6 µg/L
trichlorofluoromethane	E611D	0.50	µg/L	<0.50	2500 µg/L
vinyl chloride	E611D	0.50	µg/L	<0.50	0.5 µg/L
xylene, m+p-	E611D	0.40	µg/L	<0.40	
xylene, o-	E611D	0.30	µg/L	<0.30	
xylenes, total	E611D	0.50	µg/L	<0.50	4200 µg/L
BTEX, total	E611D	1.0	µg/L	<1.0	
bromofluorobenzene, 4-	E611D	1.0	%	80.6	
difluorobenzene, 1,4-	E611D	1.0	%	98.2	
Hydrocarbons					
F1 (C6-C10)	E581.F1-L	25	µg/L	<25	750 µg/L
F2 (C10-C16)	E601.SG	100	µg/L	<100	150 µg/L
F2-naphthalene	EC600SG	100	µg/L	<100	
F3 (C16-C34)	E601.SG	250	µg/L	<250	500 µg/L
F3-PAH	EC600SG	250	µg/L	<250	
F4 (C34-C50)	E601.SG	250	µg/L	<250	500 µg/L
F1-BTEX	EC580	25	µg/L	<25	750 µg/L
hydrocarbons, total (C6-C50)	EC581SG	240	µg/L	<370	
chromatogram to baseline at nC50	E601.SG		-	YES	
bromobenzotrifluoride, 2-(F2-F4 surr)	E601.SG	1.0	%	85.7	
dichlorotoluene, 3,4-	E581.F1-L	1.0	%	77.5	
Polycyclic Aromatic Hydrocarbons					
acenaphthene	E641A	0.010	µg/L	<0.058 DLQ	600 µg/L
acenaphthylene	E641A	0.010	µg/L	<0.010	1.8 µg/L
anthracene	E641A	0.010	µg/L	<0.010	2.4 µg/L
benz(a)anthracene	E641A	0.010	µg/L	<0.010	4.7 µg/L
benzo(a)pyrene	E641A	0.0050	µg/L	<0.0050	0.81 µg/L
benzo(b+)]fluoranthene	E641A	0.010	µg/L	<0.010	0.75 µg/L
benzo(g,h,i)perylene	E641A	0.010	µg/L	<0.010	0.2 µg/L
benzo(k)fluoranthene	E641A	0.010	µg/L	<0.010	0.4 µg/L
chrysene	E641A	0.010	µg/L	<0.010	1 µg/L
dibenz(a,h)anthracene	E641A	0.0050	µg/L	<0.0050	0.52 µg/L



Analyte	Method	LOR	Unit	WT2204232-002 (Continued)	ON153/04 T3-NPGW-C-AI
Polycyclic Aromatic Hydrocarbons - Continued					
fluoranthene	E641A	0.010	µg/L	0.018	130 µg/L
fluorene	E641A	0.010	µg/L	<0.010	400 µg/L
indeno(1,2,3-c,d)pyrene	E641A	0.010	µg/L	<0.010	0.2 µg/L
methylanththalene, 1+2-	E641A	0.015	µg/L	0.018	1800 µg/L
methylanththalene, 1-	E641A	0.010	µg/L	<0.010	1800 µg/L
methylanththalene, 2-	E641A	0.010	µg/L	0.018	1800 µg/L
naphthalene	E641A	0.050	µg/L	<0.050	1400 µg/L
phenanthrene	E641A	0.020	µg/L	0.028	580 µg/L
pyrene	E641A	0.010	µg/L	0.013	68 µg/L
chrysene-d12	E641A	0.1	%	120	
naphthalene-d8	E641A	0.1	%	99.0	
phenanthrene-d10	E641A	0.1	%	105	

Please refer to the General Comments section for an explanation of any qualifiers detected.

No Breaches Found

Key:

ON153/04 Ontario Regulation 153/04 - April 15, 2011 Standards (JUL, 2011)
 T3-NPGW-C-All T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)



Analytical Results

Analyte	Method	LOR	Client sample ID		Unit	ON153/04 T3-NPGW-C-AI
			Sub-Matrix: Water (Matrix: Water)	Sampling date/time		
				MW3		
				20-May-2022 10:30		
				WT2204232-003		
Dissolved Metals						
antimony, dissolved	E421	0.10	µg/L	0.21	20000 µg/L	
arsenic, dissolved	E421	0.10	µg/L	0.90	1900 µg/L	
barium, dissolved	E421	0.10	µg/L	120	29000 µg/L	
beryllium, dissolved	E421	0.020	µg/L	<0.020	67 µg/L	
boron, dissolved	E421	10	µg/L	55	45000 µg/L	
cadmium, dissolved	E421	0.0050	µg/L	0.0111	2.7 µg/L	
chromium, dissolved	E421	0.50	µg/L	<0.50	810 µg/L	
cobalt, dissolved	E421	0.10	µg/L	0.60	66 µg/L	
copper, dissolved	E421	0.20	µg/L	0.85	87 µg/L	
lead, dissolved	E421	0.050	µg/L	<0.050	25 µg/L	
mercury, dissolved	E509	0.0050	µg/L	<0.0050	0.29 µg/L	
molybdenum, dissolved	E421	0.050	µg/L	3.58	9200 µg/L	
nickel, dissolved	E421	0.50	µg/L	6.28	490 µg/L	
selenium, dissolved	E421	0.050	µg/L	0.250	63 µg/L	
silver, dissolved	E421	0.010	µg/L	<0.010	1.5 µg/L	
sodium, dissolved	E421	50	µg/L	101000	2300000 µg/L	
thallium, dissolved	E421	0.010	µg/L	0.030	510 µg/L	
uranium, dissolved	E421	0.010	µg/L	4.14	420 µg/L	
vanadium, dissolved	E421	0.50	µg/L	1.03	250 µg/L	
zinc, dissolved	E421	1.0	µg/L	1.1	1100 µg/L	
dissolved mercury filtration location	EP509		-	Field		
dissolved metals filtration location	EP421		-	Field		
Speciated Metals						
chromium, hexavalent [Cr VI], dissolved	E532A	0.50	µg/L	<0.50		
Volatile Organic Compounds						
acetone	E611D	20	µg/L	<20	130000 µg/L	
benzene	E611D	0.50	µg/L	<0.50	44 µg/L	
bromodichloromethane	E611D	0.50	µg/L	<0.50	85000 µg/L	



Analyte	Method	LOR	Unit	WT2204232-003 (Continued)	ON153/04 T3-NPGW-C-AI
Volatile Organic Compounds - Continued					
bromoform	E611D	0.50	µg/L	<0.50	380 µg/L
bromomethane	E611D	0.50	µg/L	<0.50	5.6 µg/L
carbon tetrachloride	E611D	0.20	µg/L	<0.20	0.79 µg/L
chlorobenzene	E611D	0.50	µg/L	<0.50	630 µg/L
chloroform	E611D	0.50	µg/L	<0.50	2.4 µg/L
dibromochloromethane	E611D	0.50	µg/L	<0.50	82000 µg/L
dibromoethane, 1,2-	E611D	0.20	µg/L	<0.20	0.25 µg/L
dichlorobenzene, 1,2-	E611D	0.50	µg/L	<0.50	4600 µg/L
dichlorobenzene, 1,3-	E611D	0.50	µg/L	<0.50	9600 µg/L
dichlorobenzene, 1,4-	E611D	0.50	µg/L	<0.50	8 µg/L
dichlorodifluoromethane	E611D	0.50	µg/L	<0.50	4400 µg/L
dichloroethane, 1,1-	E611D	0.50	µg/L	<0.50	320 µg/L
dichloroethane, 1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, 1,1-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, cis-1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, trans-1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloromethane	E611D	1.0	µg/L	<1.0	610 µg/L
dichloropropane, 1,2-	E611D	0.50	µg/L	<0.50	16 µg/L
dichloropropylene, cis+trans-1,3-	E611D	0.50	µg/L	<0.50	5.2 µg/L
dichloropropylene, cis-1,3-	E611D	0.30	µg/L	<0.30	
dichloropropylene, trans-1,3-	E611D	0.30	µg/L	<0.30	
ethylbenzene	E611D	0.50	µg/L	<0.50	2300 µg/L
hexane, n-	E611D	0.50	µg/L	<0.50	51 µg/L
methyl ethyl ketone [MEK]	E611D	20	µg/L	<20	470000 µg/L
methyl isobutyl ketone [MIBK]	E611D	20	µg/L	<20	140000 µg/L
methyl-tert-butyl ether [MTBE]	E611D	0.50	µg/L	<0.50	190 µg/L
styrene	E611D	0.50	µg/L	<0.50	1300 µg/L
tetrachloroethane, 1,1,1,2-	E611D	0.50	µg/L	<0.50	3.3 µg/L
tetrachloroethane, 1,1,2,2-	E611D	0.50	µg/L	<0.50	3.2 µg/L
tetrachloroethylene	E611D	0.50	µg/L	<0.50	1.6 µg/L
toluene	E611D	0.50	µg/L	<0.50	18000 µg/L
trichloroethane, 1,1,1-	E611D	0.50	µg/L	<0.50	640 µg/L
trichloroethane, 1,1,2-	E611D	0.50	µg/L	<0.50	4.7 µg/L



Analyte	Method	LOR	Unit	WT2204232-003 (Continued)	ON153/04 T3-NPGW-C-AI
Volatile Organic Compounds - Continued					
trichloroethylene	E611D	0.50	µg/L	<0.50	1.6 µg/L
trichlorofluoromethane	E611D	0.50	µg/L	<0.50	2500 µg/L
vinyl chloride	E611D	0.50	µg/L	<0.50	0.5 µg/L
xylene, m+p-	E611D	0.40	µg/L	<0.40	
xylene, o-	E611D	0.30	µg/L	<0.30	
xylenes, total	E611D	0.50	µg/L	<0.50	4200 µg/L
BTEX, total	E611D	1.0	µg/L	<1.0	
bromofluorobenzene, 4-	E611D	1.0	%	80.4	
difluorobenzene, 1,4-	E611D	1.0	%	98.4	
Hydrocarbons					
F1 (C6-C10)	E581.F1-L	25	µg/L	<25	750 µg/L
F2 (C10-C16)	E601.SG	100	µg/L	<100	150 µg/L
F2-naphthalene	EC600SG	100	µg/L	<100	
F3 (C16-C34)	E601.SG	250	µg/L	<250	500 µg/L
F3-PAH	EC600SG	250	µg/L	<250	
F4 (C34-C50)	E601.SG	250	µg/L	<250	500 µg/L
F1-BTEX	EC580	25	µg/L	<25	750 µg/L
hydrocarbons, total (C6-C50)	EC581SG	240	µg/L	<370	
chromatogram to baseline at nC50	E601.SG		-	YES	
bromobenzotrifluoride, 2-(F2-F4 surr)	E601.SG	1.0	%	77.3	
dichlorotoluene, 3,4-	E581.F1-L	1.0	%	75.5	
Polycyclic Aromatic Hydrocarbons					
acenaphthene	E641A	0.010	µg/L	<0.010	600 µg/L
acenaphthylene	E641A	0.010	µg/L	<0.010	1.8 µg/L
anthracene	E641A	0.010	µg/L	<0.010	2.4 µg/L
benz(a)anthracene	E641A	0.010	µg/L	<0.010	4.7 µg/L
benzo(a)pyrene	E641A	0.0050	µg/L	<0.0050	0.81 µg/L
benzo(b+)]fluoranthene	E641A	0.010	µg/L	<0.010	0.75 µg/L
benzo(g,h,i)perylene	E641A	0.010	µg/L	<0.010	0.2 µg/L
benzo(k)fluoranthene	E641A	0.010	µg/L	<0.010	0.4 µg/L
chrysene	E641A	0.010	µg/L	<0.010	1 µg/L
dibenz(a,h)anthracene	E641A	0.0050	µg/L	<0.0050	0.52 µg/L



Analyte	Method	LOR	Unit	WT2204232-003 (Continued)	ON153/04 T3-NPGW-C-AI
Polycyclic Aromatic Hydrocarbons - Continued					
fluoranthene	E641A	0.010	µg/L	<0.010	130 µg/L
fluorene	E641A	0.010	µg/L	<0.010	400 µg/L
indeno(1,2,3-c,d)pyrene	E641A	0.010	µg/L	<0.010	0.2 µg/L
methylanthralene, 1+2-	E641A	0.015	µg/L	<0.015	1800 µg/L
methylanthralene, 1-	E641A	0.010	µg/L	<0.010	1800 µg/L
methylanthralene, 2-	E641A	0.010	µg/L	<0.010	1800 µg/L
naphthalene	E641A	0.050	µg/L	<0.050	1400 µg/L
phenanthrene	E641A	0.020	µg/L	<0.020	580 µg/L
pyrene	E641A	0.010	µg/L	<0.010	68 µg/L
chrysene-d12	E641A	0.1	%	116	
naphthalene-d8	E641A	0.1	%	94.8	
phenanthrene-d10	E641A	0.1	%	102	

Please refer to the General Comments section for an explanation of any qualifiers detected.

No Breaches Found

Key:

ON153/04 Ontario Regulation 153/04 - April 15, 2011 Standards (JUL, 2011)
 T3-NPGW-C-All T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)



Analytical Results

Analyte	Method	LOR	Unit	Client sample ID		ON153/04 T3-NPGW-C-AI
				Sub-Matrix: Water (Matrix: Water)	Sampling date/time	
				MW4	20-May-2022 11:00	
				WT2204232-004		
Dissolved Metals						
antimony, dissolved	E421	0.10	µg/L	0.66		20000 µg/L
arsenic, dissolved	E421	0.10	µg/L	1.22		1900 µg/L
barium, dissolved	E421	0.10	µg/L	55.7		29000 µg/L
beryllium, dissolved	E421	0.020	µg/L	<0.020		67 µg/L
boron, dissolved	E421	10	µg/L	187		45000 µg/L
cadmium, dissolved	E421	0.0050	µg/L	0.0123		2.7 µg/L
chromium, dissolved	E421	0.50	µg/L	<0.50		810 µg/L
cobalt, dissolved	E421	0.10	µg/L	0.15		66 µg/L
copper, dissolved	E421	0.20	µg/L	2.06		87 µg/L
lead, dissolved	E421	0.050	µg/L	0.061		25 µg/L
mercury, dissolved	E509	0.0050	µg/L	<0.0050		0.29 µg/L
molybdenum, dissolved	E421	0.050	µg/L	13.8		9200 µg/L
nickel, dissolved	E421	0.50	µg/L	0.50		490 µg/L
selenium, dissolved	E421	0.050	µg/L	0.906		63 µg/L
silver, dissolved	E421	0.010	µg/L	<0.010		1.5 µg/L
sodium, dissolved	E421	50	µg/L	61900		2300000 µg/L
thallium, dissolved	E421	0.010	µg/L	0.045		510 µg/L
uranium, dissolved	E421	0.010	µg/L	5.94		420 µg/L
vanadium, dissolved	E421	0.50	µg/L	1.28		250 µg/L
zinc, dissolved	E421	1.0	µg/L	6.7		1100 µg/L
dissolved mercury filtration location	EP509		-	Field		
dissolved metals filtration location	EP421		-	Field		
Speciated Metals						
chromium, hexavalent [Cr+VI], dissolved	E532A	0.50	µg/L	<0.50		
Volatile Organic Compounds						
acetone	E611D	20	µg/L	<20		130000 µg/L
benzene	E611D	0.50	µg/L	<0.50		44 µg/L
bromodichloromethane	E611D	0.50	µg/L	<0.50		85000 µg/L



Analyte	Method	LOR	Unit	WT2204232-004 (Continued)	ON153/04 T3-NPGW-C-AI
Volatile Organic Compounds - Continued					
bromoform	E611D	0.50	µg/L	<0.50	380 µg/L
bromomethane	E611D	0.50	µg/L	<0.50	5.6 µg/L
carbon tetrachloride	E611D	0.20	µg/L	<0.20	0.79 µg/L
chlorobenzene	E611D	0.50	µg/L	<0.50	630 µg/L
chloroform	E611D	0.50	µg/L	<0.50	2.4 µg/L
dibromochloromethane	E611D	0.50	µg/L	<0.50	82000 µg/L
dibromoethane, 1,2-	E611D	0.20	µg/L	<0.20	0.25 µg/L
dichlorobenzene, 1,2-	E611D	0.50	µg/L	<0.50	4600 µg/L
dichlorobenzene, 1,3-	E611D	0.50	µg/L	<0.50	9600 µg/L
dichlorobenzene, 1,4-	E611D	0.50	µg/L	<0.50	8 µg/L
dichlorodifluoromethane	E611D	0.50	µg/L	<0.50	4400 µg/L
dichloroethane, 1,1-	E611D	0.50	µg/L	<0.50	320 µg/L
dichloroethane, 1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, 1,1-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, cis-1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, trans-1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloromethane	E611D	1.0	µg/L	<1.0	610 µg/L
dichloropropane, 1,2-	E611D	0.50	µg/L	<0.50	16 µg/L
dichloropropylene, cis+trans-1,3-	E611D	0.50	µg/L	<0.50	5.2 µg/L
dichloropropylene, cis-1,3-	E611D	0.30	µg/L	<0.30	
dichloropropylene, trans-1,3-	E611D	0.30	µg/L	<0.30	
ethylbenzene	E611D	0.50	µg/L	<0.50	2300 µg/L
hexane, n-	E611D	0.50	µg/L	<0.50	51 µg/L
methyl ethyl ketone [MEK]	E611D	20	µg/L	<20	470000 µg/L
methyl isobutyl ketone [MIBK]	E611D	20	µg/L	<20	140000 µg/L
methyl-tert-butyl ether [MTBE]	E611D	0.50	µg/L	<0.50	190 µg/L
styrene	E611D	0.50	µg/L	<0.50	1300 µg/L
tetrachloroethane, 1,1,1,2-	E611D	0.50	µg/L	<0.50	3.3 µg/L
tetrachloroethane, 1,1,2,2-	E611D	0.50	µg/L	<0.50	3.2 µg/L
tetrachloroethylene	E611D	0.50	µg/L	<0.50	1.6 µg/L
toluene	E611D	0.50	µg/L	<0.50	18000 µg/L
trichloroethane, 1,1,1-	E611D	0.50	µg/L	<0.50	640 µg/L
trichloroethane, 1,1,2-	E611D	0.50	µg/L	<0.50	4.7 µg/L



Analyte	Method	LOR	Unit	WT2204232-004 (Continued)	ON153/04 T3-NPGW-C-AI
Volatile Organic Compounds - Continued					
trichloroethylene	E611D	0.50	µg/L	<0.50	1.6 µg/L
trichlorofluoromethane	E611D	0.50	µg/L	<0.50	2500 µg/L
vinyl chloride	E611D	0.50	µg/L	<0.50	0.5 µg/L
xylene, m+p-	E611D	0.40	µg/L	<0.40	
xylene, o-	E611D	0.30	µg/L	<0.30	
xylenes, total	E611D	0.50	µg/L	<0.50	4200 µg/L
BTEX, total	E611D	1.0	µg/L	<1.0	
bromofluorobenzene, 4-	E611D	1.0	%	80.7	
difluorobenzene, 1,4-	E611D	1.0	%	98.1	
Hydrocarbons					
F1 (C6-C10)	E581.F1-L	25	µg/L	<25	750 µg/L
F2 (C10-C16)	E601.SG	100	µg/L	<100	150 µg/L
F2-naphthalene	EC600SG	100	µg/L	<100	
F3 (C16-C34)	E601.SG	250	µg/L	<250	500 µg/L
F3-PAH	EC600SG	250	µg/L	<250	
F4 (C34-C50)	E601.SG	250	µg/L	<250	500 µg/L
F1-BTEX	EC580	25	µg/L	<25	750 µg/L
hydrocarbons, total (C6-C50)	EC581SG	240	µg/L	<370	
chromatogram to baseline at nC50	E601.SG		-	YES	
bromobenzotrifluoride, 2-(F2-F4 surr)	E601.SG	1.0	%	80.4	
dichlorotoluene, 3,4-	E581.F1-L	1.0	%	84.6	
Polycyclic Aromatic Hydrocarbons					
acenaphthene	E641A	0.010	µg/L	<0.042 DLQ	600 µg/L
acenaphthylene	E641A	0.010	µg/L	<0.010	1.8 µg/L
anthracene	E641A	0.010	µg/L	<0.010	2.4 µg/L
benz(a)anthracene	E641A	0.010	µg/L	<0.010	4.7 µg/L
benzo(a)pyrene	E641A	0.0050	µg/L	<0.0050	0.81 µg/L
benzo(b+)]fluoranthene	E641A	0.010	µg/L	<0.010	0.75 µg/L
benzo(g,h,i)perylene	E641A	0.010	µg/L	<0.010	0.2 µg/L
benzo(k)fluoranthene	E641A	0.010	µg/L	<0.010	0.4 µg/L
chrysene	E641A	0.010	µg/L	<0.010	1 µg/L
dibenz(a,h)anthracene	E641A	0.0050	µg/L	<0.0050	0.52 µg/L



Analyte	Method	LOR	Unit	WT2204232-004 (Continued)	ON153/04 T3-NPGW-C-AI
Polycyclic Aromatic Hydrocarbons - Continued					
fluoranthene	E641A	0.010	µg/L	<0.010	130 µg/L
fluorene	E641A	0.010	µg/L	<0.010	400 µg/L
indeno(1,2,3-c,d)pyrene	E641A	0.010	µg/L	<0.010	0.2 µg/L
methylanthralene, 1+2-	E641A	0.015	µg/L	<0.015	1800 µg/L
methylnaphthalene, 1-	E641A	0.010	µg/L	<0.010	1800 µg/L
methylnaphthalene, 2-	E641A	0.010	µg/L	0.011	1800 µg/L
naphthalene	E641A	0.050	µg/L	<0.050	1400 µg/L
phenanthrene	E641A	0.020	µg/L	<0.020	580 µg/L
pyrene	E641A	0.010	µg/L	<0.010	68 µg/L
chrysene-d12	E641A	0.1	%	117	
naphthalene-d8	E641A	0.1	%	95.5	
phenanthrene-d10	E641A	0.1	%	102	

Please refer to the General Comments section for an explanation of any qualifiers detected.

No Breaches Found

Key:

ON153/04 Ontario Regulation 153/04 - April 15, 2011 Standards (JUL, 2011)
 T3-NPGW-C-All T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)



Analytical Results

Analyte	Method	LOR	Client sample ID		Unit	ON153/04 T3-NPGW-C-AI
			Sub-Matrix: Water (Matrix: Water)	Sampling date/time		
				MW5 20-May-2022 10:15		
				WT2204232-005		
Dissolved Metals						
antimony, dissolved	E421	0.10		0.32	µg/L	20000 µg/L
arsenic, dissolved	E421	0.10		1.00	µg/L	1900 µg/L
barium, dissolved	E421	0.10		57.1	µg/L	29000 µg/L
beryllium, dissolved	E421	0.020		<0.020	µg/L	67 µg/L
boron, dissolved	E421	10		97	µg/L	45000 µg/L
cadmium, dissolved	E421	0.0050		0.0102	µg/L	2.7 µg/L
chromium, dissolved	E421	0.50		<0.50	µg/L	810 µg/L
cobalt, dissolved	E421	0.10		0.49	µg/L	66 µg/L
copper, dissolved	E421	0.20		0.93	µg/L	87 µg/L
lead, dissolved	E421	0.050		<0.050	µg/L	25 µg/L
mercury, dissolved	E509	0.0050		<0.0050	µg/L	0.29 µg/L
molybdenum, dissolved	E421	0.050		4.50	µg/L	9200 µg/L
nickel, dissolved	E421	0.50		1.15	µg/L	490 µg/L
selenium, dissolved	E421	0.050		0.605	µg/L	63 µg/L
silver, dissolved	E421	0.010		<0.010	µg/L	1.5 µg/L
sodium, dissolved	E421	50		99800	µg/L	2300000 µg/L
thallium, dissolved	E421	0.010		0.041	µg/L	510 µg/L
uranium, dissolved	E421	0.010		8.68	µg/L	420 µg/L
vanadium, dissolved	E421	0.50		1.15	µg/L	250 µg/L
zinc, dissolved	E421	1.0		2.9	µg/L	1100 µg/L
dissolved mercury filtration location	EP509			Field	-	
dissolved metals filtration location	EP421			Field	-	
Speciated Metals						
chromium, hexavalent [Cr VI], dissolved	E532A	0.50		<0.50	µg/L	
Volatile Organic Compounds						
acetone	E611D	20		<20	µg/L	130000 µg/L
benzene	E611D	0.50		<0.50	µg/L	44 µg/L
bromodichloromethane	E611D	0.50		<0.50	µg/L	85000 µg/L



Analyte	Method	LOR	Unit	WT2204232-005 (Continued)	ON153/04 T3-NPGW-C-AI
Volatile Organic Compounds - Continued					
bromoform	E611D	0.50	µg/L	<0.50	380 µg/L
bromomethane	E611D	0.50	µg/L	<0.50	5.6 µg/L
carbon tetrachloride	E611D	0.20	µg/L	<0.20	0.79 µg/L
chlorobenzene	E611D	0.50	µg/L	<0.50	630 µg/L
chloroform	E611D	0.50	µg/L	<0.50	2.4 µg/L
dibromochloromethane	E611D	0.50	µg/L	<0.50	82000 µg/L
dibromoethane, 1,2-	E611D	0.20	µg/L	<0.20	0.25 µg/L
dichlorobenzene, 1,2-	E611D	0.50	µg/L	<0.50	4600 µg/L
dichlorobenzene, 1,3-	E611D	0.50	µg/L	<0.50	9600 µg/L
dichlorobenzene, 1,4-	E611D	0.50	µg/L	<0.50	8 µg/L
dichlorodifluoromethane	E611D	0.50	µg/L	<0.50	4400 µg/L
dichloroethane, 1,1-	E611D	0.50	µg/L	<0.50	320 µg/L
dichloroethane, 1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, 1,1-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, cis-1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, trans-1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloromethane	E611D	1.0	µg/L	<1.0	610 µg/L
dichloropropane, 1,2-	E611D	0.50	µg/L	<0.50	16 µg/L
dichloropropylene, cis+trans-1,3-	E611D	0.50	µg/L	<0.50	5.2 µg/L
dichloropropylene, cis-1,3-	E611D	0.30	µg/L	<0.30	
dichloropropylene, trans-1,3-	E611D	0.30	µg/L	<0.30	
ethylbenzene	E611D	0.50	µg/L	<0.50	2300 µg/L
hexane, n-	E611D	0.50	µg/L	<0.50	51 µg/L
methyl ethyl ketone [MEK]	E611D	20	µg/L	<20	470000 µg/L
methyl isobutyl ketone [MIBK]	E611D	20	µg/L	<20	140000 µg/L
methyl-tert-butyl ether [MTBE]	E611D	0.50	µg/L	<0.50	190 µg/L
styrene	E611D	0.50	µg/L	<0.50	1300 µg/L
tetrachloroethane, 1,1,1,2-	E611D	0.50	µg/L	<0.50	3.3 µg/L
tetrachloroethane, 1,1,2,2-	E611D	0.50	µg/L	<0.50	3.2 µg/L
tetrachloroethylene	E611D	0.50	µg/L	<0.50	1.6 µg/L
toluene	E611D	0.50	µg/L	<0.50	18000 µg/L
trichloroethane, 1,1,1-	E611D	0.50	µg/L	<0.50	640 µg/L
trichloroethane, 1,1,2-	E611D	0.50	µg/L	<0.50	4.7 µg/L



Analyte	Method	LOR	Unit	WT2204232-005 (Continued)	ON153/04 T3-NPGW-C-AI
Volatile Organic Compounds - Continued					
trichloroethylene	E611D	0.50	µg/L	<0.50	1.6 µg/L
trichlorofluoromethane	E611D	0.50	µg/L	<0.50	2500 µg/L
vinyl chloride	E611D	0.50	µg/L	<0.50	0.5 µg/L
xylene, m+p-	E611D	0.40	µg/L	<0.40	
xylene, o-	E611D	0.30	µg/L	<0.30	
xylenes, total	E611D	0.50	µg/L	<0.50	4200 µg/L
BTEX, total	E611D	1.0	µg/L	<1.0	
bromofluorobenzene, 4-	E611D	1.0	%	79.7	
difluorobenzene, 1,4-	E611D	1.0	%	98.1	
Hydrocarbons					
F1 (C6-C10)	E581.F1-L	25	µg/L	<25	750 µg/L
F2 (C10-C16)	E601.SG	100	µg/L	<100	150 µg/L
F2-naphthalene	EC600SG	100	µg/L	<100	
F3 (C16-C34)	E601.SG	250	µg/L	<250	500 µg/L
F3-PAH	EC600SG	250	µg/L	<250	
F4 (C34-C50)	E601.SG	250	µg/L	<250	500 µg/L
F1-BTEX	EC580	25	µg/L	<25	750 µg/L
hydrocarbons, total (C6-C50)	EC581SG	240	µg/L	<370	
chromatogram to baseline at nC50	E601.SG		-	YES	
bromobenzotrifluoride, 2-(F2-F4 surr)	E601.SG	1.0	%	79.8	
dichlorotoluene, 3,4-	E581.F1-L	1.0	%	77.8	
Polycyclic Aromatic Hydrocarbons					
acenaphthene	E641A	0.010	µg/L	<0.019 DLQ	600 µg/L
acenaphthylene	E641A	0.010	µg/L	<0.010	1.8 µg/L
anthracene	E641A	0.010	µg/L	<0.010	2.4 µg/L
benz(a)anthracene	E641A	0.010	µg/L	0.014	4.7 µg/L
benzo(a)pyrene	E641A	0.0050	µg/L	0.0130	0.81 µg/L
benzo(b+)]fluoranthene	E641A	0.010	µg/L	0.020	0.75 µg/L
benzo(g,h,i)perylene	E641A	0.010	µg/L	0.011	0.2 µg/L
benzo(k)fluoranthene	E641A	0.010	µg/L	0.011	0.4 µg/L
chrysene	E641A	0.010	µg/L	0.017	1 µg/L
dibenz(a,h)anthracene	E641A	0.0050	µg/L	<0.0050	0.52 µg/L



Analyte	Method	LOR	Unit	WT2204232-005 (Continued)	ON153/04 T3-NPGW-C-All			
Polycyclic Aromatic Hydrocarbons - Continued								
fluoranthene	E641A	0.010	µg/L	0.044	130 µg/L			
fluorene	E641A	0.010	µg/L	<0.010	400 µg/L			
indeno(1,2,3-c,d)pyrene	E641A	0.010	µg/L	0.012	0.2 µg/L			
methylanthralene, 1+2-	E641A	0.015	µg/L	<0.015	1800 µg/L			
methylanthralene, 1-	E641A	0.010	µg/L	<0.010	1800 µg/L			
methylanthralene, 2-	E641A	0.010	µg/L	0.012	1800 µg/L			
naphthalene	E641A	0.050	µg/L	<0.050	1400 µg/L			
phenanthrene	E641A	0.020	µg/L	0.031	580 µg/L			
pyrene	E641A	0.010	µg/L	0.033	68 µg/L			
chrysene-d12	E641A	0.1	%	113				
naphthalene-d8	E641A	0.1	%	95.7				
phenanthrene-d10	E641A	0.1	%	103				

Please refer to the General Comments section for an explanation of any qualifiers detected.

No Breaches Found

Key:

ON153/04 Ontario Regulation 153/04 - April 15, 2011 Standards (JUL, 2011)
 T3-NPGW-C-All T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)



Analytical Results

Analyte	Method	LOR	Unit	Client sample ID		ON153/04 T3-NPGW-C-AI
				Sub-Matrix: Water (Matrix: Water)	Sampling date/time	
				MW6	20-May-2022 12:00	
				WT2204232-006		
Dissolved Metals						
antimony, dissolved	E421	0.10	µg/L	0.44		20000 µg/L
arsenic, dissolved	E421	0.10	µg/L	1.11		1900 µg/L
barium, dissolved	E421	0.10	µg/L	85.4		29000 µg/L
beryllium, dissolved	E421	0.020	µg/L	<0.020		67 µg/L
boron, dissolved	E421	10	µg/L	88		45000 µg/L
cadmium, dissolved	E421	0.0050	µg/L	0.0066		2.7 µg/L
chromium, dissolved	E421	0.50	µg/L	<0.50		810 µg/L
cobalt, dissolved	E421	0.10	µg/L	0.46		66 µg/L
copper, dissolved	E421	0.20	µg/L	1.53		87 µg/L
lead, dissolved	E421	0.050	µg/L	<0.050		25 µg/L
mercury, dissolved	E509	0.0050	µg/L	<0.0050		0.29 µg/L
molybdenum, dissolved	E421	0.050	µg/L	8.15		9200 µg/L
nickel, dissolved	E421	0.50	µg/L	1.00		490 µg/L
selenium, dissolved	E421	0.050	µg/L	0.727		63 µg/L
silver, dissolved	E421	0.010	µg/L	<0.010		1.5 µg/L
sodium, dissolved	E421	50	µg/L	109000		2300000 µg/L
thallium, dissolved	E421	0.010	µg/L	0.047		510 µg/L
uranium, dissolved	E421	0.010	µg/L	8.16		420 µg/L
vanadium, dissolved	E421	0.50	µg/L	1.21		250 µg/L
zinc, dissolved	E421	1.0	µg/L	4.7		1100 µg/L
dissolved mercury filtration location	EP509		-	Field		
dissolved metals filtration location	EP421		-	Field		
Speciated Metals						
chromium, hexavalent [Cr VI], dissolved	E532A	0.50	µg/L	<0.50		
Volatile Organic Compounds						
acetone	E611D	20	µg/L	<20		130000 µg/L
benzene	E611D	0.50	µg/L	<0.50		44 µg/L
bromodichloromethane	E611D	0.50	µg/L	<0.50		85000 µg/L



Analyte	Method	LOR	Unit	WT2204232-006 (Continued)	ON153/04 T3-NPGW-C-AI
Volatile Organic Compounds - Continued					
bromoform	E611D	0.50	µg/L	<0.50	380 µg/L
bromomethane	E611D	0.50	µg/L	<0.50	5.6 µg/L
carbon tetrachloride	E611D	0.20	µg/L	<0.20	0.79 µg/L
chlorobenzene	E611D	0.50	µg/L	<0.50	630 µg/L
chloroform	E611D	0.50	µg/L	<0.50	2.4 µg/L
dibromochloromethane	E611D	0.50	µg/L	<0.50	82000 µg/L
dibromoethane, 1,2-	E611D	0.20	µg/L	<0.20	0.25 µg/L
dichlorobenzene, 1,2-	E611D	0.50	µg/L	<0.50	4600 µg/L
dichlorobenzene, 1,3-	E611D	0.50	µg/L	<0.50	9600 µg/L
dichlorobenzene, 1,4-	E611D	0.50	µg/L	<0.50	8 µg/L
dichlorodifluoromethane	E611D	0.50	µg/L	<0.50	4400 µg/L
dichloroethane, 1,1-	E611D	0.50	µg/L	<0.50	320 µg/L
dichloroethane, 1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, 1,1-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, cis-1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, trans-1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloromethane	E611D	1.0	µg/L	<1.0	610 µg/L
dichloropropane, 1,2-	E611D	0.50	µg/L	<0.50	16 µg/L
dichloropropylene, cis+trans-1,3-	E611D	0.50	µg/L	<0.50	5.2 µg/L
dichloropropylene, cis-1,3-	E611D	0.30	µg/L	<0.30	
dichloropropylene, trans-1,3-	E611D	0.30	µg/L	<0.30	
ethylbenzene	E611D	0.50	µg/L	<0.50	2300 µg/L
hexane, n-	E611D	0.50	µg/L	<0.50	51 µg/L
methyl ethyl ketone [MEK]	E611D	20	µg/L	<20	470000 µg/L
methyl isobutyl ketone [MIBK]	E611D	20	µg/L	<20	140000 µg/L
methyl-tert-butyl ether [MTBE]	E611D	0.50	µg/L	<0.50	190 µg/L
styrene	E611D	0.50	µg/L	<0.50	1300 µg/L
tetrachloroethane, 1,1,1,2-	E611D	0.50	µg/L	<0.50	3.3 µg/L
tetrachloroethane, 1,1,2,2-	E611D	0.50	µg/L	<0.50	3.2 µg/L
tetrachloroethylene	E611D	0.50	µg/L	<0.50	1.6 µg/L
toluene	E611D	0.50	µg/L	<0.50	18000 µg/L
trichloroethane, 1,1,1-	E611D	0.50	µg/L	<0.50	640 µg/L
trichloroethane, 1,1,2-	E611D	0.50	µg/L	<0.50	4.7 µg/L



Analyte	Method	LOR	Unit	WT2204232-006 (Continued)	ON153/04 T3-NPGW-C-AI
Volatile Organic Compounds - Continued					
trichloroethylene	E611D	0.50	µg/L	<0.50	1.6 µg/L
trichlorofluoromethane	E611D	0.50	µg/L	<0.50	2500 µg/L
vinyl chloride	E611D	0.50	µg/L	<0.50	0.5 µg/L
xylene, m+p-	E611D	0.40	µg/L	<0.40	
xylene, o-	E611D	0.30	µg/L	<0.30	
xylenes, total	E611D	0.50	µg/L	<0.50	4200 µg/L
BTEX, total	E611D	1.0	µg/L	<1.0	
bromofluorobenzene, 4-	E611D	1.0	%	80.6	
difluorobenzene, 1,4-	E611D	1.0	%	98.0	
Hydrocarbons					
F1 (C6-C10)	E581.F1-L	25	µg/L	<25	750 µg/L
F2 (C10-C16)	E601.SG	100	µg/L	<100	150 µg/L
F2-naphthalene	EC600SG	100	µg/L	<100	
F3 (C16-C34)	E601.SG	250	µg/L	<250	500 µg/L
F3-PAH	EC600SG	250	µg/L	<250	
F4 (C34-C50)	E601.SG	250	µg/L	<250	500 µg/L
F1-BTEX	EC580	25	µg/L	<25	750 µg/L
hydrocarbons, total (C6-C50)	EC581SG	240	µg/L	<370	
chromatogram to baseline at nC50	E601.SG		-	YES	
bromobenzotrifluoride, 2-(F2-F4 surr)	E601.SG	1.0	%	82.7	
dichlorotoluene, 3,4-	E581.F1-L	1.0	%	80.3	
Polycyclic Aromatic Hydrocarbons					
acenaphthene	E641A	0.010	µg/L	<0.053 DLQ	600 µg/L
acenaphthylene	E641A	0.010	µg/L	<0.010	1.8 µg/L
anthracene	E641A	0.010	µg/L	<0.010	2.4 µg/L
benz(a)anthracene	E641A	0.010	µg/L	<0.010	4.7 µg/L
benzo(a)pyrene	E641A	0.0050	µg/L	<0.0050	0.81 µg/L
benzo(b+)]fluoranthene	E641A	0.010	µg/L	<0.010	0.75 µg/L
benzo(g,h,i)perylene	E641A	0.010	µg/L	<0.010	0.2 µg/L
benzo(k)fluoranthene	E641A	0.010	µg/L	<0.010	0.4 µg/L
chrysene	E641A	0.010	µg/L	<0.010	1 µg/L
dibenz(a,h)anthracene	E641A	0.0050	µg/L	<0.0050	0.52 µg/L



Analyte	Method	LOR	Unit	WT2204232-006 (Continued)	ON153/04 T3-NPGW-C-AI
Polycyclic Aromatic Hydrocarbons - Continued					
fluoranthene	E641A	0.010	µg/L	<0.010	130 µg/L
fluorene	E641A	0.010	µg/L	<0.010	400 µg/L
indeno(1,2,3-c,d)pyrene	E641A	0.010	µg/L	<0.010	0.2 µg/L
methylanthralene, 1+2-	E641A	0.015	µg/L	<0.015	1800 µg/L
methylanthralene, 1-	E641A	0.010	µg/L	<0.010	1800 µg/L
methylanthralene, 2-	E641A	0.010	µg/L	0.010	1800 µg/L
naphthalene	E641A	0.050	µg/L	<0.050	1400 µg/L
phenanthrene	E641A	0.020	µg/L	<0.020	580 µg/L
pyrene	E641A	0.010	µg/L	<0.010	68 µg/L
chrysene-d12	E641A	0.1	%	113	
naphthalene-d8	E641A	0.1	%	95.8	
phenanthrene-d10	E641A	0.1	%	102	

Please refer to the General Comments section for an explanation of any qualifiers detected.

No Breaches Found

Key:

ON153/04 Ontario Regulation 153/04 - April 15, 2011 Standards (JUL, 2011)
 T3-NPGW-C-All T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)



Analytical Results

Analyte	Method	LOR	Unit	Client sample ID		ON153/04 T3-NPGW-C-AI
				MS-001	Sampling date/time	
Sub-Matrix: Water (Matrix: Water)						
MS-001 20-May-2022 12:00						
WT2204232-007						
Dissolved Metals						
antimony, dissolved	E421	0.10	µg/L	0.26		20000 µg/L
arsenic, dissolved	E421	0.10	µg/L	1.04		1900 µg/L
barium, dissolved	E421	0.10	µg/L	116		29000 µg/L
beryllium, dissolved	E421	0.020	µg/L	<0.020		67 µg/L
boron, dissolved	E421	10	µg/L	54		45000 µg/L
cadmium, dissolved	E421	0.0050	µg/L	0.0094		2.7 µg/L
chromium, dissolved	E421	0.50	µg/L	<0.50		810 µg/L
cobalt, dissolved	E421	0.10	µg/L	0.56		66 µg/L
copper, dissolved	E421	0.20	µg/L	0.86		87 µg/L
lead, dissolved	E421	0.050	µg/L	0.052		25 µg/L
mercury, dissolved	E509	0.0050	µg/L	<0.0050		0.29 µg/L
molybdenum, dissolved	E421	0.050	µg/L	4.81		9200 µg/L
nickel, dissolved	E421	0.50	µg/L	6.28		490 µg/L
selenium, dissolved	E421	0.050	µg/L	0.339		63 µg/L
silver, dissolved	E421	0.010	µg/L	<0.010		1.5 µg/L
sodium, dissolved	E421	50	µg/L	102000		2300000 µg/L
thallium, dissolved	E421	0.010	µg/L	0.029		510 µg/L
uranium, dissolved	E421	0.010	µg/L	4.50		420 µg/L
vanadium, dissolved	E421	0.50	µg/L	1.04		250 µg/L
zinc, dissolved	E421	1.0	µg/L	<1.0		1100 µg/L
dissolved mercury filtration location	EP509		-	Field		
dissolved metals filtration location	EP421		-	Field		
Speciated Metals						
chromium, hexavalent [Cr VI], dissolved	E532A	0.50	µg/L	<0.50		
Volatile Organic Compounds						
acetone	E611D	20	µg/L	<20		130000 µg/L
benzene	E611D	0.50	µg/L	<0.50		44 µg/L
bromodichloromethane	E611D	0.50	µg/L	<0.50		85000 µg/L



Analyte	Method	LOR	Unit	WT2204232-007 (Continued)	ON153/04 T3-NPGW-C-AI
Volatile Organic Compounds - Continued					
bromoform	E611D	0.50	µg/L	<0.50	380 µg/L
bromomethane	E611D	0.50	µg/L	<0.50	5.6 µg/L
carbon tetrachloride	E611D	0.20	µg/L	<0.20	0.79 µg/L
chlorobenzene	E611D	0.50	µg/L	<0.50	630 µg/L
chloroform	E611D	0.50	µg/L	<0.50	2.4 µg/L
dibromochloromethane	E611D	0.50	µg/L	<0.50	82000 µg/L
dibromoethane, 1,2-	E611D	0.20	µg/L	<0.20	0.25 µg/L
dichlorobenzene, 1,2-	E611D	0.50	µg/L	<0.50	4600 µg/L
dichlorobenzene, 1,3-	E611D	0.50	µg/L	<0.50	9600 µg/L
dichlorobenzene, 1,4-	E611D	0.50	µg/L	<0.50	8 µg/L
dichlorodifluoromethane	E611D	0.50	µg/L	<0.50	4400 µg/L
dichloroethane, 1,1-	E611D	0.50	µg/L	<0.50	320 µg/L
dichloroethane, 1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, 1,1-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, cis-1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloroethylene, trans-1,2-	E611D	0.50	µg/L	<0.50	1.6 µg/L
dichloromethane	E611D	1.0	µg/L	<1.0	610 µg/L
dichloropropane, 1,2-	E611D	0.50	µg/L	<0.50	16 µg/L
dichloropropylene, cis+trans-1,3-	E611D	0.50	µg/L	<0.50	5.2 µg/L
dichloropropylene, cis-1,3-	E611D	0.30	µg/L	<0.30	
dichloropropylene, trans-1,3-	E611D	0.30	µg/L	<0.30	
ethylbenzene	E611D	0.50	µg/L	<0.50	2300 µg/L
hexane, n-	E611D	0.50	µg/L	<0.50	51 µg/L
methyl ethyl ketone [MEK]	E611D	20	µg/L	<20	470000 µg/L
methyl isobutyl ketone [MIBK]	E611D	20	µg/L	<20	140000 µg/L
methyl-tert-butyl ether [MTBE]	E611D	0.50	µg/L	<0.50	190 µg/L
styrene	E611D	0.50	µg/L	<0.50	1300 µg/L
tetrachloroethane, 1,1,1,2-	E611D	0.50	µg/L	<0.50	3.3 µg/L
tetrachloroethane, 1,1,2,2-	E611D	0.50	µg/L	<0.50	3.2 µg/L
tetrachloroethylene	E611D	0.50	µg/L	<0.50	1.6 µg/L
toluene	E611D	0.50	µg/L	<0.50	18000 µg/L
trichloroethane, 1,1,1-	E611D	0.50	µg/L	<0.50	640 µg/L
trichloroethane, 1,1,2-	E611D	0.50	µg/L	<0.50	4.7 µg/L



Analyte	Method	LOR	Unit	WT2204232-007 (Continued)	ON153/04 T3-NPGW-C-AI
Volatile Organic Compounds - Continued					
trichloroethylene	E611D	0.50	µg/L	<0.50	1.6 µg/L
trichlorofluoromethane	E611D	0.50	µg/L	<0.50	2500 µg/L
vinyl chloride	E611D	0.50	µg/L	<0.50	0.5 µg/L
xylene, m+p-	E611D	0.40	µg/L	<0.40	
xylene, o-	E611D	0.30	µg/L	<0.30	
xylenes, total	E611D	0.50	µg/L	<0.50	4200 µg/L
BTEX, total	E611D	1.0	µg/L	<1.0	
bromofluorobenzene, 4-	E611D	1.0	%	80.2	
difluorobenzene, 1,4-	E611D	1.0	%	98.1	
Hydrocarbons					
F1 (C6-C10)	E581.F1-L	25	µg/L	<25	750 µg/L
F2 (C10-C16)	E601.SG	100	µg/L	<100	150 µg/L
F2-naphthalene	EC600SG	100	µg/L	<100	
F3 (C16-C34)	E601.SG	250	µg/L	<250	500 µg/L
F3-PAH	EC600SG	250	µg/L	<250	
F4 (C34-C50)	E601.SG	250	µg/L	<250	500 µg/L
F1-BTEX	EC580	25	µg/L	<25	750 µg/L
hydrocarbons, total (C6-C50)	EC581SG	240	µg/L	<370	
chromatogram to baseline at nC50	E601.SG		-	YES	
bromobenzotrifluoride, 2-(F2-F4 surr)	E601.SG	1.0	%	81.6	
dichlorotoluene, 3,4-	E581.F1-L	1.0	%	83.1	
Polycyclic Aromatic Hydrocarbons					
acenaphthene	E641A	0.010	µg/L	<0.010	600 µg/L
acenaphthylene	E641A	0.010	µg/L	<0.010	1.8 µg/L
anthracene	E641A	0.010	µg/L	<0.010	2.4 µg/L
benz(a)anthracene	E641A	0.010	µg/L	<0.010	4.7 µg/L
benzo(a)pyrene	E641A	0.0050	µg/L	<0.0050	0.81 µg/L
benzo(b+)]fluoranthene	E641A	0.010	µg/L	<0.010	0.75 µg/L
benzo(g,h,i)perylene	E641A	0.010	µg/L	<0.010	0.2 µg/L
benzo(k)fluoranthene	E641A	0.010	µg/L	<0.010	0.4 µg/L
chrysene	E641A	0.010	µg/L	<0.010	1 µg/L
dibenz(a,h)anthracene	E641A	0.0050	µg/L	<0.0050	0.52 µg/L



Analyte	Method	LOR	Unit	WT2204232-007 (Continued)	ON153/04 T3-NPGW-C-AI			
Polycyclic Aromatic Hydrocarbons - Continued								
fluoranthene	E641A	0.010	µg/L	<0.010	130 µg/L			
fluorene	E641A	0.010	µg/L	<0.010	400 µg/L			
indeno(1,2,3-c,d)pyrene	E641A	0.010	µg/L	<0.010	0.2 µg/L			
methylanthralene, 1+2-	E641A	0.015	µg/L	<0.015	1800 µg/L			
methylnaphthalene, 1-	E641A	0.010	µg/L	<0.010	1800 µg/L			
methylnaphthalene, 2-	E641A	0.010	µg/L	<0.010	1800 µg/L			
naphthalene	E641A	0.050	µg/L	<0.050	1400 µg/L			
phenanthrene	E641A	0.020	µg/L	<0.020	580 µg/L			
pyrene	E641A	0.010	µg/L	<0.010	68 µg/L			
chrysene-d12	E641A	0.1	%	120				
naphthalene-d8	E641A	0.1	%	101				
phenanthrene-d10	E641A	0.1	%	108				

Please refer to the General Comments section for an explanation of any qualifiers detected.

No Breaches Found

Key:

ON153/04

Ontario Regulation 153/04 - April 15, 2011 Standards (JUL, 2011)

T3-NPGW-C-All

T3-Non-Potable Ground Water-All Types of Property Uses (Coarse)