Phase Two Environmental Site Assessment

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Corporation of the City of Guelph

14 Edinburgh Road South, Guelph, Ontario
July 29, 2026



Phase Two Environmental Site Assessment

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Acronyms and Abbreviations

Acronym	Description
µg/g	microgram(s) per gram
µg/L	microgram(s) per litre
Aardvark	Aardvark Drilling Inc.
ABN	acid/base/neutral compound
ALS	ALS Canada Limited
APEC	area of potential environmental concern
BTEX	benzene, toluene, ethylbenzene, xylenes
COA	Certificate of Analysis
cis-1,2-DCE	cis-1,2-dichloroethene
City	City of Guelph
cm	centimetre(s)
COC	contaminant of concern
COPC	contaminant of potential concern
CSM	conceptual site model
CVD	Chung & Vander Doelen Engineering Ltd.
DCE	dichloroethylene
DED	Direct Environmental Drilling Inc.
DNAPL	dense nonaqueous phase liquid
DO	dissolved oxygen
EC	electrical conductivity
ESA	environmental site assessment
F	fraction

Acronym	Description
Jacobs	Jacobs Consultancy Canada Inc.
L	litre(s)
m	metre(s)
m/m	metre(s) per metre
masl	metre(s) above sea level
mbgs	metre(s) below ground surface
MECP	Ontario Ministry of the Environment, Conservation and Parks
mg/L	milligram(s) per litre
mm	millimetre(s)
NAPL	nonaqueous phase liquid
O. Reg.	Ontario Regulation
ORP	other regulated parameter
PAH	polycyclic aromatic hydrocarbons
PCA	potentially contaminating activity
Phase Two Property (or Site)	14 Edinburgh Road South, Guelph, Ontario
PHC	petroleum hydrocarbon
PID	photoionization detector
ppm	part(s) per million
PVC	polyvinyl chloride
QA	quality assurance
QC	quality control
QPESA	Qualified Person for Environmental Site Assessment
RA	risk assessment

Acronym	Description
RSC	Record of Site Condition
SAP	sampling and analysis plan
SAR	sodium adsorption ratio
SCS	site condition standard
Site (or Phase Two Property)	14 Edinburgh Road South, Guelph, Ontario
SOP	standard operating procedure
Table 2 SCS	Table 2 Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for coarse grained soil and residential/parkland/institutional land use
TCE	trichloroethylene
VOC	volatile organic compound

1. Executive Summary

The Corporation of the City of Guelph (City) retained Jacobs Consultancy Canada Inc. (Jacobs) to provide environmental services for the property located at 14 Edinburgh Road South in Guelph, Ontario (Phase Two Property or Site). Jacobs understands the current plan is to redevelop the Site for an affordable housing project.

The Site is located at the northeastern corner of the junction of Edinburgh Road South and Preston Street in Guelph, Ontario. The Site is approximately 0.45 acre in size. It consists of Lots 43, 44, and 45 (Registered Plan 27 of Guelph), is owned by the City, and most recently operated as a community pottery studio (Guelph Community Pottery Centre) between 2017 and 2025.

This Phase Two Environmental Site Assessment (ESA) is provided to support the potential future redevelopment of the Phase Two Property, which includes filing a Record of Site Condition for the Site, as required by Ontario Regulation (O. Reg.) 153/04.

Jacobs developed the field program for the Phase Two ESA based on the results of the Phase One ESA, to address areas of potential environmental concern (APECs) and to provide general spatial coverage across the Site. Project field components included utility locates, drilling and monitoring well installation, soil and groundwater sampling, surveying, and water level elevation measurements. Jacobs and its subcontractors completed these field components, which are documented in this report.

This report was completed to summarize Phase Two investigations conducted at the Site and to complete the following tasks:

- Meet current O. Reg. 153/04 (MECP 2011a) regulatory requirements to support Record of Site Condition filing.
- Investigate or further investigate APECs identified during the Phase One ESA (Jacobs 2025).
- Provide data to support a potential risk assessment (RA).

To assess the subsurface conditions, Jacobs examined the lithologies recorded from eight investigative locations (that is, boreholes and monitoring wells) advanced as part of the current Phase Two ESA activities. Geological conditions, as characterized from the dataset at the Phase Two Property, include the following:

- Fill materials (mainly sand, sandy silt, and trace gravel) to a maximum depth of 4.57 metres below ground surface (mbgs), with an average thickness of 2.4 metres (m).
  - At one location in the southeastern corner of the Site (MW105D), a seam of saturated gravel approximately 0.7 m thick was identified at 8.2 mbgs.
  - A layer of gravel was encountered in the northwestern area of the Site at MW102, between approximately 1.7 and 2.3 mbgs.
- Bedrock at the Site is Guelph Formation dolostone. Depth to the overburden/bedrock contact ranged from 9.14 to 10.97 mbgs, with an average depth at 10.03 mbgs. The top of bedrock is described as being weathered.

Local groundwater is expected to flow southward toward the Speed River. The Site-specific groundwater was interpreted to flow east. The higher groundwater elevations at the Site appear to be correlated with slightly higher bedrock elevation. The full extent of the perched groundwater is currently not fully understood.

Considering the available information, Jacobs selected the Table 2 Site Condition Standards (SCS), as outlined in the Ontario Ministry of the Environment, Conservation and Parks' (MECP) *Soil, Groundwater, and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act*, adopted under Ontario Regulation 153/04 (MECP 2011c) for a potable groundwater, residential/parkland/institutional property use for coarse-textured soil to apply to the Site.

The Phase Two Property was found to have limited localized impacts with salt-related parameters (electrical conductivity [EC] and sodium adsorption ratio [SAR] in soil; sodium and chloride in groundwater). The presence of elevated EC and SAR in soil and sodium and chloride in groundwater is related to the application of de-icing materials on the parking lot surfaces. Section 49.1 of O. Reg. 153/104 states the SCS is deemed not to be exceeded for the purpose of Part XV.1 of the *Environmental Protection Act* when a substance that has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice, or both, exceeds the SCS. Therefore, the Qualified Person for Environmental Site Assessment has determined, based on the on the exemptions in Section 49.1 of O. Reg. 153/04, these parameters are not considered contaminants of concern at the Phase Two Property.

Groundwater exceedances of the Table 2 SCS were limited to cobalt at two overburden locations (MW103 and MW104) and select volatile organic compounds (VOCs) within the bedrock aquifer.

Metals exceedances in groundwater were limited to cobalt within the perched groundwater. Exceedances occurred in two wells (MW103 and MW104) within the perched groundwater, in the northern and western portions of the Site, with the maximum concentration found at MW104 (screened at 0.61 to 2.13 mbgs). The cobalt exceedances at these locations were not shown to extend vertically to MW103D (screened in the bedrock at 15.2 to 18.3 mbgs) or MW104D (screened in the bedrock at 13.7 to 16.8 mbgs). MW103 is downgradient of MW104; MW103 has slightly lower concentrations of cobalt, suggesting MW104 is closer to the source. Cobalt impacts may be related to offsite and upgradient potentially contaminating activities (PCAs) or other unknown sources

VOC exceedances in groundwater were limited to trichloroethylene (TCE) and cis-1,2-dichloroethene (cis-1,2-DCE) within the bedrock aquifer. TCE exceedances occurred in all bedrock wells (MW101, MW103D, MW104D, MW105D, and MW106D) located across the Site, and cis-1,2-DCE exceedances were reported in two bedrock wells (MW103D and MW104D) located in the northern and western portions of the Site, respectively. Maximum TCE and cis-1,2-DCE concentrations were reported at MW104D along the western property boundary. Neither soil nor shallow groundwater conditions onsite exhibited elevated VOC concentrations, and based on groundwater flowing toward the east, the concentrations present in bedrock groundwater suggest an alternate source or sources. VOC-impacted groundwater may originate or be amplified by the presence of offsite sources. Although onsite APECs associated with potential historical use or VOCs have been identified (that is, APEC-01: Former Auto Repair Services), the impacts in the deep groundwater are believed to originate from offsite sources.

Following extensive sampling over the Phase Two Property, it has been concluded that the horizontal and vertical extents of soil and groundwater impacts have been sufficiently defined for Phase Two purposes, as well as to support the RA and evaluation of risk management measures.

Concentrations of contaminants in groundwater at the Phase Two Property did not meet the applicable standards, according to the results of the Phase Two ESA, and remediation or development of property-specific standards under the completion of an RA for the Phase Two Property is warranted.

2. Introduction

The Corporation of the City of Guelph (City) retained Jacobs Consultancy Canada Inc. (Jacobs) to provide environmental services for the property located at 14 Edinburgh Road South in Guelph, Ontario (Phase Two Property or Site) (Figure 2-1).

The 0.45-acre Site is located at the northeastern corner of the junction of Edinburgh Road South and Preston Street in Guelph, Ontario (Figure 2-1). The Site consists of Lots 43, 44, and 45 (Registered Plan 27 of Guelph) and is owned by the City. It most recently operated as a community pottery studio (Guelph Community Pottery Centre) between 2017 and 2025. Before this, the Site was used for various commercial operations, including a vintage clothing store, an antique shop, and a commercial autobody shop (Jacobs 2025).

This Phase Two ESA is provided to support the potential future redevelopment of the Phase Two Property, which includes filing a Record of Site Condition (RSC) for the Site, as required by Ontario Regulation (O. Reg.) 153/04 (MECP 2011a).

The Site underwent subsurface environmental investigations between 2025 and 2026. The objectives of the Phase Two Environmental Site Assessment (ESA) are to achieve the following:

- Meet current O. Reg. 153/04 (MECP 2011a) regulatory requirements to support RSC filing.
- Investigate areas of potential environmental concern (APECs) identified during the Phase One ESA (Jacobs 2025).
- Provide data to support a potential risk assessment (RA).

2.1 Site Description

The Phase Two Property is approximately 0.45 acre and is surrounded by a mix of residential, commercial, and industrial land uses. The Site is east of Edinburgh Road South, north of Preston Street, west of Yorkshire Street South, and south of Canadian National Railway rail lines.

Exhibit 2-1 identifies the municipal address, property identifier number, and legal description of the Phase Two Property.

Exhibit 2-1. Property Information

Municipal Address	Property ID Number	Legal Description
14 Edinburgh Road South, Guelph, Ontario	71281-0029(LT)	Lots 43, 44 & 45, Registered Plan 27; City of Guelph

Note:

Previous addresses associated with the Site have included 2, 4, 4a and 14 Edinburgh Road South.

ID = identification

Appendix A includes the Plan of Survey for the Site.

2.2 Property Ownership

The City currently owns the Phase Two Property; Exhibit 2-2 presents contact information for the owner.

Exhibit 2-2. Contact Information for Owner of Phase Two Property

Agency	Role	Contact Information
City of Guelph	Owner Representative	Cushla Matthews, PhD, MCIP, RPP Development Advisor Planning and Building Services, Infrastructure Development and Environmental Ph: 519.822.1260 ext. 3982 Email: Cushla.Matthews@guelph.ca

2.3 Current and Proposed Future Uses

The Phase One ESA (Jacobs 2025) provides current and historical information about the Phase Two Property. The Site most recently operated as a community pottery centre between 2017 and 2025. Jacobs understands the current plan is to potentially redevelop the Site as an affordable housing demonstration project. The current and proposed building footprints are shown on Figures 2-2a and 2-2b, respectively.

According to Section 168.3.1 of the *Environmental Protection Act* (MECP 1990a), an RSC is required because the land use will be changed from commercial to land use that includes more sensitive uses (that is, residential).

2.4 Applicable Site Condition Standards

O. Reg. 153/04 (MECP 2011a), under Part XV.1 of the *Environmental Protection Act*, addresses the assessment, cleanup, and RSC filing for brownfield sites in Ontario and applies to the Phase Two Property. Jacobs evaluated the Site based on several criteria to decide which of the generic standards in the Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act* (MECP 2011b) applied to compare soil and groundwater results from the Phase Two ESA investigation.

The items in Exhibit 2-3 were considered during the standards selection, as outlined in O. Reg. 153/04 (MECP 2011a).

Exhibit 2-3. Items Considered for Site Condition Standards Selection

Condition	Evaluation
Land use	The current land use is commercial. The proposed future land use is residential.
Potable or nonpotable groundwater	The Site and adjacent properties within 250 m are serviced by a municipal water source. However, as the City relies on groundwater for its water supply (City n.d.), the potable groundwater condition will be applied.
Proximity to surface water body	No waterbodies are located on the Site. The Speed River is the nearest downgradient waterbody, and it is located approximately 550 m southeast of the Site.
Proximity to areas of natural significance or environmentally sensitive areas	The Site is not considered an area of natural significance, nor is it considered to be in proximity to an area of natural significance, based on the information reviewed as part of the Phase One ESA (Jacobs 2025).

Condition	Evaluation
Depth to bedrock	A property is considered a shallow soil property if one-third or more of the area consists of soil depths of 2 mbgs or less, excluding nonsoil surface treatment (that is, asphalt, concrete, or aggregate) (MECP 2011a). The depth to bedrock is greater than 2 m, as bedrock was encountered between 9.14 and 10.97 mbgs.
pH of soil	Soil pH was within MECP's acceptable range for samples collected in both surface soil (from between surface and 1.5 mbgs, with a pH value in surface soil greater than 5 and less than 9) and subsurface soil (more than 1.5 mbgs with a pH value in subsurface soil greater than 5 and less than 11).
Soil texture	The soil condition standards for coarse-grained soils were used, based on the grain-size analysis (one sample suggested the soil is fine, the other sample suggested the soil is coarse), to be conservative and to account for the presence of heterogeneous fill materials across the surface of the Site.

Notes:

m = metre(s)
mbgs = metre(s) below ground surface
MECP = Ontario Ministry of the Environment, Conservation and Parks
SCS = Site Condition Standard

In accordance with this information, which has been reviewed by the Qualified Person for ESA (QPESA), the *Table 2 Full Depth Generic Site Condition Standards in a Potable Ground Water Condition for coarse grained soil and residential/parkland/institutional land use* (Table 2 SCS), as outlined in MECP's *Soil, Groundwater, and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act* adopted under O. Reg. 153/04 (MECP 2011b) was applied to the Site.

3. Background Information

3.1 Physical Setting

The topography over the Phase Two Property is slightly sloped, with ground surface elevations ranging from 328.25 metres above sea level (masl) (MW101) at the southern portion of the Site (on the northwestern side of the building) to 330.23 masl (MW103D) in the northern portion of the Site. The Site slopes from the northeastern portion of the Site toward the southwest and the intersection of Edinburgh Road South and Preston Street. Surface runoff at the Phase Two Property is expected to flow southwest and is directed toward offsite catch basins within the roadways. Figure 3-1 shows the regional topography and surface water drainage features.

The Phase Two Property is not within 30 metres (m) of a water body. The Speed River is the nearest downgradient waterbody, approximately 550 m southeast of the Site, and ground surface tends to slope southeast toward the river. Groundwater from the region is likely to eventually discharge to Speed River. The information reviewed as part of the Phase One ESA (Jacobs 2025) suggests the Site is not part of an area of natural significance or to be in proximity to an area of natural significance.

The City categorizes regions of Guelph within Wellhead Protection Areas (MECP 2024). The Site is within Wellhead Protection Area B (2-year travel time) for several of the City's municipal water supply wells. The nearest municipal groundwater supply wells to the Site include the Membro, Edinburgh, and Water Street wells, located approximately 0.9 to 1.0 kilometre south (downgradient) of the Site, past the Speed River.

The municipal groundwater resource is drawn primarily from the Gasport Formation. A lower-permeability Reformatory Member and Vinemount Member of the Eramosa Formation are generally understood to serve as a regional aquitard, situated above the Gasport and limestone formations of the Goat Island Formation (Brunton 2009).

The Site is also located within the Ellis Creek – Speed River Watershed (MNRF 2020) and within the Grand River Source Protection Area (GRCA 2025). The Grand River Source Protection Plan (Plan) assigns Drinking Water Threat Vulnerability Scores across the region based on various risk factors, and the Phase Two Property is assigned a Vulnerability Score of 10, the highest score possible. According to Plan mapping, the Site is in an issues-contributing area with "trichloroethylene and another DNAPL [dense nonaqueous phase liquid]" as contaminants, but it is not in a highly vulnerable aquifer or in a significant groundwater recharge area (GRCA 2025).

3.2 Past Investigations

No information regarding any potential previous subsurface investigations that may have taken place at the Site were provided to Jacobs. As such, no historical soil or groundwater data were relied upon in this Phase Two ESA.

4. Scope of Investigation

4.1 Overview of Site Investigation

Jacobs conducted Phase Two ESA field activities between May 2025 and June 2026 to evaluate the subsurface environmental conditions at the Phase Two Property and to investigate the APECs identified in the Phase One ESA (Jacobs 2025). As part of the Phase One ESA, Jacobs identified areas where potentially contaminating activities (PCAs) have occurred on the Phase Two Property and on lands within 250 m of the Phase Two Property. PCAs occurring on the Phase Two Property were subsequently carried through the investigation as APECs, as required by O. Reg. 153/04. Further details on the PCAs and APECs are provided in Section 6.10.

The Phase One ESA (Jacobs 2025) identified two APECs on the Phase Two Property, one of which was attributed to an onsite PCA, and one attributed to offsite PCAs. These APECs and PCAs were the focus of the Phase Two ESA activities. Figure 4-1 shows the onsite and offsite PCAs, along with the resulting APECs on the Phase Two Property. Figure 4-2 shows the APECs identified in the Phase One ESA for the Phase Two Property, as well as the Phase Two ESA investigation locations.

The principal objective of the Phase Two ESA is to assess and update current Site conditions, and identify general and current subsurface impacts that will need to be managed during Site redevelopment. The Phase Two ESA activities included the following main tasks:

- Arrange for public and private underground utility locates.
- Develop a Sampling and Analysis Plan (SAP) based on Phase One ESA findings.
- Drill boreholes during several field events:
  - May 2025 – Jacobs advanced four boreholes (MW101 to MW104) to a maximum depth of 13.9 mbgs. The four boreholes were installed as monitoring wells. Soil and groundwater samples were collected to analyze contaminants of potential concern (COPC) to address identified APECs.
  - February to March 2026 – Jacobs advanced four deep boreholes (MW103D to MW106D) to a maximum depth of 18.3 mbgs. The four boreholes were installed as monitoring wells. Groundwater samples were collected from the existing boreholes (MW101 to MW104) for COPCs and from the new monitoring wells (MW103D to MW106D) to delineate contaminants of concern (COC).
  - June 2026 – Jacobs collected a second set of ground samples for Site COCs from existing monitoring wells (MW103D to MW106D).
- Review the results of the single-well hydraulic tests completed by Chung & Vander Doelen Engineering Ltd. (CVD) to improve the understanding of the subsurface materials' hydraulic properties across the Phase Two Property.
- Determine the applicable SCS.
- Survey the monitoring wells to a geodetic benchmark.

Figure 4-2 shows the locations of the borings and wells advanced as part of this Phase Two ESA.

4.2 Media Investigated

Soil and groundwater were the only media investigated during this Phase Two ESA work. Sediment investigation was not applicable, because of the absence of surface water bodies on the Site. Soil vapour

was assessed at various locations across the Site based on impacts identified in groundwater, including within the footprint of the proposed building.

Soil quality at the Site was determined by sampling from conventional hollow-stem drilling methods. This selected method was determined based on sample depth, likely subsurface conditions, overhead access, and space for drilling equipment. Section 5 provides further detail regarding soil sampling methods. Section 6 provides soil sampling results.

Groundwater samples from newly installed monitoring wells were collected and submitted for analysis. The sampling method for groundwater used low-flow purging and sampling techniques (for example, peristaltic pump, water quality meter, and dedicated tubing) based on the sample turbidity and analysis required. Section 5 provides further detail on groundwater sampling methods. Section 6 provides results of the groundwater sampling.

4.3 Phase One Conceptual Site Model

Table 4-1 summarizes the Phase One conceptual site model from the Phase One ESA (Jacobs 2025). Tables 4-2 and 4-3 summarize the identified PCAs and resulting APECs, respectively, and the COPCs associated with each APEC used as the basis for the Phase Two ESA investigation.

4.4 Deviations from Sampling and Analysis Plan

Before the investigation at the Phase Two Property was completed, a detailed SAP was prepared. Appendix B provides the SAPs that apply to the work Jacobs has completed at the Site.

During the 2026 field investigation, two proposed monitoring well locations (MW105 and MW106) were not installed, as there was no perched groundwater table. The shallow monitoring wells would not have intercepted the groundwater table; as such, only the associated deep wells (that is, MW105D and MW106D) were completed.

No other deviations occurred from the project SAPs over the course of the Phase Two ESA activities.

4.5 Impediments

Limited impediments were encountered during the Phase Two ESA. A majority of utilities are located around the existing building, with a utility box located on the western portion of the Site. The original plan was to install MW104 closer to the utility box within the area of the Site with a more drastic ground slope. MW104 (and subsequently MW104D) were moved as required. The remaining locations were completed as planned following utility locates.

5. Investigation Method

5.1 General

Various environmental field and subsurface investigation methods were used to assess soil and groundwater quality during the Phase Two ESA, including the following:

- Drilling with soil sampling, including field screening measurements and observations
- Installing groundwater monitoring wells and groundwater sampling
- Conducting analytical testing of soil, groundwater, and sub-slab vapour samples
- Managing investigation-derived waste
- Implementing quality assurance (QA) and quality control (QC) measures, including collecting and analyzing field duplicate and trip blank samples

The Phase Two ESA activities were guided by individual SAPs for each investigation (Appendix B). The SAPs were designed to investigate the COPCs within the APECs identified as a part of the Phase One ESA (Jacobs 2025).

Figure 4-2 shows the sampling locations associated with the Phase Two investigation.

Jacobs retained third-party contractors to conduct or assist with field investigations. Jacobs field staff, under the direction of the project QPESA, supervised field activities and recorded field activities, soil characteristics, groundwater sampling results, and other general field investigation notes.

Jacobs developed standard operating procedures (SOPs) and field forms to comply with O. Reg. 153/04 (MECP 2011a). The SOPs guided Jacobs staff in conducting, performing, and documenting Phase Two ESA investigative work. The following is a list of Jacobs SOPs relevant to the Phase Two ESA activities at the Site:

- Heavy equipment decontamination
- Field sampling equipment decontamination
- Soil boring logs
- Soil vapour headspace measurements
- Soil sampling for volatile organic compounds (VOCs) using methanol preservation
- Shallow monitoring well installation
- Water level measurements
- Monitoring well development
- Groundwater purging and field parameter measurements
- Low-flow groundwater purging and sampling
- Sample packaging, storage, and transport to laboratory

The methods employed did not deviate from the SOPs and are described in detail in the following subsections.

5.2 Drilling and Excavating

Drilling was conducted at the Site to collect environmental samples to evaluate subsurface conditions. Jacobs worked with Aardvark Drilling Inc. (Aardvark) of Guelph, Ontario, in May 2025, and Direct Environmental Drilling Inc. (DED) of London, Ontario, in February 2026, to undertake drilling activities at the Site for the field program. Aardvark and DED are MECP-licensed drillers.

Final borehole depths completed across the Site were variable and ranged between 3.35 and 18.3 mbgs, depending on target depths in the SAP and the actual subsurface conditions encountered at the time of drilling. Some boreholes were advanced into bedrock to facilitate monitoring well installation where required in accordance with the SAP. Aardvark used a Central Mine Equipment (CME) conventional track-mounted rig to advance boreholes, with hollow-stem augers (HSA) (254-millimetre [mm] outer diameter), and rock coring was completed by water-diamond coring with HQ (102 mm) tooling. DED used a Diedrich D70 Turbo conventional track-mounted rig to advance boreholes with hollow-stem augers (203 mm or 254 mm outer diameter) and air rotary using a tricone bit (114 mm) to advance within the bedrock. Drilling activities were completed under the supervision of Jacobs field personnel. The frequency of soil sample collection for field screening and for submission for chemical analysis is detailed on the borehole logs included in Appendix C. Drilling equipment was decontaminated in accordance with the SOPs.

5.2.1 Utility Locates

Before excavation and drilling activities began for each field event, Jacobs contacted Ontario One Call to arrange clearances of public utility services, including the following:

- Cable television
- Hydroelectricity
- Natural gas
- Sanitary lines
- Storm sewers
- Telephone
- Water

As an additional precaution, Jacobs also retained OnSite Locates Inc., a private utility contractor located in Newmarket, Ontario, to clear all proposed drilling locations of the same private utility services by using radio detection and electrical isolation for utilities. Jacobs retained the resulting locate clearance documents at the Site for the duration of the drilling activities.

5.3 Soil Sampling

Soil borings were advanced using hollow-stem auger methods and a conventional rig, and soil samples were collected using 0.61-m-long, 50-mm-outside-diameter split-spoon samplers. Final soil sample depths depended on the target depth according to the SAPs, and actual subsurface conditions encountered (bedrock) at the time of drilling.

Once the soil sample sleeves were extracted, a drilling contractor representative opened the split spoon to expose the soil. Once a new soil layer was exposed during excavation, the operator collected a bucket of soil from the new layer to be examined and sampled. Jacobs field staff then examined the soil in the field for the following:

- Soil type
- Discolouration
- Olfactory evidence or signs of impacts
- General soil properties

Soil samples to be analyzed for petroleum hydrocarbon (PHC) Fraction (F)1 or F2; VOCs; or benzene, toluene, ethylbenzene, xylenes (BTEX) were collected using laboratory-supplied soil syringes; the soil core was then placed in vials containing methanol. New, disposable nitrile gloves were used when handling

samples from different depths at the same sample location to minimize the potential for sample cross-contamination.

The following soil types were identified during the investigation:

- Topsoil
- Fill
- Gravel
- Sand
- Sandy silt
- Silt till

Appendix C provides borehole logs. These logs provide a geological description of overburden samples collected during the investigation.

Collected soil samples were split for field screening and potential laboratory analysis. Field screening was conducted as described in Section 5.4.

5.4 Field Screening Measurements

Collected samples were divided into two portions: one for field vapour screening and the other for laboratory submission (which were immediately placed in the appropriate laboratory-supplied sample containers). The soil samples for field vapour screening were placed in a clean, self-sealing, plastic bag; labelled; and set aside to equilibrate to approximately 15 degrees Celsius (°C) for conducting head space screening using a MiniRAE 3000 photoionization detector (PID). Soil vapour headspace and ambient measurements, as well as instrument calibration, were performed in accordance with the SOP.

Field screening measurements were typically taken at 0.6 m intervals during the intrusive drilling investigation. Frequency and results of soil vapour headspace measurements in parts per million (ppm) were also recorded in the borehole logs included in Appendix C, as discussed in Section 6.5.

Field staff used the RKI GX-6000 PID equipped with a 10.6-electron-volt (eV) discharge lamp for field screening. The RKI GX-6000 has a detection range for VOCs of 0 to 4,000 ppm. The unit's accuracy is ±4 ppm, or 10% of the reading for readings of 0 to 4,000 ppm. The resolution of this unit is 0.1 ppm for readings less than 600 ppm, and 1.0 ppm for readings between 600 and 4,000 ppm.

Isobutylene at a concentration of 100 ppm was used as the calibration gas, and the instruments were calibrated according to the manufacturer's recommendations before use each day. Each instrument's calibration was checked by exposing the instrument to the calibration gas with a known concentration and comparing the results with the actual reading.

Field screening techniques were used during the Phase Two ESA to identify soils affected by volatile compounds, such as VOCs, certain polycyclic aromatic hydrocarbons (PAHs), and PHCs. The field screening techniques included visual and olfactory observations and the use of a PID to measure soil vapour headspace concentrations. The field screening results guided the selection of soil samples in accordance with the SAPs (for example, the collection of worst-case or delineation samples).

Sections 5.1 and 5.3 summarize the measures taken to minimize the potential for cross-contamination during soil sampling.

5.5 Groundwater: Monitoring Well Installation

As part of this investigation, Aardvark and DED installed monitoring wells in the advanced soil borings according to the requirements specified in O. Reg. 903 (MECP 1990b) to assess groundwater quality and to assist in determining groundwater flow rates and directions at the Phase Two Property. Section 5.2 describes the drilling equipment used for monitoring well installation.

The monitoring wells were installed so the screened portion straddles and intercepts seasonal fluctuations at the water table unless otherwise indicated by the SAP (for example, monitoring wells in perched groundwater). The saturated screen thickness of each well did not exceed 3.05 m. Each monitoring well was constructed in accordance with the SOP. The monitoring well construction consisted of the following:

- Approximately 5-centimetre (cm)-diameter, Schedule 40 polyvinyl chloride (PVC) risers
- 5-cm-diameter, Schedule 40, No. 10 slot PVC screen with a preferred screen length of 3.05 m (variations in screen length occurred)
- Appropriate sand pack to 0.3 m above top of screen
- 0.6 m of bentonite seal above sand pack composed of a 0.6 cm hydraulic hole plug
- Protective flush-mount well casings secured with concrete

Monitoring well installation details are provided in the borehole logs in Appendix C. Monitoring wells onsite were tagged as A422620 (MW101), A422619 (MW102), A422557 (MW103), A458538 (MW103D), A458535 (MW104D), A458556 (MW105D), and A458557 (MW106D). The well tag number for MW104 is pending.

Dedicated Waterra polyethylene tubing with an inertial lift foot valve was installed in each newly installed monitoring well. Wells were developed using this equipment to remove particulates or fluids that may have collected in the screen or sand pack during well installation activities. Well development was considered complete in the field under one of the following conditions:

- Three complete well volumes were removed, including sand pack
- The monitoring well was developed dry three times
- Groundwater was clear and relatively free of particulates

All monitoring wells for each sampling event were examined for nonaqueous phase liquid (NAPL) using an interface probe. The presence or absence of NAPL was recorded in the monitoring well development field form. The monitoring well was then developed in accordance with the SOPs. Once the monitoring well had recovered to static conditions, the monitoring well was examined for NAPL using an interface probe.

5.6 Groundwater: Field Measurement of Water Quality Parameters

The field measurement of water quality parameters was performed during well purging and before groundwater samples were collected. These measurements were required to provide an indication that the samples collected were stable and representative of the groundwater in the formation, and to evaluate groundwater quality at the time of sampling.

This task was performed in accordance with the SOP. Water quality parameters were measured using the Horiba U-52 water quality meter. This instrument measures the following:

- Dissolved oxygen (DO)
- Electrical conductivity (EC)

- Groundwater temperature
- Oxidation-reduction potential
- pH
- Turbidity

Before taking the field measurements, analysts calibrated their water quality meters according to the manufacturer's instructions using standard calibration solutions. Water quality meters were calibrated before use each day.

Water quality meter readings were collected approximately every 3 to 5 minutes and recorded in the field book and in groundwater sampling field tracking sheets for the following parameters:

- DO
- EC
- Oxidation-reduction potential
- pH
- Temperature
- Turbidity

These field parameters provided an indication of stabilized groundwater conditions before sampling occurred. Indicator parameters were deemed to be stable when an average of three consecutive measurements met the following criteria:

- pH = ±0.1 unit
- Temperature = ±10%
- DO = ±10% or ±0.1 milligrams per litre (mg/L) if reading is less than 1 mg/L
- EC = ±10%
- Oxidation-reduction potential = ±10 millivolts

Once stabilization had been reached, analysts collected the samples in the appropriate sample containers for laboratory analysis.

5.7 Groundwater: Sampling

A decontaminated 30 m interface probe was used to measure the depth of groundwater and presence or absence of NAPL below the top of the monitoring well casing or other reference point. To prevent cross-contamination between monitoring wells, the interface probe was decontaminated in accordance with the SOP.

Before sampling, the monitoring wells were purged using a low-flow method so representative samples of the water-bearing formation were obtained. Purging was generally conducted using a peristaltic pump or bladder pump and dedicated polyethylene tubing at each well.

The field measurement of water quality parameters was performed routinely throughout the purging process and immediately before groundwater samples were collected (Section 5.6).

Groundwater samples were collected immediately following purging completion and groundwater parameter stabilization, by peristaltic pump or bladder pump and dedicated polyethylene tubing.

New laboratory-supplied containers were used to collect groundwater samples for the parameters of interest. Sampling glassware was prepared by the laboratory with the required preservatives added to the parameter-specific sample bottles. When filling the sample bottles, field staff verified that a minimal level of particulate matter was entrained into the sample. Samples with more than 1 cm of particulate in the

sample bottle (after it had settled) were considered unsuitable for chemical analysis and were discarded; groundwater samples were recollected in new laboratory-supplied bottles, confirming that less than 1 cm of particulate was in the sample bottle before analysis.

Field filtering was conducted for certain parameters consistent with the SOPs. Field filtering of dissolved metals was conducted using dedicated 0.45-micrometre filters. PAH groundwater samples were not field filtered; however, benzo(a)pyrene analysis samples may be filtered by the laboratory (in compliance with MECP 2011c). Field filtering of samples was documented in the groundwater sampling forms. VOC and PHC F1 sample containers were completely filled, with no headspace.

Section 6.7 describes groundwater quality based on the analytical results.

5.8 Sediment: Sampling

The Phase Two Property does not contain a water body as defined under O. Reg. 153/04; therefore, sediment was not present in the investigation area, and no sampling was conducted.

5.9 Analytical Testing

ALS Canada Limited (ALS), a laboratory accredited by the Canadian Association for Laboratory Accreditation Inc. (CALA), provided the offsite laboratory analyses. ALS, and subcontractor labs overseen by ALS, performed the chemical analysis in compliance with the MECP document titled *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act* (MECP 2011c).

5.10 Residue Management Procedures

Excess soil cuttings generated from the field activities and fluids generated during equipment decontamination, monitoring well development, and groundwater sampling were contained in 200-litre (L) drums, all of which are temporarily stored on the Phase Two Property. A composite soil sample was collected from the soil cuttings generated and submitted for Toxicity Characteristic Leaching Procedure analysis for environmental waste characterization and future waste management purposes. Wastes were managed in accordance with the requirements of O. Reg. 347 (MECP 1990c).

Sample results were compared with O. Reg. 347, Schedule 4 (MECP 1990c), which indicated the investigation-derived waste would be classified as nonhazardous (certificate of analysis WT2511404 in Appendix F).

At the time of writing this draft report, the wastes remain temporarily stored on the Phase Two Property. Jacobs will coordinate the removal of the soil and groundwater drums.

5.11 Elevation Surveying

J. D. Barnes Limited, a licensed Ontario Land Surveyor of Guelph, Ontario, performed an elevation survey to a geodetic benchmark (CGVD28-1978) following completion of the first subsurface investigation. The survey was performed on May 13, 2025.

CVD performed an elevation survey for the locations installed in 2026 on March 20, 2026, using a benchmark elevation of 327.01 masl.

Both elevation surveys included the coordinates and elevations of the ground surface and top-of-riser pipe (as applicable) for the locations advanced as part of Jacobs' investigation.

5.12 Quality Assurance and Quality Control Measures

The following sample handling, equipment cleaning, and field QC measures were followed during the Phase Two ESA investigation:

- Soil samples were collected in sample containers provided by the analytical laboratory, which were pre-charged with the appropriate preservatives and sized relevant to the analyses requested.
- Sample container labels included the project number, sample ID, and parameters for chemical analysis. Unique sample IDs were assigned to correspond with the field notes or field forms associated with each sampling location.
- Once labelled, sample containers were placed in ice-filled coolers.
- Samples were transported to an offsite analytical laboratory; a chain-of-custody form was completed and accompanied each sample shipment.
- Deviations from the SAPs were noted and discussed with the QPESA, as applicable. Section 4.4 discusses SAP deviations.
- Equipment decontamination procedures were carried out in accordance with Jacobs' SOPs, which were developed based on O. Reg. 153/04, and include the following (as applicable):
  - Cleaning tools for sample collection by removing particulate matter with a brush (as needed), rinsing with potable water, rinsing with methanol, rinsing with potable water, and drying with clean paper towel
  - Cleaning heavy equipment by removing particulate matter with a brush, pressure washing, or both, as required
- The SAPs included a QA/QC program that specified the following minimum field QC measures:
  - One laboratory-prepared trip blank was included in each cooler shipment containing volatile organics (for example, VOCs, BTEX, or PHC F1) samples.
  - Duplicate soil samples were collected and submitted at a minimum frequency of 1 duplicate for each 10 samples submitted. Duplicate samples were submitted "blind" to the laboratory, and field staff documented in their field books each duplicate sample location.
  - Calibration checks on field instruments were completed daily and reported in the field book or SOP calibration forms.
  - Deviations from the QA/QC program were noted and discussed with the QPESA, as applicable. Section 4.4 discusses SAP deviations.

6. Review and Evaluation

6.1 Geology

The drilling program completed during the field investigations included advancing eight boreholes to a maximum depth of 18.3 mbgs, which provided information about the subsurface materials. Jacobs created two geological cross-sections to show the Site stratigraphy. Figure 6-1 shows the locations of the cross-sections, and Figures 6-1a to 6-1b show the geological cross-sections A-A', and B-B', respectively.

The Site-specific geology generally consisted of the following characteristics:

- Fill materials were observed from ground surface to a maximum depth of 4.57 mbgs, with an average thickness of 2.4 m. The fill is variable in composition; however, the majority of fill is sand, sandy silt, and trace gravel. Some clay was also observed.
- Native till underlying the fill consists of a sandy silt matrix that exists roughly from the bottom of fill to the bedrock, with trace gravel, trace clay, and trace sand identified throughout. At one location in the southeastern corner of the Site (MW105D), a seam of saturated gravel approximately 0.7 m thick was identified at 8.2 mbgs.
- A layer of gravel was encountered in the northwestern area of the Site at MW102, between approximately 1.7 and 2.3 mbgs.
- Bedrock at the Site is Guelph Formation dolostone. Depth to the overburden/bedrock contact ranged from 9.14 to 10.97 mbgs, with an average depth at 10.03 mbgs. The lowest bedrock elevation (317.71 masl) was encountered at MW101, in the southwestern portion of the Site, closest to the building. The remainder of the Site had an approximate bedrock elevation of 319 masl (MW103D, MW104D, MW105D, and MW106; refer to Figure 6-1 for a plan view of borehole locations). The top of bedrock is described as being weathered.

A detailed description of geology encountered during the drilling program is included in the borehole logs provided in Appendix C.

6.2 Groundwater: Elevations and Flow Direction

The Phase Two Property is interpreted to consist of a predominantly sandy silt fill overburden overlying Guelph Formation dolostone bedrock. Two main hydrogeological units are encountered at the Site: (1) perched groundwater in the northern portion of the Site and (2) a shallow, unconfined aquifer generally in the upper bedrock. These two hydrogeological units are referred to as "the perched groundwater" and "the bedrock aquifer," respectively. The Site is not paved and is therefore likely to receive groundwater recharge from precipitation.

Groundwater conditions and characteristics were assessed using eight monitoring wells:

- Three of these wells (MW102, MW103, and MW104) are screened entirely within the overburden in the northern and western portions of the Site and were used to evaluate the perched groundwater.
- Five wells (MW101, MW103D, MW104D, MW105D, and MW106D) are screened within the bedrock aquifer to delineate the water table.

Table 6-1 provides the construction details for the newly installed groundwater monitoring wells.

Groundwater elevations were measured in various wells during the Phase Two investigation as follows:

1. May 29, 2025: The four wells installed in 2025 were monitored for groundwater elevation (MW101 through MW104). Depth to the perched groundwater in the three overburden wells ranged from 1.88 to 4.77 mbgs (325.54 to 326.89 masl). Depth to groundwater in the one bedrock well was 12.11 mbgs (316.14 masl).

2. March 9, 2026: Seven of the eight wells were monitored for groundwater elevation. Depth to the perched groundwater in two overburden wells (MW102 and MW104) ranged from 0.54 to 1.17 mbgs (327.66 to 327.89 masl). Depth to groundwater in the bedrock aquifer wells ranged from 12.51 to 14.93 mbgs (315.29 to 315.94 masl).

3. June 22, 2026: All eight wells were monitored for groundwater elevation. Depth to the perched groundwater in the three overburden wells (MW102, MW103, and MW104) ranged from 1.83 to 5.07 mbgs (325.24 to 326.75 masl). Depth to groundwater in the bedrock aquifer wells ranged from 11.95 to 14.25 mbgs (315.96 to 316.50 masl).

Table 6-2 presents a record of the available groundwater elevations. Figures 6-2a and 6-2b present the May 2025 and March 2026 interpreted groundwater elevation contours and flow directions within the perched and bedrock aquifer for the Phase Two Property, respectively. Figures 6-2c and 6-2d present the June 2026 interpreted groundwater elevation contours and flow directions within the perched and bedrock aquifer for the Phase Two Property, respectively.

The bedrock aquifer water table elevation was observed to vary by 0.64 m and 0.52 m in elevation during the March and June 2026 monitoring events across the Site. Local groundwater is expected to flow south toward the Speed River; however, Site-specific groundwater was interpreted to flow east. The higher groundwater elevations at the Site appear to be correlated with slightly higher bedrock elevation.

The perched groundwater was observed at MW102, MW103, and MW104. The full extent of the perched groundwater is currently not fully understood, as it appears limited to the northwestern area of the Site.

The minimum depth to groundwater observed at the Site was 0.54 mbgs (perched) and 11.95 mbgs (bedrock). The limited underground utilities on Site are not expected to extend to the depth of the bedrock aquifer (depths of utilities are unknown) and are therefore not expected to significantly influence the groundwater flow directions.

6.3 Groundwater: Hydraulic Gradients

6.3.1 Horizontal and Vertical Gradients

CVD is performing single-well response tests (SWRT) at the Phase Two Property at the end of July 2026. Results of the single-well response tests, including calculated hydraulic conductivity, vertical gradients, and groundwater flow velocity, will be provided in the final report.

The horizontal hydraulic gradient within the perched and bedrock aquifers were estimated for the May 29, 2025/June 22, 2026, and March 9, 2026/June 22, 2026, monitoring events, respectively. The horizontal hydraulic gradient within the perched groundwater was 0.0675 metre per metre (m/m) and 0.073 m/m in May 2025 and June 2026, respectively. The estimated average horizontal hydraulic gradient within the bedrock aquifer was 0.031 m/m and 0.024 m/m in March and June 2026, respectively. The maximum groundwater elevations within the bedrock aquifer were measured during the June 2026 monitoring event, likely associated with increased precipitation and runoff from the spring.

6.4 Fine-to-Medium Soil Texture

Under O. Reg. 153/04, coarse-textured soil contains more than 50% by mass of particles that are 75 micrometres or larger in mean diameter (MECP 2011a). According to the regulation, if one-third of the soils at the Phase Two Property are coarse grained, the more stringent coarse-textured soil standards apply to the Site; otherwise, the medium- or fine-grained soil standards may apply.

Grain-size analysis was performed on two soil samples: one sample was classified as coarse grained, and one sample was classified as fine to medium grained. Grain-size results are provided at the end of Appendix F. The soil condition standards for coarse-grained soils were used at the Phase Two Property to account for the presence of heterogeneous fill materials across the Site surface.

6.5 Soil: Field Screening

Field screening techniques were used during the Phase Two ESA to identify soils affected by VOCs. PID measurements were performed during the investigation using the procedures and equipment described in Section 5.4.

PID results from the current investigation (by soil unit) are summarized as follows:

- Fill: PID readings from the fill material onsite were generally less than 1 ppm. The maximum PID reading from this unit was measured at MW104D (1.0 ppm).
- Sandy Silt Till: PID readings from this unit were generally less then 2 ppm. The maximum PID reading from this unit was measured at MW103D (1.7 ppm).
- Bedrock: PID readings collected at or within bedrock were limited but were less than 0.5 ppm. The maximum PID reading taken at bedrock was measured at MW103D (0.4 ppm).

Visual and olfactory observations and soil vapour headspace measurements (in ppm) were recorded in the borehole logs provided in Appendix C.

6.6 Soil Quality

Through the current investigation, the nature and extent of potential soil contamination were investigated for each identified APEC and for the Phase Two Property in its entirety. Figure 4-2 shows the APECs and associated sample locations. Investigative locations, including the analysis completed at each location, are summarized on an APEC-by-APEC basis in Table 6-4. Table 6-5 provides the soil analytical results of the Phase Two ESA investigation, along with sampling depth, and compares these with the Table 2 SCS (MECP 2011b). Figures 6-3 through 6-8 present the distribution of soil concentrations exceeding the Table 2 SCS by analytical group in plan view for all stratigraphic units.

The inferred horizontal extent of soil concentrations greater than the Table 2 SCS are also shown. For this report, no cross-sections showing the inferred vertical extent of soil concentrations have been produced, as there are no exceedances of the applicable SCS (except for parameters relying on an exemption [Section 6.10.7.7]). Maximum concentrations of each detected parameter are provided in Table 6-6 and shown in red text on the respective plan view figures.

Soil quality across the Site was evaluated using a total of nine soil samples collected from various depths from four sampling locations at the Site. Samples were submitted for laboratory analysis for one or more of the following analytes:

- Other regulated parameters (ORPs), including EC, sodium adsorption ratio (SAR), cyanide, mercury, and chromium hexavalent
- Metals and hydride-forming metals
- BTEX
- PHCs
- PAHs
- VOCs

Soil at the Phase Two Property had localized impacts of salt-related analytes (EC and SAR). The other COPCs were reported in concentrations less than the Table 2 SCS. The following subsections provide details about the COC frequency, distribution, and identification.

6.6.1 Other Regulated Parameters (Electrical Conductivity and Soil Adsorption Ratio)

Select ORPs (EC and SAR) were analyzed in nine soil samples collected from four locations at the Site.

Two samples of SAR and one sample of EC in soil from one location (MW101) had concentrations exceeding the Table 2 SCS. The EC exceedances were reported between 1.52 and 2.13 mbgs, and SAR exceedances were reported between 1.52 and 5.18 mbgs. The location with exceedances (MW101) is closest to the building and parking lot area.

Correlated ORP parameters in groundwater, sodium, and chloride, exceed the Table 2 SCS at the same location (MW101) and at MW106D, located northeast of MW101, indicating that these parameters in soil are likely acting as a contaminant source contributing to groundwater.

The localized presence of EC and SAR are likely a result of the application of de-icing materials (that is, road salts) on the parking lot surfaces and adjacent roadways. The QPESA has determined, based on the exemptions in Section 49.1 of O. Reg. 153/04, that these parameters are not considered to be COCs at the Phase Two Property.

Figure 6-3 presents (in plan view) the locations and sample depths for the ORP soil samples at the Phase Two Property.

6.6.2 Metals, Hydride-Forming Metals, and Select ORPs (Boron Hot-Water-Soluble, Cyanide, Mercury, and Hexavalent Chromium)

Metals, hydride-forming metals, and select ORPs (boron hot-water-soluble, cyanide, mercury, and hexavalent chromium) were assessed across the Site in nine samples from four locations, with no exceedances of the Table 2 SCS identified. Metals, hydride-forming metals, and these select ORPs were COPCs associated with APEC-01 (Former Auto Repair Services).

Figure 6-4 presents (in plan view) the locations and sample depths for the soil samples collected for metals, hydride-forming metals, and select ORPs at the Phase Two Property.

6.6.3 Benzene, Toluene, Ethylbenzene, and Xylenes

BTEX were analyzed in soil in nine samples from four locations, with no exceedances of the Table 2 SCS identified. BTEX were COPCs associated with APEC-01 (Former Auto Repair Services).

Figure 6-5 presents (in plan view) the locations and sample depths for the BTEX soil samples collected at the Phase Two Property.

6.6.4 Petroleum Hydrocarbons

PHCs were analyzed in soil in nine samples from four locations, with no exceedances of the Table 2 SCS identified. PHCs were COPCs associated with APEC-01 (Former Auto Repair Services).

Figure 6-6 presents (in plan view) the locations and sample depths for the PHC soil samples collected at the Phase Two Property.

6.6.5 Polycyclic Aromatic Hydrocarbons

PAHs were analyzed in soil in nine samples from four locations, with no exceedances of the Table 2 SCS identified. PAHs were COPCs associated with APEC-01 (Former Auto Repair Services).

Figure 6-7 presents (in plan view) the locations and sample depths for the PAH soil samples collected at the Phase Two Property.

6.6.6 Volatile Organic Compounds

VOCs (excluding BTEX) were analyzed in soil in nine samples from four locations, with no exceedances of the Table 2 SCS identified. VOCs were COPCs associated with APEC-01 (Former Auto Repair Services).

Figure 6-8 presents (in plan view) the locations and sample depths for the VOC soil samples collected at the Phase Two Property.

6.6.7 Contaminants of Concern in Soil

O. Reg. 153/04 (MECP 2011a) defines COCs as chemicals with concentrations that exceed the applicable SCS or chemicals with no applicable SCS that are associated with a PCA. The MECP document titled *Procedures for Use of Risk Assessment under Part XV.1 of the Environmental Protection Act* (Procedures Document) (MECP 2005) indicates that at the discretion of the QPESA, chemicals without an applicable SCS may be included or excluded as COCs based on an understanding of geoscience, the potential for the chemical to limit the use of the Site, or both.

Maximum concentrations (Table 6-6) of each chemical analyzed in soil at the Phase Two Property were screened against the Table 2 SCS (Table 6-7a). In general, where chemicals were detected in concentrations greater than the Table 2 SCS, the parameters were retained as a COC to be evaluated in the RA.

Parameters that were not considered as COCs based on exceptions in Section 49.1 of O. Reg. 153/04 are presented in Table 6-10b.

Analytes with a Table 2 SCS that were reported as nondetect had laboratory reporting limits less than the SCS. Soil analytes associated with a PCA had an MECP SCS.

No chemicals were retained as COCs in soil for the Phase Two Property based on the evaluation provided.

6.7 Groundwater Quality

The nature and extent of potential groundwater contamination was investigated for the identified APECs. Figure 4-2 shows the APECs and associated sample locations. Table 6-8 summarizes the analytical results of the investigation, along with the well screen interval, and compares these with the applicable Table 2 SCS (MECP 2011b). Figures 6-9 through 6-16 present the groundwater concentrations exceeding the applicable Table 2 SCS by analytical group in plan view for all groundwater units. For this report, cross-sections showing the inferred vertical extent of groundwater concentrations greater than the Table 2 SCS have been produced for the metals and VOC analytical groups only.

Groundwater across the Site was evaluated using a total of 15 groundwater samples collected from 8 groundwater monitoring wells. Samples were submitted for laboratory analysis for one or more of the following analytes:

- ORPs (chloride, sodium, cyanide, mercury, and chromium hexavalent)
- Metals and hydride-forming metals (field filtered)
- BTEX
- PHCs
- PAHs
- VOCs
- Acid, Base, Neutrals (ABNs)
- Chlorophenols

Groundwater impacts at the Phase Two Property were localized, with salt-related analytes (sodium and chloride) identified at two locations (MW101 and MW106D); cobalt exceedances at two overburden locations (MW103 and MW104), and chlorinated VOCs (specifically trichloroethylene [TCE] and cis-1,2-dichloroethylene [cis-1,2-DCE]) within the bedrock aquifer. The other COPCs were reported in concentrations less than the Table 2 SCS. The following subsections provide details about the COC frequency, distribution, and identification.

6.7.1 Other Regulated Parameters (Chloride and Sodium)

Select ORPs (chloride and sodium) were analyzed in 20 groundwater samples collected from eight locations across the Site.

Concentrations of chloride exceeding the Table 2 SCS were identified in eight samples from four locations (MW101, MW103D, MW105D, and MW106D). Concentrations of sodium exceeding the Table 2 SCS were identified in seven samples from three locations (MW101, MW103D, and MW106D). The maximum concentrations of chloride and sodium were identified at MW106D (screened between 15.2 and 18.3 mbgs) in the central portion of the Site, with reported values of 1,520,000 micrograms per litre (µg/L) and 882,000 µg/L, respectively, from June 2026.

MW101 is located within the parking lot area of the Site, adjacent to the building, whereas MW106D is the nearest downgradient location of the parking lot (based on the bedrock groundwater contours presented in Figure 6-2b). MW103D and MW105D are also located downgradient of the Site, east of the parking lot in the northern and southern portions of the Site, respectively. Maximum concentrations of sodium and chloride in groundwater are at MW106D, with the next highest concentrations at MW101. MW103D and MW105D showed elevated concentrations of sodium or chloride, or both, for the first time in June 2026 (results from March 2026 were less than the Table 2 SCS).

The soil results for EC and SAR in soil indicate the soil impacts are likely acting as a source of contaminant mass contributing to the groundwater at the Phase Two Property. O. Reg. 153/04 includes exceptions for exceedances of the SCS for salt-related substances; specifically, Section 49.1 states the SCS is deemed not to be exceeded for the purpose of Part XV.1 of the Act when a substance that has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both exceeds the SCS. Refer to Table 6-10b and Section 6.10.9 (Reliance on Exemption on SCS Exceedances) for additional details and rationale.

ORPs were COPCs associated with APEC-01 (Former Auto Repair Services).

Figure 6-9 presents (in plan view) the locations and screen depths for the ORP groundwater samples collected at the Phase Two Property.

6.7.2 Metals, Hydride-Forming Metals, and Select ORPs (Cyanide, Mercury, and Hexavalent Chromium)

Metals parameters, including hydride-forming metals and cyanide, were analyzed in 20 groundwater samples, whereas mercury and hexavalent chromium were analyzed in 15 groundwater samples, collected from eight locations across the Site. The detected concentrations met the Table 2 SCS, apart from cobalt, with 5 of 20 samples (25%) from two of eight locations (25%) exceeding the Table 2 SCS.

Cobalt exceedances in groundwater were found within the perched groundwater at MW103 and MW104, screened from 2.1 to 5.2 mbgs and 0.61 to 2.1 mbgs, respectively. MW103 is located in the northern portion of the Site, with MW104 located adjacent to the western boundary of the Site. The exceedances were vertically delineated by bedrock wells MW103D (15.2 to 18.3 mbgs) and MW104D (13.7 to 16.8 mbgs), with concentrations less than the Table 2 SCS and not detected at levels exceeding the reportable detection limits, respectively. The maximum concentration of cobalt of 15.1 µg/L was reported at MW104 in May 2025; the concentration in March 2026 was 11.2 µg/L.

The remaining wells reported groundwater concentrations of cobalt less than the Table 2 SCS. Soil concentrations for cobalt were less than 4 micrograms per gram (µg/g) across the Site, significantly less than the Table 2 SCS of 22 µg/g; therefore, it is very unlikely that concentrations in soil are acting as a source contaminant mass to the groundwater at the Phase Two Property.

Metals, including hydride-forming metals and select ORPs, were COPCs associated with both APECs at the Phase Two Property: APEC-01 (Former Auto Repair Services) and APEC-02 (Offsite PCAs to the north).

Figure 6-10 presents the plan view for metals groundwater sample locations and screen depths at the Phase Two Property. Figures 6-10a and 6-10b present the cross-section views of the cobalt impacts in groundwater.

6.7.3 Benzene, Toluene, Ethylbenzene, and Xylenes

BTEX parameters in groundwater were analyzed in 20 groundwater samples collected from eight locations across the Site, with no exceedances of the Table 2 SCS.

BTEX were COPCs associated with both APECs at the Phase Two Property: APEC-01 (Former Auto Repair Services), and APEC-02 (Offsite PCAs to the north); however, no impacts were identified in groundwater at the Site, and no areas of BTEX-impacted soil were identified. Therefore, for BTEX, soil does not appear to be acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property.

Figure 6-11 presents (in plan view) the locations and screen depths for the BTEX groundwater samples collected at the Phase Two Property.

6.7.4 Petroleum Hydrocarbons

PHCs in groundwater were analyzed using 11 samples collected from four locations at the Site with no detected exceedances of the Table 2 SCS.

PHCs were COPCs associated with both APECs at the Phase Two Property: APEC-01 (Former Auto Repair Services) and APEC-02 (Offsite PCAs to the north); however, no impacts were identified in groundwater at the Site, and concentrations in soil were confirmed to not be present based on the current investigation. Therefore, for PHCs, soil does not appear to be acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property.

Figure 6-12 presents (in plan view) the locations and screen depths for the PHC groundwater samples collected at the Phase Two Property.

6.7.5 Polycyclic Aromatic Hydrocarbons

PAHs in groundwater were analyzed using 11 samples collected from four locations at the Site with no detected exceedances of the Table 2 SCS.

PAHs were COPCs associated with both APECs at the Phase Two Property: APEC-01 (Former Auto Repair Services) and APEC-02 (Offsite PCAs to the north); however, no impacts were identified in groundwater at the Site, and concentrations in soil were confirmed to not be present based on the current investigation. Therefore, for PAHs, soil does not appear to be acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property.

Figure 6-13 presents (in plan view) the locations and screen depths for the PAH groundwater samples collected at the Phase Two Property.

6.7.6 Volatile Organic Compounds

VOCs (excluding BTEX) in groundwater were investigated at the Site using 20 samples collected from eight locations. The detected concentrations of VOCs met the Table 2 SCS, except for TCE and cis-1,2-DCE, reported from samples collected from the bedrock groundwater. Concentrations of TCE in groundwater were greater than the Table 2 SCS in 11 of 20 samples from five of eight locations, whereas groundwater concentrations of cis-1,2-DCE exceeded the Table 2 SCS in 4 samples from two locations (MW103D and MW104D).

Concentrations of TCE exceeding the Table 2 SCS were reported in the bedrock wells (MW101, MW103D, MW104D, MW105D, and MW106D), screened between 10.52 and 18.3 mbgs. The maximum TCE concentration of 249 µg/L was reported at MW104D, screened between 13.7 and 16.8 mbgs and located at the westernmost part of the Site.

Concentrations of cis-1,2-DCE exceeding the Table 2 SCS were reported in two bedrock wells (MW103D and MW104D), screened between 13.7 and 18.3 mbgs. The maximum concentration of cis-1,2-DCE of 22.4 µg/L was also reported at MW104D, where the maximum concentration of TCE was found.

The perched groundwater wells (MW102, MW103, and MW104), screened between 0.61 and 5.18 mbgs, did not report any detectable concentrations of TCE or cis-1,2-DCE and therefore met the Table 2 SCS.

No concentrations of VOCs were detected in soil at the Site, and therefore, there is no source in soil to act as a source contaminant mass to the groundwater at the Phase Two Property.

VOCs were COPCs associated with APEC-01 (Former Auto Repair Services). However, the presence of deep VOC impacts across the Site with no detectable concentrations in the shallow perched water and no detectable concentrations found in soil at the Site suggests that the elevated concentrations may be related to offsite and upgradient PCAs (for example, APEC-02 Offsite PCAs to the north) or other unknown sources. This is further supported by the presence of a maximum concentration in the westernmost monitoring well with the groundwater flow heading east on Site.

Figure 6-14 presents (in plan view) the locations and screen depths for the VOC groundwater samples collected at the Phase Two Property. Figures 6-14a and 6-14b present the cross-section views of the VOC impacts in groundwater.

6.7.7 Acid, Base, Neutrals

ABNs were analyzed in six samples from two locations (MW102 and MW103) associated with APEC-02 (Offsite PCAs to the north), with no exceedances of the Table 2 SCS. ABNs were COPCs associated with offsite PCAs and were therefore analyzed in groundwater only.

Figure 6-15 presents (in plan view) the locations and screen depths for the ABN groundwater samples collected at the Phase Two Property.

6.7.8 Chlorophenols

Chlorophenols were analyzed in six samples from two locations (MW102 and MW103) associated with APEC-02 (Offsite PCAs to the north), with no exceedances of the Table 2 SCS. Chlorophenols were COPCs associated with offsite PCAs and were therefore analyzed in groundwater only.

Figure 6-16 presents (in plan view) the locations and screen depths for the chlorophenol groundwater samples collected at the Phase Two Property.

6.7.9 Contaminants of Concern in Groundwater

O. Reg. 153/04 (MECP 2011a) defines COCs as chemicals with concentrations that exceed the applicable SCS or chemicals with no applicable SCS associated with a PCA. The MECP Procedures Document (MECP 2005) indicates that at the discretion of the QPESA, chemicals without an applicable SCS may be included or excluded as COCs based on an understanding of geoscience, the potential for the chemical to limit the use of the Site, or both.

Maximum concentrations (Table 6-9) of each chemical analyzed in groundwater at the Phase Two Property were screened against the Table 2 SCS (Table 6-10a). In general, where concentrations were found detected greater than the Table 2 SCS, the parameters were retained as a COC and evaluated in the RA.

Parameters that were not considered as COCs based on the exceptions in Section 49.1 of O. Reg. 153/04 are presented in Table 6-10b.

Table 6-10c summarizes the chemicals retained as COCs in groundwater for the Phase Two Property based on the evaluation provided.

6.8 Sediment Quality

The Phase Two Property does not include a water body within its boundary as defined under O. Reg. 153/04. Therefore, sediment was not present in the investigation area.

6.9 Quality Assurance and Quality Control Results

As part of the field QA/QC program, the types of QA/QC samples collected included duplicate samples and trip blanks (for groundwater volatile analytes). Blind duplicate soil and groundwater samples were collected at a frequency of 1 duplicate sample for each 10 field samples submitted. Trip blanks for VOCs were submitted to the laboratory for chemical analysis with each VOC groundwater batch submittal. These QA/QC samples are important in determining whether field, transport, or analytical activities/conditions may have biased the reported soil and groundwater results (for example, cross-contamination). Accurate soil and groundwater results are required to appropriately evaluate the Phase Two Property for the applicable SCS.

Jacobs received soil and groundwater Certificates of Analysis (COAs) from the laboratory electronically to reduce the possibility of transcription errors. Each sample collected by Jacobs as part of this Phase Two ESA investigation has an associated COA. Table F-1 in Appendix F provides a list that correlates each sample ID with a laboratory COA number. The COAs received from the analytical laboratory comply with the reporting requirements outlined in Section 47(3) of O. Reg. 153/04 and are provided in Appendix F.

For the current investigations, results were evaluated though a data quality evaluation (DQE) by the Jacobs project chemist. Samples were handled in accordance with the MECP *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act* related to the following considerations:

- Holding times
- Preservation method
- Storage requirement
- Container type

In combination with the field QA/QC program, the laboratory QA/QC program was evaluated to verify the accuracy, precision, and validity of the data reported by the laboratory. Various elements of the laboratory QA/QC program are used to evaluate the data:

- Blanks are analyzed to detect laboratory contaminations that can cause data to be biased high.
- Laboratory control samples (LCS) are used to evaluate the laboratory performance.
- Laboratory duplicates are used to measure precision in the laboratory.
- Matrix spikes (MS) are used to identify high or low bias caused by matrix interference.
- Surrogate spikes are used to evaluate the method performance that can cause high or low bias in the data.

The laboratory QA/QC program was evaluated by examining blanks, LCS, MS, and surrogate spike samples.

The data's precision was verified by reviewing the laboratory and field data quality indicators that include laboratory duplicate and field duplicate relative percent differences (RPDs). Field duplicate (FD) and laboratory duplicate RPDs calculated for the Phase Two investigation samples were within the acceptable limits.

The data's accuracy was verified by reviewing the LCS, MS, and surrogate recoveries, and by evaluating laboratory method blanks, trip blank data, and other method-specific criteria. The overall accuracy reported in this DQE is considered acceptable but was affected by the following:

- In WT2511335, semi-volatile organic compound analysis exceeded the holding-time criteria.
- In WT2513613 and WT2511458, pH analysis exceeded the holding-time criteria by a factor of two.
- In WT2510976, the LCS recovery for silver was less than the lower control limit.
- In WT2605588, the LCS recovery for 3,3'-dichlorobenzidine was less than the lower control limit.

Detected and nondetected results associated with these QC issues were flagged "J" and "UJ," respectively, and are considered estimated.

The data's representativeness was verified through the samples' collection, storage, and preservation procedures and by verifying holding-time compliance. The results met the applicable acceptance criteria, with the exception of 53 results that were flagged for holding-time exceedance. However, the overall representativeness was acceptable.

The data's comparability was verified using standard analytical procedures and standard units for reporting. Results obtained are comparable to industry standards in that the collection and analytical techniques followed approved, documented procedures.

Completeness is a measure of the number of valid measurements obtained in relation to the total number of measurements planned. Valid data are defined as all data that are not rejected for project use. No data have been rejected. All data are considered valid.

The soil and groundwater analytical data evaluated as part of the DQE are considered valid and can be used to support the project decision-making process.

6.10 Phase Two Conceptual Site Model

This section is based on recent Phase Two ESA work completed at the Phase Two Property. It provides a Phase Two conceptual site model (CSM), as required by O. Reg. 153/04 (MECP 2011a). The Site is in downtown Guelph, at the northeastern corner of the junction of Edinburgh Road South and Preston Street (Figure 2-1) and is approximately 0.45 acre in size. The Site is currently vacant with a single building located in the southwestern corner.

The onsite building is a one-storey, slab-on-grade, brick-and-mortar building constructed with a stucco exterior in the southwestern corner of the Site. A wooden, slab-on-grade shed is located on the eastern side of the building. The Site most recently operated as a community pottery centre (Guelph Community Pottery Centre) from 2017 to 2025, before which it was a vintage clothing store from approximately 2010 to 2017, and an antique shop before then. Since 1910, the Site has mainly consisted of various commercial properties, including Guelph Auto-Electric, a former commercial autobody shop (Jacobs 2025).

6.10.1 Potentially Contaminating Activities

The Phase One ESA (Jacobs 2025) identified several PCAs within and outside the Site. The following PCA was identified on the Site and resulted in an APEC (Figure 4-1):

- 10 – Commercial Autobody Shops

The following PCAs were identified in the Phase One ESA (Jacobs 2025) outside the Phase Two Property but on lands within 250 m the Site (that is, Phase Two Study Area) and resulted in an APEC (Figure 4-1):

- 46 – Rail Yards, Tracks, and Spurs
- 59 – Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products

The specific descriptions of each PCA are provided in Table 4-2, including a rationale for whether the PCA results in an APEC on the Phase Two Property.

6.10.2 Areas of Potential Environmental Concern

Table 4-3 identifies the one APEC identified from an onsite PCA and one APEC identified from offsite PCAs at the Phase Two Property. The following two APECs were identified within for the Phase Two Property (Jacobs 2025).

- **APEC-01: Former Auto Repair Service** – Guelph Auto-Electric was listed at 4 Edinburgh Road South with a waste generator number (ON0921800) from 1986 to 1988 as "other repair services." Waste class was listed as petroleum distillates.
- **APEC-02: Offsite PCAs to the North:**
  - **Rail Line** – Canadian National Rail, previous Grand Trunk Railway, is located directly north of the Site.
  - **Wood Product Manufacturing** – Torchlight Industries is listed in Scott's Manufacturing Directory at 30 Edinburgh Road South as a wood product manufacturer established in 1974.

Figure 4-2 shows the locations of the APECs and the current borehole and monitoring wells. Table 6-4 shows the Phase Two Property APECs that have been investigated for the associated COPCs.

6.10.3 Subsurface Utilities and Construction Features

Utilities (including sanitary and storm sewers, natural gas pipes, telecommunications, and electrical lines) were active and connected during the Phase Two ESA investigation and are still present in the subsurface. The majority of the utilities are located around the existing building. A utility box is located near MW104 (western portion of the Site), and a catch basin was observed in the middle of the yard; however, no information on where the catch basin drains has been made available. The limited underground utilities onsite are not expected to extend to the depth of the bedrock aquifer (depths of utilities are unknown) and are therefore not expected to significantly influence the groundwater flow directions. COCs are most likely to be transported (that is, to migrate) by groundwater, based on the following factors:

- Depth of groundwater (at least 0.54 mbgs [perched] and 12.11 mbgs [bedrock])
- Suspected depth of underground utilities (1.5 mbgs or deeper)
- Presence of permeable materials onsite (fill, sand, and gravel identified from ground surface to below the depth of suspected utilities [to a maximum depth of 4.57 mbgs])

Figures 2-2a and 2-2b show current and proposed future building outlines, respectively, on the Phase Two Property.

6.10.4 Physical Setting

The topography over the Phase Two Property is slightly sloped, with ground surface elevations ranging from 328.25 masl (MW101 at the southern portion of the Site) to 330.23 masl (MW103D in the northern

portion of the Site). The Site slopes southwest from the northeastern portion of the Site toward the intersection of Edinburgh Road South and Preston Street. Surface runoff at the Phase Two Property is expected to flow southwest and is directed toward offsite catch basins within the roadways. Figure 3-1 shows the regional topography and surface water drainage features. The Speed River is the nearest downgradient waterbody, located approximately 550 m southeast of the Site, and the ground surface tends to slope southeast toward the river. Groundwater from the region is likely to eventually discharge to Speed River.

The City categorizes regions of Guelph within Wellhead Protection Areas (MECP 2024). The Site is within Wellhead Protection Area B (2-year travel time) for several of the City's municipal water supply wells. The nearest municipal groundwater supply wells to the Site include the Membro, Edinburgh, and Water Street wells, located approximately 0.9 to 1.0 kilometre south (downgradient) of the Site, past the Speed River.

The municipal groundwater resource is drawn primarily from the Gasport Formation. A lower-permeability Reformatory Member and Vinemount Member of the Eramosa Formation are generally understood to serve as a regional aquitard, situated above the limestone and Gasport Formations of the Goat Island Formation (Brunton 2009).

The City is also part of the Plan (GRCA 2025), which assigns Drinking Water Threat Vulnerability Scores across the region based on various risk factors; the Phase Two Property is assigned a Vulnerability Score of 10, the highest possible, indicating it is susceptible to potential contamination. According to Plan mapping, the Site is in an issues-contributing area with "trichloroethylene and another DNAPL" as contaminants, but it is not in a highly vulnerable aquifer or in a significant groundwater recharge area (GRCA 2025).

6.10.4.1 Stratigraphy

The Site is interpreted to consist of a predominantly sandy silt fill overburden overlying Guelph Formation dolostone bedrock. Exhibit 6-1 summarizes the geological units encountered beneath the Site during the Phase Two ESA activities.

Exhibit 6-1. Site Stratigraphy

Geological Unit	Approximate Depth (mbgs)	Average Thickness (m)	Lithology
Fill	0 to 4.57	2.4	Sand, sandy silt, or trace gravel were encountered. Some clay was also observed.
Native Till	1.52 to bedrock	7.3	Native till underlying the fill consists of a sandy silt matrix that exists roughly from the bottom of fill to the bedrock, with trace gravel, trace clay, and trace sand identified throughout.
Gravel	1.7 to 8.2	0.7	A seam of saturated gravel was identified at MW102 (at 1.7 mbgs) and at MW105D (at 8.2 mbgs).
Guelph Formation dolostone	9.14 to 10.97 (top of bedrock range)	N/A	The top of bedrock was described as being weathered. The average depth to bedrock is 10.03 mbgs for the Site.

N/A = not applicable

Geological cross-sections were prepared to show the Site stratigraphy. Figure 6-1 presents cross-section locations, and Figures 6-1a to 6-1b present cross-sections A-A', and B-B', respectively.

The Site-specific geology indicates that the main units investigated during the Phase Two ESA were an overburden composed of sandy silt interbedded with sand and gravel, and bedrock.

6.10.4.2 Hydrogeological Characteristics

Two main hydrogeological units were encountered at the Site: (1) perched groundwater above a sandy silt strata and (2) a shallow, unconfined aquifer generally in the upper bedrock but extending in places up into the overburden soil (the "perched groundwater" and "bedrock aquifer," respectively).

Eight monitoring wells were used at the Phase Two Property to investigate conditions associated with the perched groundwater and the bedrock aquifer:

- Five wells are installed in the bedrock aquifer (MW101, MW103D, MW104D, MW105D, and MW106D).
- Three are installed to assess the perched groundwater (MW102, MW103, and MW104).

Figures 6-2a presents the interpreted groundwater elevation contours and flow directions within the perched groundwater using groundwater elevations collected during the May 29, 2025, monitoring event. Figure 6-2b presents the interpreted groundwater elevation contours and flow directions within the bedrock (water table) using groundwater elevations collected during the March 9, 2026, monitoring event. Figures 6-2c and 6-2d present the interpreted groundwater elevation contours and flow directions within the perched groundwater and bedrock aquifer (water table), respectively, using groundwater elevations collected during the June 22, 2026, monitoring event.

Exhibit 6-2. Hydrogeological Characteristics

Groundwater Unit	Characteristic	Summary
Bedrock	Flow Direction	Groundwater generally flows from west to east. The higher groundwater elevations in the western portion of the Site appear to be correlated with higher bedrock layer elevation. Regional flow direction is anticipated to be south toward the Speed River.
	Average Horizontal Hydraulic Conductivity	To be provided in the final report.
	Average Horizontal Hydraulic Gradient	**Estimated range for the perched groundwater:** 0.0675 m/m (May 29, 2025) 0.073 m/m (June 22, 2026) **Estimated average for the bedrock aquifer:** 0.031 m/m (March 9, 2025) 0.024 m/m (June 22, 2026) The maximum groundwater elevations within the bedrock aquifer were measured during the June 2026 monitoring event and were likely associated with snow melt and increased precipitation in the spring.

Groundwater Unit	Characteristic	Summary
	Groundwater Velocity	To be provided in the final report.
	Vertical Hydraulic Gradients	To be provided in the final report.

6.10.4.3 Depth to Bedrock

The Guelph Formation dolostone that underlies the Site was encountered between 9.14 and 10.97 mbgs (317.71 to 319.31 masl), with an average depth to bedrock of 10.03 mbgs (318.97 masl). Bedrock across four of the five locations where it was encountered was between 319.25 and 319.31 masl (MW103D to MW106D). The deeper bedrock elevation of 317.71 masl was encountered at MW101 in the southwestern portion of the Site.

Note, higher groundwater elevations are correlated to the western portion of the Site; the groundwater contours presented on Figures 6-2b and 6-2d appears to show an easterly flow from the higher bedrock.

6.10.4.4 Depth to Water Table

The primary water table within the Phase Two Property is within the Guelph Formation dolostone bedrock unit. A perched groundwater table was encountered in the northern portion of the Site, likely associated with gravel seams through the lower permeable sandy silt fill and till layers.

The depths to the perched groundwater were assessed based on two groundwater level monitoring events (May 29, 2025, and March 9, 2026). The depths to the bedrock aquifer were assessed based on three groundwater level monitoring events (May 29, 2025, March 9, 2026, and June 22, 2026).

The depth to the bedrock aquifer ranged from 11.95 to 14.93 mbgs (315.29 to 316.50 masl). The depth to the perched groundwater ranged from 0.54 to 5.07 mbgs (325.54 to 327.89 masl) based on the two or three monitoring events.

6.10.4.5 Applicable Site Condition Standards

O. Reg. 153/04 (MECP 2011a), under Part XV.1 of the *Environmental Protection Act,* addresses the assessment, cleanup, and filing of a RSC for brownfield sites in Ontario, and applies to the Phase Two Property. Jacobs evaluated the Site based on a number of criteria to decide which of the generic SCS provided in the *Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act* (MECP 2011b) applied for a comparison of soil and groundwater results from the Phase Two ESA investigation.

Exhibit 2-3 outlines the items Jacobs considered when selecting the SCS, as outlined in O. Reg. 153/04 (MECP 2011a), discussed here.

The special conditions for environmentally sensitive areas under Sections 41 or 43.1 of O. Reg. 153/04 do not apply to the Phase Two Property:

- The Site is not considered an area of natural significance or to be within proximity to an area of natural significance, based on the information reviewed as part of the Phase One ESA (Jacobs 2025).

- Jacobs analyzed nine soil samples for pH from four locations across the Phase Two Property (Figure 2-3). The results of the Jacobs investigation found soil pH to range from 7.97 to 8.14. Soil pH was within the MECP's acceptable range for samples collected in both surface soil (from between ground surface and 1.5 mbgs, with a pH value greater than 5 and less than 9) and subsurface soil (more than 1.5 mbgs with a pH value in subsurface soil greater than 5 and less than 11).
- The special conditions for land within 30 m of a water body under Section 43.1 of O. Reg. 153/04 do not apply to the Phase Two Property; no waterbodies are located on the Site or within 30 m of the Site. The Speed River is the nearest downgradient waterbody, located approximately 550 m southeast of the Site.
- The special conditions for shallow soil properties cited under Section 43.1 of O. Reg. 153/04 do not apply to the Phase Two Property; the depth to bedrock is greater than 2 m, as bedrock was encountered between 9.14 mbgs and 10.97 mbgs.

The adjacent properties within 250 m are serviced by a municipal water source. However, as the City relies on groundwater for its water supply (City n.d.), the potable groundwater condition was applied.

The current land use is commercial, and the proposed future land use is residential, provided an RSC acknowledged by the MECP is obtained. Due to the presence of heterogeneous fill materials across the Site, the standards for coarse-grained soils were considered applicable.

The Table 2 SCS was applied to the Site, based on this information reviewed by the QPESA.

6.10.4.6 Imported Soil

The Phase One ESA (Jacobs 2025) reported no evidence of fill material being brought to the Site. No soil was imported to the Site as part of Jacobs' recent Phase Two ESA activities.

6.10.4.7 Proposed Buildings and Other Structures

The Site is planned to be redeveloped to residential housing units, including a laundry facility and elevator. The exterior is to include parking lots, walkways, and planters.

The proposed building footprint is presented on Figure 2-2b.

6.10.5 Contaminants

6.10.5.1 Contaminants Exceeding Applicable Site Condition Standards in Soil and Groundwater

The Phase Two Property has localized impacts. Salt-related analytes (that is, EC and SAR in soil; sodium and chloride in groundwater) were identified in up to four locations (MW101, MW103D, MW105D, and MW106D); cobalt in groundwater was identified in two locations within the perched groundwater (MW103 and MW104); and select VOC impacts (that is, TCE and cis-1,2-DCE) were observed in groundwater within the bedrock aquifer.

Although identified as COPCs at the Site, the following parameters were not identified with exceedances of the Table 2 SCS onsite, either in soil or groundwater:

- ABNs
- BTEX

- Chlorophenols
- PAHs
- PHCs

Tables 6-5 and 6-8 summarize the analytical results of the investigation for soil and groundwater, respectively, and compares these with the Table 2 SCS. Figures are provided that present the locations of soil samples (Figures 6-4 through 6-8) and groundwater samples (Figures 6-9 through 6-16) analyzed and a comparison to the Table 2 SCS by analytical group. Where exceedances of the Table 2 SCS are present, at least one cross-section has been prepared presenting the inferred vertical extent of impacts by analytical group and follows the plan view figure. Maximum concentrations of the parameters exceeding Table 2 SCS are shown in red text on the respective plan view and cross-sectional figures.

The following subsections discuss the soil and groundwater conditions found exceeding the Table 2 SCS on the Phase Two Property.

6.10.5.1.1 Other Regulated Parameters

EC and SAR exceedances of the Table 2 SCS were identified in soil in one location (MW101), closest to the building and within the parking lot. Exceedances of the Table 2 SCS were also identified in groundwater for sodium and chloride at the same location (MW101), at MW106D located to the northeast of MW101.

Exceedances of EC and SAR in soil were identified at ground surface to a maximum depth of 5.18 mbgs. Maximum concentrations were identified at MW101 for both EC and SAR in the fill located within the parking lot area in the southern portion of the Site near the main building. Maximum concentrations of chloride and sodium in groundwater were identified in the central portion of the Site at MW106D, which is located downgradient of the parking lot area based on the groundwater contours (Figure 6-2b). MW103D and MW105D are also located downgradient of the Site, east of the parking lot in the northern and southern portions of the Site, respectively. These wells showed elevated concentrations of sodium or chloride, or both, in June 2026 (results from March 2026 were less than the Table 2 SCS).

Figures 6-3 and 6-9 show the detected exceedances and locations analyzed for select ORPs for soil and groundwater, respectively.

The presence of EC and SAR in soil and sodium and chloride in groundwater is likely a result of the application of de-icing materials on the parking lot surfaces. Section 49.1 of O. Reg. 153/104 states the SCS is deemed not to be exceeded for the purpose of Part XV.1 of the *Environmental Protection Act* when a substance that has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice, or both, exceeds the SCS. Results are detailed in Tables 6-7b and 6-10b; at the discretion of the QPESA and based on the regulation, these parameters are not considered to be COCs at the Phase Two Property.

6.10.5.1.2 Metals (Including Hydride-Forming Metals, Cyanide, Mercury, and Hexavalent Chromium)

According to the current investigation, metals parameters, including hydride-forming metals, cyanide, mercury, and hexavalent chromium in soil, were reported less than the Table 2 SCS (Figure 6-4).

Metal parameter exceedances in groundwater were limited to cobalt within the perched groundwater. Exceedances occurred in two wells (MW103 and MW104) in the northern and western portions of the Site (Figure 6-10), with maximum concentrations (15.1 µg/L) found at MW104 (screened at 0.61 to 2.13 mbgs). The cobalt exceedances at the two locations have been vertically delineated by MW103D

(screened in the bedrock at 15.2 to 18.3 mbgs) and MW104D (screened in the bedrock at 13.7 to 16.8 mbgs), where concentrations were less than the Table 2 SCS (Figures 6-10a and 6-10b).

The maximum concentration of cobalt was found at MW104. Groundwater flows east (Figure 6-2a), and MW103 is located downgradient of MW104, with slightly lower concentrations of cobalt identified, suggesting MW104 is closer to the source. The perched groundwater was not encountered on the southern portion of the Site, and the bedrock wells located downgradient and to the south did not report any detectable concentrations of cobalt.

The shallow metals exceedances identified in groundwater are potentially associated with APEC-01 (Former Auto Repair Services) and APEC-02 (Offsite PCAs to the north). However, given the location of the onsite cobalt impacts (northern and western portions of the Site), groundwater flow toward the east, and no cobalt exceedances found in soil at the Site, the elevated concentrations may be related to offsite and upgradient PCAs or other unknown sources.

As no metals exceedances were identified in soil, soil does not appear to be acting as a source of contaminant mass contributing to the groundwater quality at the Phase Two Property.

6.10.5.1.3 Volatile Organic Compounds

Concentrations of VOCs in soil were reported to be less than the Table 2 SCS (Figure 6-8).

Concentrations of TCE and cis-1,2-DCE in groundwater samples were reported exceeding the SCS within the bedrock aquifer. TCE exceedances occurred in all the bedrock wells (MW101, MW103D, MW104D, MW105D, and MW106D) located across the Site, with cis-1,2-DCE exceedances reported in two bedrock wells (MW103D and MW104D) located in the northern and western portions of the Site (Figure 6-14). The maximum concentrations of TCE and cis-1,2-DCE of 249 µg/L and 22.4 µg/L, respectively, were reported at MW104D, screened between 13.7 and 18.3 mbgs.

Chlorinated ethylene concentrations in groundwater have the potential to degrade to vinyl chloride. As discussed in the Rationale Document (MECP 2011d), the anaerobic biodegradation of chlorinated compounds to vinyl chloride involves a reductive dichlorination step, which is influenced by chemical-specific parameters (that is, solubility) and Site-specific geochemical parameters (that is, oxidation-reduction potential). TCE, cis-1,2-DCE, trans-1,2-DCE, 1,1-DCE, and tetrachloroethylene are the chlorinated parent compounds known to degrade to vinyl chloride through reductive dichlorination (MECP 2011d). Aside from the concentrations of TCE and cis-1,2-DCE in groundwater exceeding the Table 2 SCS (as described previously), three additional samples of cis-1,2-DCE (from MW101 and MW106D), two samples of 1,1-DCE, and one sample of trans-1,2-DCE (from MW104D) reported detected concentrations; all other results of the chlorinated parent compounds, including vinyl chloride, were nondetect.

While onsite APECs associated with potential historical use or VOCs have been identified (that is, APEC-1: Former Auto Repair Services), the impacts in the deep groundwater are believed to originate from an offsite source or sources. This is based on the following evidence:

- No concentrations of VOCs were detected in soil at the Site.
- No detectable concentrations of VOCs were measured in all the shallow perched groundwater wells, including at the location of the maximum concentration (MW104).
- Groundwater in the bedrock on Site flows toward the east (Figures 6-2b and 6-2d), and the maximum concentrations of VOCs identified at MW104D are located upgradient and along the western property

boundary. Monitoring wells located within the bedrock aquifer downgradient of MW104D appear to have decreasing concentrations of VOCs.

The VOC impacts (TCE and 1,2-cis-DCE) observed in the bedrock groundwater are therefore more likely a result of an offsite, unknown source or sources.

6.10.5.2 Migration of Contaminants of Concern

No soil COCs were identified at the Site.

Groundwater exceedances of the Table 2 SCS were limited to cobalt at two overburden locations (MW103 and MW104) and VOCs (specifically TCE and 1,2-cis-DCE) within the wells screened in the bedrock aquifer. Cobalt meets the Table 2 SCS at MW103D and MW104D, providing vertical delineation for MW103 and MW104 screened in the overburden.

There is no apparent soil source of the cobalt or VOC impacts onsite, suggesting the elevated concentrations may be from an alternate source or sources. As there is no apparent source of the impacts onsite, and groundwater impacts are found in the most upgradient locations onsite, these may be a result of migration from offsite sources from the west; however, there is currently no direct evidence to confirm.

6.10.5.3 Climatic Conditions

Climatic or meteorological conditions that may have influenced the distribution and migration of COCs at the Phase Two Property include temporal fluctuations in groundwater levels. No atypical weather events that would be expected to influence COC transport are known to have occurred during Jacobs' investigation of the Phase Two Property. Changes in water elevations can affect contaminant migration.

6.10.5.4 Soil Vapour Intrusion

A soil vapour investigation was completed at the Site, as concentrations of TCE in groundwater suggested the potential for vapour intrusion. Soil vapour probes were placed within the southern half of the Site beside the bedrock monitoring wells on either side of the building that had elevated groundwater concentrations of TCE (that is, near MW101, MW104D, MW105D, and MW106D) to provide an indication of the worst-case vapours being generated.

The results from the sampling events (April and June 2026) indicate that all soil vapour and ambient air analytical results met the residential applicable Site-specific soil vapour screening levels for the identified COPCs.

6.10.6 Distribution of Contaminants

As Section 3 discussed, only cobalt and select VOCs in groundwater exceeded the Table 2 SCS. Groundwater exceedances of cobalt are localized in the perched groundwater within the northern and western boundaries of the Site (Figure 6-10), whereas select VOC exceedances are Site wide within the bedrock aquifer (Figure 6-14). Cross-section Figures 6-10a and 6-10b for metals and Figures 6-14a and 6-14b for VOCs provide the vertical distribution of the groundwater exceedances at the Site and the water table elevations.

Figures 2-2a and 2-2b show current and future building outlines for the Phase Two Property, respectively. As depth to utilities are unknown, these were not included on the applicable cross-section figures.

6.10.7 Contaminant Exposure Assessment

Figures 6-17 and 6-18 present the human health and ecological contaminant pathway and receptor models, respectively, based on current and potential future Site conditions. The proposed future land use of the Site is residential. The models present preliminary assessments of the exposure pathways that will be further investigated as part of the RA to be completed for the Phase Two Property.

These figures identify the following five exposure pathways:

1. **Release mechanisms** – The Phase Two Property became impacted as a result of historical Site operations (refer to the discussion on PCAs and APECs), when COCs were released to the ground (for example, by spill or leak), or from offsite contaminated groundwater flowing through the Site.
2. **Contaminant transport pathways** – COCs released to soil may adsorb to soil or infiltrate deeper into the soil column. COCs in soil may also desorb and leach to groundwater or migrate vertically to the water table. COCs in groundwater can be transported via vertical or horizontal groundwater flow, volatilization to outdoor air or indoor enclosed spaces, and uptake by vegetation.
3. **Human and ecological receptors located on, in, or under the Phase Two Property** – Receptors currently present or expected to be present in the future at the Phase Two Property include the following:
    a. Human Receptors – residents, Site visitors, indoor workers, outdoor workers, and subsurface workers
    b. Ecological Receptors – soil organisms, terrestrial plants, birds, and mammals
4. **Receptor exposure points** – COCs were not identified in groundwater. COCs may be contacted directly in groundwater or indirectly in outdoor and indoor air.
5. **Routes of exposure** – The primary routes of exposure by receptor type include the following:
    a. Human Receptors
        i. Direct contact with potable groundwater (ingestion or direct contact)
        ii. Direct contact with groundwater (incidental ingestion and dermal contact)
        iii. Inhalation of volatiles originating from a groundwater source (indoor and outdoor air)
        iv. Ingestion of garden produce
    b. Ecological Receptors
        i. Direct contact with either groundwater (ingestion and dermal)
        ii. Terrestrial plant root uptake from groundwater
        iii. Ingestion via terrestrial biota and prey

6.10.8 Nonstandard Delineation

Nonstandard delineation in accordance with O. Reg. 153/04 Schedule E, Section 7.1, was not conducted at the Site. Delineation was conducted to the requirements of O. Reg. 153/04 Schedule E, Section 7, for all COCs identified at the Site in soil and groundwater.

6.10.9 Reliance on Exemption on Site Condition Standard Exceedances

EC, SAR, sodium, and chloride exceeded the Table 2 SCS; however, they were not considered to be COCs at the Property based on the exemptions in Section 49.1 of O. Reg. 153/04 for meeting the SCS.

EC, SAR, chloride, and sodium were found in two locations at the Site (MW101 and MW106D) at elevated concentrations, and low exceedances of chloride in sodium in groundwater were also found at MW103D and MW105D. MW101 is located adjacent to the building and within the main parking lot area; MW106D is located downgradient. MW103D and MW105D are located east of the main parking lot area, in the northern and southern portions of the Site, respectively.

The location of the main exceedances (MW101 and MW106D) suggests that the presence of EC, SAR, chloride, and sodium is likely related to the application of salt on the parking lot surface during winter conditions. The application of salt has been used for the safety of vehicular and pedestrian traffic. Under Paragraph 1 of Section 49.1 of the revised O. Reg. 153/04, the SCS is deemed to not be exceeded for the purpose of Part XV.1 of the *Environmental Protection Act* should a substance be applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both. Therefore, at the discretion of the QPESA, EC and SAR were not considered to be COCs for the Phase Two Property.

6.10.10 Reliance on Exemption Related to Excess Soils

Jacobs did not rely on Paragraph 3 of Section 49.1 of the revised O. Reg. 153/04.

7. Conclusions

Jacobs offers the following conclusions, based on the findings of the Phase Two ESA.

7.1 Site Characterization

The Phase Two Property was found with limited localized impacts with salt-related parameters (EC and SAR in soil; sodium and chloride in groundwater). The presence of elevated EC and SAR in soil and sodium and chloride in groundwater is related to the application of de-icing materials on the parking lot surfaces. Section 49.1 of O. Reg. 153/104 states the SCS is deemed not to be exceeded for the purpose of Part XV.1 of the *Environmental Protection Act* when a substance that has been applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice, or both, exceeds the SCS. Therefore, the QPESA has determined, based on the exemptions in Section 49.1 of O. Reg. 153/04, that these parameters are not considered to be COCs at the Phase Two Property.

Groundwater exceedances of the Table 2 SCS were limited to cobalt at two overburden locations (MW103 and MW104) and chlorinated VOCs (specifically TCE and cis-1,2-DCE) within the bedrock aquifer.

Metals exceedances in groundwater were limited to cobalt within the perched groundwater. Exceedances occurred in two wells (MW103 and MW104) in the northern and western portions of the Site, with the maximum concentration found at MW104 (screened at 0.61 to 2.13 mbgs). The cobalt exceedances at these locations did not extend vertically to the bedrock aquifer (as delineated with MW103D and MW104D). Groundwater flows toward the east, and MW103 is located downgradient of MW104; MW103 has slightly lower concentrations of cobalt, suggesting MW104 is closer to the source. Cobalt impacts may be related to offsite and upgradient PCAs or other unknown sources.

VOC exceedances in groundwater were limited to TCE and cis-1,2-DCE within the bedrock aquifer. TCE exceedances occurred in all bedrock wells (MW101, MW103D, MW104D, MW105D, and MW106D) located across the Site, with cis-1,2-DCE exceedances reported in two bedrock wells (MW103D and MW104D) located in the northern and western portions of the Site, respectively. The maximum concentrations of TCE and cis-1,2-DCE were reported at MW104D, along the western property boundary. Neither soil nor shallow groundwater conditions onsite had any detectable concentrations of VOCs, and based on groundwater flow toward the east, the concentrations present in bedrock groundwater suggest an alternate source or sources.

Following extensive sampling over the Phase Two Property, it has been concluded that the horizontal and vertical extents of soil and groundwater impacts have been sufficiently defined for Phase Two purposes, as well as to support the RA and an evaluation of risk management measures.

7.2 Phase Two Property Certification

According to the results of the Phase Two ESA, concentrations of contaminants groundwater at the Phase Two Property did not meet the applicable standards, and remediation or development of property-specific standards under the completion of an RA for the Phase Two Property is warranted.

7.3 Signatures

This report was prepared by Ms. Jennifer Mannisto, B.Sc., under the supervision of Ms. Tania McCarthy, P.Eng. QPESA.

The findings and conclusions of this report were supervised and reviewed by the undersigned QP.

As QPESA, I (Tania McCarthy) confirm I have supervised the Phase Two ESA process, its findings, and the conclusions of this report.

Sincerely,

DRAFT

Jennifer Mannisto, B.Sc.
Site Assessor

DRAFT

Tania McCarthy, P.Eng., QPESA
Qualified Person for Environmental Site Assessment

8. References

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9. Limitations

This Phase Two ESA for the property located at 14 Edinburgh Road South, Guelph, Ontario, was prepared for the City's exclusive use. Third parties cannot rely upon the findings and conclusions presented in this report without the express written consent of Jacobs and the City through an extension of reliance using a reliance letter signed by both parties. Jacobs accepts no responsibility for damages, if any, incurred by any third party as a result of decisions made or actions based on this report.

Note, Phase Two ESAs completed in accordance with the O. Reg. 153/04 have inherent limitations. The findings and conclusions regarding impacts at the Site are based solely on the extent of observations and information gathered during the Phase Two ESA.

The environmental characterization data were collected in general accordance with O. Reg. 153/04 – following the Phase One and Two ESA procedures. The sampling work was completed using standard engineering and scientific judgment, principles, and practices. The findings and conclusions regarding the contamination of the property are based solely on the extent of observations and information gathered during the Phase Two investigations. There are inherent limitations to this type of investigation.

The soil, groundwater, and environmental conditions, events, and observations described in this report are those observed at the time of the investigation. Environmental site conditions vary. Interpretations of groundwater levels and flow direction are based on water level measurements at selected monitoring well locations and are expected to fluctuate. Borehole and monitoring well observations indicate the approximate subsurface conditions at those locations only. Boundaries between zones are often not distinct; rather, they may be transitional and were interpreted. Subsurface conditions between boreholes, monitoring wells, and sampling locations were inferred and may vary significantly from conditions encountered at those locations.

The City should be aware that with the nature of this type of work, there are inherent limitations, as outlined in the CSA Group Standard (CAN/CSA-Z769-00), Section 3.9.2:

Even when Phase II work is executed with an appropriate standard of care, certain conditions such as substances of concern that are under buildings or of low mobility, can present especially difficult detection problems.

It shall be recognized that samples taken represent one discrete portion of any Site at any given time, and may or may not be representative of the entire Site or the portion in question.

The findings of these characterization activities are based on observations and findings recorded by Jacobs during Site visits and reconnaissance, and also on data and information provided by the City and third parties; this information was not independently verified by Jacobs, and Jacobs has assumed this information to be accurate, complete, reliable, noninfringing, and fit for the intended purpose.

This is a technical report and is not a legal representation or interpretation of environmental laws, rules, regulations, or policies of governmental agencies.

The investigation activities were formed on historical reports and the information gathered during the Phase One ESA activities. However, Jacobs cannot warrant or guarantee that the information provided in this summary is absolutely complete or accurate beyond current environmental engineering consulting standards. Jacobs assumes no responsibility for conditions that it was not authorized to investigate or that were not within its specific scope of work.

Jacobs believes this report to be accurate; however, Jacobs disclaims any warranty of the completeness or accuracy of information supplied to Jacobs that was relied upon in the preparation of this report.

All findings and conclusions stated in this summary are based on facts and circumstances as they existed during the investigation. Any changes in fact or circumstances upon which the summary was based may change the findings reported. Jacobs cannot report on, or accurately predict, events that may change the Site conditions after the described investigation was completed.

Other considerations and limitations applicable to this Phase Two ESA also include the following.

9.1 Standard of Care and Limitation of Liability

a) Jacobs' services are governed by the negligence standard for professional services, measured as of the time those services are performed.

b) Jacobs shall not be liable to the City for any damages where it has exercised a reasonable standard of care.

9.2 No Third-party Beneficiaries

a) This Phase Two ESA Report gives no rights or benefits to anyone other than the City and Jacobs and has no third-party beneficiaries. All work products prepared are for the sole and exclusive use of the City for specific application to the property described in the Agreement; are not for the benefit of any third party; and may not be distributed to, disclosed in any form to, used by, or relied upon by any third party without the prior written consent of Jacobs, which consent may be withheld in its sole discretion.

b) No warranty, expressed or implied, is made regarding the services performed.

c) If the City requests Jacobs' consent for a third party to depend upon an ESA Report as part of the City's financing efforts or in connection with decisions regarding redevelopment, sales, or acquisitions, such consent will be considered given upon the third party's execution of a reliance letter as provided by Jacobs.

9.3 Existing Site Conditions

a) Any opinions or recommendations presented apply to Site conditions existing when services were performed. Jacobs cannot report on or accurately predict events that may change the Site conditions after the described services are performed, whether occurring naturally or caused by external forces.

b) Jacobs assumes no responsibility for conditions we are not authorized to investigate, or which are not in our specific scope of work. Unknown contamination may be exposed during excavation.

c) Jacobs' services shall not include an independent verification of the quality of work conducted and information provided by independent laboratories or other independent contractors retained by Jacobs in connection with Jacobs' services.

In preparing this Phase Two ESA, Jacobs relied, in whole or in part, on data and information provided by the City and third parties, which information was not independently verified by Jacobs, and which Jacobs has assumed to be accurate, complete, reliable, and current. Therefore, while Jacobs has used its best efforts in preparing this Phase Two ESA, Jacobs does not warrant or guarantee the conclusions set forth in this Phase Two ESA that are dependent or based upon data, information, or statements supplied by third parties or the City

Tables

Table 4-1. Phase One Conceptual Site Model

Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph, Ontario

Phase One CSM Element	Summary
Existing Buildings and Structures	The main building consists of the slab on grade building of brick and mortar construction which most recently housed a community pottery studio. It is currently vacant. A wood frame, slab on grade shed is located to the east of the main building.
Identify Water Bodies in the Phase One Study Area	The Speed River is located approximately 550 m southeast of the Phase One Property.
Areas of Natural Significance	No areas of natural significance were identified within the Phase One Study Area.
Presence of Drinking Water Wells	No drinking water or water supply well records exist for the Site or surrounding Study Area. The City of Guelph relies on the limestone and dolomite bedrock aquifers as its source of potable water for municipal treatment (Guelph 2025).
Identify Roads within the Phase One Study Area	Figure 6-1 of the Phase One ESA (Jacobs 2025) presents the roadways and land uses within the Phase One Study Area.
Adjacent Property Uses	Figure 6-1 of the Phase One ESA (Jacobs 2025) presents the adjacent property use: • To the north: rail line (industrial) followed by mainly residential with one area of parkland. • To the east: mainly residential properties. • To the south: mainly residential properties. • To the west: Edinburgh Road South (community) followed by industrial lands, including a brewery.
Identify PCAs in the Phase One Study Area	A total of 11 PCAs were identified in the Phase One Study Area. Details and descriptions of the PCAs are provided in Table 4-2, and indicate which PCAs result in an APEC.
Identify APECs	Two APECs were identified for the Phase One Property, one of which is attributable to an onsite PCA. APECs and are listed in Table 4-3 and shown on Figure 4-2.
COPCs	The COPCs identified for the Site include: benzene, toluene, ethylbenzene, xylenes (BTEX), polycylic aromatic hydrocarbons (PAH), petroleum hydrocarbons (PHC), volatile organic compounds (VOC), metals and hydride-forming metals, other regulated parameters (ORP) [including electrical conductivity (EC), sodium adsorption ratio (SAR), boron hot water soluble (B-HWS), chromium hexavalent (CrVI), and mercury (Hg)] for both soil and groundwater; and chlorophenols and acid/ base/ netural compounds (ABNs) in groundwater.
Presence of Underground Utilities	There are limited utility corridors on the Site, and therefore provide a low potential of being a preferential route of contaminant migration.
Regional/Local Geology	Based on a review of the Ontario Geological Survey (OGS) Quaternary Geology, the Phase One property and Study Area are located in an area of Port Stanley Till Pleistocene which consists of Pleistocene till with silt to sandy silt matrix becoming silt to silty clay near Lake Erie. It is strongly calcareous, with a moderate to low clast content decreasing southward. Based on a review of the OGS bedrock geology of Ontario (OGS 2011), the bedrock geology in the Phase One Study Area is described as the Guelph formation which is composed of Silurian dolomitic limestones and is a part of the Niagara Group, specifically the uppermost portion.

Table 4-1. Phase One Conceptual Site Model

Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph, Ontario

Phase One CSM Element	Summary
Regional/Local Hydrogeology	The Phase One Property elevation is approximately 329 masl (ERIS 2025; NRC 2021), and the surrounding area slopes to the southeast towards the Speed River, which is located approximately 550 m to the southeast. The inferred surface water and groundwater flow direction for the Phase One Study Area is presumed to follow the topography and is therefore inferred to flow in a southeasterly direction towards the Speed River. Groundwater was encountered in the observation wells located 40 m south of the Site (well record 675084) at a depth of 9 mbgs. The Phase One Property and the Phase One Study Area located within the Howwit/Pond subwatershed located within the Interstitial Drainage – Speed Watershed (Metroscapes 2025).
Uncertainties Affecting the Validity of Phase One CSM	On the basis of the uncertainties presented within the Phase One ESA report, it is possible that a PCA/APEC or land use has not been identified within the individual components of the Phase One ESA. Information was gathered from numerous sources (that is, aerial photographs, City Directories, database searches, historical reports, interviews, and site reconnaissance), which decreases the chance that a major PCA or land use was not identified in this Phase One ESA. Many aspects of the CSM have been previously studied and verified through subsurface investigations (for example, groundwater flow direction); these aspects are not directly affected by the noted uncertainties: • Quality of aerial photographs may not allow some features to be clearly identified, and professional judgment was used to relate the historical features identified in the aerial photographs to present day locations • Municipal addresses are known to change • Information provided by interviewed individuals, could be based on hearsay or personal opinion

Notes:

Jacobs Consultancy Canada Inc. (Jacobs). 2025. *Phase One Environmental Site Assessment, 14 Edinburgh Road South, Guelph, Ontario. Prepared for the City of*

ABN = Acid base neutral
APEC = Areas of Potential Concern
BTEX = benzene, ethylbenzene, toluene and xylenes
COPC = Contaminant of Potential Concern
CSM = Contaminated Sites Model
EC = electrical conductivity
ESA = Environmental Site Assessment
masl = metre(s) above sea level
mbgs = metre(s) below ground surface
PAH = Polycyclic aromatic hydrocarbon
PCA = Potentially Contaminating Activity
Phase One Property = 15 Edinburgh Road South, Guelph, Ontario
PHC = Petroleum hydrocarbon
SAR = sodium adsorption ratio
VOC = volatile organic compound(s)

Table 4-2. Potentially Contaminating Activities within the Study Area
Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph, Ontario

PCA [a]	PCA Unique ID	Descriptions of PCAs	Location of PCA [b]	PCA Results in APEC	Resulting APEC	Rationale
Phase One Property						
10 - Commercial Autobody Shops	1	Former Auto Repair Services - Guelph Auto-Electric was listed at 4 Edinburgh Rd S with a waste generator number (ON0921800) from 1986-1998 as "other repair services." Waste class was listed as petroleum distillates.	Onsite	Yes	APEC-01	PCA is located on the Phase One Property
Phase One Study Area						
28 - Gasoline and Associated Products Storage in Fixed Tanks	2	Oil House and Fuel Oil Storage Tank - An oil house is shown on the 1946 FIP at Leland Electric Canada Ltd. (60 Crimea). On the 1960 FIP the oil house has been replaced at the east end of the property with a 12,000-gallon fuel-oil tank.	Offsite	No	--	PCA is cross-gradient form the Phase One Property.
Other - Activity not defined in O. Reg. 153/04 Table 2 of Schedule D	3	Spill - A spill of a "milky substance" was reported at 7 Edinburgh Rd S in July 2008. The release was reported to be in a ditch and on speed rail, with a potential for surface water pollution.	Offsite	No	--	PCA is located downgradient of the Phase One Property.
46 - Rail Yards, Tracks and Spurs	4	Rail Line - Canadian National Railway (CNR), previously Grand Trunk Railway, is located directly north of the Site.	Offsite	Yes	APEC-02	PCA is located upgradient and directly adjacent to the Phase One Property.
54 - Textile Manufacturing and Processing	5	Former Fibre, Yarn and Thread Mill - Guelph Twines Ltd was found to have records associated with at 50 Crimea St operating as a fibre, yarn, and thread mill. A waste generator record indicated inorganic laboratory chemical waste class from1986 to present. A Scott's Manufacturing Directory record indicated a plant size of 2,79 square metres, which was established in 1972. An EASR record also indicated an Air Emissions register (R-10-4110658491) in 2018.	Offsite	No	--	PCA is cross-gradient form the Phase One Property.
34 - Metal Fabrication	6	Former Agricultural and Barn Fittings and Electric Motor Manufacturing - Louden Machinery Company, a company manufacturing agricultural equipment and barn fittings, was shown on the 1911, 1916, and 1929 FIPs located north of the tracks on the western side of Edinburgh at 115 Crimea Street and included an engine house. The industrial property is labelled as Leland Electric Canada, an electric motor manufacturer, with an updated address of 50 Crimea Street on the 1946 FIP. Areas are identified in the operations, including dipping, spraying and drying, machine shop, press, stator and armature departments, and oil house.	Offsite	No	--	PCA is cross-gradient form the Phase One Property.
8 - Chemical Manufacturing, Processing and Bulk Storage	7	Chemical Manufacturing/Distributors - Lok-Air Inc was found to have a chemical register record as a manufacturer or distributer of chemicals located at 50 Crimea St. A Scotts Manufacturing Directory record indicated a plant established in 1983 for various organic chemical manufacturing, adhesive manufacturing, and rubber manufacturing. County Solvents and Chemicals Ltd was listed in the chemical register as a manufacturer or distributer of chemicals located at 50 Crimea St. A Scotts Manufacturer Directory record indicated a lubricating oils and grease producer, established in 1988.	Offsite	No	--	PCA is cross-gradient form the Phase One Property.
59 - Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products	8	Wood Product Manufacturing - Torchlight Industries was listed in Scotts Manufacturing Directory at 30 Edinburgh Road South as a wood product manufacturer established in 1974.	Offsite	Yes	APEC-02	PCA is located upgradient of phase One Property.
28 - Gasoline and Associated Products Storage in Fixed Tanks	9	Underground Gasoline Storage Tank - An underground gasoline storage tank is shown on the 1960 FIP located at the northwest corner of the W'M. Parker General Contractor property (160 Preston). Demikon Construction Limited was also listed as a waste generator (ON3316359) between 2016 and 2021 for wastes from the use of pigments, coatings and paints, and waste crankcase oils and lubricants.	Offsite	No	--	PCA is located downgradient of the Phase One Property.

Table 4-2. Potentially Contaminating Activities within the Study Area
Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph, Ontario

PCA [a]	PCA Unique ID	Descriptions of PCAs	Location of PCA [b]	PCA Results in APEC	Resulting APEC	Rationale
40 - Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	10	Pesticide Operator - Aboud & Associates Inc was listed at 87 Galt St as a pesticide operator in the pesticides register.	Offsite	No	--	PCA is located downgradient of the Phase One Property.
40 - Pesticides (including Herbicides, Fungicides and Anti-Fouling Agents) Manufacturing, Processing, Bulk Storage and Large-Scale Applications	11	Pesticide Operator - Guelph Residential Pest Control was listed at 9 Meadowview Ave as a pesticide operator in the pesticides register.	Offsite	No	--	PCA is located downgradient of the Phase One Property.

[a] PCA is a potentially contaminating activity (as defined by O. Reg. 153/04, as amended)

[b] Refer to Figure 4-1 for PCA locations

Notes:
APEC = area of potential environmental concern
ERIS = Environmental Risk Information Service
FIP = fire insurance plan
ID = identification
L = litre(s)
O. Reg. = Ontario Regulation
PCA = potentially contaminating activity
Phase One Property = 14 Edinburgh Road South, Guelph, Ontario
Phase One Study Area = 250 metres within the Phase One Property
Site = 14 Edinburgh Road South, Guelph, Ontario

Table 4-3. Areas of Potential Environmental Concern

Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph, Ontario

Area of Potential Environmental Concern [a]		Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity [b]	Location of PCA (Onsite or Offsite)	Contaminants of Potential Concern [c]	Media Potentially Impacted (Groundwater, Soil and/or Sediment)
APEC-01	Former Auto Repair Services - Guelph Auto-Electric was listed at 4 Edinburgh Rd S with a waste generator number (ON0921800) from 1986-1998 as "other repair services". Waste class was listed as petroleum distillates.	Entire Site	10 - Commercial Autobody Shops	Onsite	Metals, HF Metals, ORPs (EC, SAR, B-HWS, CrVI, Hg), PAH, PHC, BTEX VOC	Soil and Groundwater
APEC-02	Offsite PCAs to the north:	Northern Portion of the Site		Offsite		Groundwater
	Wood Product Manufacturing - Torchlight Industries was listed in Scotts Manufacturing Directory at 30 Edinburgh Road South as a wood product manufacturer established in 1974.		59 - Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products		PAH, Metals, HF metals, CP, ABN, PHC, BTEX	
	Rail Line - Canadian National Railway (CNR), previously Grand Trunk Railway, is located directly north of the Site.		46 - Rail Yards, Tracks and Spurs		PAH, PHC, BTEX	

Notes:

[a] Area of potential environmental concern means the area on, in, or under a Phase One Property where one or more contaminants are potentially present, as determined through the Phase One Environmental Site Assessment, including through (a) identification of past or present uses on, in, or under the Phase One Property; and (b) identification of PCAs.

[b] PCA means a use or activity as set out in Column A of Table 2 of Schedule D of O. Reg. 153/04 that is occurring or has occurred in a Phase One Study Area.

[c] Contaminants of potential concern were identified using the Method Groups as identified in the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the *Environmental Protection Act,* March 9, 2004, amended as of July 1, 2011, as specified: ABNs, CPs, 1,4-Dioxane, Dioxins/Furans, PCDDs/PCDF, OCs, PHCs, PCBs, PAHs, THMs, VOCs, BTEX, Ca, Mg, HF Metals, Na, B-HWS, Cl-, CN-, EC, CrVI, Hg, Methyl Hg, high/low pH, SAR.

ABN = acid/base/neutral compound
APEC = Area of Potential Environmental Concern
B-HWS = boron hot water soluble
BTEX = benzene, toluene, ethylbenzene and xylenes
COPC = contaminant of potential concern
CP = chlorophenols
CrVI = chromium hexavalent
EC = electrical conductivity
HF Metals = hydride-forming metals (As, Sb, Se)
Hg = mercury
metals = O. Reg. 153/04 complete metals scan
O. Reg. = Ontario Regulation
ORP = other regulated parameters
PAH = polycyclic aromatic hydrocarbons
PCA = potentially contaminating activity
PHC = petroleum hydrocarbons
SAR = sodium adsorption ratio
Site = 14 Edinburgh Road South, Guelph, Ontario
VOC = volatile organic compounds

Table 6-1. Monitoring Well Construction Details

Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph

Location ID	Northing (m)	Easting (m)	Ground Elevation (masl)	Top of Casing Elevation (masl)	Top of Well Screen (mbgs)	Bottom of Well Screen (mbgs)	Date Installed	Screened Material
MW101	4820780.70	559970.25	328.37	328.36	10.52	13.56	5/5/2025	Bedrock
MW102	4820792.03	559947.90	328.80	329.75	1.22	3.35	5/5/2025	Fill (Sand/Gravel) /Till (Silt)
MW103	4820804.71	559963.05	330.22	331.02	2.13	5.18	5/8/2025	Fill (Sandy Silt) / Till (Sandy Silt)
MW103D	4820806.27	559964.11	330.23	331.09	15.24	18.29	2/11/2026	Bedrock
MW104	4820784.11	559955.63	328.46	328.50	0.61	2.13	5/8/2025	Fill (Sand/Sandy Silt)/ Till (Sandy Silt/Silt)
MW104D	4820781.97	559953.60	328.45	329.32	13.72	16.76	2/13/2026	Bedrock
MW105D	4820782.21	559991.62	328.39	329.42	13.72	16.76	2/10/2026	Bedrock
MW106D	4820791.97	559973.61	329.66	330.52	15.24	18.29	2/10/2026	Bedrock

Notes

ID = identification

m = metre(s)

masl = metre(s) above sea level

mbgs = metre(s) below ground surface

Table 6-2. Groundwater Level Measurements

Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph

Location ID	Ground Elevation (masl)	Top of Casing Elevation (masl)	Top of Well Screen (mbgs)	Bottom of Well Screen (mbgs)	Screened Unit	Groundwater Elevations May 29, 2025			Groundwater Elevations March 9, 2026			Groundwater Elevations June 22, 2026		
						(mbtop)	(mbgs)	(masl)	(mbtop)	(mbgs)	(masl)	(mbtop)	(mbgs)	(masl)
MW101	328.25	328.36	10.52	13.56	Bedrock	12.22	12.11	316.14	12.64	12.53	315.72	12.09	11.98	316.27
MW102	328.83	329.73	1.22	3.35	Overburden	2.84	1.94	326.89	2.07	1.17	327.66	2.98	2.08	326.75
MW103	330.31	331.00	2.13	5.18	Overburden	5.46	4.77	325.54	--	--	--	5.76	5.07	325.24
MW103D	330.23	331.09	15.24	18.29	Bedrock	--	--	--	15.80	14.93	315.29	15.12	14.25	315.97
MW104	328.43	328.50	0.61	2.13	Overburden	1.95	1.88	326.55	0.61	0.54	327.89	1.90	1.83	326.60
MW104D	328.45	329.32	13.72	16.76	Bedrock	--	--	--	13.38	12.51	315.94	12.82	11.95	316.50
MW105D	328.39	329.42	13.72	16.76	Bedrock	--	--	--	14.02	13.00	315.40	13.40	12.38	316.02
MW106D	329.66	330.52	15.24	18.29	Bedrock	--	--	--	15.22	14.36	315.30	14.56	13.70	315.96

Notes

-- = groundwater level not measured

ID = identification

masl = metre(s) above sea level

mbgs = metre(s) below ground surface

mbtop = metre(s) below top of pipe

Table 6-3. Summary of Hydraulic Conductivity Values

Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph

To be included in final submission.

Table 6-4. APEC Disposition Table

Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph, Ontario

Areas of Potential Environmental Concern (APEC)		PCA [a]		Contaminants of Potential Concern [b]	Location Associated with APEC Area	Location Type	List of Parameter Groups Tested (Soil) [b]	List of Parameter Groups Tested (GW) [b]
APEC-01	Former Auto Repair Services	10	Commercial Autobody Shops	Soil & Groundwater: Metals, HF Metals, ORPs (EC, SAR, B-HWS, CrVI, Hg), PAH, PHC, BTEX, VOC	MW101	MW	BTEX, Metals, HF Metals, ORPs*, PAHs, PHCs, VOCs	BTEX, Metals, HF Metals, ORPs*, PAHs, PHCs, and VOCs
					MW102	MW	BTEX, Metals, HF Metals, ORPs*, PAHs, PHCs, VOCs	ABNs, BTEX, CP, Metals, HF Metals, ORPs*, PAHs, PHCs, VOCs
					MW104	MW	BTEX, Metals, HF Metals, ORPs*, PAHs, PHCs, VOCs	BTEX, Metals, HF Metals, ORPs*, PAHs, PHCs, VOCs
					MW104D	MW	--	BTEX, Metals, HF Metals, ORPs*, VOCs
APEC-02	Offsite PCAs to the North	46	Rail Yards, Tracks and Spurs	Groundwater: PAH, Metals, HF Metals, CP, ABN, PHC, BTEX	MW102	MW	BTEX, Metals, HF Metals, ORPs*, PAHs, PHCs, VOCs	ABNs, BTEX, CP, Metals, HF Metals, ORPs*, PAHs, PHCs, VOCs
		59	Wood Treating and Preservative Facility and Bulk Storage of Treated and Preserved Wood Products		MW103	MW	BTEX, Metals, HF Metals, ORPs*, PAHs, PHCs, VOCs	ABNs, BTEX, CP, Metals, HF Metals, ORPs*, PAHs, PHCs, VOCs
					MW103D	MW	--	BTEX, Metals, HF Metals, ORPs*, VOCs

Notes:

[a] PCA – potentially contaminating activity means a use or activity as set out in Column A of Table 2 of Schedule D of O. Reg. 153/04 that is occurring or has occurred in a Phase One study area.

[b] AP Method groups as defined in the "*Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act* " dated July 1, 2011.

* ORPs tested in soil include boron hot-water soluble, cyanide, chromium hexavalent, mercury, methyl-mercury, pH, EC and SAR. ORPs tested in groundwater include sodium, chloride, cyanide, chromium hexavalent, and mercury.

"--" = no data for the specified media
ABNs = acid base neutral compounds
APEC = area of potential environmental concern
BH = borehole
B-HWS = boron - hot water soluble
BTEX = benzene, toluene, ethylbenzene, xylene
COC = contaminant of concern
CrVI = hexavalent chromium
EC = electrical conductivity
GW = groundwater
HF Metals = hydride-forming metals
Hg = mercury
MECP = Ontario Ministry of Environment, Conservation and Parks
MW = monitoring well
ORPs = Other Regulated Parameters
PAHs = polyaromatic hydrocarbons
PCA = potentially contaminating activity
PHCs = petroleum hydrocarbons
SAR = sodium adsorption ratio
VOCs = volatile organic compounds

Table 6-5. Summary of Analytical Results in Soil

Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph, Ontario

		Location ID	MW101			MW102		MW103				MW104
		Sample ID	MW101-5-7	MW101-15-17	MW101-23-25	MW102-2-4	MW102-8-10	MW103-1-2	MW103-15-17	MW105-15-17		MW104-2-4
		Sample Date	5/5/2025	5/5/2025	5/5/2025	5/5/2025	5/5/2025	5/8/2025	5/8/2025	5/8/2025		5/8/2025
		Sample Type	N	N	N	N	N	N	N	FD		N
		Start Depth (mbgs)	1.52	4.57	7.01	0.61	2.44	0.3	4.57	4.57	RPD	0.61
		End Depth (mbgs)	2.13	5.18	7.62	1.22	3.05	0.61	5.18	5.18		1.22
		Parent Sample	NA	NA	NA	NA	NA	NA	NA	MW103-15-17		NA
		Laboratory SDG	WT2510976	WT2510976	WT2510976	WT2510976	WT2510976	WT2510976	WT2510976	WT2510976		WT2510976
Chemical Name	Units	Table 2 SCS [a]										
BTEX												
Benzene	µg/g	0.21	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	NC	0.005 U
Ethylbenzene	µg/g	1.1	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	NC	0.015 U
Toluene	µg/g	2.3	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Total BTEX	µg/g	NG	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	NC	0.1 U
Xylene, o-	µg/g	NG	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	NC	0.03 U
Xylenes, m- & p-	µg/g	NG	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	NC	0.03 U
Xylenes, Total	µg/g	3.1	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Hydride-Forming Metals												
Antimony	µg/g	7.5	0.1 U	0.1 U	0.1 U	**0.11**	0.1 U	0.1 U	0.1 U	0.1 U	NC	0.1 U
Arsenic	µg/g	18	**2.55**	**1.84**	**2.22**	**2.83**	**2.23**	**2.44**	**2.08**	**1.99**	4%	**1.84**
Selenium	µg/g	2.4	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NC	0.2 U
Metals												
Barium	µg/g	390	**26.4**	**21.6**	**28.2**	**16.7**	**32.4**	**10.2**	**16.3**	**16**	2%	**21.7**
Beryllium	µg/g	4	**0.22**	**0.19**	**0.22**	**0.18**	**0.26**	**0.14**	**0.16**	**0.16**	0%	**0.2**
Boron	µg/g	120	**5.8**	**5.7**	**6.9**	**6.2**	**7.5**	**5.8**	**5.2**	**5**	4%	**5.4**
Cadmium	µg/g	1.2	0.2 U	0.2 U	0.2 U	**0.282**	0.2 U	**0.273**	0.2 U	0.2 U	NC	0.2 U
Chromium	µg/g	160	**9.38**	**15.2**	**34.3**	**8.59**	**12**	**6.65**	**7.98**	**7.97**	0%	**8.05**
Cobalt	µg/g	22	**3.16**	**2.75**	**3.54**	**2.47**	**3.79**	**1.96**	**3.05**	**2.87**	6%	**3.06**
Copper	µg/g	140	**11.6**	**9.76**	**11.8**	**10.5**	**10.1**	**6.78**	**9.1**	**8.61**	6%	**8.12**
Lead	µg/g	120	**9.13**	**9.05**	**9.26**	**21.2**	**9.14**	**18.4**	**10.8**	**10.7**	1%	**8.72**
Molybdenum	µg/g	6.9	**0.22**	**0.23**	**0.53**	**0.38**	**0.42**	**0.69**	**0.28**	**0.28**	0%	**0.22**
Nickel	µg/g	100	**6.58**	**5.76**	**7.97**	**5.41**	**8.08**	**4.41**	**5.83**	**5.51**	6%	**6.34**
Silver	µg/g	20	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	NC	0.1 UJ
Thallium	µg/g	1	**0.052**	**0.052**	**0.058**	**0.06**	**0.07**	0.05 U	**0.056**	**0.06**	7%	**0.051**
Uranium	µg/g	23	**0.403**	**0.375**	**0.411**	**0.432**	**0.413**	**0.423**	**0.39**	**0.403**	3%	**0.38**
Vanadium	µg/g	86	**16.4**	**14.7**	**18.4**	**15**	**18.6**	**13.1**	**16.1**	**16**	1%	**15.5**
Zinc	µg/g	340	100 U	100 U	100 U	**147**	100 U	**132**	100 U	100 U	NC	100 U
Other Regulated Parameters												
Boron (Hot Water Ext.)	µg/g	1.5	0.1 U	**0.11**	**0.17**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	NC	0.1 U
Chromium, Hexavalent (Cr6+)	µg/g	8	0.1 U	0.1 U	**0.13**	**0.1**	0.1 U	**0.14**	0.1 U	0.1 U	NC	0.1 U
Cyanide, Weak Acid Dissociable	µg/g	0.051	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Electrical Conductivity	mS/cm	0.7	**1.1**	**0.439**	**0.352**	**0.168**	**0.155**	**0.118**	**0.103**	**0.108**	5%	**0.12**
Mercury	µg/g	0.27	**0.0076**	**0.0056**	**0.0061**	**0.0121**	**0.0065**	**0.0071**	**0.0056**	**0.0057**	2%	**0.0052**
Methyl Mercury	µg/g	0.0084	5E-05 U	5E-05 U	5E-05 U	5E-05 U	5E-05 U	5E-05 U	5E-05 U	5E-05 U	NC	5E-05 U
pH	pH Units	NG	**7.97**	**8.07**	**8.14**	**7.98**	**8.03**	**7.97**	**8.03**	**8.04**	0%	**7.99**
Sodium Adsorption Ratio	SAR	5	**16.4**	**7.33**	**2.56**	**2.13**	**0.55**	**0.14**	**0.14**	**0.16**	13%	**1**
PAH												
1-Methylnaphthalene	µg/g	NG	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	NC	0.03 U
2-(1-)Methylnaphthalene	µg/g	0.99	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
2-Methylnaphthalene	µg/g	NG	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	NC	0.03 U
Acenaphthene	µg/g	7.9	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Acenaphthylene	µg/g	0.15	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Anthracene	µg/g	0.67	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Benzo(a)anthracene	µg/g	0.5	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U

Table 6-5. Summary of Analytical Results in Soil

Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph, Ontario

Location ID			MW101			MW102		MW103				MW104
Sample ID			MW101-5-7	MW101-15-17	MW101-23-25	MW102-2-4	MW102-8-10	MW103-1-2	MW103-15-17	MW105-15-17		MW104-2-4
Sample Date			5/5/2025	5/5/2025	5/5/2025	5/5/2025	5/5/2025	5/8/2025	5/8/2025	5/8/2025		5/8/2025
Sample Type			N	N	N	N	N	N	N	FD		N
Start Depth (mbgs)			1.52	4.57	7.01	0.61	2.44	0.3	4.57	4.57	RPD	0.61
End Depth (mbgs)			2.13	5.18	7.62	1.22	3.05	0.61	5.18	5.18		1.22
Parent Sample			NA	NA	NA	NA	NA	NA	NA	MW103-15-17		NA
Laboratory SDG			WT2510976	WT2510976	WT2510976	WT2510976	WT2510976	WT2510976	WT2510976	WT2510976		WT2510976
Chemical Name	**Units**	**Table 2 SCS [a]**										
Benzo(a)pyrene	µg/g	0.3	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Benzo(b&j)fluoranthene	µg/g	0.78	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Benzo(g,h,i)perylene	µg/g	6.6	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Benzo(k)fluoranthene	µg/g	0.78	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Chrysene	µg/g	7	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Dibenzo(a,h)anthracene	µg/g	0.1	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Fluoranthene	µg/g	0.69	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Fluorene	µg/g	62	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Indeno(1,2,3-Cd)Pyrene	µg/g	0.38	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Naphthalene	µg/g	0.6	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NC	0.01 U
Phenanthrene	µg/g	6.2	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Pyrene	µg/g	78	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Petroleum Hydrocarbons												
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	µg/g	NG	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NC	5 U
Petroleum Hydrocarbons F1 (C6-C10)	µg/g	55	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	NC	5 U
Petroleum Hydrocarbons F2 (C10-C16 less Naphthalene)	µg/g	NG	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NC	25 U
Petroleum Hydrocarbons F2 (C10-C16)	µg/g	98	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NC	10 U
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	µg/g	NG	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NC	50 U
Petroleum Hydrocarbons F3 (C16-C34)	µg/g	300	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NC	50 U
Petroleum Hydrocarbons F4 (C34-C50)	µg/g	2800	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	NC	50 U
Total Petroleum Hydrocarbons (C6 to C50)	µg/g	NG	80 U	80 U	80 U	80 U	80 U	80 U	80 U	80 U	NC	80 U
Trihalomethanes												
Bromodichloromethane	µg/g	1.5	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Bromoform	µg/g	0.27	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Chloroform	µg/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Dibromochloromethane	µg/g	2.3	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	µg/g	0.058	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
1,1,1-Trichloroethane	µg/g	0.38	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
1,1,2,2-Tetrachloroethane	µg/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
1,1,2-Trichloroethane	µg/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
1,1-Dichloroethane	µg/g	0.47	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
1,1-Dichloroethene	µg/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
1,2-Dichlorobenzene	µg/g	1.2	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
1,2-Dichloroethane	µg/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
1,2-Dichloropropane	µg/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
1,3-Dichlorobenzene	µg/g	4.8	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
1,3-Dichloropropene	µg/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
1,4-Dichlorobenzene	µg/g	0.083	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Acetone	µg/g	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U
Bromomethane	µg/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Carbon tetrachloride	µg/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Chlorobenzene	µg/g	2.4	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
cis-1,2-Dichloroethene	µg/g	1.9	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
cis-1,3-Dichloropropene	µg/g	NG	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	NC	0.03 U

Table 6-5. Summary of Analytical Results in Soil

Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph, Ontario

Location ID			MW101			MW102		MW103				MW104
Sample ID			MW101-5-7	MW101-15-17	MW101-23-25	MW102-2-4	MW102-8-10	MW103-1-2	MW103-15-17	MW105-15-17		MW104-2-4
Sample Date			5/5/2025	5/5/2025	5/5/2025	5/5/2025	5/5/2025	5/8/2025	5/8/2025	5/8/2025		5/8/2025
Sample Type			N	N	N	N	N	N	N	FD		N
Start Depth (mbgs)			1.52	4.57	7.01	0.61	2.44	0.3	4.57	4.57	RPD	0.61
End Depth (mbgs)			2.13	5.18	7.62	1.22	3.05	0.61	5.18	5.18		1.22
Parent Sample			NA	NA	NA	NA	NA	NA	NA	MW103-15-17		NA
Laboratory SDG			WT2510976	WT2510976	WT2510976	WT2510976	WT2510976	WT2510976	WT2510976	WT2510976		WT2510976
Chemical Name	**Units**	**Table 2 SCS [a]**										
Dichlorodifluoromethane	µg/g	16	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Ethylene Dibromide	µg/g	0.05	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Hexane, n-	µg/g	2.8	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Isobutyl Ketone	µg/g	1.7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U
Methyl Ethyl Ketone	µg/g	16	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U
Methyl tert-butyl ether (MTBE)	µg/g	0.75	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	NC	0.04 U
Methylene Chloride	µg/g	0.1	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	0.045 U	NC	0.045 U
Styrene	µg/g	0.7	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Tetrachloroethene	µg/g	0.28	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
trans-1,2-Dichloroethene	µg/g	0.084	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
trans-1,3-Dichloropropene	µg/g	NG	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	0.03 U	NC	0.03 U
Trichloroethylene	µg/g	0.061	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	NC	0.01 U
Trichlorofluoromethane	µg/g	4	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U
Vinyl Chloride	µg/g	0.02	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NC	0.02 U

[a] Ontario Regulation 153/04, Table 2: Full Depth Generic Site Condition Standards for Use in a Potable Ground Water Condition, for residential/ parkland/ institutional land use and coarse-textured soils (MECP 2011b).

Notes:

Bold = result was reported above the reportable detection limit
Shaded values exceed applicable guideline

µg/g = microgram(s) per gram
-- = not tested
% = percentage
BTEX = benzene, toluene, ethylbenzene, and xylenes
C = carbon number
EC = electrical conductivity
FD = field duplicate sample
ID = identification
mbgs = metre(s) below ground surface
mS/cm = millisiemen(s) per centimetre
N = normal sample
NA = not applicable
NC = The RPD was not calculated as one or more results was less than or equal to five times the detection limit.
NG = no guideline
PAH = polycyclic aromatic hydrocarbon
RPD = relative percent difference
SDG = sample delivery group
U = The analyte was analyzed for, but was not detected above, the reportable detection limit.
UJ = The analyte was not detected at a concentration greater than the reportable detection limit. However, the reportable detection limit is approximate.

$$RPD\% = \frac{|N - FD|}{\frac{1}{2}(N + FD)} \times 100\%$$

Where: N = Parent sample value
FD = Field duplicate value

Table 6-6. Maximum Detected Concentrations in Soil

Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph, Ontario

Analyte Group	Analyte Name	Maximum Detected Concentration	Unit	Location	Sample Name	Sample Type	Sample Date	Start Depth (mbgs)	End Depth (mbgs)	SDG
Metal	Antimony	0.11	µg/g	MW102	MW102-2-4	N	5/5/2025	0.61	1.22	WT2510976
Metal	Arsenic	2.83	µg/g	MW102	MW102-2-4	N	5/5/2025	0.61	1.22	WT2510976
Metal	Barium	32.4	µg/g	MW102	MW102-8-10	N	5/5/2025	2.44	3.05	WT2510976
Metal	Beryllium	0.26	µg/g	MW102	MW102-8-10	N	5/5/2025	2.44	3.05	WT2510976
Metal	Boron	7.5	µg/g	MW102	MW102-8-10	N	5/5/2025	2.44	3.05	WT2510976
ORP	Boron (Hot Water Ext.)	0.17	µg/g	MW101	MW101-23-25	N	5/5/2025	7.01	7.62	WT2510976
Metal	Cadmium	0.282	µg/g	MW102	MW102-2-4	N	5/5/2025	0.61	1.22	WT2510976
Metal	Chromium	34.3	µg/g	MW101	MW101-23-25	N	5/5/2025	7.01	7.62	WT2510976
ORP	Chromium, Hexavalent (Cr6+)	0.14	µg/g	MW103	MW103-1-2	N	5/5/2025	0.3	0.61	WT2510976
Metal	Cobalt	3.79	µg/g	MW102	MW102-8-10	N	5/5/2025	2.44	3.05	WT2510976
ORP	Electrical Conductivity	1.1	µg/g	MW101	MW101-5-7	N	5/5/2025	1.52	2.13	WT2510976
Metal	Copper	11.8	µg/g	MW101	MW101-23-25	N	5/5/2025	7.01	7.62	WT2510976
Metal	Lead	21.2	µg/g	MW102	MW102-2-4	N	5/5/2025	0.61	1.22	WT2510976
ORP	Mercury	0.0121	µg/g	MW102	MW102-2-4	N	5/5/2025	0.61	1.22	WT2510976
Metal	Molybdenum	0.69	µg/g	MW103	MW103-1-2	N	5/5/2025	0.3	0.61	WT2510976
Metal	Nickel	8.08	µg/g	MW102	MW102-8-10	N	5/5/2025	2.44	3.05	WT2510976
ORP	Sodium Adsorption Ratio	16.4	None	MW101	MW101-5-7	N	5/5/2025	1.52	2.13	WT2510976
Metal	Thallium	0.07	µg/g	MW102	MW102-8-10	N	5/5/2025	2.44	3.05	WT2510976
Metal	Uranium	0.432	µg/g	MW102	MW102-2-4	N	5/5/2025	0.61	1.22	WT2510976
Metal	Vanadium	18.6	µg/g	MW102	MW102-8-10	N	5/5/2025	2.44	3.05	WT2510976
Metal	Zinc	147	µg/g	MW102	MW102-2-4	N	5/5/2025	0.61	1.22	WT2510976

Notes:

µg/g = microgram(s) per gram
FD = field duplicate
mbgs = metre(s) below ground surface
mS/cm = millisiemens per centimetre
N = normal sample
ORP = other regulated parameters
SDG = sample delivery group

Table 6-7a. Preliminary COC Screening in Soil

Phase Two Environmental Site Assesment, 14 Edinburgh Road South, Guelph, Ontario

Contaminant [a]	Parameter Group	No. of Stations	No. of Samples	Maximum Detected Concentration	Maximum Nondetect Concentration	Maximum Measured Concentration [b]	Units	Minimum Detection Limit (MDL)	Applicable SCS [c]	No. of Detects Exceeding Table 2 SCS	No. of Nondetects Exceeding Table 2 SCS	No. of Detects with No Table 2 SCS	No. of Nondetects with No Table 2 SCS	Retained as a Contaminant for Phase Two ESA? (Rationale)
Electrical Conductivity	ORP	4	9	1.1	--	1.1	mS/cm	0.005	0.7	1	--	--	--	No, excluded (Max > Table 2 SCS; Refer to Table 6-7b)
Sodium Adsorption Ratio	ORP	4	9	16.4	--	16.4	SAR	0.1	5	2	--	--	--	No, excluded (Max > Table 2 SCS; Refer to Table 6-7b)
1,1,1,2-Tetrachloroethane	VOC	4	9	--	0.05	0.05	µg/g	0.05	0.058	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1,1-Trichloroethane	VOC	4	9	--	0.05	0.05	µg/g	0.05	0.38	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1,2,2-Tetrachloroethane	VOC	4	9	--	0.05	0.05	µg/g	0.05	0.05	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1,2-Trichloroethane	VOC	4	9	--	0.05	0.05	µg/g	0.05	0.05	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1-Dichloroethane	VOC	4	9	--	0.05	0.05	µg/g	0.05	0.47	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1-Dichloroethene	VOC	4	9	--	0.05	0.05	µg/g	0.05	0.05	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,2-Dichlorobenzene	VOC	4	9	--	0.05	0.05	µg/g	0.05	1.2	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,2-Dichloroethane	VOC	4	9	--	0.05	0.05	µg/g	0.05	0.05	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,2-Dichloropropane	VOC	4	9	--	0.05	0.05	µg/g	0.05	0.05	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,3-Dichlorobenzene	VOC	4	9	--	0.05	0.05	µg/g	0.05	4.8	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,3-Dichloropropene	VOC	4	9	--	0.05	0.05	µg/g	0.05	0.05	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,4-Dichlorobenzene	VOC	4	9	--	0.05	0.05	µg/g	0.05	0.083	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
2-(1-)Methylnaphthalene	PAH	4	9	--	0.05	0.05	µg/g	0.05	0.99	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Acenaphthene	PAH	4	9	--	0.05	0.05	µg/g	0.05	7.9	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Acenaphthylene	PAH	4	9	--	0.05	0.05	µg/g	0.05	0.15	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Acetone	VOC	4	9	--	0.5	0.5	µg/g	0.5	16	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Anthracene	PAH	4	9	--	0.05	0.05	µg/g	0.05	0.67	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Antimony	HF Metals	4	9	0.11	0.1	0.11	µg/g	0.1	7.5	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Arsenic	HF Metals	4	9	2.83	--	2.83	µg/g	0.1	18	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Barium	Metals	4	9	32.4	--	32.4	µg/g	0.5	390	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzene	BTEX	4	9	--	0.005	0.005	µg/g	0.005	0.21	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzo(a)anthracene	PAH	4	9	--	0.05	0.05	µg/g	0.05	0.5	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzo(a)pyrene	PAH	4	9	--	0.05	0.05	µg/g	0.05	0.3	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzo(b&j)fluoranthene	PAH	4	9	--	0.05	0.05	µg/g	0.05	0.78	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzo(g,h,i)perylene	PAH	4	9	--	0.05	0.05	µg/g	0.05	6.6	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzo(k)fluoranthene	PAH	4	9	--	0.05	0.05	µg/g	0.05	0.78	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Beryllium	Metals	4	9	0.26	--	0.26	µg/g	0.1	4	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Boron	Metals	4	9	7.5	--	7.5	µg/g	5	120	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Boron (Hot Water Ext.)	ORP	4	9	0.17	0.1	0.17	ug/g	0.1	1.5	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Bromodichloromethane	THM	4	9	--	0.05	0.05	µg/g	0.05	1.5	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Bromoform	THM	4	9	--	0.05	0.05	µg/g	0.05	0.27	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Bromomethane	VOC	4	9	--	0.05	0.05	µg/g	0.05	0.05	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Cadmium	Metals	4	9	0.282	0.2	0.282	µg/g	0.2	1.2	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Carbon tetrachloride	VOC	4	9	--	0.05	0.05	µg/g	0.05	0.05	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chlorobenzene	VOC	4	9	--	0.05	0.05	µg/g	0.05	2.4	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chloroform	THM	4	9	--	0.05	0.05	µg/g	0.05	0.05	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chromium	Metals	4	9	34.3	--	34.3	µg/g	0.5	160	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chromium, Hexavalent (Cr6+)	ORP	4	9	0.14	0.1	0.14	µg/g	0.1	8	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chrysene	PAH	4	9	--	0.05	0.05	µg/g	0.05	7	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
cis-1,2-Dichloroethene	VOC	4	9	--	0.05	0.05	µg/g	0.05	1.9	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Cobalt	Metals	4	9	3.79	--	3.79	µg/g	0.1	22	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Copper	Metals	4	9	11.8	--	11.8	µg/g	0.5	140	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Cyanide, Weak Acid Dissociable	ORP	4	9	--	0.05	0.05	µg/g	0.05	0.051	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Dibenzo(a,h)anthracene	PAH	4	9	--	0.05	0.05	µg/g	0.05	0.1	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Dibromochloromethane	THM	4	9	--	0.05	0.05	µg/g	0.05	2.3	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Dichlorodifluoromethane	VOC	4	9	--	0.05	0.05	µg/g	0.05	16	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Ethylbenzene	BTEX	4	9	--	0.015	0.015	µg/g	0.015	1.1	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Ethylene Dibromide	VOC	4	9	--	0.05	0.05	µg/g	0.05	0.05	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Fluoranthene	PAH	4	9	--	0.05	0.05	µg/g	0.05	0.69	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Fluorene	PAH	4	9	--	0.05	0.05	µg/g	0.05	62	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Hexane, n-	VOC	4	9	--	0.05	0.05	µg/g	0.05	2.8	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Indeno(1,2,3-Cd)Pyrene	PAH	4	9	--	0.05	0.05	µg/g	0.05	0.38	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Isobutyl Ketone	VOC	4	9	--	0.5	0.5	µg/g	0.5	1.7	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Lead	Metals	4	9	21.2	--	21.2	µg/g	0.5	120	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Mercury	ORP	4	9	0.0121	--	0.0121	µg/g	0.005	0.27	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Methyl Ethyl Ketone	VOC	4	9	--	0.5	0.5	µg/g	0.5	16	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Methyl Mercury	ORP	4	9	--	0.05	0.05	ug/kg	0.05	8.4	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Methyl tert-butyl ether (MTBE)	VOC	4	9	--	0.04	0.04	µg/g	0.04	0.75	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Methylene Chloride	VOC	4	9	--	0.045	0.045	µg/g	0.045	0.1	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Molybdenum	Metals	4	9	0.69	--	0.69	µg/g	0.1	6.9	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Naphthalene	PAH	4	9	--	0.01	0.01	µg/g	0.01	0.6	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Nickel	Metals	4	9	8.08	--	8.08	µg/g	0.5	100	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F1 (C6-C10)	PHC	4	9	--	5	5	µg/g	5	55	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F2 (C10-C16)	PHC	4	9	--	10	10	µg/g	10	98	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F3 (C16-C34)	PHC	4	9	--	50	50	µg/g	50	300	--	--	--	--	No, excluded (Max < or = Table 2 SCS)

Table 6-7a. Preliminary COC Screening in Soil
Phase Two Environmental Site Assesment, 14 Edinburgh Road South, Guelph, Ontario

Contaminant [a]	Parameter Group	No. of Stations	No. of Samples	Maximum Detected Concentration	Maximum Nondetect Concentration	Maximum Measured Concentration [b]	Units	Minimum Detection Limit (MDL)	Applicable SCS [c]	No. of Detects Exceeding Table 2 SCS	No. of Nondetects Exceeding Table 2 SCS	No. of Detects with No Table 2 SCS	No. of Nondetects with No Table 2 SCS	Retained as a Contaminant for Phase Two ESA? (Rationale)
Petroleum Hydrocarbons F4 (C34-C50)	PHC	4	9	--	50	50	µg/g	50	2800	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Phenanthrene	PAH	4	9	--	0.05	0.05	µg/g	0.05	6.2	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Pyrene	PAH	4	9	--	0.05	0.05	µg/g	0.05	78	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Selenium	HF Metals	4	9	--	0.2	0.2	µg/g	0.2	2.4	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Silver	Metals	4	9	--	0.1	0.1	µg/g	0.1	20	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Styrene	VOC	4	9	--	0.05	0.05	µg/g	0.05	0.7	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Tetrachloroethene	VOC	4	9	--	0.05	0.05	µg/g	0.05	0.28	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Thallium	Metals	4	9	0.07	0.05	0.07	µg/g	0.05	1	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Toluene	BTEX	4	9	--	0.05	0.05	µg/g	0.05	2.3	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
trans-1,2-Dichloroethene	VOC	4	9	--	0.05	0.05	µg/g	0.05	0.084	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Trichloroethylene	VOC	4	9	--	0.01	0.01	µg/g	0.01	0.061	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Trichlorofluoromethane	VOC	4	9	--	0.05	0.05	µg/g	0.05	4	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Uranium	Metals	4	9	0.432	--	0.432	µg/g	0.05	23	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Vanadium	Metals	4	9	18.6	--	18.6	µg/g	0.2	86	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Vinyl Chloride	VOC	4	9	--	0.02	0.02	µg/g	0.02	0.02	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Xylenes, Total	BTEX	4	9	--	0.05	0.05	µg/g	0.05	3.1	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Zinc	Metals	4	9	147	100	147	µg/g	100	340	--	--	--	--	No, excluded (Max < or = Table 2 SCS)

Notes:

[a] The representative maximum concentration (the maximum concentration of similar analytes or total concentration of multiple isomers) is used for comparison.

[b] Column lists the greater of the maximum detected concentration or the maximum nondetect concentration.

[c] Ontario Regulation 153/04, Table 2: Full Depth Generic Site Condition Standards for Use in a Potable Ground Water Condition, for residential/parkland/institutional land use and coarse-textured soils (MECP 2011b).

Bold parameters are identified as COCs.

Grey-shaded parameters have been reviewed further, refer to Table 6-7b for more details.

-- = no value or not applicable
> = greater than
< = less than
µg/g = microgram(s) per gram
BTEX = benzene, toluene, ethylbenzene, xylene
COC = contaminant of concern
F = fraction
HF = hydride forming (metals)
Max = maximum concentration
MDL = method detection limit
MECP = Ontario Ministry of the Environment, Conservation and Parks
mS/cm = millisiemen(s) per centimetre
NA = not available
No. = number
ORP = other regulated parameters
PAH = polycyclic aromatic hydrocarbon
PHC = petroleum hydrocarbon
SCS = Site Condition Standard
THM = trihalomethanes
VOC = volatile organic compound

Table 6-7b. Rationale for the Exclusion of Soil COCs

Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph, Ontario

Parameter Group	Parameter	Category	Sample(s)	Comment/Rationale
Other Regulated Parameters	EC SAR	Parameter with exceedance of Table 2 SCS and exemptions in Section 49.1 of O. Reg. 153/04	1 (EC) and 2 (SAR) samples from MW101 from 2025.	One EC sample and two SAR samples have concentrations exceeding the Table 2 SCS. The exceedances were identified at one of four locations, from the one location advanced within the parking lot at the Site (MW101). The presence of EC and SAR at the Site is related to the application of salt on the parking lot surface during winter conditions. Salt application has been used for the safety of vehicular and pedestrian traffic. Under Section 49.1 of the revised O. Reg. 153/04, the SCS is deemed to not be exceeded for the purpose of Part XV.1 of the Act should a substance be applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both. Therefore, at the discretion of the QPESA, EC and SAR were not considered to be COCs for the Phase Two Property.

Notes:
The rationale for exclusion of COCs listed in this table is based on the data collected as part of the ESA and only applies to this ESA.
COC = contaminant of concern
EC = electrical conductivity
ESA = Environmental Site Assessment
O. Reg. = Ontario Regulation
QPESA = MECP Qualified Person for Environmental Site Assessment
SAR = sodium adsorption ratio
SCS = Site Condition Standards

Table 6-8. Summary of Analytical Results in Groundwater

Phase Two Environmental Site Assesment, 14 Edinburgh Road South, Guelph, Ontario

			Location ID	MW101		MW102						MW103
			Sample ID	MW101-05132025	MW101-03122026	MW102-05122025	DUP01-05122025	RPD	MW102-03092026	MW107-03092026	RPD	MW103-05122025	MW103-03122026
			Sample Date	2025-05-13	2026-03-12	2025-05-12	2025-05-12		2026-03-09	2026-03-09		2025-05-12	2026-03-12
			Sample Type	N	N	N	FD		N	FD		N	N
			Start Depth (mbgs)	10.52	10.52	1.22	1.22	RPD	1.22	1.22	RPD	2.13	2.13
			End Depth (mbgs)	13.56	13.56	3.35	3.35		3.35	3.35		5.18	5.18
			Parent Sample	NA	NA	NA	MW102-05122025		NA	MW102-03092026		NA	NA
			Laboratory SDG	WT2511458	WT2605588	WT2511335	WT2511335		WT2605588	WT2605588		WT2511335	WT2605588
Chemical Name	**Units**	**Table 2 SCS [a]**											
Acids, Bases and Neutrals													
1,1'-Biphenyl	µg/L	0.5	--	--	0.2 UJ	0.2 U	NC	0.2 U	0.2 U	NC	0.2 UJ	0.2 U
1,2,4-Trichlorobenzene	µg/L	70	--	--	0.4 UJ	0.4 UJ	NC	0.4 U	0.4 U	NC	0.4 UJ	0.4 U
2,4 & 2,6-Dinitrotoluene	µg/L	5	--	--	0.6 UJ	0.6 UJ	NC	0.6 U	0.6 U	NC	0.6 UJ	0.6 U
2,4-Dimethylphenol	µg/L	59	--	--	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
2,4-Dinitrophenol	µg/L	10	--	--	1 U	1 U	NC	1 U	1 U	NC	1 U	1 U
2,4-Dinitrotoluene	µg/L	NG	--	--	0.4 UJ	0.4 UJ	NC	0.4 U	0.4 U	NC	0.4 UJ	0.4 U
2,6-Dinitrotoluene	µg/L	NG	--	--	0.4 UJ	0.4 UJ	NC	0.4 U	0.4 U	NC	0.4 UJ	0.4 U
3,3'-Dichlorobenzidine	µg/L	0.5	--	--	0.4 UJ	0.4 UJ	NC	0.4 UJ	0.4 UJ	NC	0.4 UJ	0.4 UJ
4-Chloroaniline	µg/L	10	--	--	0.4 UJ	0.4 UJ	NC	0.4 U	0.4 U	NC	0.4 UJ	0.4 U
Bis (2-chloroethyl) ether	µg/L	5	--	--	0.4 UJ	0.4 UJ	NC	0.4 U	0.4 U	NC	0.4 UJ	0.4 U
bis (2-Chloroisopropyl) ether	µg/L	120	--	--	0.4 UJ	0.4 UJ	NC	--	--	NC	0.4 UJ	--
Bis (2-ethylhexyl) phthalate	µg/L	10	--	--	0.6 UJ	0.6 UJ	NC	0.6 U	**1.17**	NC	0.6 UJ	0.6 U
Bis(2-chloroisopropyl)ether	µg/L	120	--	--	--	--	NC	0.4 U	0.4 U	NC	--	0.4 U
Diethylphthalate	µg/L	38	--	--	0.2 UJ	0.2 UJ	NC	0.2 U	0.2 U	NC	0.2 UJ	**0.36**
Dimethylphthalate	µg/L	38	--	--	0.2 UJ	0.2 UJ	NC	0.2 U	0.2 U	NC	0.2 UJ	0.2 U
Phenol	µg/L	890	--	--	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
BTEX													
Benzene	µg/L	5	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
Ethylbenzene	µg/L	2.4	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
Toluene	µg/L	24	0.5 U	**0.81**	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
Total BTEX	µg/L	NG	1 U	1 U	1 U	1 U	NC	1 U	1 U	NC	1 U	1 U
Xylene, o-	µg/L	NG	0.3 U	0.3 U	0.3 U	0.3 U	NC	0.3 U	0.3 U	NC	0.3 U	0.3 U
Xylenes, m- & p-	µg/L	NG	0.4 U	0.4 U	0.4 U	0.4 U	NC	0.4 U	0.4 U	NC	0.4 U	0.4 U
Xylenes, Total	µg/L	300	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
Chlorinated Phenols													
2,4,5-Trichlorophenol	µg/L	8.9	--	--	0.2 UJ	0.2 UJ	NC	0.2 U	0.2 U	NC	0.2 UJ	0.2 U
2,4,6-Trichlorophenol	µg/L	2	--	--	0.2 UJ	0.2 UJ	NC	0.2 U	0.2 U	NC	0.2 UJ	0.2 U
2,4-Dichlorophenol	µg/L	20	--	--	0.2 UJ	0.2 UJ	NC	0.2 U	0.2 U	NC	0.2 UJ	0.2 U
2-Chlorophenol	µg/L	8.9	--	--	0.3 UJ	0.3 UJ	NC	0.3 U	0.3 U	NC	0.3 UJ	0.3 U
Pentachlorophenol	µg/L	30	--	--	0.5 UJ	0.5 UJ	NC	0.5 U	0.5 U	NC	0.5 UJ	0.5 U
Other Regulated Parameters													
Dissolved Chromium, Hexavalent (Cr6+)	µg/L	25	**0.74**	**1.13**	0.5 U	0.5 U	NC	**1.59**	**1.6**	1%	0.5 U	**0.65**
Cyanide, Weak Acid Dissociable	µg/L	66	2 U	2 U	2 U	2 U	NC	2 U	2 U	NC	2 U	2 U
Dissolved Sodium	µg/L	490000	**534000**	**517000**	**200000**	**191000**	5%	**156000**	**158000**	1%	**12600**	**9650**
Chloride (Cl)	µg/L	790000	**865000**	**841000**	**454000**	**430000**	5%	**220000**	**220000**	0%	**42400**	**35500**
Dissolved Mercury	µg/L	0.29	0.005 U	0.005 U	0.005 U	0.005 U	NC	0.005 U	0.005 U	NC	0.005 U	0.005 U
Hydride-Forming Metals													
Dissolved Antimony	µg/L	6	1 U	1 U	**0.32**	**0.32**	0%	**0.49**	**0.49**	0%	**0.24**	**0.14**
Dissolved Arsenic	µg/L	25	1 U	1 U	**0.49**	**0.46**	6%	**0.52**	**0.53**	2%	**0.4**	**0.29**
Dissolved Selenium	µg/L	10	**0.984**	**0.924**	**0.849**	**0.826**	3%	**0.868**	**0.868**	0%	**2.9**	**3.31**
Metals													
Dissolved Barium	µg/L	1000	**133**	**115**	**144**	**147**	2%	**53.7**	**53.3**	1%	**117**	**50.3**
Dissolved Beryllium	µg/L	4	0.2 U	0.2 U	0.02 U	0.02 U	NC	0.02 U	0.02 U	NC	0.02 U	0.02 U
Dissolved Boron	µg/L	5000	100 U	100 U	**40**	**40**	0%	**31**	**32**	3%	**59**	**65**
Dissolved Cadmium	µg/L	2.7	0.05 U	0.05 U	**0.0217**	**0.0224**	3%	**0.0355**	**0.0389**	9%	**0.0986**	**0.0459**
Dissolved Chromium	µg/L	50	5 U	5 U	0.5 U	0.5 U	NC	**1.53**	**1.54**	1%	0.5 U	0.5 U
Dissolved Cobalt	µg/L	3.8	1 U	1 U	**1.65**	**1.57**	5%	**2.15**	**2.15**	0%	**10.4**	**3.81**
Dissolved Copper	µg/L	87	2 U	2 U	**2.85**	**2.73**	4%	**4.81**	**4.72**	2%	**1.79**	**1.27**
Dissolved Lead	µg/L	10	0.5 U	0.5 U	0.05 U	0.05 U	NC	0.05 U	0.05 U	NC	0.05 U	0.05 U
Dissolved Molybdenum	µg/L	70	**1.22**	**1.18**	**2.28**	**2.3**	1%	**2.33**	**2.31**	1%	**1.28**	**0.772**
Dissolved Nickel	µg/L	100	5 U	5 U	**3.47**	**3.4**	2%	**2.48**	**2.51**	1%	**7.23**	**2.75**
Dissolved Silver	µg/L	1.5	0.1 U	0.1 U	**0.013**	**0.014**	7%	0.01 U	0.01 U	NC	0.01 U	0.01 U

Table 6-8. Summary of Analytical Results in Groundwater

Phase Two Environmental Site Assesment, 14 Edinburgh Road South, Guelph, Ontario

			Location ID	MW101		MW102						MW103	
			Sample ID	MW101-05132025	MW101-03122026	MW102-05122025	DUP01-05122025	RPD	MW102-03092026	MW107-03092026	RPD	MW103-05122025	MW103-03122026
			Sample Date	2025-05-13	2026-03-12	2025-05-12	2025-05-12		2026-03-09	2026-03-09		2025-05-12	2026-03-12
			Sample Type	N	N	N	FD		N	FD		N	N
			Start Depth (mbgs)	10.52	10.52	1.22	1.22		1.22	1.22		2.13	2.13
			End Depth (mbgs)	13.56	13.56	3.35	3.35		3.35	3.35		5.18	5.18
			Parent Sample	NA	NA	NA	MW102-05122025		NA	MW102-03092026		NA	NA
			Laboratory SDG	WT2511458	WT2605588	WT2511335	WT2511335		WT2605588	WT2605588		WT2511335	WT2605588
Chemical Name	**Units**	**Table 2 SCS [a]**											
Dissolved Thallium	µg/L	2	0.1 U	0.1 U	**0.034**	**0.033**	3%	**0.014**	**0.015**	7%	**0.047**	**0.019**
Dissolved Uranium	µg/L	20	**2.59**	**1.37**	**1.65**	**1.62**	2%	**1.07**	**1.08**	1%	**1.5**	**1.22**
Dissolved Vanadium	µg/L	6.2	3.9 U	5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
Dissolved Zinc	µg/L	1100	**15.6**	**16.5**	**2.3**	**2**	14%	**5.8**	**5.6**	4%	**3.3**	**5.4**
PAH												
1-Methylnaphthalene	µg/L	NG	0.01 U	0.01 U	**0.011**	0.01 U	NC	0.01 U	0.01 U	NC	**0.01**	0.01 U
2-(1-)Methylnaphthalene	µg/L	3.2	0.015 U	0.015 U	**0.026**	0.015 U	NC	0.015 U	0.015 U	NC	**0.031**	0.015 U
2-Methylnaphthalene	µg/L	NG	0.01 U	0.01 U	**0.015**	**0.014**	7%	**0.013**	0.01 U	NC	**0.021**	0.01 U
Acenaphthene	µg/L	4.1	0.01 U	0.01 U	0.01 U	0.01 U	NC	0.01 U	0.01 U	NC	0.01 U	0.01 U
Acenaphthylene	µg/L	1	0.01 U	0.01 U	0.01 U	0.01 U	NC	0.01 U	0.01 U	NC	0.01 U	0.01 U
Anthracene	µg/L	2.4	0.01 U	0.01 U	0.01 U	0.01 U	NC	0.01 U	0.01 U	NC	0.01 U	0.01 U
Benzo(a)anthracene	µg/L	1	0.01 U	0.01 U	0.01 U	0.01 U	NC	0.01 U	0.01 U	NC	0.01 U	0.01 U
Benzo(a)pyrene	µg/L	0.01	0.005 U	0.005 U	0.005 U	0.005 U	NC	0.005 U	0.005 U	NC	0.005 U	0.005 U
Benzo(b&j)fluoranthene	µg/L	0.1	0.01 U	0.01 U	0.01 U	0.01 U	NC	0.01 U	0.01 U	NC	0.01 U	0.01 U
Benzo(g,h,i)perylene	µg/L	0.2	0.01 U	0.01 U	0.01 U	0.01 U	NC	0.01 U	0.01 U	NC	0.01 U	0.01 U
Benzo(k)fluoranthene	µg/L	0.1	0.01 U	0.01 U	0.01 U	0.01 U	NC	0.01 U	0.01 U	NC	0.01 U	0.01 U
Chrysene	µg/L	0.1	0.01 U	0.01 U	0.01 U	0.01 U	NC	0.01 U	0.01 U	NC	0.01 U	0.01 U
Dibenzo(a,h)anthracene	µg/L	0.2	0.005 U	0.005 U	0.005 U	0.005 U	NC	0.005 U	0.005 U	NC	0.005 U	0.005 U
Fluoranthene	µg/L	0.41	0.01 U	0.01 U	0.01 U	0.01 U	NC	0.01 U	0.01 U	NC	0.01 U	0.01 U
Fluorene	µg/L	120	0.01 U	0.01 U	0.01 U	0.01 U	NC	0.01 U	0.01 U	NC	**0.013**	0.01 U
Indeno(1,2,3-Cd)Pyrene	µg/L	0.2	0.01 U	0.01 U	0.01 U	0.01 U	NC	0.01 U	0.01 U	NC	0.01 U	0.01 U
Naphthalene	µg/L	11	0.05 U	0.05 U	0.05 U	0.05 U	NC	0.05 U	0.05 U	NC	0.05 U	0.05 U
Phenanthrene	µg/L	1	0.02 U	0.02 U	0.02 U	0.02 U	NC	0.02 U	0.02 U	NC	**0.025**	0.02 U
Pyrene	µg/L	4.1	0.01 U	0.01 U	0.01 U	0.01 U	NC	0.01 U	0.01 U	NC	0.01 U	0.01 U
Petroleum Hydrocarbons												
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	µg/L	NG	25 U	25 U	25 U	25 U	NC	25 U	25 U	NC	25 U	25 U
Petroleum Hydrocarbons F1 (C6-C10)	µg/L	750	25 U	25 U	25 U	25 U	NC	25 U	25 U	NC	25 U	25 U
Petroleum Hydrocarbons F2 (C10-C16 less Naphthalene)	µg/L	NG	100 U	100 U	--	--	NC	100 U	100 U	NC	--	100 U
Petroleum Hydrocarbons F2 (C10-C16)	µg/L	150	100 U	100 U	100 U	100 U	NC	100 U	100 U	NC	100 U	100 U
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	µg/L	NG	250 U	250 U	--	--	NC	250 U	250 U	NC	--	250 U
Petroleum Hydrocarbons F3 (C16-C34)	µg/L	500	250 U	250 U	250 U	250 U	NC	250 U	250 U	NC	250 U	250 U
Petroleum Hydrocarbons F4 (C34-C50)	µg/L	500	250 U	250 U	250 U	250 U	NC	250 U	250 U	NC	250 U	250 U
Total Petroleum Hydrocarbons (C6 to C50)	µg/L	NG	370 U	370 U	370 U	370 U	NC	370 U	370 U	NC	370 U	370 U
Trihalomethanes												
Bromodichloromethane	µg/L	16	**1.03**	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
Bromoform	µg/L	25	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
Chloroform	µg/L	2.4	**0.89**	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
Dibromochloromethane	µg/L	25	**1.09**	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
Volatile Organic Compounds												
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
1,1,1-Trichloroethane	µg/L	200	**1.16**	**0.7**	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	µg/L	1	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
1,1,2-Trichloroethane	µg/L	4.7	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
1,1-Dichloroethane	µg/L	5	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
1,1-Dichloroethene	µg/L	1.6	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
1,2-Dichlorobenzene	µg/L	3	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
1,2-Dichloroethane	µg/L	1.6	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
1,2-Dichloropropane	µg/L	5	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
1,3-Dichlorobenzene	µg/L	59	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
1,3-Dichloropropene	µg/L	0.5	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
1,4-Dichlorobenzene	µg/L	1	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
Acetone	µg/L	2700	20 U	**29**	20 U	20 U	NC	20 U	20 U	NC	20 U	20 U
Bromomethane	µg/L	0.89	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U

Table 6-8. Summary of Analytical Results in Groundwater

Phase Two Environmental Site Assesment, 14 Edinburgh Road South, Guelph, Ontario

		Location ID	MW101		MW102						MW103	
		Sample ID	MW101-05132025	MW101-03122026	MW102-05122025	DUP01-05122025	RPD	MW102-03092026	MW107-03092026	RPD	MW103-05122025	MW103-03122026
		Sample Date	2025-05-13	2026-03-12	2025-05-12	2025-05-12		2026-03-09	2026-03-09		2025-05-12	2026-03-12
		Sample Type	N	N	N	FD		N	FD		N	N
		Start Depth (mbgs)	10.52	10.52	1.22	1.22		1.22	1.22		2.13	2.13
		End Depth (mbgs)	13.56	13.56	3.35	3.35		3.35	3.35		5.18	5.18
		Parent Sample	NA	NA	NA	MW102-05122025		NA	MW102-03092026		NA	NA
		Laboratory SDG	WT2511458	WT2605588	WT2511335	WT2511335		WT2605588	WT2605588		WT2511335	WT2605588
Chemical Name	**Units**	**Table 2 SCS [a]**										
Carbon tetrachloride	µg/L	0.79	0.2 U	0.2 U	0.2 U	0.2 U	NC	0.2 U	0.2 U	NC	0.2 U	0.2 U
Chlorobenzene	µg/L	30	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
cis-1,2-Dichloroethene	µg/L	1.6	**0.82**	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
cis-1,3-Dichloropropene	µg/L	NG	0.3 U	0.3 U	0.3 U	0.3 U	NC	0.3 U	0.3 U	NC	0.3 U	0.3 U
Dichlorodifluoromethane	µg/L	590	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
Ethylene Dibromide	µg/L	0.2	0.2 U	0.2 U	0.2 U	0.2 U	NC	0.2 U	0.2 U	NC	0.2 U	0.2 U
Hexane, n-	µg/L	51	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
Isobutyl Ketone	µg/L	640	20 U	20 U	20 U	20 U	NC	20 U	20 U	NC	20 U	20 U
Methyl Ethyl Ketone	µg/L	1800	20 U	20 U	20 U	20 U	NC	20 U	20 U	NC	20 U	20 U
Methyl tert-butyl ether (MTBE)	µg/L	15	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
Methylene Chloride	µg/L	50	1 U	1 U	1 U	1 U	NC	1 U	1 U	NC	1 U	1 U
Styrene	µg/L	5.4	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
Tetrachloroethene	µg/L	1.6	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
trans-1,2-Dichloroethene	µg/L	1.6	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
trans-1,3-Dichloropropene	µg/L	NG	0.3 U	0.3 U	0.3 U	0.3 U	NC	0.3 U	0.3 U	NC	0.3 U	0.3 U
Trichloroethylene	µg/L	1.6	**30.5**	**14.4**	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
Trichlorofluoromethane	µg/L	150	0.5 U	0.5 U	0.5 U	0.5 U	NC	0.5 U	0.5 U	NC	0.5 U	0.5 U
Vinyl Chloride	µg/L	0.5	0.2 U	0.2 U	0.2 U	0.2 U	NC	0.2 U	0.2 U	NC	0.2 U	0.2 U

[a] Ontario Regulation 153/04, Table 2: Full Depth Generic Site Condition Standards for Use in a Potable Ground Water Condition, for residential/ parkland/ insitutional land use and coarse-textured soils (MECP 2011b).

Notes:
Bold = result was reported above the reportable detection limit
Shaded values exceed applicable guideline.

µg/L = microgram(s) per litre
-- = not tested
% = percentage
BTEX = benzene, toluene, ethylbenzene, and xylenes
C = carbon number
FD = field duplicate sample
ID = identification
mbgs = metre(s) below ground surface
N = normal sample
NA = not applicable
NC = The RPD was not calculated as one or more results was less than or equal to five times the detection limit.
NG = no guideline
PAH = polycyclic aromatic hydrocarbon
RPD = relative percent difference
SDG = sample delivery group
U = The analyte was analyzed for, but was not detected above, the reportable detection limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected at a concentration greater than the reportable detection limit. However, the reportable detection limit is approximate.

$$RPD\% = \frac{|N - FD|}{\frac{1}{2}(N + FD)} \times 100\%$$

Where: N = Parent sample value
FD = Field duplicate value

Table 6-8. Summary of Analytical Results in Groundwater

Phase Two Environmental Site Assesment, 14 Edinburgh Road South, Guelph, Ontario

			Location ID	MW103D					MW104			
			Sample ID	MW103D-03102026	MW-103D-20260622	FD1-20260622		MW103D-20260623	MW104-20250530	FD-20250530		MW104-03102026
			Sample Date	2026-03-10	2026-06-22	2026-06-22		2026-06-23	2025-05-30	2025-05-30		2026-03-10
			Sample Type	N	N	FD		N	N	FD		N
			Start Depth (mbgs)	15.24	15.24	15.24	RPD	15.24	0.61	0.61	RPD	0.61
			End Depth (mbgs)	18.29	18.29	18.29		18.29	2.13	2.13		2.13
			Parent Sample	NA	NA	MW-103D-20260622		NA	NA	MW104-20250530		NA
			Laboratory SDG	WT2605588	WT2615982	WT2615982		WT2617951	WT2513613	WT2513613		WT2605588
Chemical Name	**Units**	**Table 2 SCS [a]**										
Acids, Bases and Neutrals												
1,1'-Biphenyl	µg/L	0.5	--	--	--	NC	--	--	--	NC	--
1,2,4-Trichlorobenzene	µg/L	70	--	--	--	NC	--	--	--	NC	--
2,4 & 2,6-Dinitrotoluene	µg/L	5	--	--	--	NC	--	--	--	NC	--
2,4-Dimethylphenol	µg/L	59	--	--	--	NC	--	--	--	NC	--
2,4-Dinitrophenol	µg/L	10	--	--	--	NC	--	--	--	NC	--
2,4-Dinitrotoluene	µg/L	NG	--	--	--	NC	--	--	--	NC	--
2,6-Dinitrotoluene	µg/L	NG	--	--	--	NC	--	--	--	NC	--
3,3'-Dichlorobenzidine	µg/L	0.5	--	--	--	NC	--	--	--	NC	--
4-Chloroaniline	µg/L	10	--	--	--	NC	--	--	--	NC	--
Bis (2-chloroethyl) ether	µg/L	5	--	--	--	NC	--	--	--	NC	--
bis (2-Chloroisopropyl) ether	µg/L	120	--	--	--	NC	--	--	--	NC	--
Bis (2-ethylhexyl) phthalate	µg/L	10	--	--	--	NC	--	--	--	NC	--
Bis(2-chloroisopropyl)ether	µg/L	120	--	--	--	NC	--	--	--	NC	--
Diethylphthalate	µg/L	38	--	--	--	NC	--	--	--	NC	--
Dimethylphthalate	µg/L	38	--	--	--	NC	--	--	--	NC	--
Phenol	µg/L	890	--	--	--	NC	--	--	--	NC	--
BTEX												
Benzene	µg/L	5	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
Ethylbenzene	µg/L	2.4	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
Toluene	µg/L	24	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
Total BTEX	µg/L	NG	1 U	1 U	1 U	NC	--	1 U	1 U	NC	1 U
Xylene, o-	µg/L	NG	0.3 U	0.3 U	0.3 U	NC	--	0.3 U	0.3 U	NC	0.3 U
Xylenes, m- & p-	µg/L	NG	0.4 U	0.4 U	0.4 U	NC	--	0.4 U	0.4 U	NC	0.4 U
Xylenes, Total	µg/L	300	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
Chlorinated Phenols												
2,4,5-Trichlorophenol	µg/L	8.9	--	--	--	NC	--	--	--	NC	--
2,4,6-Trichlorophenol	µg/L	2	--	--	--	NC	--	--	--	NC	--
2,4-Dichlorophenol	µg/L	20	--	--	--	NC	--	--	--	NC	--
2-Chlorophenol	µg/L	8.9	--	--	--	NC	--	--	--	NC	--
Pentachlorophenol	µg/L	30	--	--	--	NC	--	--	--	NC	--
Other Regulated Parameters												
Dissolved Chromium, Hexavalent (Cr6+)	µg/L	25	**0.77**	--	--	NC	--	0.5 U	0.5 U	NC	**0.74**
Cyanide, Weak Acid Dissociable	µg/L	66	2 U	--	--	NC	--	2 U	2 U	NC	2 U
Dissolved Sodium	µg/L	490000	**205000**	**536000**	**606000**	12%	--	**92500**	**91700**	1%	**229000**
Chloride (Cl)	µg/L	790000	**331000**	--	--	NC	**919000**	**188000**	**184000**	2%	**320000**
Dissolved Mercury	µg/L	0.29	0.005 U	--	--	NC	--	0.005 U	0.005 U	NC	0.005 U
Hydride-Forming Metals												
Dissolved Antimony	µg/L	6	0.1 U	1 U	1 U	NC	--	**0.52**	**0.53**	2%	**0.21**
Dissolved Arsenic	µg/L	25	**0.19**	1 U	1 U	NC	--	**0.69**	**0.68**	1%	**0.48**
Dissolved Selenium	µg/L	10	**2.15**	**1.13**	**1.35**	18%	--	**0.879**	**0.902**	3%	**1.21**
Metals												
Dissolved Barium	µg/L	1000	**43.8**	**108**	**110**	2%	--	**136**	**136**	0%	**68.5**
Dissolved Beryllium	µg/L	4	0.02 U	0.2 U	0.2 U	NC	--	0.02 U	0.02 U	NC	0.02 U
Dissolved Boron	µg/L	5000	**52**	100 U	100 U	NC	--	**64**	**63**	2%	**23**
Dissolved Cadmium	µg/L	2.7	**0.0083**	0.05 U	0.05 U	NC	--	**0.0811**	**0.082**	1%	**0.146**
Dissolved Chromium	µg/L	50	**0.66**	5 U	5 U	NC	--	0.5 U	0.5 U	NC	**0.63**
Dissolved Cobalt	µg/L	3.8	0.1 U	1 U	1 U	NC	--	**15.1**	**15**	1%	**11.2**
Dissolved Copper	µg/L	87	**1.55**	2 U	2 U	NC	--	**3.19**	**3.09**	3%	**3.69**
Dissolved Lead	µg/L	10	0.05 U	0.5 U	0.5 U	NC	--	**0.065**	**0.058**	11%	0.05 U
Dissolved Molybdenum	µg/L	70	**0.535**	0.5 U	**0.55**	NC	--	**3.34**	**3.4**	2%	**2.52**
Dissolved Nickel	µg/L	100	0.5 U	5 U	5 U	NC	--	**10.1**	**10.2**	1%	**9.33**
Dissolved Silver	µg/L	1.5	0.01 U	0.1 U	0.1 U	NC	--	0.01 U	0.01 U	NC	0.01 U

Table 6-8. Summary of Analytical Results in Groundwater

Phase Two Environmental Site Assesment, 14 Edinburgh Road South, Guelph, Ontario

Location ID			MW103D					MW104			
Sample ID			MW103D-03102026	MW-103D-20260622	FD1-20260622	RPD	MW103D-20260623	MW104-20250530	FD-20250530	RPD	MW104-03102026
Sample Date			2026-03-10	2026-06-22	2026-06-22		2026-06-23	2025-05-30	2025-05-30		2026-03-10
Sample Type			N	N	FD		N	N	FD		N
Start Depth (mbgs)			15.24	15.24	15.24		15.24	0.61	0.61		0.61
End Depth (mbgs)			18.29	18.29	18.29		18.29	2.13	2.13		2.13
Parent Sample			NA	NA	MW-103D-20260622		NA	NA	MW104-20250530		NA
Laboratory SDG			WT2605588	WT2615982	WT2615982		WT2617951	WT2513613	WT2513613		WT2605588
Chemical Name	**Units**	**Table 2 SCS [a]**									
Dissolved Thallium	µg/L	2	**0.017**	0.1 U	0.1 U	NC	--	**0.029**	**0.03**	3%	**0.022**
Dissolved Uranium	µg/L	20	**0.926**	**1.96**	**1.87**	5%	--	**3.42**	**3.4**	1%	**1.76**
Dissolved Vanadium	µg/L	6.2	0.5 U	5 U	5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
Dissolved Zinc	µg/L	1100	**5.8**	10 U	**10.8**	NC	--	**4.7**	**4.6**	2%	**7**
PAH											
1-Methylnaphthalene	µg/L	NG	--	--	--	NC	--	**0.012**	**0.012**	0%	0.01 U
2-(1-)Methylnaphthalene	µg/L	3.2	--	--	--	NC	--	**0.034**	**0.044**	26%	0.015 U
2-Methylnaphthalene	µg/L	NG	--	--	--	NC	--	**0.022**	**0.032**	37%	**0.012**
Acenaphthene	µg/L	4.1	--	--	--	NC	--	0.01 U	0.01 U	NC	0.01 U
Acenaphthylene	µg/L	1	--	--	--	NC	--	0.01 U	0.01 U	NC	0.01 U
Anthracene	µg/L	2.4	--	--	--	NC	--	0.01 U	0.01 U	NC	0.01 U
Benzo(a)anthracene	µg/L	1	--	--	--	NC	--	0.01 U	0.01 U	NC	0.01 U
Benzo(a)pyrene	µg/L	0.01	--	--	--	NC	--	0.005 U	0.005 U	NC	0.005 U
Benzo(b&j)fluoranthene	µg/L	0.1	--	--	--	NC	--	0.01 U	0.01 U	NC	0.01 U
Benzo(g,h,i)perylene	µg/L	0.2	--	--	--	NC	--	0.01 U	0.01 U	NC	0.01 U
Benzo(k)fluoranthene	µg/L	0.1	--	--	--	NC	--	0.01 U	0.01 U	NC	0.01 U
Chrysene	µg/L	0.1	--	--	--	NC	--	0.01 U	0.01 U	NC	0.01 U
Dibenzo(a,h)anthracene	µg/L	0.2	--	--	--	NC	--	0.005 U	0.005 U	NC	0.005 U
Fluoranthene	µg/L	0.41	--	--	--	NC	--	**0.011**	**0.011**	0%	0.01 U
Fluorene	µg/L	120	--	--	--	NC	--	0.01 U	0.01 U	NC	0.01 U
Indeno(1,2,3-Cd)Pyrene	µg/L	0.2	--	--	--	NC	--	0.01 U	0.01 U	NC	0.01 U
Naphthalene	µg/L	11	--	--	--	NC	--	**0.059**	**0.101**	53%	0.05 U
Phenanthrene	µg/L	1	--	--	--	NC	--	0.02 U	0.02 U	NC	0.02 U
Pyrene	µg/L	4.1	--	--	--	NC	--	0.01 U	0.01 U	NC	0.01 U
Petroleum Hydrocarbons											
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	µg/L	NG	--	--	--	NC	--	25 U	25 U	NC	25 U
Petroleum Hydrocarbons F1 (C6-C10)	µg/L	750	--	--	--	NC	--	25 U	25 U	NC	25 U
Petroleum Hydrocarbons F2 (C10-C16 less Naphthalene)	µg/L	NG	--	--	--	NC	--	100 U	100 U	NC	100 U
Petroleum Hydrocarbons F2 (C10-C16)	µg/L	150	--	--	--	NC	--	100 U	100 U	NC	100 U
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	µg/L	NG	--	--	--	NC	--	250 U	250 U	NC	250 U
Petroleum Hydrocarbons F3 (C16-C34)	µg/L	500	--	--	--	NC	--	250 U	250 U	NC	250 U
Petroleum Hydrocarbons F4 (C34-C50)	µg/L	500	--	--	--	NC	--	250 U	250 U	NC	250 U
Total Petroleum Hydrocarbons (C6 to C50)	µg/L	NG	--	--	--	NC	--	370 U	370 U	NC	370 U
Trihalomethanes											
Bromodichloromethane	µg/L	16	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
Bromoform	µg/L	25	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
Chloroform	µg/L	2.4	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
Dibromochloromethane	µg/L	25	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
Volatile Organic Compounds											
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
1,1,1-Trichloroethane	µg/L	200	0.5 U	**1.17**	**1.06**	10%	--	0.5 U	0.5 U	NC	0.5 U
1,1,2,2-Tetrachloroethane	µg/L	1	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
1,1,2-Trichloroethane	µg/L	4.7	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
1,1-Dichloroethane	µg/L	5	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
1,1-Dichloroethene	µg/L	1.6	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
1,2-Dichlorobenzene	µg/L	3	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
1,2-Dichloroethane	µg/L	1.6	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
1,2-Dichloropropane	µg/L	5	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
1,3-Dichlorobenzene	µg/L	59	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
1,3-Dichloropropene	µg/L	0.5	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
1,4-Dichlorobenzene	µg/L	1	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
Acetone	µg/L	2700	20 U	20 U	20 U	NC	--	20 U	20 U	NC	20 U
Bromomethane	µg/L	0.89	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U

Table 6-8. Summary of Analytical Results in Groundwater

Phase Two Environmental Site Assesment, 14 Edinburgh Road South, Guelph, Ontario

Location ID			MW103D					MW104			
Sample ID			MW103D-03102026	MW-103D-20260622	FD1-20260622	RPD	MW103D-20260623	MW104-20250530	FD-20250530	RPD	MW104-03102026
Sample Date			2026-03-10	2026-06-22	2026-06-22		2026-06-23	2025-05-30	2025-05-30		2026-03-10
Sample Type			N	N	FD		N	N	FD		N
Start Depth (mbgs)			15.24	15.24	15.24		15.24	0.61	0.61		0.61
End Depth (mbgs)			18.29	18.29	18.29		18.29	2.13	2.13		2.13
Parent Sample			NA	NA	MW-103D-20260622		NA	NA	MW104-20250530		NA
Laboratory SDG			WT2605588	WT2615982	WT2615982		WT2617951	WT2513613	WT2513613		WT2605588
Chemical Name	**Units**	**Table 2 SCS [a]**									
Carbon tetrachloride	µg/L	0.79	0.2 U	0.2 U	0.2 U	NC	--	0.2 U	0.2 U	NC	0.2 U
Chlorobenzene	µg/L	30	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
cis-1,2-Dichloroethene	µg/L	1.6	0.5 U	**1.96**	**1.85**	6%	--	0.5 U	0.5 U	NC	0.5 U
cis-1,3-Dichloropropene	µg/L	NG	0.3 U	0.3 U	0.3 U	NC	--	0.3 U	0.3 U	NC	0.3 U
Dichlorodifluoromethane	µg/L	590	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
Ethylene Dibromide	µg/L	0.2	0.2 U	0.2 U	0.2 U	NC	--	0.2 U	0.2 U	NC	0.2 U
Hexane, n-	µg/L	51	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
Isobutyl Ketone	µg/L	640	20 U	20 U	20 U	NC	--	20 U	20 U	NC	20 U
Methyl Ethyl Ketone	µg/L	1800	20 U	20 U	20 U	NC	--	20 U	20 U	NC	20 U
Methyl tert-butyl ether (MTBE)	µg/L	15	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
Methylene Chloride	µg/L	50	1 U	1 U	1 U	NC	--	1 U	1 U	NC	1 U
Styrene	µg/L	5.4	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
Tetrachloroethene	µg/L	1.6	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
trans-1,2-Dichloroethene	µg/L	1.6	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
trans-1,3-Dichloropropene	µg/L	NG	0.3 U	0.3 U	0.3 U	NC	--	0.3 U	0.3 U	NC	0.3 U
Trichloroethylene	µg/L	1.6	**15.3**	**42.9**	**39.3**	9%	--	0.5 U	0.5 U	NC	0.5 U
Trichlorofluoromethane	µg/L	150	0.5 U	0.5 U	0.5 U	NC	--	0.5 U	0.5 U	NC	0.5 U
Vinyl Chloride	µg/L	0.5	0.2 U	0.2 U	0.2 U	NC	--	0.2 U	0.2 U	NC	0.2 U

[a] Ontario Regulation 153/04, Table 2: Full Depth Generic Site Condition Standards for Use in a Potable Ground Water Condition, for residential/ parkland/ insitutional land use and coarse-textured soils (MECP 2011b).

Notes:
Bold = result was reported above the reportable detection limit
Shaded values exceed applicable guideline.

µg/L = microgram(s) per litre
-- = not tested
% = percentage
BTEX = benzene, toluene, ethylbenzene, and xylenes
C = carbon number
FD = field duplicate sample
ID = identification
mbgs = metre(s) below ground surface
N = normal sample
NA = not applicable
NC = The RPD was not calculated as one or more results was less than or equal to five times the detection limit.
NG = no guideline
PAH = polycyclic aromatic hydrocarbon
RPD = relative percent difference
SDG = sample delivery group
U = The analyte was analyzed for, but was not detected above, the reportable detection limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected at a concentration greater than the reportable detection limit. However, the reportable detection limit is approximate.

$$RPD\% = \frac{|N - FD|}{\frac{1}{2}(N + FD)} \times 100\%$$

Where: N = Parent sample value
FD = Field duplicate value

Table 6-8. Summary of Analytical Results in Groundwater

Phase Two Environmental Site Assesment, 14 Edinburgh Road South, Guelph, Ontario

Location ID			MW104D			MW105D			
Sample ID			MW104D-03122026	MW-104D-20260622	MW104D-20260623	MW105D-03122026	MW-105D-20260622	MW105D-20260623	FD2-20260623
Sample Date			2026-03-12	2026-06-22	2026-06-23	2026-03-12	2026-06-22	2026-06-23	2026-06-23
Sample Type			N	N	N	N	N	N	FD
Start Depth (mbgs)			13.72	13.72	13.72	13.72	13.72	13.72	13.72
End Depth (mbgs)			16.76	16.76	16.76	16.76	16.76	16.76	16.76
Parent Sample			NA	NA	NA	NA	NA	NA	MW105D-20260623
Laboratory SDG			WT2605588	WT2615982	WT2617951	WT2605588	WT2615982	WT2617951	WT2617951
Chemical Name	**Units**	**Table 2 SCS [a]**							
Acids, Bases and Neutrals									
1,1'-Biphenyl	µg/L	0.5	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	µg/L	70	--	--	--	--	--	--	--
2,4 & 2,6-Dinitrotoluene	µg/L	5	--	--	--	--	--	--	--
2,4-Dimethylphenol	µg/L	59	--	--	--	--	--	--	--
2,4-Dinitrophenol	µg/L	10	--	--	--	--	--	--	--
2,4-Dinitrotoluene	µg/L	NG	--	--	--	--	--	--	--
2,6-Dinitrotoluene	µg/L	NG	--	--	--	--	--	--	--
3,3'-Dichlorobenzidine	µg/L	0.5	--	--	--	--	--	--	--
4-Chloroaniline	µg/L	10	--	--	--	--	--	--	--
Bis (2-chloroethyl) ether	µg/L	5	--	--	--	--	--	--	--
bis (2-Chloroisopropyl) ether	µg/L	120	--	--	--	--	--	--	--
Bis (2-ethylhexyl) phthalate	µg/L	10	--	--	--	--	--	--	--
Bis(2-chloroisopropyl)ether	µg/L	120	--	--	--	--	--	--	--
Diethylphthalate	µg/L	38	--	--	--	--	--	--	--
Dimethylphthalate	µg/L	38	--	--	--	--	--	--	--
Phenol	µg/L	890	--	--	--	--	--	--	--
BTEX									
Benzene	µg/L	5	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Ethylbenzene	µg/L	2.4	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Toluene	µg/L	24	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Total BTEX	µg/L	NG	1 U	1 U	--	1 U	1 U	--	--
Xylene, o-	µg/L	NG	0.3 U	0.3 U	--	0.3 U	0.3 U	--	--
Xylenes, m- & p-	µg/L	NG	0.4 U	0.4 U	--	0.4 U	0.4 U	--	--
Xylenes, Total	µg/L	300	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Chlorinated Phenols									
2,4,5-Trichlorophenol	µg/L	8.9	--	--	--	--	--	--	--
2,4,6-Trichlorophenol	µg/L	2	--	--	--	--	--	--	--
2,4-Dichlorophenol	µg/L	20	--	--	--	--	--	--	--
2-Chlorophenol	µg/L	8.9	--	--	--	--	--	--	--
Pentachlorophenol	µg/L	30	--	--	--	--	--	--	--
Other Regulated Parameters									
Dissolved Chromium, Hexavalent (Cr6+)	µg/L	25	0.5 U	--	--	**1.18**	--	--	--
Cyanide, Weak Acid Dissociable	µg/L	66	2 U	--	--	2 U	--	--	--
Dissolved Sodium	µg/L	490000	**270000**	**208000**	--	**371000**	**466000**	--	--
Chloride (Cl)	µg/L	790000	**426000**	--	**395000**	**625000**	--	**819000**	**847000**
Dissolved Mercury	µg/L	0.29	0.005 U	--	--	0.005 U	--	--	--
Hydride-Forming Metals									
Dissolved Antimony	µg/L	6	**1.83**	**0.68**	--	1 U	1 U	--	--
Dissolved Arsenic	µg/L	25	**2.75**	**0.9**	--	1 U	1 U	--	--
Dissolved Selenium	µg/L	10	**8.28**	**10**	--	**1**	**0.767**	--	--
Metals									
Dissolved Barium	µg/L	1000	**96.1**	**72**	--	**82.1**	**96.2**	--	--
Dissolved Beryllium	µg/L	4	0.02 U	0.02 U	--	0.2 U	0.2 U	--	--
Dissolved Boron	µg/L	5000	**72**	**69**	--	100 U	100 U	--	--
Dissolved Cadmium	µg/L	2.7	**0.0524**	**0.0478**	--	0.05 U	0.05 U	--	--
Dissolved Chromium	µg/L	50	0.5 U	0.5 U	--	5 U	5 U	--	--
Dissolved Cobalt	µg/L	3.8	**1.06**	**1.83**	--	1 U	1 U	--	--
Dissolved Copper	µg/L	87	**0.63**	**0.31**	--	2 U	2 U	--	--
Dissolved Lead	µg/L	10	**0.266**	**0.479**	--	0.5 U	0.5 U	--	--
Dissolved Molybdenum	µg/L	70	**0.844**	**0.825**	--	0.5 U	0.5 U	--	--
Dissolved Nickel	µg/L	100	**3.85**	**5.68**	--	5 U	5 U	--	--
Dissolved Silver	µg/L	1.5	0.01 U	0.01 U	--	0.1 U	0.1 U	--	--

Table 6-8. Summary of Analytical Results in Groundwater

Phase Two Environmental Site Assesment, 14 Edinburgh Road South, Guelph, Ontario

		Location ID	MW104D			MW105D			
		Sample ID	MW104D-03122026	MW-104D-20260622	MW104D-20260623	MW105D-03122026	MW-105D-20260622	MW105D-20260623	FD2-20260623
		Sample Date	2026-03-12	2026-06-22	2026-06-23	2026-03-12	2026-06-22	2026-06-23	2026-06-23
		Sample Type	N	N	N	N	N	N	FD
		Start Depth (mbgs)	13.72	13.72	13.72	13.72	13.72	13.72	13.72
		End Depth (mbgs)	16.76	16.76	16.76	16.76	16.76	16.76	16.76
		Parent Sample	NA	NA	NA	NA	NA	NA	MW105D-20260623
		Laboratory SDG	WT2605588	WT2615982	WT2617951	WT2605588	WT2615982	WT2617951	WT2617951
Chemical Name	**Units**	**Table 2 SCS [a]**							
Dissolved Thallium	µg/L	2	**0.169**	**0.338**	--	0.1 U	0.1 U	--	--
Dissolved Uranium	µg/L	20	**5.71**	**7.42**	--	**0.512**	**0.549**	--	--
Dissolved Vanadium	µg/L	6.2	0.5 U	0.5 U	--	5 U	5 U	--	--
Dissolved Zinc	µg/L	1100	**46.8**	**90.3**	--	10 U	**11.8**	--	--
PAH									
1-Methylnaphthalene	µg/L	NG	--	--	--	--	--	--	--
2-(1-)Methylnaphthalene	µg/L	3.2	--	--	--	--	--	--	--
2-Methylnaphthalene	µg/L	NG	--	--	--	--	--	--	--
Acenaphthene	µg/L	4.1	--	--	--	--	--	--	--
Acenaphthylene	µg/L	1	--	--	--	--	--	--	--
Anthracene	µg/L	2.4	--	--	--	--	--	--	--
Benzo(a)anthracene	µg/L	1	--	--	--	--	--	--	--
Benzo(a)pyrene	µg/L	0.01	--	--	--	--	--	--	--
Benzo(b&j)fluoranthene	µg/L	0.1	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	µg/L	0.2	--	--	--	--	--	--	--
Benzo(k)fluoranthene	µg/L	0.1	--	--	--	--	--	--	--
Chrysene	µg/L	0.1	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	µg/L	0.2	--	--	--	--	--	--	--
Fluoranthene	µg/L	0.41	--	--	--	--	--	--	--
Fluorene	µg/L	120	--	--	--	--	--	--	--
Indeno(1,2,3-Cd)Pyrene	µg/L	0.2	--	--	--	--	--	--	--
Naphthalene	µg/L	11	--	--	--	--	--	--	--
Phenanthrene	µg/L	1	--	--	--	--	--	--	--
Pyrene	µg/L	4.1	--	--	--	--	--	--	--
Petroleum Hydrocarbons									
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	µg/L	NG	--	--	--	--	--	--	--
Petroleum Hydrocarbons F1 (C6-C10)	µg/L	750	--	--	--	--	--	--	--
Petroleum Hydrocarbons F2 (C10-C16 less Naphthalene)	µg/L	NG	--	--	--	--	--	--	--
Petroleum Hydrocarbons F2 (C10-C16)	µg/L	150	--	--	--	--	--	--	--
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	µg/L	NG	--	--	--	--	--	--	--
Petroleum Hydrocarbons F3 (C16-C34)	µg/L	500	--	--	--	--	--	--	--
Petroleum Hydrocarbons F4 (C34-C50)	µg/L	500	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (C6 to C50)	µg/L	NG	--	--	--	--	--	--	--
Trihalomethanes									
Bromodichloromethane	µg/L	16	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Bromoform	µg/L	25	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Chloroform	µg/L	2.4	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Dibromochloromethane	µg/L	25	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Volatile Organic Compounds									
1,1,1,2-Tetrachloroethane	µg/L	1.1	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
1,1,1-Trichloroethane	µg/L	200	**1.58**	**1.26**	--	**0.77**	**0.67**	--	--
1,1,2,2-Tetrachloroethane	µg/L	1	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
1,1,2-Trichloroethane	µg/L	4.7	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
1,1-Dichloroethane	µg/L	5	**1.72**	**1.1**	--	0.5 U	0.5 U	--	--
1,1-Dichloroethene	µg/L	1.6	**1.12**	**0.58**	--	0.5 U	0.5 U	--	--
1,2-Dichlorobenzene	µg/L	3	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
1,2-Dichloroethane	µg/L	1.6	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
1,2-Dichloropropane	µg/L	5	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
1,3-Dichlorobenzene	µg/L	59	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
1,3-Dichloropropene	µg/L	0.5	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
1,4-Dichlorobenzene	µg/L	1	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Acetone	µg/L	2700	20 U	20 U	--	20 U	20 U	--	--
Bromomethane	µg/L	0.89	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--

Table 6-8. Summary of Analytical Results in Groundwater

Phase Two Environmental Site Assesment, 14 Edinburgh Road South, Guelph, Ontario

		Location ID	MW104D			MW105D			
		Sample ID	MW104D-03122026	MW-104D-20260622	MW104D-20260623	MW105D-03122026	MW-105D-20260622	MW105D-20260623	FD2-20260623
		Sample Date	2026-03-12	2026-06-22	2026-06-23	2026-03-12	2026-06-22	2026-06-23	2026-06-23
		Sample Type	N	N	N	N	N	N	FD
		Start Depth (mbgs)	13.72	13.72	13.72	13.72	13.72	13.72	13.72
		End Depth (mbgs)	16.76	16.76	16.76	16.76	16.76	16.76	16.76
		Parent Sample	NA	NA	NA	NA	NA	NA	MW105D-20260623
		Laboratory SDG	WT2605588	WT2615982	WT2617951	WT2605588	WT2615982	WT2617951	WT2617951
Chemical Name	**Units**	**Table 2 SCS [a]**							
Carbon tetrachloride	µg/L	0.79	0.2 U	0.2 U	--	0.2 U	0.2 U	--	--
Chlorobenzene	µg/L	30	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
cis-1,2-Dichloroethene	µg/L	1.6	**22.4**	**11.4**	--	0.5 U	0.5 U	--	--
cis-1,3-Dichloropropene	µg/L	NG	0.3 U	0.3 U	--	0.3 U	0.3 U	--	--
Dichlorodifluoromethane	µg/L	590	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Ethylene Dibromide	µg/L	0.2	0.2 U	0.2 U	--	0.2 U	0.2 U	--	--
Hexane, n-	µg/L	51	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Isobutyl Ketone	µg/L	640	20 U	20 U	--	20 U	20 U	--	--
Methyl Ethyl Ketone	µg/L	1800	20 U	20 U	--	20 U	20 U	--	--
Methyl tert-butyl ether (MTBE)	µg/L	15	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Methylene Chloride	µg/L	50	1 U	1 U	--	1 U	1 U	--	--
Styrene	µg/L	5.4	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Tetrachloroethene	µg/L	1.6	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
trans-1,2-Dichloroethene	µg/L	1.6	**1.02**	0.5 U	--	0.5 U	0.5 U	--	--
trans-1,3-Dichloropropene	µg/L	NG	0.3 U	0.3 U	--	0.3 U	0.3 U	--	--
Trichloroethylene	µg/L	1.6	**249**	**143**	--	**12.6**	**8.07**	--	--
Trichlorofluoromethane	µg/L	150	0.5 U	0.5 U	--	0.5 U	0.5 U	--	--
Vinyl Chloride	µg/L	0.5	0.2 U	0.2 U	--	0.2 U	0.2 U	--	--

[a] Ontario Regulation 153/04, Table 2: Full Depth Generic Site Condition Standards for Use in a Potable Ground Water Condition, for residential/ parkland/ insitutional land use and coarse-textured soils (MECP 2011b).

Notes:
Bold = result was reported above the reportable detection limit
Shaded values exceed applicable guideline.

µg/L = microgram(s) per litre
-- = not tested
% = percentage
BTEX = benzene, toluene, ethylbenzene, and xylenes
C = carbon number
FD = field duplicate sample
ID = identification
mbgs = metre(s) below ground surface
N = normal sample
NA = not applicable
NC = The RPD was not calculated as one or more results was less than or equal to five times the detection limit.
NG = no guideline
PAH = polycyclic aromatic hydrocarbon
RPD = relative percent difference
SDG = sample delivery group
U = The analyte was analyzed for, but was not detected above, the reportable detection limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected at a concentration greater than the reportable detection limit. However, the reportable detection limit is approximate.

$$RPD\% = \frac{|N - FD|}{\frac{1}{2}(N + FD)} \times 100\%$$

Where: N = Parent sample value
FD = Field duplicate value

Table 6-8. Summary of Analytical Results in Groundwater

Phase Two Environmental Site Assesment, 14 Edinburgh Road South, Guelph, Ontario

Location ID				MW106D		
Sample ID				MW106D-03102026	MW-106D-20260622	MW106D-20260623
Sample Date				2026-03-10	2026-06-22	2026-06-23
Sample Type				N	N	N
Start Depth (mbgs)			RPD	15.24	15.24	15.24
End Depth (mbgs)				18.29	18.29	18.29
Parent Sample				NA	NA	NA
Laboratory SDG				WT2605588	WT2615982	WT2617951
Chemical Name	**Units**	**Table 2 SCS [a]**				
Acids, Bases and Neutrals						
1,1'-Biphenyl	µg/L	0.5	NC	--	--	--
1,2,4-Trichlorobenzene	µg/L	70	NC	--	--	--
2,4 & 2,6-Dinitrotoluene	µg/L	5	NC	--	--	--
2,4-Dimethylphenol	µg/L	59	NC	--	--	--
2,4-Dinitrophenol	µg/L	10	NC	--	--	--
2,4-Dinitrotoluene	µg/L	NG	NC	--	--	--
2,6-Dinitrotoluene	µg/L	NG	NC	--	--	--
3,3'-Dichlorobenzidine	µg/L	0.5	NC	--	--	--
4-Chloroaniline	µg/L	10	NC	--	--	--
Bis (2-chloroethyl) ether	µg/L	5	NC	--	--	--
bis (2-Chloroisopropyl) ether	µg/L	120	NC	--	--	--
Bis (2-ethylhexyl) phthalate	µg/L	10	NC	--	--	--
Bis(2-chloroisopropyl)ether	µg/L	120	NC	--	--	--
Diethylphthalate	µg/L	38	NC	--	--	--
Dimethylphthalate	µg/L	38	NC	--	--	--
Phenol	µg/L	890	NC	--	--	--
BTEX						
Benzene	µg/L	5	NC	0.5 U	0.5 U	--
Ethylbenzene	µg/L	2.4	NC	0.5 U	0.5 U	--
Toluene	µg/L	24	NC	0.5 U	0.5 U	--
Total BTEX	µg/L	NG	NC	1 U	1 U	--
Xylene, o-	µg/L	NG	NC	0.3 U	0.3 U	--
Xylenes, m- & p-	µg/L	NG	NC	0.4 U	0.4 U	--
Xylenes, Total	µg/L	300	NC	0.5 U	0.5 U	--
Chlorinated Phenols						
2,4,5-Trichlorophenol	µg/L	8.9	NC	--	--	--
2,4,6-Trichlorophenol	µg/L	2	NC	--	--	--
2,4-Dichlorophenol	µg/L	20	NC	--	--	--
2-Chlorophenol	µg/L	8.9	NC	--	--	--
Pentachlorophenol	µg/L	30	NC	--	--	--
Other Regulated Parameters						
Dissolved Chromium, Hexavalent (Cr6+)	µg/L	25	NC	**1**	--	--
Cyanide, Weak Acid Dissociable	µg/L	66	NC	2 U	--	--
Dissolved Sodium	µg/L	490000	NC	**761000**	**882000**	--
Chloride (Cl)	µg/L	790000	3%	**1230000**	--	**1520000**
Dissolved Mercury	µg/L	0.29	NC	0.005 U	--	--
Hydride-Forming Metals						
Dissolved Antimony	µg/L	6	NC	1 U	1 U	--
Dissolved Arsenic	µg/L	25	NC	1 U	1 U	--
Dissolved Selenium	µg/L	10	NC	**1.6**	**1.8**	--
Metals						
Dissolved Barium	µg/L	1000	NC	**130**	**147**	--
Dissolved Beryllium	µg/L	4	NC	0.2 U	0.2 U	--
Dissolved Boron	µg/L	5000	NC	100 U	100 U	--
Dissolved Cadmium	µg/L	2.7	NC	0.05 U	0.05 U	--
Dissolved Chromium	µg/L	50	NC	5 U	5 U	--
Dissolved Cobalt	µg/L	3.8	NC	1 U	1 U	--
Dissolved Copper	µg/L	87	NC	2 U	2 U	--
Dissolved Lead	µg/L	10	NC	0.5 U	0.5 U	--
Dissolved Molybdenum	µg/L	70	NC	0.5 U	0.5 U	--
Dissolved Nickel	µg/L	100	NC	5 U	5 U	--
Dissolved Silver	µg/L	1.5	NC	0.1 U	0.1 U	--

Table 6-8. Summary of Analytical Results in Groundwater

Phase Two Environmental Site Assesment, 14 Edinburgh Road South, Guelph, Ontario

Location ID				MW106D		
Sample ID				MW106D-03102026	MW-106D-20260622	MW106D-20260623
Sample Date				2026-03-10	2026-06-22	2026-06-23
Sample Type				N	N	N
Start Depth (mbgs)			RPD	15.24	15.24	15.24
End Depth (mbgs)				18.29	18.29	18.29
Parent Sample				NA	NA	NA
Laboratory SDG				WT2605588	WT2615982	WT2617951
Chemical Name	**Units**	**Table 2 SCS [a]**				
Dissolved Thallium	µg/L	2	NC	0.1 U	0.1 U	--
Dissolved Uranium	µg/L	20	NC	**1.47**	**1.75**	--
Dissolved Vanadium	µg/L	6.2	NC	5 U	5 U	--
Dissolved Zinc	µg/L	1100	NC	**11.1**	**16.7**	--
PAH						
1-Methylnaphthalene	µg/L	NG	NC	--	--	--
2-(1-)Methylnaphthalene	µg/L	3.2	NC	--	--	--
2-Methylnaphthalene	µg/L	NG	NC	--	--	--
Acenaphthene	µg/L	4.1	NC	--	--	--
Acenaphthylene	µg/L	1	NC	--	--	--
Anthracene	µg/L	2.4	NC	--	--	--
Benzo(a)anthracene	µg/L	1	NC	--	--	--
Benzo(a)pyrene	µg/L	0.01	NC	--	--	--
Benzo(b&j)fluoranthene	µg/L	0.1	NC	--	--	--
Benzo(g,h,i)perylene	µg/L	0.2	NC	--	--	--
Benzo(k)fluoranthene	µg/L	0.1	NC	--	--	--
Chrysene	µg/L	0.1	NC	--	--	--
Dibenzo(a,h)anthracene	µg/L	0.2	NC	--	--	--
Fluoranthene	µg/L	0.41	NC	--	--	--
Fluorene	µg/L	120	NC	--	--	--
Indeno(1,2,3-Cd)Pyrene	µg/L	0.2	NC	--	--	--
Naphthalene	µg/L	11	NC	--	--	--
Phenanthrene	µg/L	1	NC	--	--	--
Pyrene	µg/L	4.1	NC	--	--	--
Petroleum Hydrocarbons						
Petroleum Hydrocarbons F1 (C6-C10 less BTEX)	µg/L	NG	NC	--	--	--
Petroleum Hydrocarbons F1 (C6-C10)	µg/L	750	NC	--	--	--
Petroleum Hydrocarbons F2 (C10-C16 less Naphthalene)	µg/L	NG	NC	--	--	--
Petroleum Hydrocarbons F2 (C10-C16)	µg/L	150	NC	--	--	--
Petroleum Hydrocarbons F3 (C16-C34 less PAHs)	µg/L	NG	NC	--	--	--
Petroleum Hydrocarbons F3 (C16-C34)	µg/L	500	NC	--	--	--
Petroleum Hydrocarbons F4 (C34-C50)	µg/L	500	NC	--	--	--
Total Petroleum Hydrocarbons (C6 to C50)	µg/L	NG	NC	--	--	--
Trihalomethanes						
Bromodichloromethane	µg/L	16	NC	0.5 U	0.5 U	--
Bromoform	µg/L	25	NC	0.5 U	0.5 U	--
Chloroform	µg/L	2.4	NC	0.5 U	0.5 U	--
Dibromochloromethane	µg/L	25	NC	0.5 U	0.5 U	--
Volatile Organic Compounds						
1,1,1,2-Tetrachloroethane	µg/L	1.1	NC	0.5 U	0.5 U	--
1,1,1-Trichloroethane	µg/L	200	NC	**2.13**	**1.7**	--
1,1,2,2-Tetrachloroethane	µg/L	1	NC	0.5 U	0.5 U	--
1,1,2-Trichloroethane	µg/L	4.7	NC	0.5 U	0.5 U	--
1,1-Dichloroethane	µg/L	5	NC	0.5 U	0.5 U	--
1,1-Dichloroethene	µg/L	1.6	NC	0.5 U	0.5 U	--
1,2-Dichlorobenzene	µg/L	3	NC	0.5 U	0.5 U	--
1,2-Dichloroethane	µg/L	1.6	NC	0.5 U	0.5 U	--
1,2-Dichloropropane	µg/L	5	NC	0.5 U	0.5 U	--
1,3-Dichlorobenzene	µg/L	59	NC	0.5 U	0.5 U	--
1,3-Dichloropropene	µg/L	0.5	NC	0.5 U	0.5 U	--
1,4-Dichlorobenzene	µg/L	1	NC	0.5 U	0.5 U	--
Acetone	µg/L	2700	NC	20 U	20 U	--
Bromomethane	µg/L	0.89	NC	0.5 U	0.5 U	--

Table 6-8. Summary of Analytical Results in Groundwater

Phase Two Environmental Site Assesment, 14 Edinburgh Road South, Guelph, Ontario

Location ID				MW106D		
Sample ID				MW106D-03102026	MW-106D-20260622	MW106D-20260623
Sample Date				2026-03-10	2026-06-22	2026-06-23
Sample Type				N	N	N
Start Depth (mbgs)			RPD	15.24	15.24	15.24
End Depth (mbgs)				18.29	18.29	18.29
Parent Sample				NA	NA	NA
Laboratory SDG				WT2605588	WT2615982	WT2617951
Chemical Name	**Units**	**Table 2 SCS [a]**				
Carbon tetrachloride	µg/L	0.79	NC	0.2 U	0.2 U	--
Chlorobenzene	µg/L	30	NC	0.5 U	0.5 U	--
cis-1,2-Dichloroethene	µg/L	1.6	NC	**1.06**	**0.94**	--
cis-1,3-Dichloropropene	µg/L	NG	NC	0.3 U	0.3 U	--
Dichlorodifluoromethane	µg/L	590	NC	0.5 U	0.5 U	--
Ethylene Dibromide	µg/L	0.2	NC	0.2 U	0.2 U	--
Hexane, n-	µg/L	51	NC	0.5 U	0.5 U	--
Isobutyl Ketone	µg/L	640	NC	20 U	20 U	--
Methyl Ethyl Ketone	µg/L	1800	NC	20 U	20 U	--
Methyl tert-butyl ether (MTBE)	µg/L	15	NC	0.5 U	0.5 U	--
Methylene Chloride	µg/L	50	NC	1 U	1 U	--
Styrene	µg/L	5.4	NC	0.5 U	0.5 U	--
Tetrachloroethene	µg/L	1.6	NC	0.5 U	0.5 U	--
trans-1,2-Dichloroethene	µg/L	1.6	NC	0.5 U	0.5 U	--
trans-1,3-Dichloropropene	µg/L	NG	NC	0.3 U	0.3 U	--
Trichloroethylene	µg/L	1.6	NC	**48.7**	**43.2**	--
Trichlorofluoromethane	µg/L	150	NC	0.5 U	0.5 U	--
Vinyl Chloride	µg/L	0.5	NC	0.2 U	0.2 U	--

[a] Ontario Regulation 153/04, Table 2: Full Depth Generic Site Condition Standards for Use in a Potable Ground Water Condition, for residential/ parkland/ insitutional land use and coarse-textured soils (MECP 2011b).

Notes:
Bold = result was reported above the reportable detection limit
Shaded values exceed applicable guideline.

µg/L = microgram(s) per litre
-- = not tested
% = percentage
BTEX = benzene, toluene, ethylbenzene, and xylenes
C = carbon number
FD = field duplicate sample
ID = identification
mbgs = metre(s) below ground surface
N = normal sample
NA = not applicable
NC = The RPD was not calculated as one or more results was less than or equal to five times the detection limit.
NG = no guideline
PAH = polycyclic aromatic hydrocarbon
RPD = relative percent difference
SDG = sample delivery group
U = The analyte was analyzed for, but was not detected above, the reportable detection limit.
J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ = The analyte was not detected at a concentration greater than the reportable detection limit. However, the reportable detection limit is approximate.

$$RPD\% = \frac{|N - FD|}{\frac{1}{2}(N + FD)} \times 100\%$$

Where: N = Parent sample value
FD = Field duplicate value

Table 6-9. Maximum Detected Concentrations in Groundwater

14 Edinburgh Road South, Guelph, Ontario

Analyte Group	Analyte Name	Maximum Detected Concentration	Unit	Location	Sample Name	Sample Type	Sample Date	Start Depth (mbgs)	End Depth (mbgs)	SDG
ABN	Bis (2-ethylhexyl) phthalate	1.17	µg/L	MW102	MW107-03092026	FD	3/9/2026	1.22	3.35	WT2605588
ABN	Diethylphthalate	0.36	µg/L	MW103	MW103-03122026	N	3/12/2026	2.13	5.18	WT2605588
BTEX	Toluene	0.81	µg/L	MW101	MW101-03122026	N	3/12/2026	10.52	13.56	WT2605588
HF Metal	Antimony	0.14	µg/L	MW103	MW103-03122026	N	3/12/2026	2.13	5.18	WT2605588
HF Metal	Arsenic	0.19	µg/L	MW103D	MW103D-03102026	N	3/10/2026	15.24	18.29	WT2605588
HF Metal	Selenium	0.826	µg/L	MW102	DUP01-05122025	FD	5/12/2025	1.22	3.35	WT2511335
Metal	Barium	43.8	µg/L	MW103D	MW103D-03102026	N	3/10/2026	15.24	18.29	WT2605588
Metal	Boron	23	µg/L	MW104	MW104-03102026	N	3/10/2026	0.61	2.13	WT2605588
Metal	Cadmium	0.0083	µg/L	MW103D	MW103D-03102026	N	3/10/2026	15.24	18.29	WT2605588
Metal	Chromium	0.63	µg/L	MW104	MW104-03102026	N	3/10/2026	0.61	2.13	WT2605588
Metal	Cobalt	1.06	µg/L	MW104D	MW104D-03122026	N	3/12/2026	13.72	16.76	WT2605588
Metal	Copper	0.63	µg/L	MW104D	MW104D-03122026	N	3/12/2026	13.72	16.76	WT2605588
ORP	Dissolved Sodium	882000	µg/L	MW106D	MW106D-20260623	N	6/23/2026	15.24	18.29	WT2617951
Metal	Lead	0.058	µg/L	MW104	FD-20250530	FD	5/30/2025	0.61	2.13	WT2513613
Metal	Molybdenum	0.535	µg/L	MW103D	MW103D-03102026	N	3/10/2026	15.24	18.29	WT2605588
Metal	Nickel	2.48	µg/L	MW102	MW102-03092026	N	3/9/2026	1.22	3.35	WT2605588
Metal	Silver	0.013	µg/L	MW102	MW102-03092026	N	3/9/2026	1.22	3.35	WT2605588
Metal	Thallium	0.014	µg/L	MW102	MW102-03092026	N	3/9/2026	1.22	3.35	WT2605588
Metal	Uranium	0.512	µg/L	MW105D	MW105D-03122026	N	3/12/2026	13.72	16.76	WT2605588
Metal	Zinc	2	µg/L	MW102	DUP01-05122025	FD	5/12/2025	1.22	3.35	WT2511335
ORP	Chloride (Cl)	1520000	µg/L	MW106D	MW106D-20260623	N	6/23/2026	15.24	18.29	WT2617951
ORP	Chromium, Hexavalent (Cr6+)	0.65	µg/L	MW103	MW103-03122026	N	3/12/2026	2.13	5.18	WT2605588
PAH	2-(1-)Methylnaphthalene	0.026	µg/L	MW102	MW102-05122025	N	5/12/2025	1.22	3.35	WT2511335
PAH	Fluorene	0.013	µg/L	MW103	MW103-05122025	N	5/12/2025	2.13	5.18	WT2511335
PAH	Naphthalene	0.059	µg/L	MW104	MW104-20250530	N	5/30/2025	0.61	2.13	WT2513613
PAH	Phenanthrene	0.025	µg/L	MW103	MW103-05122025	N	5/12/2025	2.13	5.18	WT2511335
THM	Bromodichloromethane	1.03	µg/L	MW101	MW101-05132025	N	5/13/2025	10.52	13.56	WT2511458
THM	Chloroform	0.89	µg/L	MW101	MW101-05132025	N	5/13/2025	10.52	13.56	WT2511458
THM	Dibromochloromethane	1.09	µg/L	MW101	MW101-05132025	N	5/13/2025	10.52	13.56	WT2511458
VOC	1,1,1-Trichloroethane	0.7	µg/L	MW101	MW101-03122026	N	3/12/2026	10.52	13.56	WT2605588
VOC	1,1-Dichloroethane	1.72	µg/L	MW104D	MW104D-03122026	N	3/12/2026	13.72	16.76	WT2605588
VOC	Acetone	29	µg/L	MW101	MW101-03122026	N	3/12/2026	10.52	13.56	WT2605588
VOC	cis-1,2-Dichloroethene	0.82	µg/L	MW101	MW101-05132025	N	5/13/2025	10.52	13.56	WT2511458
VOC	trans-1,2-Dichloroethene	1.02	µg/L	MW104D	MW104D-03122026	N	3/12/2026	13.72	16.76	WT2605588
VOC	Trichloroethylene	12.6	µg/L	MW105D	MW105D-03122026	N	3/12/2026	13.72	16.76	WT2605588

Notes:

µg/L = microgram(s) per gram
ABN - acid, base, and neutral compounds
BTEX = benzene, toluene, ethylbenzene, and xylenes
FD = field duplicate
N = normal sample
ORP = other regulated parameter
PAH = polycyclic aromatic hydrocarbon
SDG = sample delivery group
THM = trihalomethane
VOC = volatile organic compounds

Table 6-10a. Preliminary COC Screening in Groundwater
Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph, Ontario

Contaminant [a]	Parameter Group	No. of Stations	No. of Samples	Max Detected Concentration	Max Nondetect Concentration	Maximum Measured Concentration [b]	Units	Minimum Detection Limit	Applicable SCS [c]	No. of Detects Exceeding Table 3 SCS	No. of Nondetects Exceeding Table 3 SCS	No. of Detected with no Table 3 SCS	No. of Nondetects with no Table 3 SCS	Retained as a Contaminant for Phase Two ESA? (Rationale)
Cobalt	Metals	8	20	15.1	1	15.1	µg/L	0.1	3.8	5	--	--	--	**Yes, included (Max > Table 2 SCS)**
Chloride (Cl)	ORP	8	20	1520000	--	1520000	µg/L	500	790000	7	--	--	--	No, excluded (Max > Table 2 SCS; Refer to Table 6-10b)
Dissolved Sodium	ORP	8	20	882000	--	882000	µg/L	50	490000	6	--	--	--	No, excluded (Max > Table 2 SCS; Refer to Table 6-10b)
cis-1,2-Dichloroethene	VOC	8	20	22.4	0.5	22.4	µg/L	0.5	1.6	4	--	--	--	**Yes, included (Max > Table 2 SCS)**
Trichloroethylene	VOC	8	20	249	0.5	249	µg/L	0.5	1.6	11	--	--	--	**Yes, included (Max > Table 2 SCS)**
1,1'-Biphenyl	ABN	2	6	--	0.2	0.2	µg/L	0.2	0.5	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,2,4-Trichlorobenzene	ABN	2	6	--	0.4	0.4	µg/L	0.4	70	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
2,4 & 2,6-Dinitrotoluene	ABN	2	6	--	0.6	0.6	µg/L	0.6	5	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
2,4-Dimethylphenol	ABN	2	6	--	0.5	0.5	µg/L	0.5	59	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
2,4-Dinitrophenol	ABN	2	6	--	1	1	µg/L	1	10	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
3,3'-Dichlorobenzidine	ABN	2	6	--	0.4	0.4	µg/L	0.4	0.5	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
4-Chloroaniline	ABN	2	6	--	0.4	0.4	µg/L	0.4	10	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Bis (2-chloroethyl) ether	ABN	2	6	--	0.4	0.4	µg/L	0.4	5	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
bis (2-Chloroisopropyl) ether	ABN	2	3	--	0.4	0.4	µg/L	0.4	120	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
bis (2-Chloroisopropyl) ether	ABN	2	3	--	0.4	0.4	µg/L	0.4	120	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Bis (2-ethylhexyl) phthalate	ABN	2	6	1.17	0.6	1.17	µg/L	0.6	10	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Diethylphthalate	ABN	2	6	0.36	0.2	0.36	µg/L	0.2	38	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Dimethylphthalate	ABN	2	6	--	0.2	0.2	µg/L	0.2	38	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Phenol	ABN	2	6	--	0.5	0.5	µg/L	0.5	890	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzene	BTEX	8	20	--	0.5	0.5	µg/L	0.5	5	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Ethylbenzene	BTEX	8	20	--	0.5	0.5	µg/L	0.5	2.4	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Toluene	BTEX	8	20	0.81	0.5	0.81	µg/L	0.5	24	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Xylenes, Total	BTEX	8	20	--	0.5	0.5	µg/L	0.5	300	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
2,4,5-Trichlorophenol	CP	2	6	--	0.2	0.2	µg/L	0.2	8.9	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
2,4,6-Trichlorophenol	CP	2	6	--	0.2	0.2	µg/L	0.2	2	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
2,4-Dichlorophenol	CP	2	6	--	0.2	0.2	µg/L	0.2	20	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
2-Chlorophenol	CP	2	6	--	0.3	0.3	µg/L	0.3	8.9	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Pentachlorophenol	CP	2	6	--	0.5	0.5	µg/L	0.5	30	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Antimony	HF Metals	8	20	1.83	1	1.83	µg/L	0.1	6	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Arsenic	HF Metals	8	20	2.75	1	2.75	µg/L	0.1	25	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Selenium	HF Metals	8	20	8.28	--	8.28	µg/L	0.05	10	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Barium	Metals	8	20	147	--	147	µg/L	0.1	1000	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Beryllium	Metals	8	20	--	0.2	0.2	µg/L	0.02	4	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Boron	Metals	8	20	72	100	100	µg/L	10	5000	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Cadmium	Metals	8	20	0.146	0.05	0.146	µg/L	0.005	2.7	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chromium	Metals	8	20	1.54	5	5	µg/L	0.5	50	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Copper	Metals	8	20	4.81	2	4.81	µg/L	0.2	87	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Lead	Metals	8	20	0.266	0.5	0.5	µg/L	0.05	10	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Molybdenum	Metals	8	20	3.4	0.5	3.4	µg/L	0.05	70	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Nickel	Metals	8	20	10.2	5	10.2	µg/L	0.5	100	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Silver	Metals	8	20	0.014	0.1	0.1	µg/L	0.01	1.5	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Thallium	Metals	8	20	0.169	0.1	0.169	µg/L	0.01	2	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Uranium	Metals	8	20	5.71	--	5.71	µg/L	0.01	20	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Vanadium	Metals	8	20	--	5	5	µg/L	0.5	6.2	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Zinc	Metals	8	20	46.8	10	46.8	µg/L	1	1100	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chromium, Hexavalent (Cr6+)	ORP	8	15	1.6	0.5	1.6	µg/L	0.5	25	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Cyanide, Weak Acid Dissociable	ORP	8	15	--	2	2	µg/L	2	66	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Mercury	ORP	8	15	--	0.005	0.005	µg/L	0.005	0.29	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
2-(1-)Methylnaphthalene	PAH	4	11	0.044	0.015	0.044	µg/L	0.015	3.2	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Acenaphthene	PAH	4	11	--	0.01	0.01	µg/L	0.01	4.1	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Acenaphthylene	PAH	4	11	--	0.01	0.01	µg/L	0.01	1	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Anthracene	PAH	4	11	--	0.01	0.01	µg/L	0.01	2.4	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzo(a)anthracene	PAH	4	11	--	0.01	0.01	µg/L	0.01	1	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzo(a)pyrene	PAH	4	11	--	0.005	0.005	µg/L	0.005	0.01	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzo(b&j)fluoranthene	PAH	4	11	--	0.01	0.01	µg/L	0.01	0.1	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzo(g,h,i)perylene	PAH	4	11	--	0.01	0.01	µg/L	0.01	0.2	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Benzo(k)fluoranthene	PAH	4	11	--	0.01	0.01	µg/L	0.01	0.1	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chrysene	PAH	4	11	--	0.01	0.01	µg/L	0.01	0.1	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Dibenzo(a,h)anthracene	PAH	4	11	--	0.005	0.005	µg/L	0.005	0.2	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Fluoranthene	PAH	4	11	0.011	0.01	0.011	µg/L	0.01	0.41	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Fluorene	PAH	4	11	0.013	0.01	0.013	µg/L	0.01	120	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Indeno(1,2,3-Cd)Pyrene	PAH	4	11	--	0.01	0.01	µg/L	0.01	0.2	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Naphthalene	PAH	4	11	0.101	0.05	0.101	µg/L	0.05	11	--	--	--	--	No, excluded (Max < or = Table 2 SCS)

Table 6-10a. Preliminary COC Screening in Groundwater
Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph, Ontario

Contaminant [a]	Parameter Group	No. of Stations	No. of Samples	Max Detected Concentration	Max Nondetect Concentration	Maximum Measured Concentration [b]	Units	Minimum Detection Limit	Applicable SCS [c]	No. of Detects Exceeding Table 3 SCS	No. of Nondetects Exceeding Table 3 SCS	No. of Detected with no Table 3 SCS	No. of Nondetects with no Table 3 SCS	Retained as a Contaminant for Phase Two ESA? (Rationale)
Phenanthrene	PAH	4	11	0.025	0.02	0.025	µg/L	0.02	1	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Pyrene	PAH	4	11	--	0.01	0.01	µg/L	0.01	4.1	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F1 (C6-C10)	PHC	4	11	--	25	25	µg/L	25	750	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F2 (C10-C16)	PHC	4	11	--	100	100	µg/L	100	150	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F3 (C16-C34)	PHC	4	11	--	250	250	µg/L	250	500	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Petroleum Hydrocarbons F4 (C34-C50)	PHC	4	11	--	250	250	µg/L	250	500	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Bromodichloromethane	THM	8	20	1.03	0.5	1.03	µg/L	0.5	16	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Bromoform	THM	8	20	--	0.5	0.5	µg/L	0.5	25	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chloroform	THM	8	20	0.89	0.5	0.89	µg/L	0.5	2.4	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Dibromochloromethane	THM	8	20	1.09	0.5	1.09	µg/L	0.5	25	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1,1,2-Tetrachloroethane	VOC	8	20	--	0.5	0.5	µg/L	0.5	1.1	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1,1-Trichloroethane	VOC	8	20	2.13	0.5	2.13	µg/L	0.5	200	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1,2,2-Tetrachloroethane	VOC	8	20	--	0.5	0.5	µg/L	0.5	1	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1,2-Trichloroethane	VOC	8	20	--	0.5	0.5	µg/L	0.5	4.7	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1-Dichloroethane	VOC	8	20	1.72	0.5	1.72	µg/L	0.5	5	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,1-Dichloroethene	VOC	8	20	1.12	0.5	1.12	µg/L	0.5	1.6	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,2-Dichlorobenzene	VOC	8	20	--	0.5	0.5	µg/L	0.5	3	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,2-Dichloroethane	VOC	8	20	--	0.5	0.5	µg/L	0.5	1.6	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,2-Dichloropropane	VOC	8	20	--	0.5	0.5	µg/L	0.5	5	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,3-Dichlorobenzene	VOC	8	20	--	0.5	0.5	µg/L	0.5	59	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,3-Dichloropropene	VOC	8	20	--	0.5	0.5	µg/L	0.5	0.5	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
1,4-Dichlorobenzene	VOC	8	20	--	0.5	0.5	µg/L	0.5	1	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Acetone	VOC	8	20	29	20	29	µg/L	20	2700	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Bromomethane	VOC	8	20	--	0.5	0.5	µg/L	0.5	0.89	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Carbon tetrachloride	VOC	8	20	--	0.2	0.2	µg/L	0.2	0.79	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Chlorobenzene	VOC	8	20	--	0.5	0.5	µg/L	0.5	30	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Dichlorodifluoromethane	VOC	8	20	--	0.5	0.5	µg/L	0.5	590	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Ethylene Dibromide	VOC	8	20	--	0.2	0.2	µg/L	0.2	0.2	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Hexane, n-	VOC	8	20	--	0.5	0.5	µg/L	0.5	51	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Isobutyl Ketone	VOC	8	20	--	20	20	µg/L	20	640	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Methyl Ethyl Ketone	VOC	8	20	--	20	20	µg/L	20	1800	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Methyl tert-butyl ether (MTBE)	VOC	8	20	--	0.5	0.5	µg/L	0.5	15	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Methylene Chloride	VOC	8	20	--	1	1	µg/L	1	50	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Styrene	VOC	8	20	--	0.5	0.5	µg/L	0.5	5.4	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Tetrachloroethene	VOC	8	20	--	0.5	0.5	µg/L	0.5	1.6	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
trans-1,2-Dichloroethene	VOC	8	20	1.02	0.5	1.02	µg/L	0.5	1.6	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Trichlorofluoromethane	VOC	8	20	--	0.5	0.5	µg/L	0.5	150	--	--	--	--	No, excluded (Max < or = Table 2 SCS)
Vinyl Chloride	VOC	8	20	--	0.2	0.2	µg/L	0.2	0.5	--	--	--	--	No, excluded (Max < or = Table 2 SCS)

[a] The representative maximum concentration (the maximum concentration of similar analytes or total concentration of multiple isomers) is used for comparison.
[b] Column lists the greater of the maximum detected concentration or the maximum nondetect concentration.
[c] Ontario Regulation 153/04, Table 2: Full Depth Generic Site Condition Standards for Use in a Potable Ground Water Condition, for residential/ parkland/ institutional land use and coarse- textured soils (MECP 2011b).

Bold parameters are identified as COCs.
Grey-shaded parameters have been reviewed further and excluded, refer to Table 6-10b for more details.
-- = no value or not applicable
> = greater than
< = less than
µg/L = microgram(s) per litre
ABN = acid, base, and neutral compound
BTEX = benzene, toluene, ethylbenzene, xylene
COC = contaminant of concern
CP = chlorophenols
F = fraction
HF = hydride forming (metals)
Max = maximum concentration
MDL = method detection limit
MECP = Ontario Ministry of the Environment, Conservation and Parks
NA = not available
No. = number
ORP = other regulated parameter
PAH = polycyclic aromatic hydrocarbons
PHC = petroleum hydrocarbon
SCS = Site Condition Standard
THM = trihalomethane
VOC = volatile organic compound

Table 6-10b. Rationale for the Exclusion of Groundwater COCs

Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph, Ontario

Parameter Group	Parameter(s)	Category	Sample(s)	Comment/Rationale
Other Regulated Parameter	Chloride and Sodium	Parameter with exceedance of Table 2 SCS and exemptions in Section 49.1 of O. Reg. 153/04	Seven samples from four locations (Chloride) Six samples from three locations (Sodium)	Up to seven samples of sodium and/or chloride have concentrations exceeding the Table 2 SCS. Exceedances were identified from one location advanced within the parking lot at the Site (MW101), and up to three locations east of the parking lot, including at wells in the northern, central, and southern portions of the Site (MW103D, MW106D, and MW105D, respectively). The presence of sodium and chloride in groundwater at the Site is related to the application of salt on the parking lot surface during winter conditions. Salt application is used for the safety of vehicular and pedestrian traffic. Under Section 49.1 of the revised O. Reg. 153/04, the SCS is deemed to not be exceeded for the purpose of Part XV.1 of the Act should a substance be applied to surfaces for the safety of vehicular or pedestrian traffic under conditions of snow or ice or both. Therefore, at the discretion of the QPESA, sodium and chloride were not considered to be COCs for the Phase Two Property.

Notes:
The rationale for exclusion of COCs listed in this table is based on the data collected as part of the ESA and only applies to this ESA.

COC = contaminant of concern
ESA = Environmental Site Assessment
MECP = Ministry of the Environment, Conservation and Parks
O. Reg. = Ontario Regulation
QPESA = MECP Qualified Person for Environmental Site Assessment
SCS = Site Condition Standards

Table 6-10c. Contaminants of Concern Identified in Groundwater

Phase Two Environmental Site Assessment, 14 Edinburgh Road South, Guelph, Ontario

Analytical Group	Analyte
Metals	Cobalt
VOC	cis-1,2-Dichloroethene
VOC	Trichloroethylene

VOC = volatile organic compound

Figures



Notes:
1. Basemaps Source: Microsoft, Vantor, Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

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Figure 1-1
Site Location
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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Notes:
1. Basemaps Source: City of Guelph, Region of Waterloo, Microsoft, Vantor
2. Address points and property boundaries are from City of Guelph.
3. Historic address point from Fire Insurance Plan

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Figure 2-2a
Site Plan and Current Buildings
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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N

0 5 10
Meters

- Addresses Point
- Railway
- Property Boundary
- Proposed Building
- Phase Two Property Boundary

Notes:
1. Basemaps Source: City of Guelph, Region of Waterloo, Microsoft, Vantor
2. Address points and property boundaries are from City of Guelph.
3. Proposed redevelopment footprint from Grinham Architects June 4, 2025, Site Plan.

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Figure 2-2b
Site Plan and Proposed Redevelopment
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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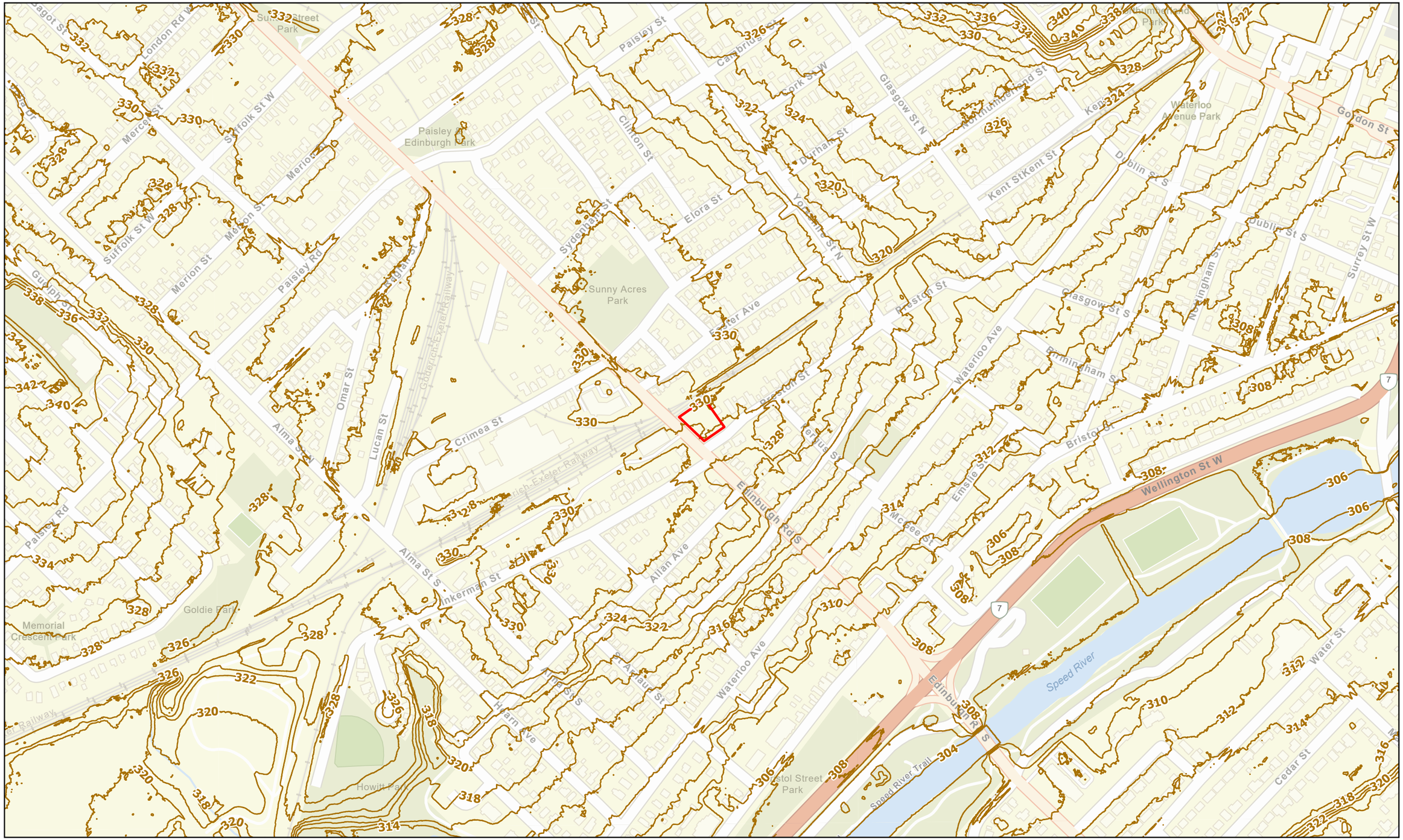
1. Results in ( ) indicate field duplicates
2. Meets SCS indicates soil pH was within the MECP's acceptable range for samples collected in both surface soil (from between surface and 1.5 mbgs, with a pH value in surface soil greater than 5 and less than 9) and subsurface soil (more than 1.5 mbgs with a pH value in subsurface soil greater than 5 and less than 11).

Figure 2-3
Soil pH Results
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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N

0 50 100

Meters

Elevation Contour (2 m)

Phase Two Property Boundary

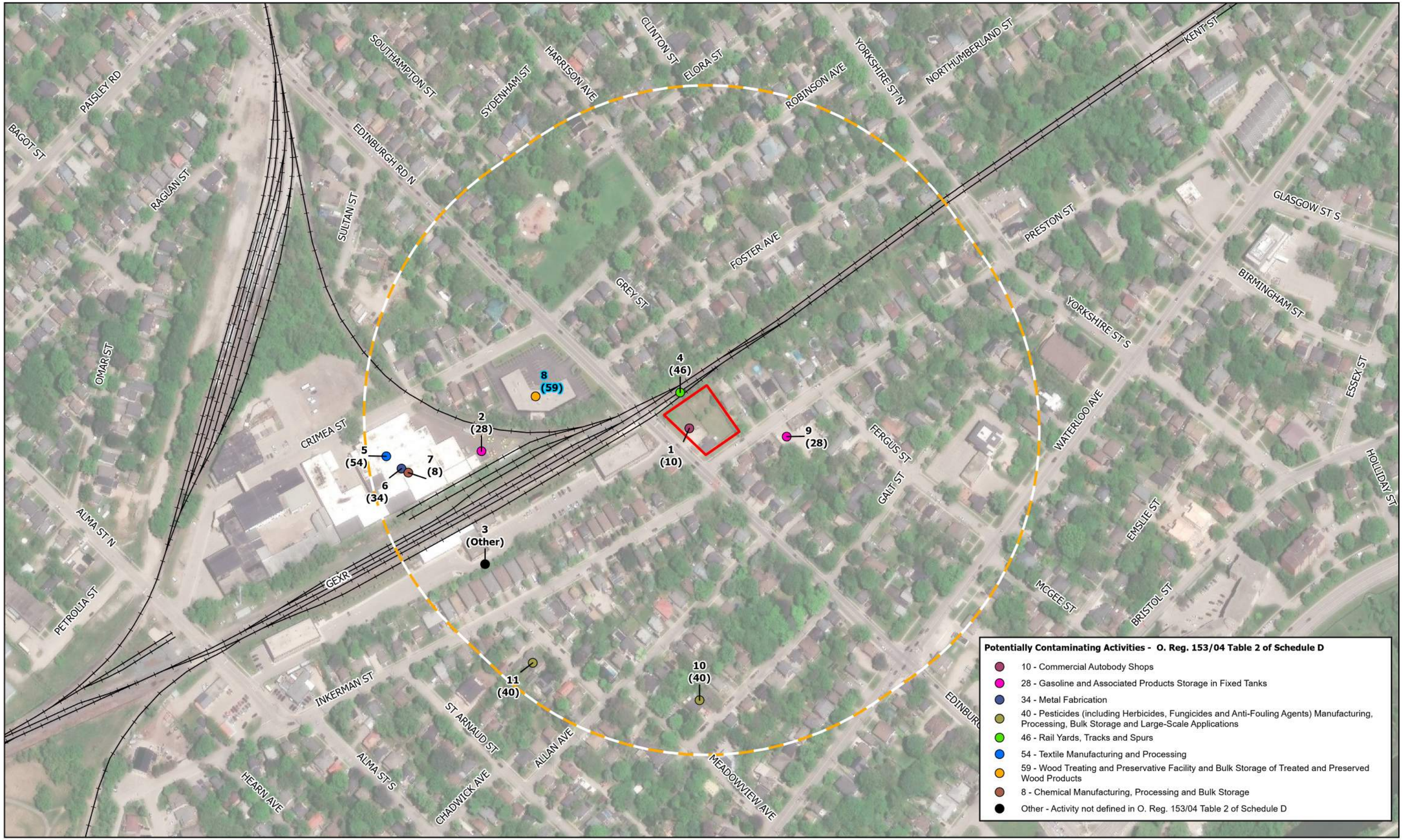
Notes:
1. Basemaps Source: Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community
2. Elevation contours generated using Ontario DTM Lidar Derived raster, from Land Information Ontario.

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Figure 3-1
Regional Topography
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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N

0 25 50
Meters

PCA Label

Offsite PCAs that Result in APEC-02

7(28) = Unique PCA ID (O. Reg 153/04 PCA Description)

Railway

Phase Two Property Boundary

Study Area

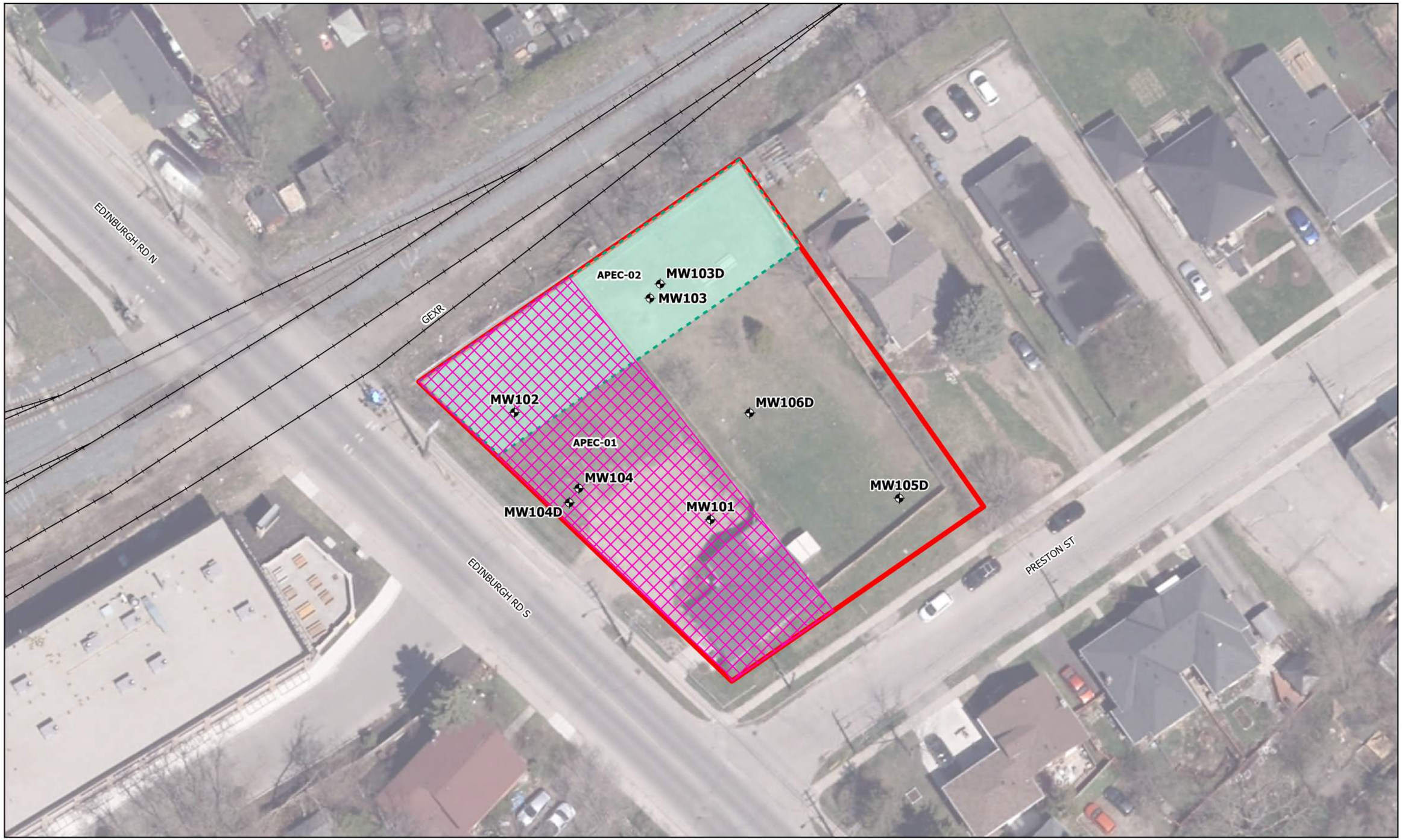
Notes:
1. Basemaps Source: Microsoft, Vantor
2. Full description of PCAs are provided in Table 4-2.

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Figure 4-1
Potentially Contaminating Activities
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

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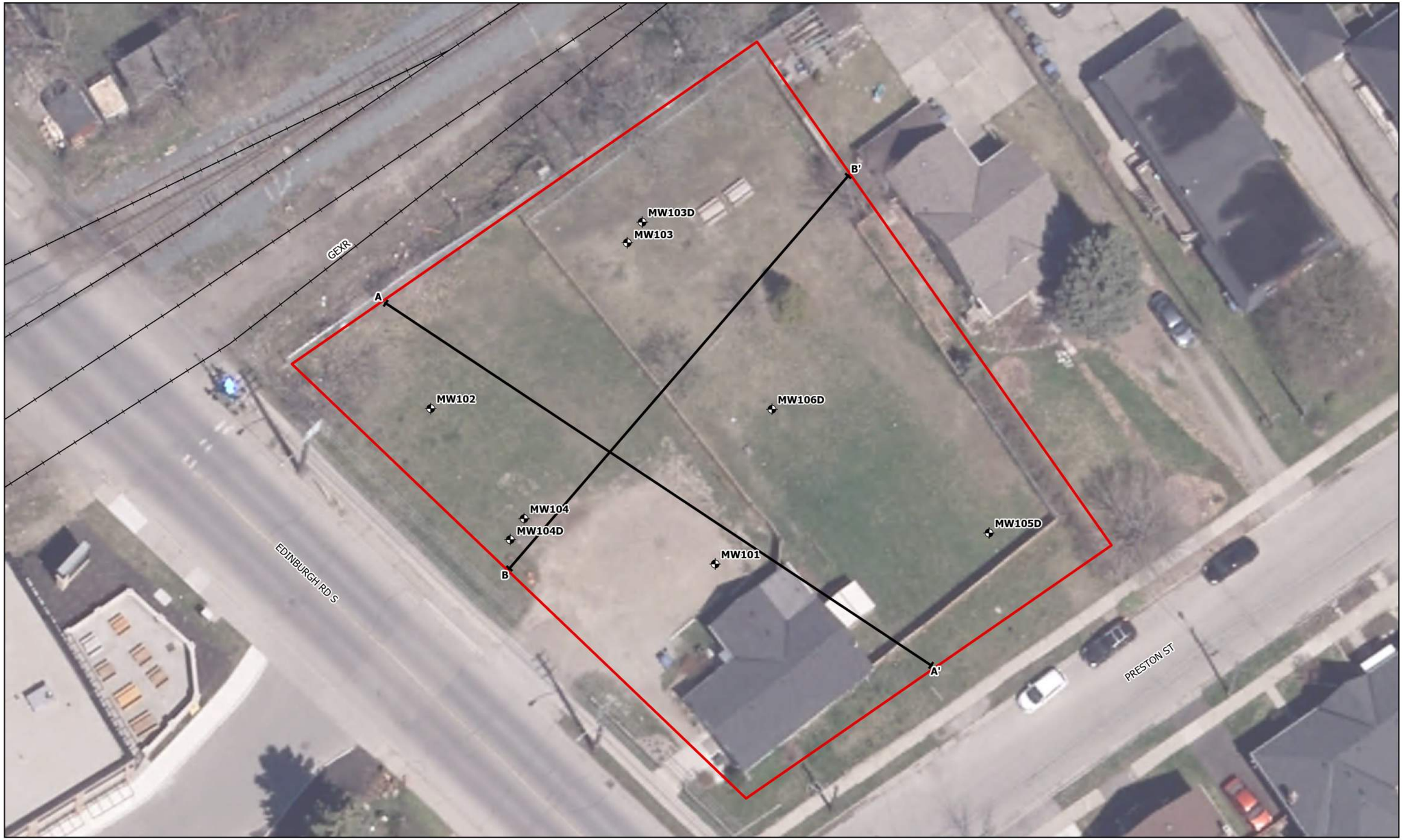
Notes:
1. Basemaps Source: Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, City of Guelph, Region of Waterloo, Microsoft, Vantor
2. Full description of APECs are provided in Table 4-3.

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Figure 4-2
Areas of Potential Environmental Concern and Investigative Locations
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

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N

0 2 4
Meters

Sample Locations

Monitoring Well

Cross-Section Location

Railway

Site Boundary

Notes:
1. Basemaps Source: City of Guelph, Region of Waterloo, Microsoft, Vantor

Figure 6-1
Conceptual Cross-Section Locations
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

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Notes:
1. Basemaps Source: City of Guelph, Region of Waterloo, Microsoft, Vantor
2. masl = metres above sea level.
3. Groundwater elevations measured on May 29, 2025 were used to generate groundwater contours for the perched aquifer and are shown with blue labels.
4. Wells screened in the bedrock were not used for contouring and are shown with black labels.

Figure 6-2a
Groundwater Elevations (Perched) - May 29, 2025
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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Notes:
1. Basemaps Source: City of Guelph, Region of Waterloo, Microsoft, Vantor
2. masl = metres above sea level.
3. Groundwater elevations measured on March 9, 2026 were used to generate groundwater contours for the bedrock aquifer and are shown with blue labels.
4. Wells screened in the perched aquifer were not used for contouring and are shown with black labels.

Figure 6-2b
Groundwater Elevations (Bedrock) - March 9, 2026
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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N

0 2 4
Meters

Sample Location with Groundwater Elevation (masl)

- Perched Monitoring Well
- Bedrock Monitoring Well
- Groundwater Elevation Contours (masl)
- Interpreted Groundwater Flow
- Railway
- Site Boundary

Notes:
1. Basemaps Source: City of Guelph, Region of Waterloo, Microsoft, Vantor
2. masl = metres above sea level.
3. Groundwater elevations measured on June 22, 2026 were used to generate groundwater contours for the perched aquifer and are shown with blue labels.
4. Wells screened in the bedrock were not used for contouring and are shown with black labels.

Figure 6-2c
Groundwater Elevations (Perched) - June 22, 2026
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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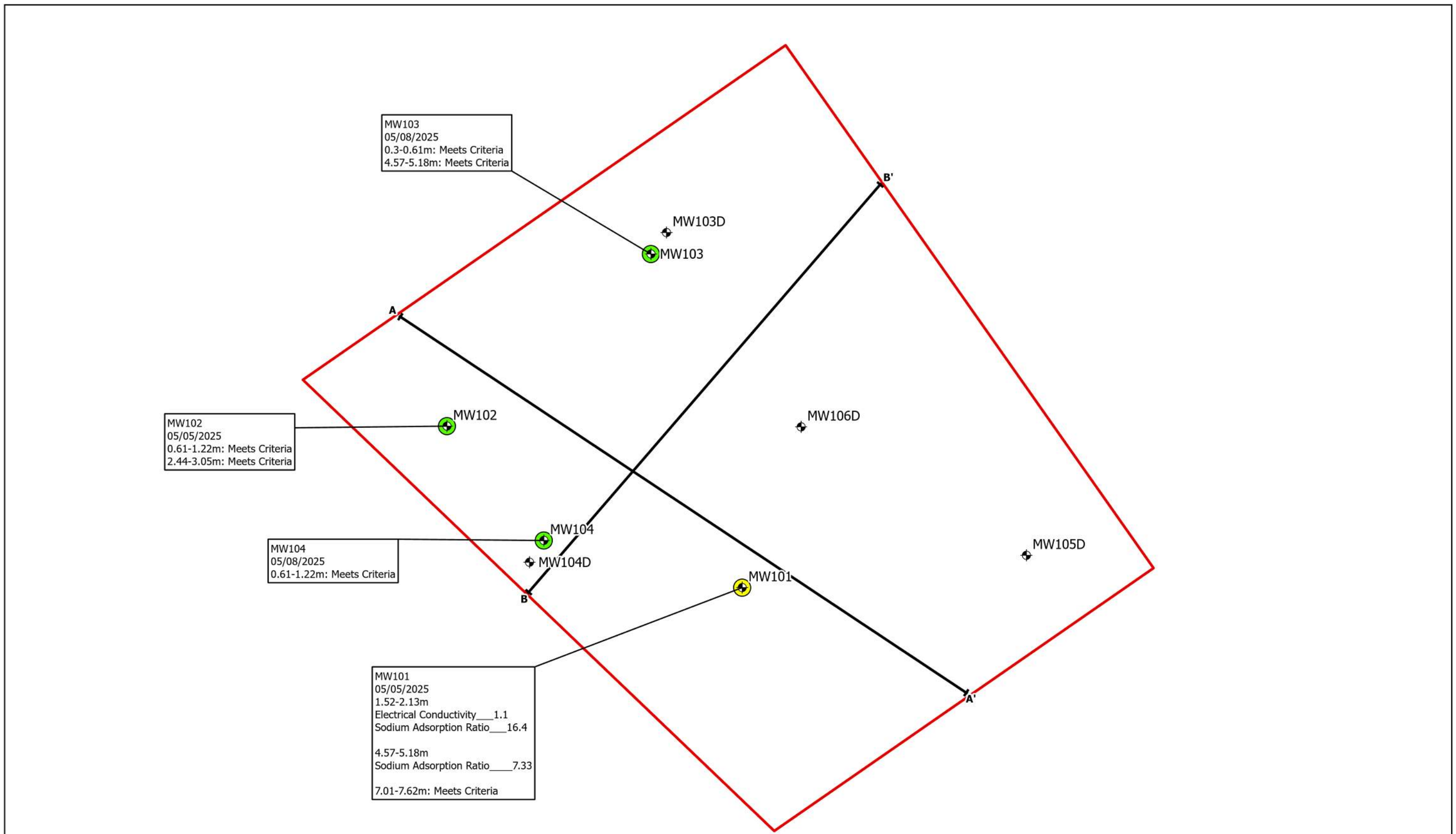
Notes:
1. Basemaps Source: City of Guelph, Region of Waterloo, Microsoft, Vantor
2. masl = metres above sea level.
3. Groundwater elevations measured on June 22, 2026 were used to generate groundwater contours for the bedrock aquifer and are shown with blue labels.
4. Wells screened in the perched aquifer were not used for contouring and are shown with black labels.

Figure 6-2d
Groundwater Elevations (Bedrock) - June 22, 2026
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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N

0 2 4
Meters

SampleLocations

- Borehole
- Monitoring Well
- Location without Exceedance
- Exempted Exceedance
- Cross-Section Location
- Site Boundary

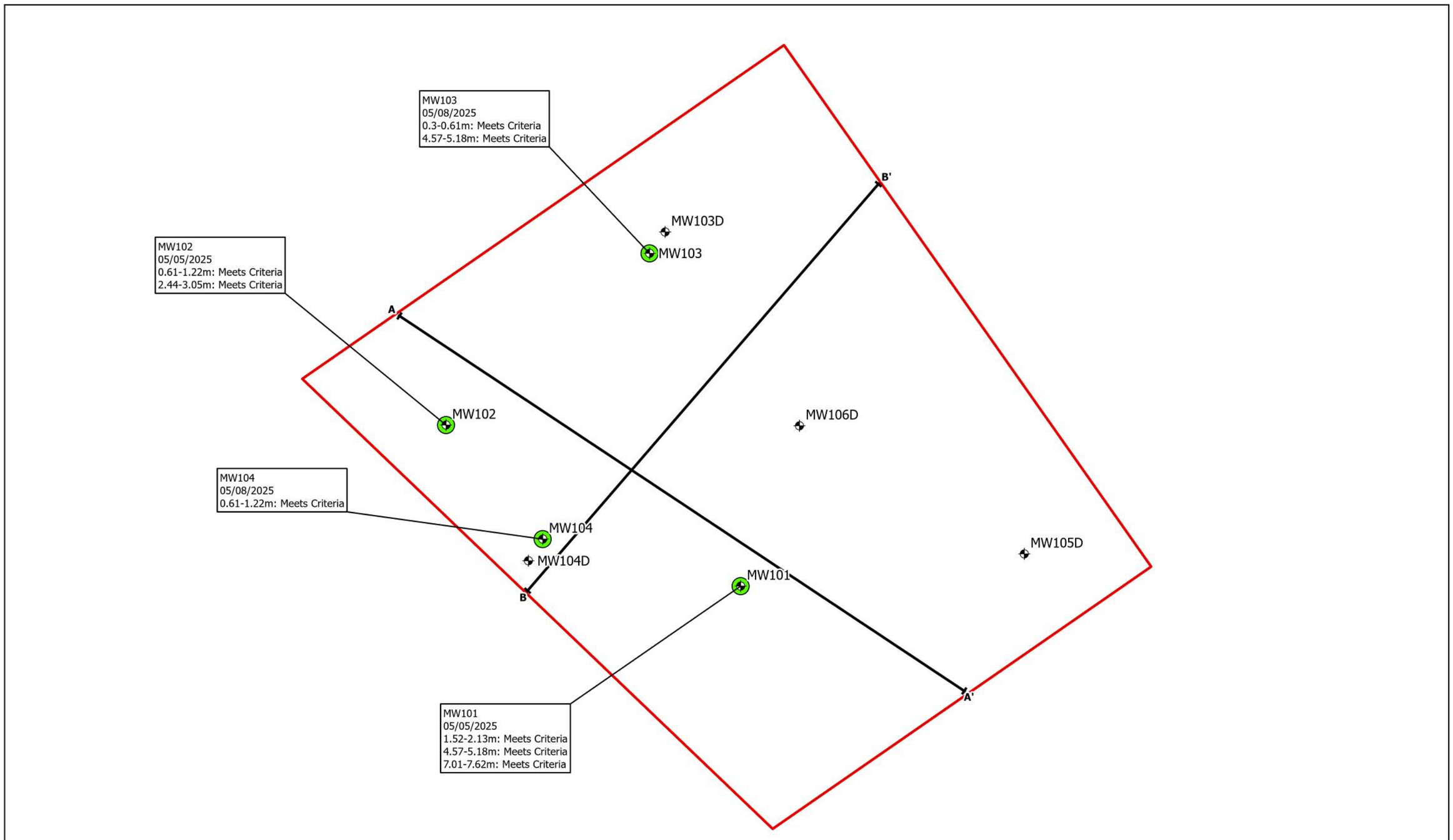
Notes:
1. mbgs = metres below ground surface
2. Results in ( ) indicate field duplicates.
3. Results are reported unitless (ratio) for SAR, and mS/cm for EC.
4. The estimated extent of soil impacts was assumed to extend from sampling locations that exceeded the Table 2 SCS to the next available sampling location that did not exceed the Table 2 SCS and extrapolated to the property boundary, where applicable.
5. Red text indicates the location of the site maximum concentration of the analyte that exceeds the Table 2 SCS.
6. Meets SCS identifies sample depths where the concentrations of all parameters within the parameter group meet the Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for coarse grained soil and residential/ parkland/ institutional land use, as identified in the Soil, Groundwater, and Sediment Standards for Use Under Part XV.I of the Environmental Protection Act (MECP, 2011).

Figure 6-3
Soil Results - ORPs (EC and SAR)
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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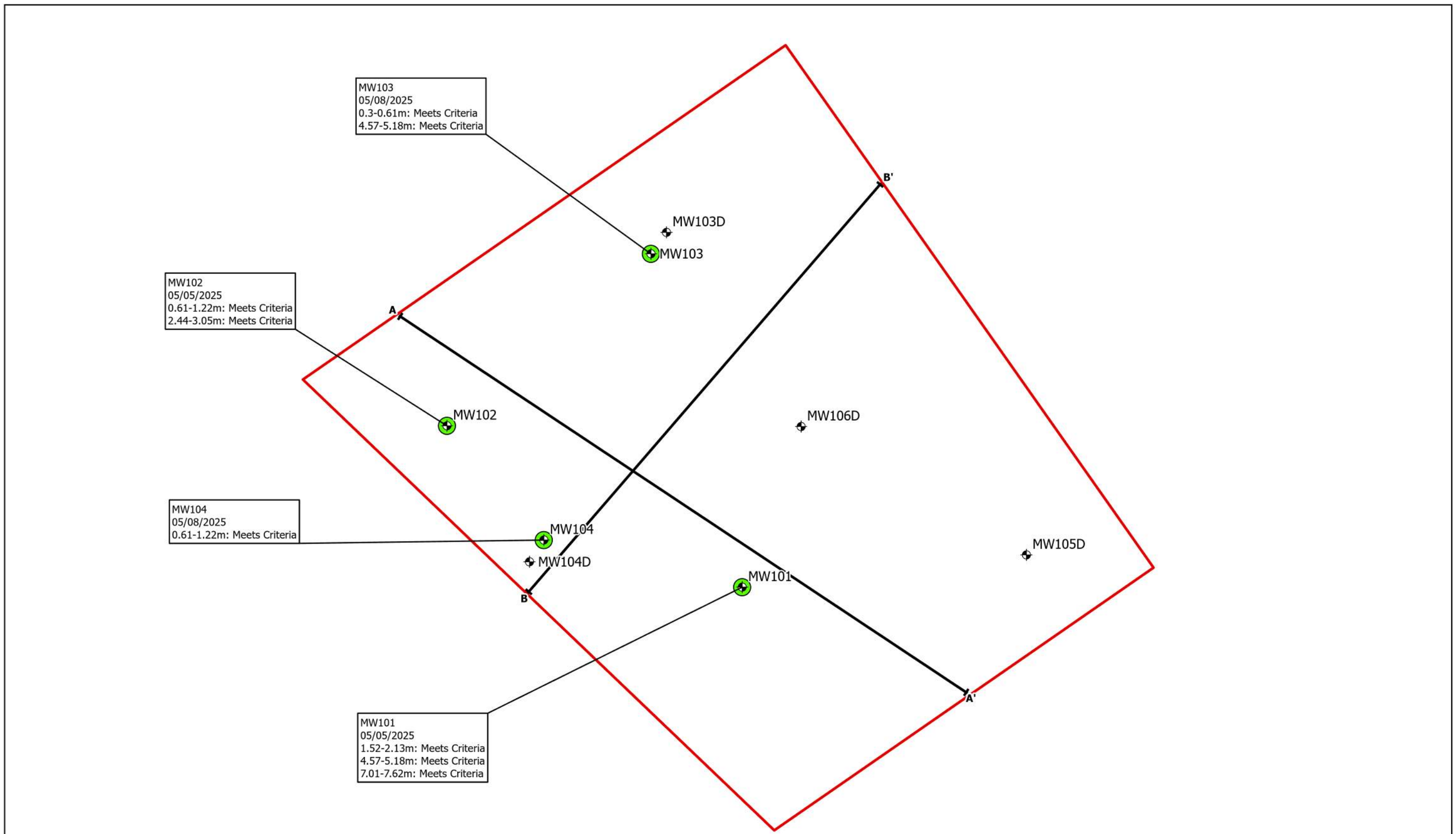
Notes:
1. mbgs = metres below ground surface
2. Results in ( ) indicate field duplicates.
3. Results are reported in µg/g
4. The estimated extent of soil impacts was assumed to extend from sampling locations that exceeded the Table 2 SCS to the next available sampling location that did not exceed the Table 2 SCS and extrapolated to the property boundary, where applicable.
5. Red text indicates the location of the site maximum concentration of the analyte that exceeds the Table 2 SCS.
6. Meets SCS identifies sample depths where the concentrations of all parameters within the parameter group meet the Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for coarse grained soil and residential/ parkland/ institutional land use, as identified in the Soil, Groundwater, and Sediment Standards for Use Under Part XV.I of the Environmental Protection Act (MECP, 2011).

Figure 6-4
Soil Results - Metals, HF Metals, Select ORPs (B-HWS, CN-, CrVI, Hg)
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

\\DC1VS01\GISPROJ\G\GUELPHCITYOF\COG14EDN_14EDINBURGHROAD\MAPFILES\PHASETWOESA\SOEXCEEDS_METALS.APRX VM048279 7/29/2026 7:39 AM

DRAFT



N

0 2 4
Meters

Sample Locations

- Borehole
- Monitoring Well
- Location without Exceedance
- Location with Exceedance
- Cross-Section Location
- Site Boundary

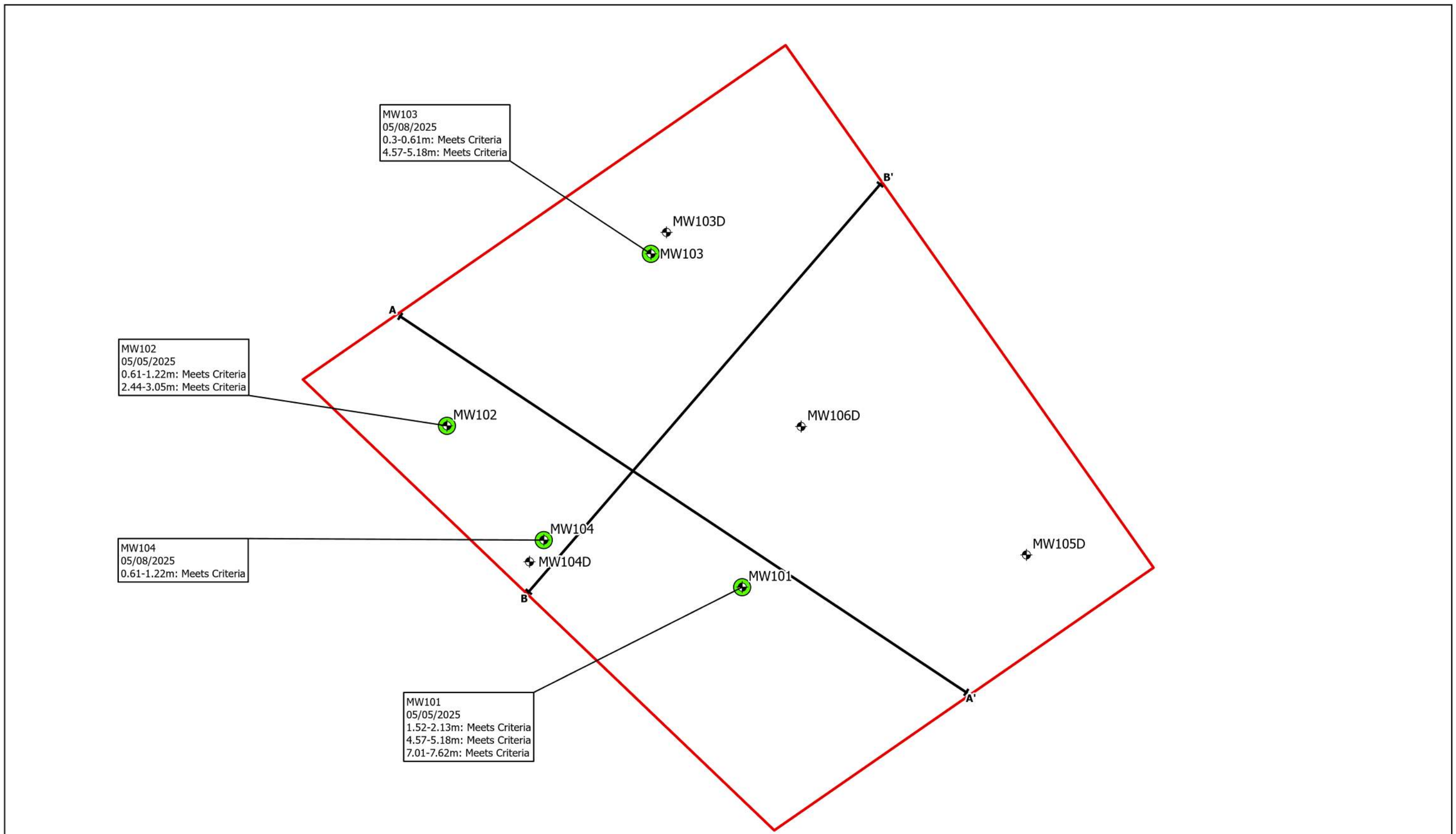
Notes:
1. mbgs = metres below ground surface
2. Results in ( ) indicate field duplicates.
3. Results are reported in µg/g
4. The estimated extent of soil impacts was assumed to extend from sampling locations that exceeded the Table 2 SCS to the next available sampling location that did not exceed the Table 2 SCS and extrapolated to the property boundary, where applicable.
5. Red text indicates the location of the site maximum concentration of the analyte that exceeds the Table 2 SCS.
6. Meets SCS identifies sample depths where the concentrations of all parameters within the parameter group meet the Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for coarse grained soil and residential/ parkland/ institutional land use, as identified in the Soil, Groundwater, and Sediment Standards for Use Under Part XV.I of the Environmental Protection Act (MECP, 2011).

Figure 6-5
Soil Results - BTEX
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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DRAFT



N

0 2 4
Meters

Sample Locations

- Borehole
- Monitoring Well
- Location without Exceedance
- Location with Exceedance
- Cross-Section Location
- Site Boundary

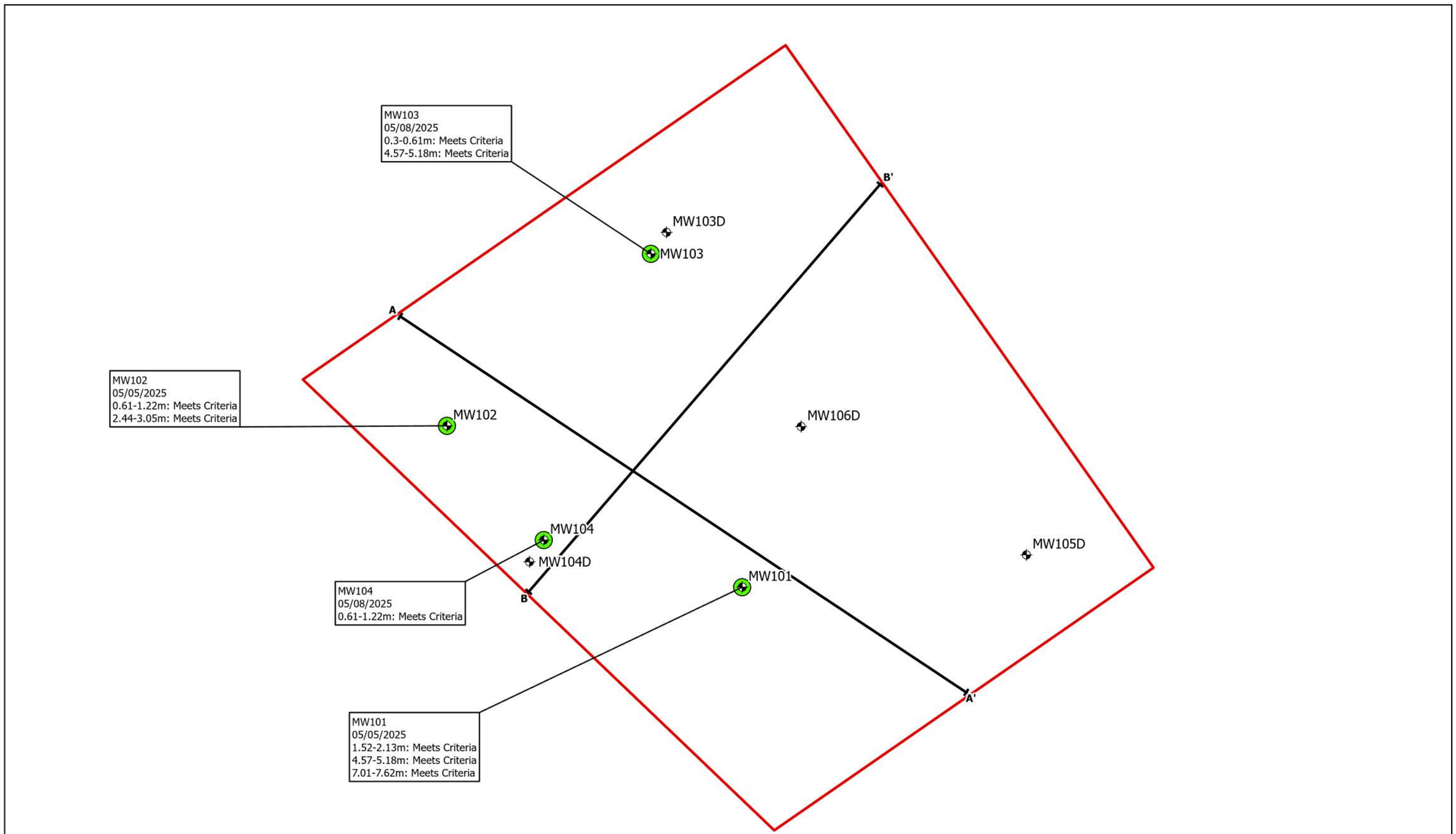
Notes:
1. mbgs = metres below ground surface
2. Results in ( ) indicate field duplicates.
3. Results are reported in µg/g
4. The estimated extent of soil impacts was assumed to extend from sampling locations that exceeded the Table 2 SCS to the next available sampling location that did not exceed the Table 2 SCS and extrapolated to the property boundary, where applicable.
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Figure 6-6
Soil Results - Petroleum Hydrocarbons
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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N

0 2 4
Meters

Sample Locations

Borehole
Monitoring Well

Location without Exceedance
Location with Exceedance

Cross-Section Location
Site Boundary

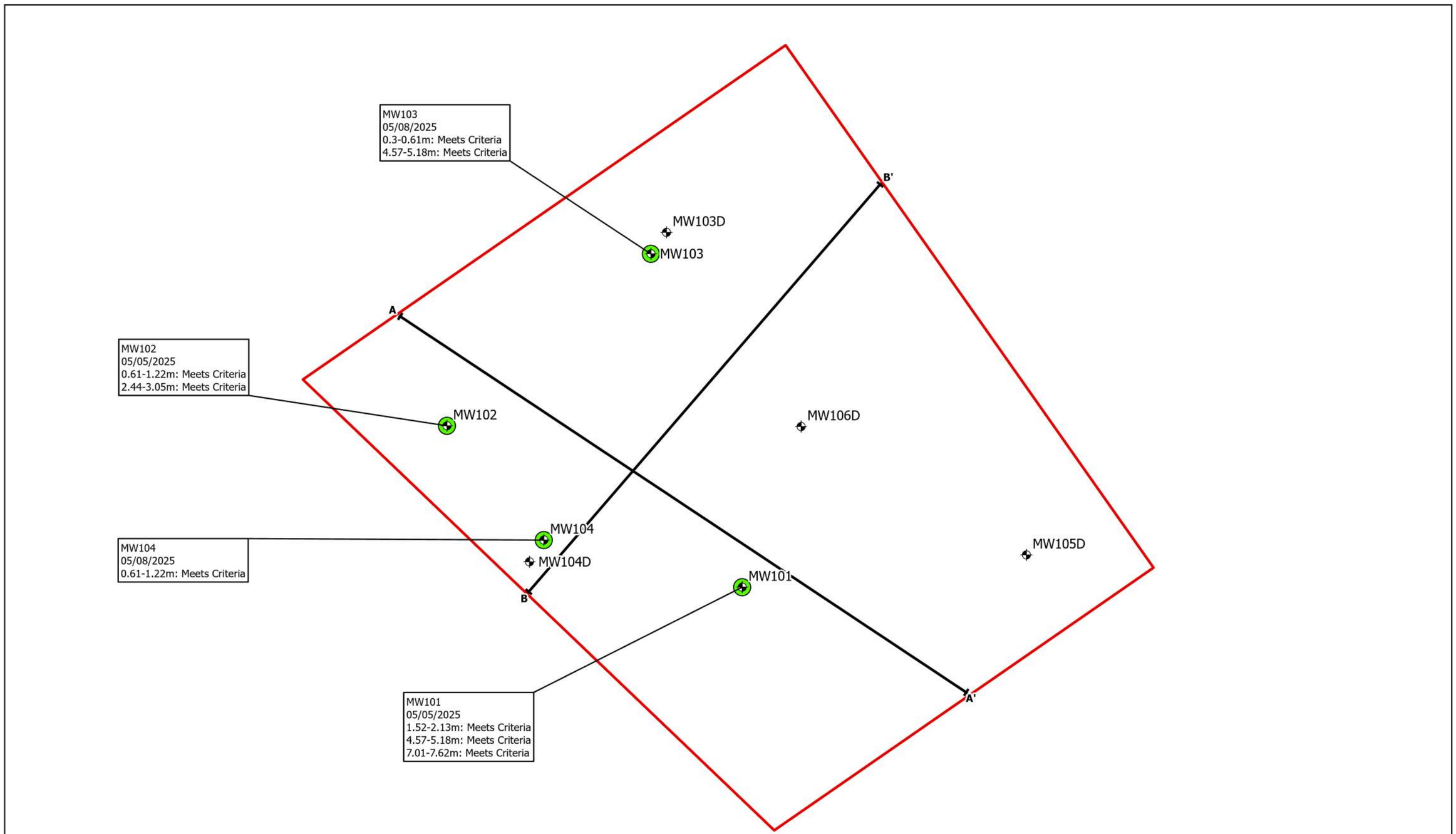
Notes:
1. mbgs = metres below ground surface
2. Results in ( ) indicate field duplicates.
3. Results are reported in µg/g
4. The estimated extent of soil impacts was assumed to extend from sampling locations that exceeded the Table 2 SCS to the next available sampling location that did not exceed the Table 2 SCS and extrapolated to the property boundary, where applicable.
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Figure 6-7
Soil Results - Polycyclic Aromatic Hydrocarbons
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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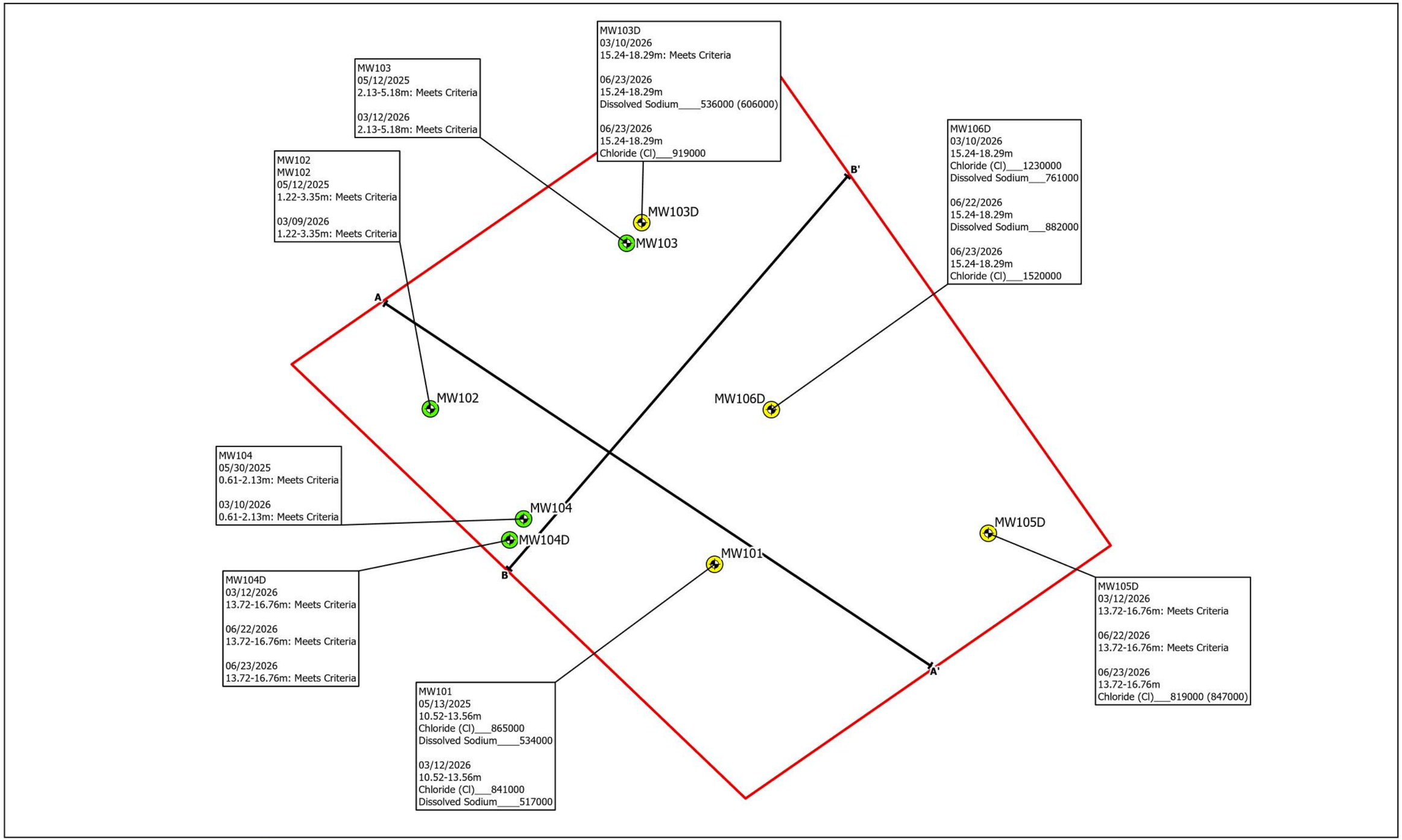
Notes:
1. mbgs = metres below ground surface
2. Results in ( ) indicate field duplicates.
3. Results are reported in µg/g
4. The estimated extent of soil impacts was assumed to extend from sampling locations that exceeded the Table 2 SCS to the next available sampling location that did not exceed the Table 2 SCS and extrapolated to the property boundary, where applicable.
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Figure 6-8
Soil Results - Volatile Organic Compounds
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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DRAFT



Notes:
1. mbgs = metres below ground surface
2. Results in ( ) indicate field duplicates.
3. Results are reported in µg/L
4. The estimated extent of groundwater impacts was assumed to extend from sampling locations that exceeded the Table 2 SCS to the next available sampling location that did not exceed the Table 2 SCS and extrapolated to the property boundary, where applicable.
5. Red text indicates the location of the site maximum concentration of the analyte that exceeds the Table 2 SCS.
6. Meets SCS identifies sample depths where the concentrations of all parameters within the parameter group meet the Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for coarse grained soil, as identified in the Soil, Groundwater, and Sediment Standards for Use Under Part XV.I of the Environmental Protection Act (MECP, 2011).

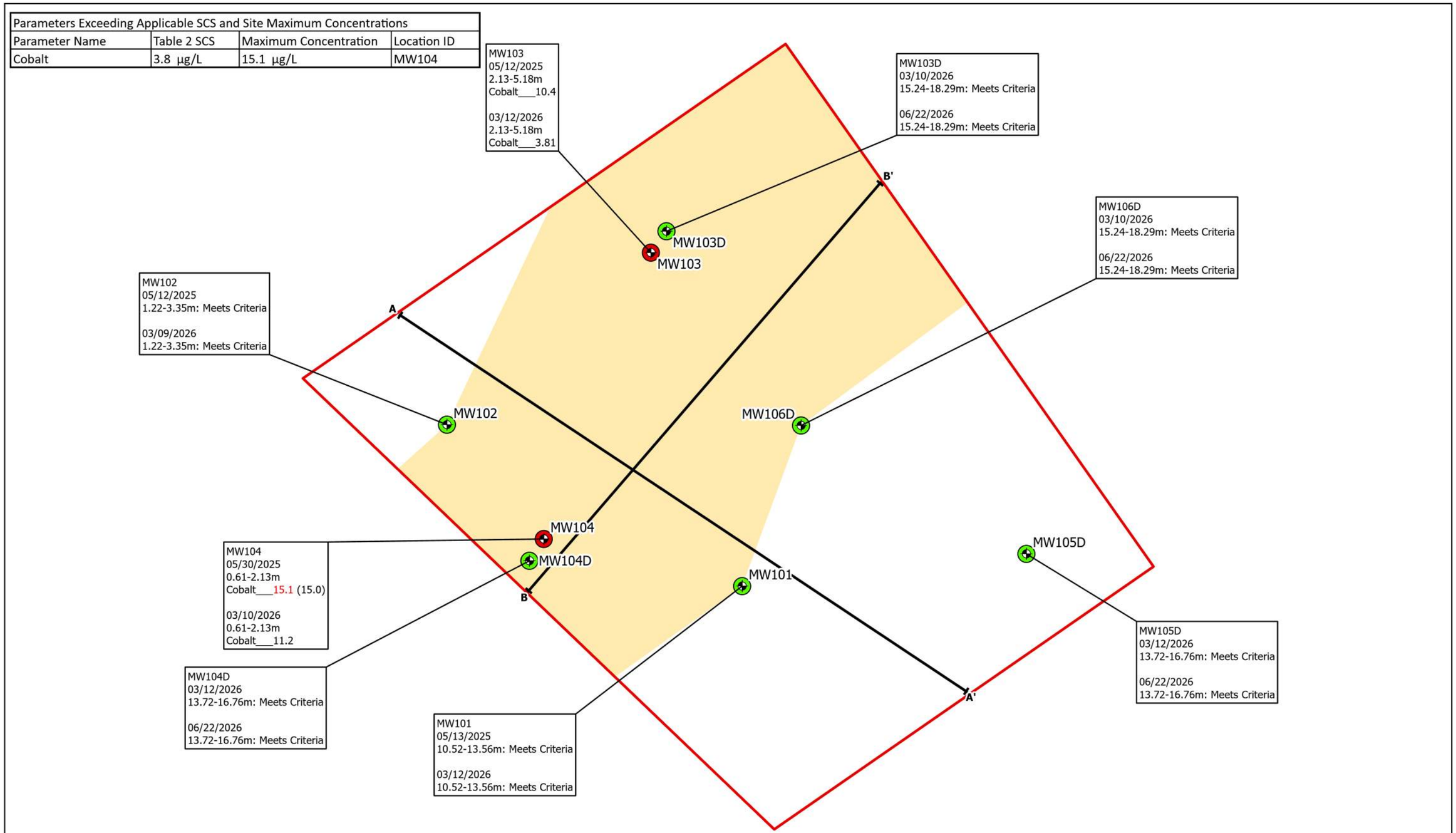
Figure 6-9
Groundwater Results - ORPs (Chloride and Sodium)
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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DRAFT

Parameters Exceeding Applicable SCS and Site Maximum Concentrations			
Parameter Name	Table 2 SCS	Maximum Concentration	Location ID
Cobalt	3.8 µg/L	15.1 µg/L	MW104



N

0 2 4
Meters

Sample Locations

Monitoring Well

Location without Exceedance

Location with Exceedance

Cross-Section Location

Inferred Plume Delineation

Site Boundary

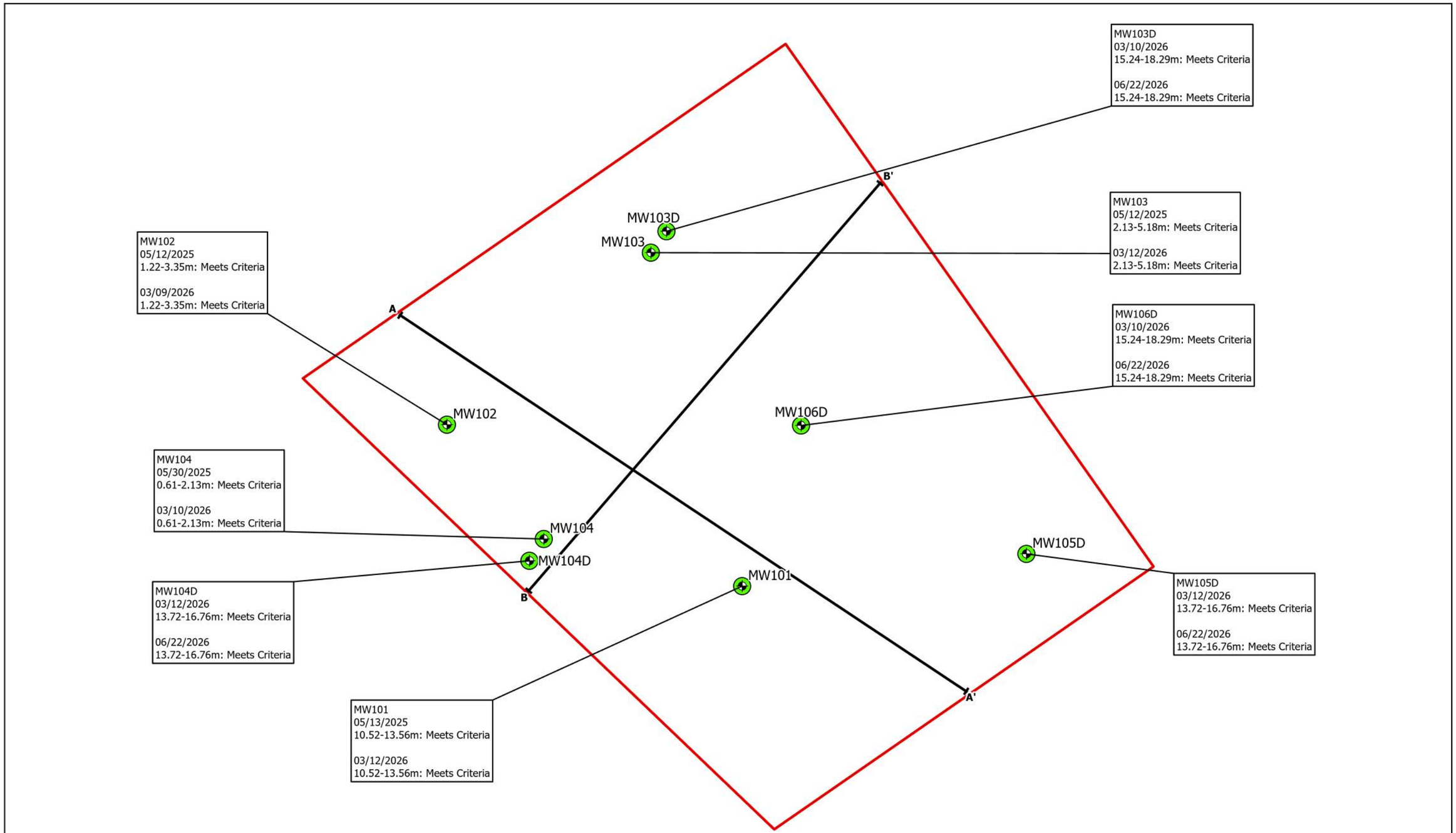
Notes:
1. mbgs = metres below ground surface
2. Results in ( ) indicate field duplicates.
3. Results are reported in µg/L
4. The estimated extent of groundwater impacts was assumed to extend from sampling locations that exceeded the Table 2 SCS to the next available sampling location that did not exceed the Table 2 SCS and extrapolated to the property boundary, where applicable.
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6. Meets SCS identifies sample depths where the concentrations of all parameters within the parameter group meet the Table 2 Full Depth Generic Site Condition Standards in a Potable Groundwater Condition for coarse grained soil, as identified in the Soil, Groundwater, and Sediment Standards for Use Under Part XV.I of the Environmental Protection Act (MECP, 2011).

Figure 6-10
Groundwater Results - Metals, HF Metals, Select ORPs (CN-, CrVI and Hg)
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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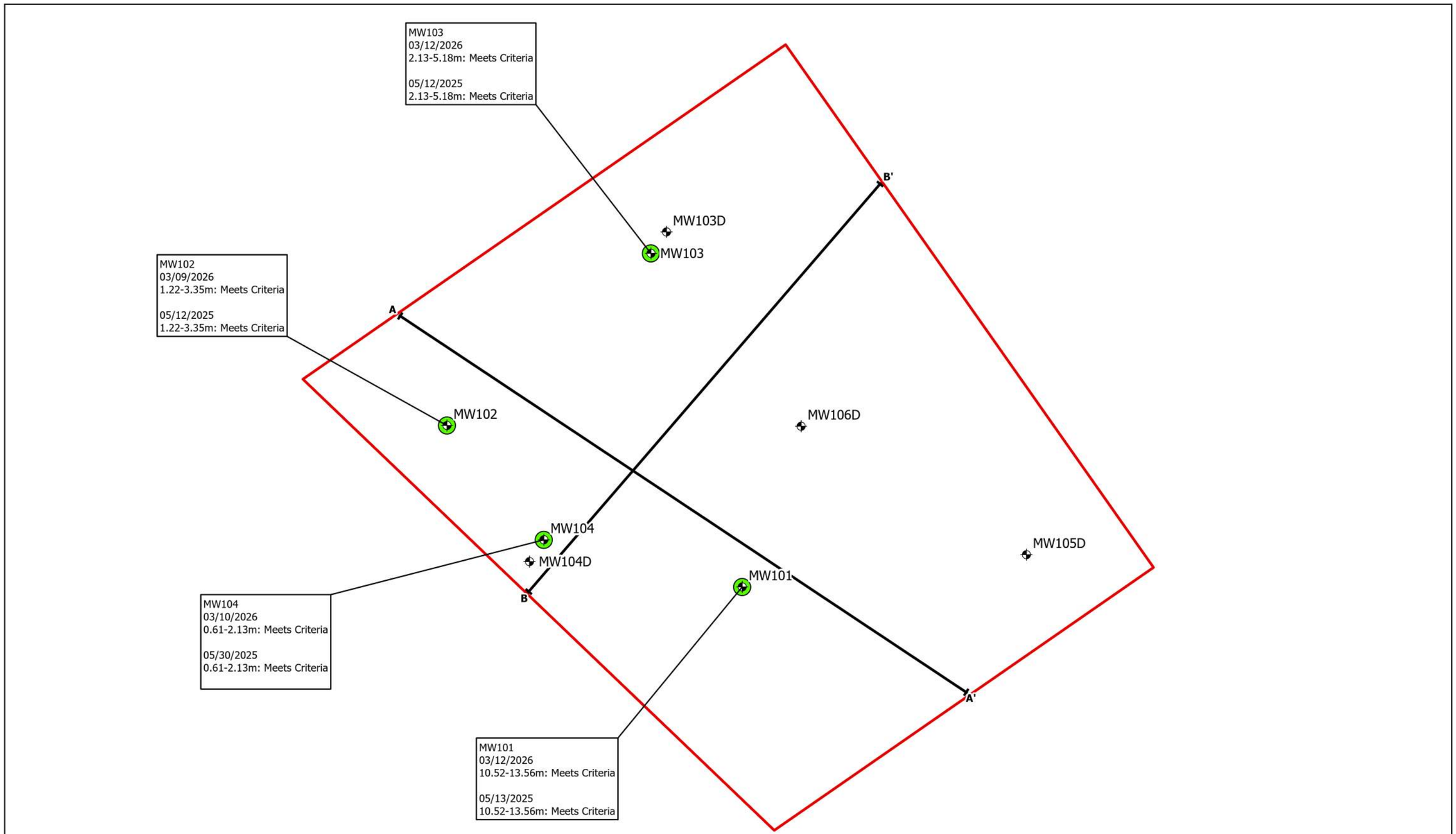
Notes:
1. mbgs = metres below ground surface
2. Results in ( ) indicate field duplicates.
3. Results are reported in µg/L
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Figure 6-11
Groundwater Results - BTEX
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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N

0 2 4
Meters

Sample Locations

Monitoring Well

Location without Exceedance

Location with Exceedance

Cross-Section Location

Site Boundary

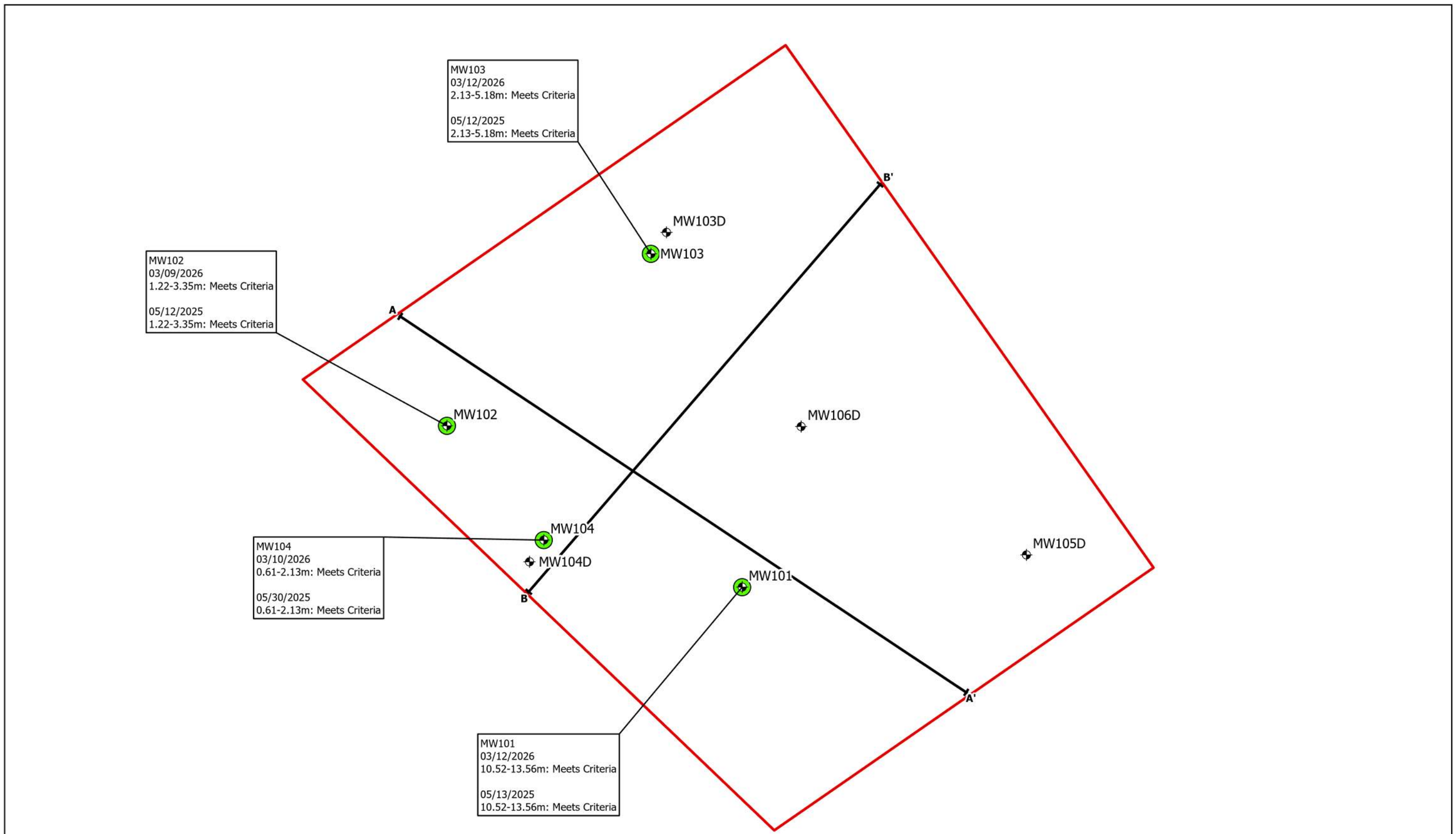
Notes:
1. mbgs = metres below ground surface
2. Results in ( ) indicate field duplicates.
3. Results are reported in µg/L
4. The estimated extent of groundwater impacts was assumed to extend from sampling locations that exceeded the Table 2 SCS to the next available sampling location that did not exceed the Table 2 SCS and extrapolated to the property boundary, where applicable.
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Figure 6-12
Groundwater Results - Petroleum Hydrocarbons
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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Notes:
1. mbgs = metres below ground surface
2. Results in ( ) indicate field duplicates.
3. Results are reported in µg/L
4. The estimated extent of groundwater impacts was assumed to extend from sampling locations that exceeded the Table 2 SCS to the next available sampling location that did not exceed the Table 2 SCS and extrapolated to the property boundary, where applicable.
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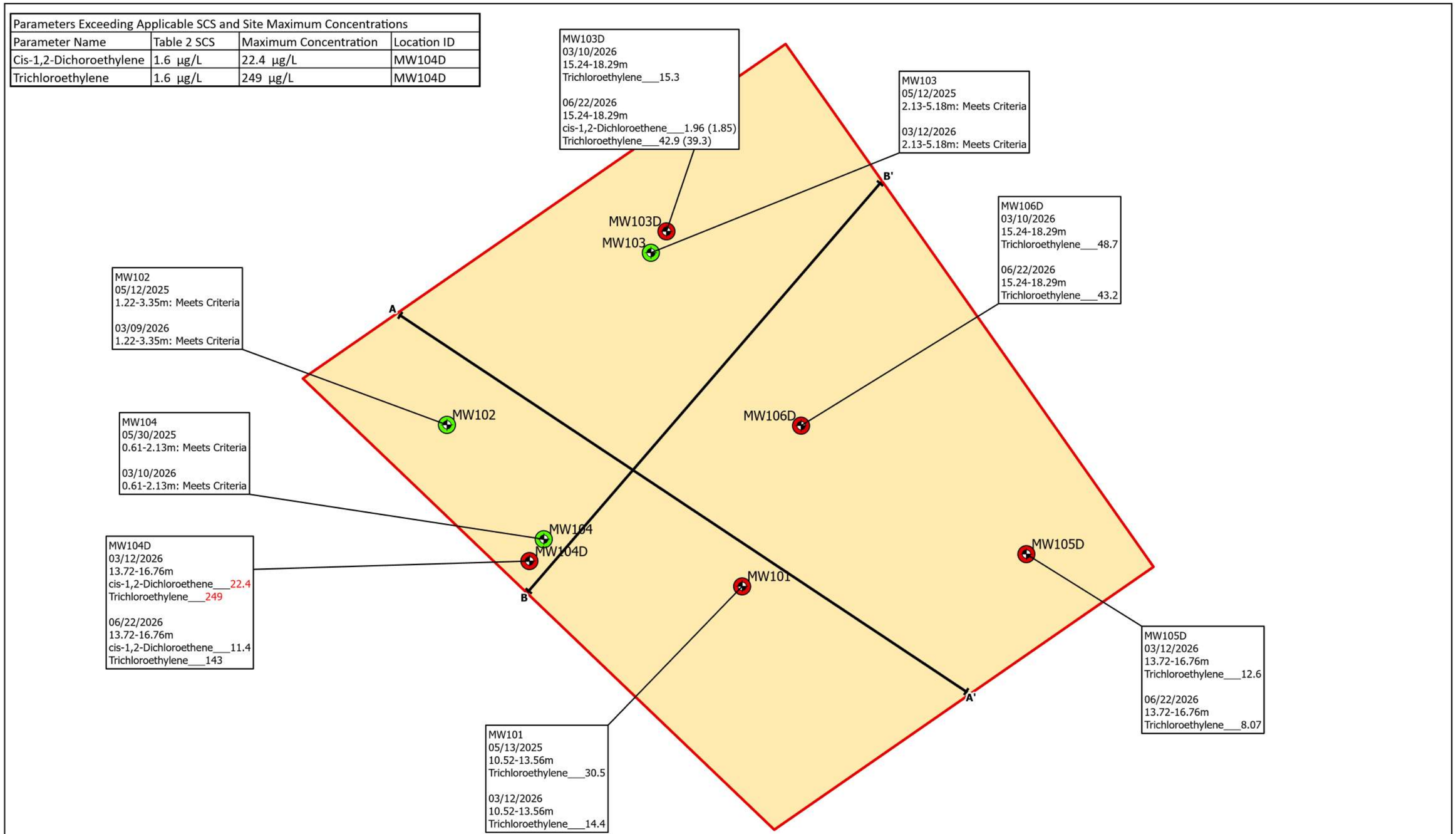
Figure 6-13
Groundwater Results - Polycyclic Aromatic Hydrocarbons
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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DRAFT

Parameters Exceeding Applicable SCS and Site Maximum Concentrations			
Parameter Name	Table 2 SCS	Maximum Concentration	Location ID
Cis-1,2-Dichoroethylene	1.6 µg/L	22.4 µg/L	MW104D
Trichloroethylene	1.6 µg/L	249 µg/L	MW104D



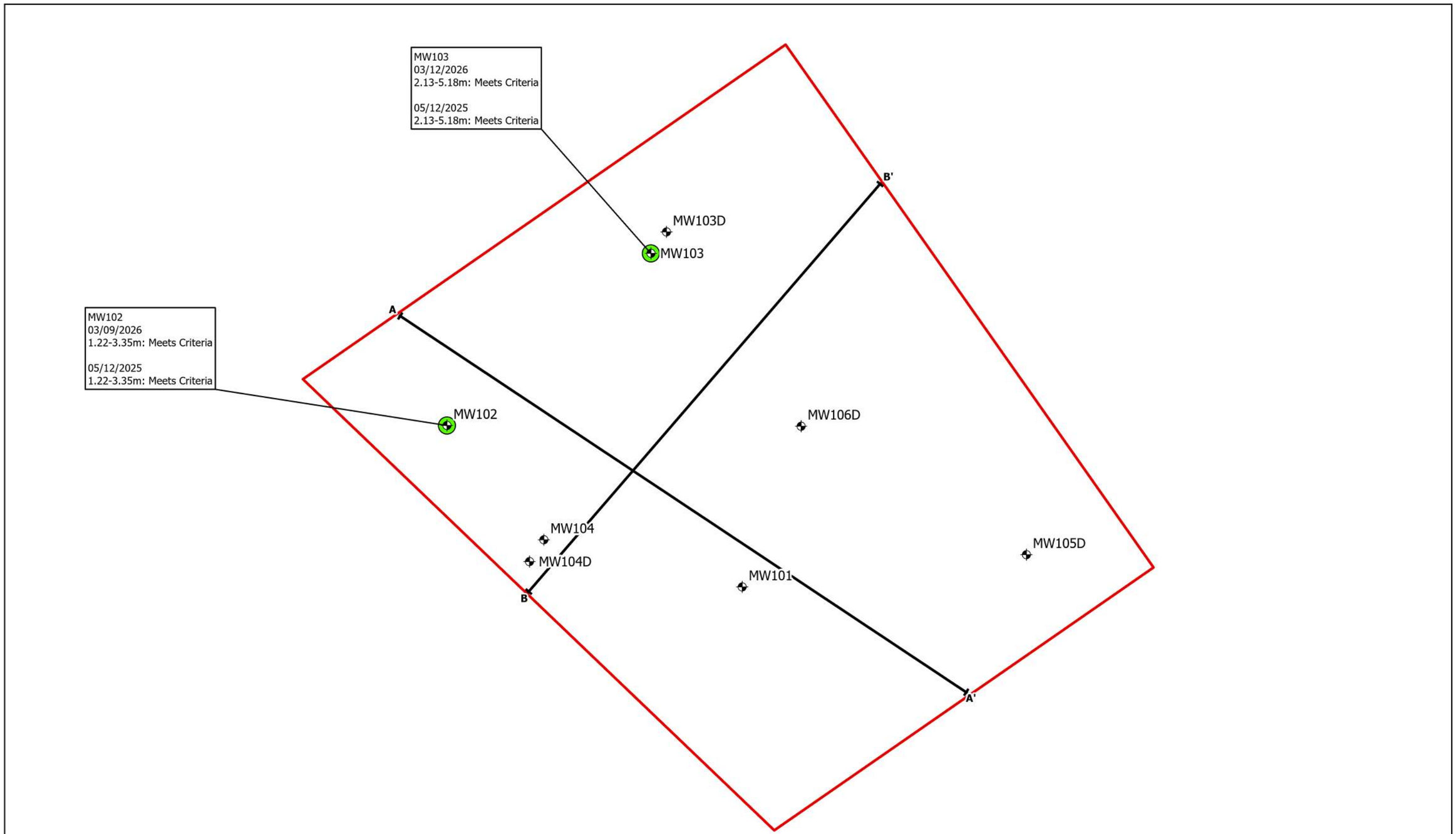
Notes:
1. mbgs = metres below ground surface
2. Results in ( ) indicate field duplicates.
3. Results are reported in µg/L
4. The estimated extent of groundwater impacts was assumed to extend from sampling locations that exceeded the Table 2 SCS to the next available sampling location that did not exceed the Table 2 SCS and extrapolated to the property boundary, where applicable.
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Figure 6-14
Groundwater Results - Volatile Organic Compounds
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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DRAFT



N

0 2 4
Meters

Sample Locations

- Borehole
- Monitoring Well
- Test Pit

- Location without Exceedance
- Location with Exceedance
- Cross-Section Location
- Site Boundary

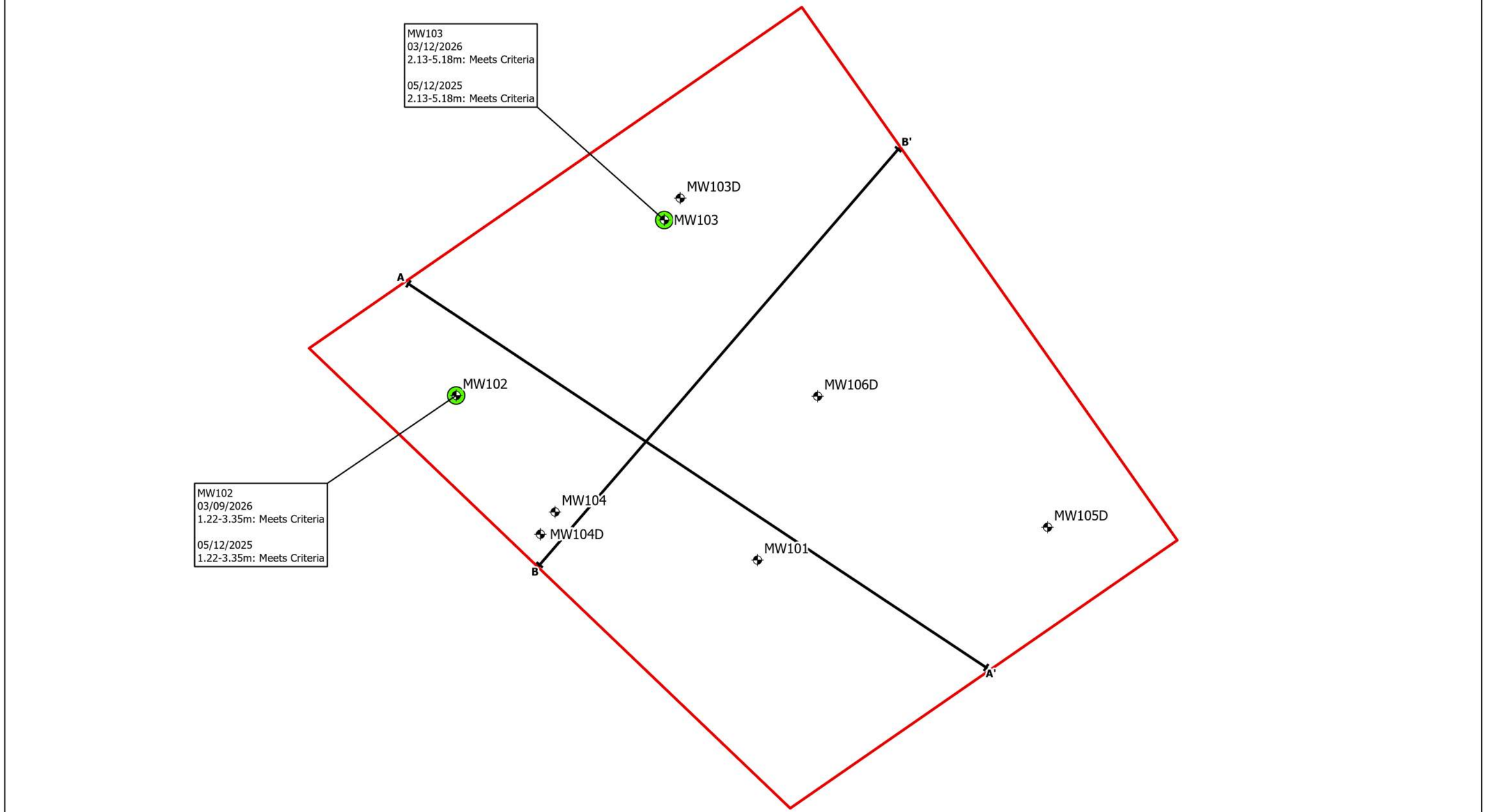
Notes:
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Figure 6-15
Groundwater Results - ABNs
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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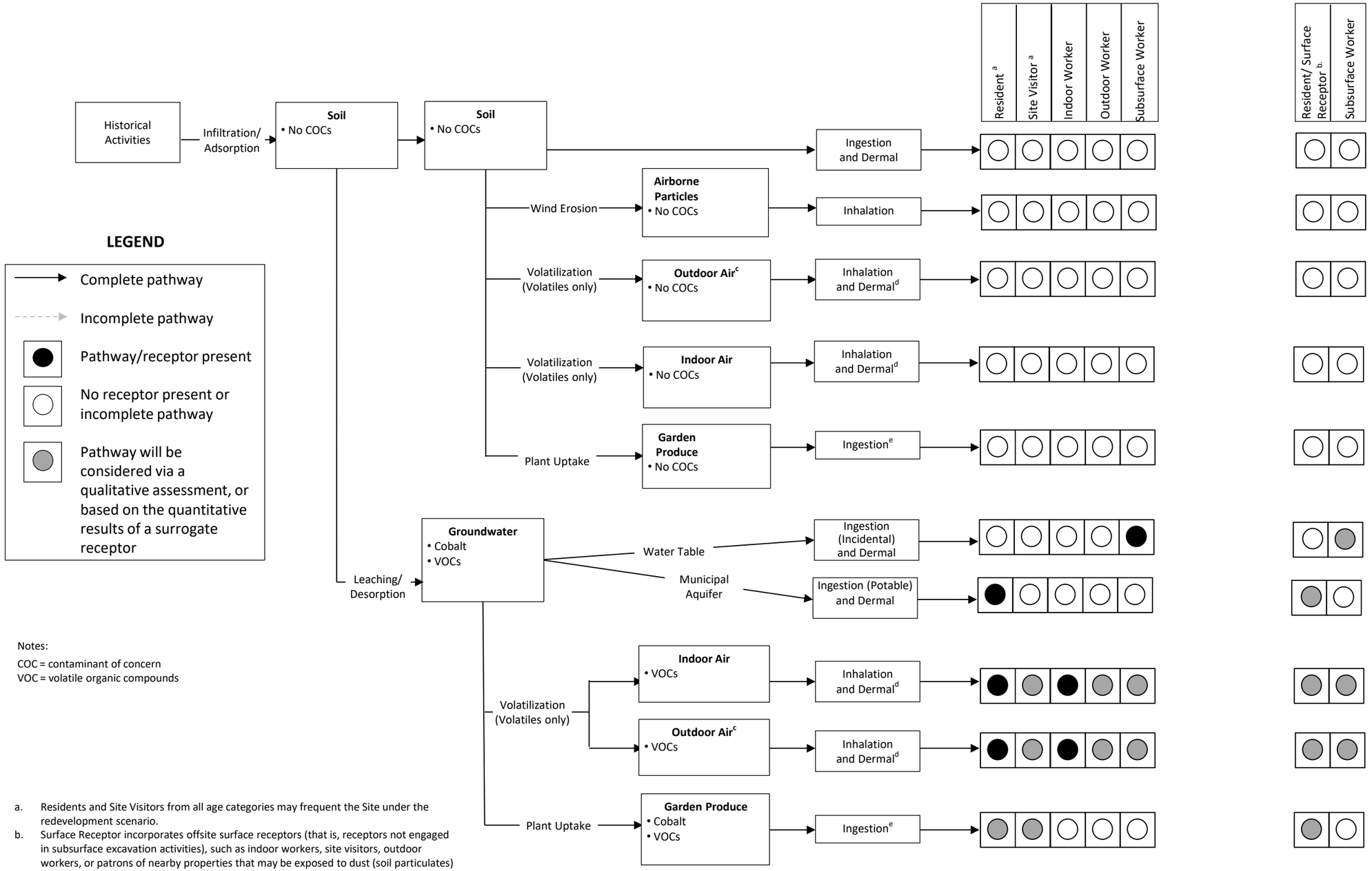
Notes:
1. mbgs = metres below ground surface
2. Results in ( ) indicate field duplicates.
3. Results are reported in µg/L
4. The estimated extent of groundwater impacts was assumed to extend from sampling locations that exceeded the Table 2 SCS to the next available sampling location that did not exceed the Table 2 SCS and extrapolated to the property boundary, where applicable.
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Figure 6-16
Groundwater Results - Chlorophenols
Phase Two Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

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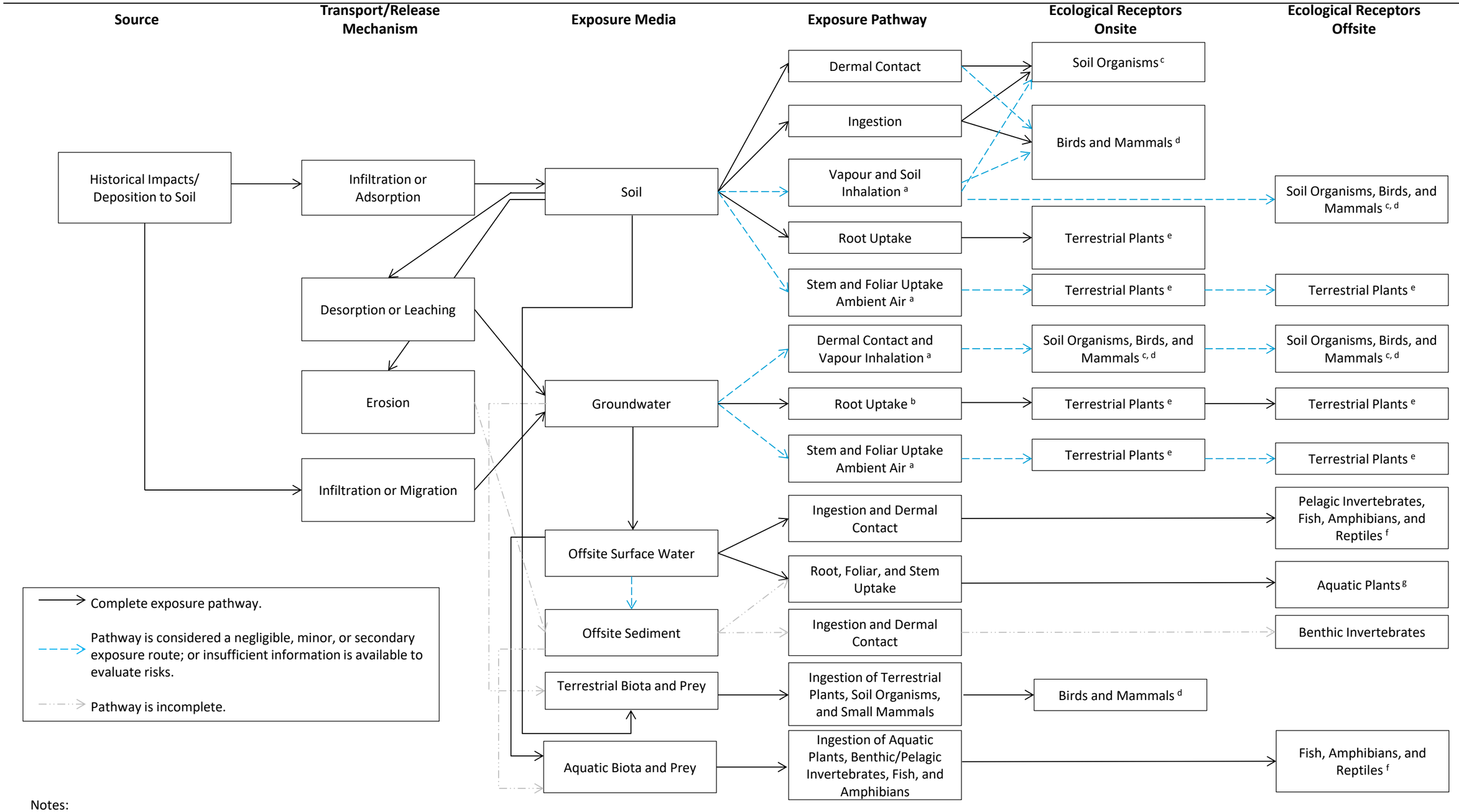


Notes:

COC = contaminant of concern
VOC = volatile organic compounds

a. Residents and Site Visitors from all age categories may frequent the Site under the redevelopment scenario.
b. Surface Receptor incorporates offsite surface receptors (that is, receptors not engaged in subsurface excavation activities), such as indoor workers, site visitors, outdoor workers, or patrons of nearby properties that may be exposed to dust (soil particulates)
c. Outdoor air inhalation includes both ambient air inhalation for all receptors and trench air inhalation for Subsurface Workers.
d. Dermal exposure to vapours is a negligible pathway and will not be considered quantitatively.
e. There is high uncertainty associated with assessing the potential exposure to Site COCs through ingestion of garden produce; therefore, this pathway will not be considered quantitatively.

Figure 6-17. Human Health Conceptual Site Model
14 Edinburgh Road South, Guelph, Ontario



Notes:

a. Vapour and soil inhalation, and uptake of ambient air are secondary routes of exposure; limited toxicological information is available to evaluate these pathways.
b. Minimum depth to groundwater is less than 1.5 mbgs onsite.
c. Selected VECs: Earthworms for soil organisms.
d. Selected VECs: American Woodcock, Red-winged Blackbird, and Red-tailed Hawk for birds; Meadow Vole, Red Fox, and Short-tailed Shrew for mammals.
e. Selected VECs: Grasses and Manitoba Maple for terrestrial plants.
f. Selected VECs: Daphnia for pelagic invertebrates; Emerald Shiner and Northern Pike for fish; Green Frog and Midland Painted Turtle for amphibians.
g. Selected VECs: *Carex spp.* for aquatic plants.

Figure 6-18. Ecological Conceptual Site Model
14 Edinburgh Road South, Guelph, Ontario

Appendix A
Plan of Survey

LOT 61 REGISTERED PLAN 27

PB (JDB) (B)

N48°45'30"W (P6&MEAS)
N45°54'40"W(P4)
20.96
21.00(P2)

PARK LOT 56

CANADIAN NATIONAL RAILWAY
PART 1 PLAN 61R-20382
REGISTERED PLAN 8

EASEMENT AS DESCRIBED IN INST. No. RO821427

LOT LINE

PB (JDB)

N57°53'30"E(P2)
N58°12'10"E(P7)
N58°12'25"E (P6&MEAS)

PIN 71281 – 0028(R)

PARK LOT 57

43.29(P1,P2,P7)
43.32 (P6&MEAS)

CLF ON LINE,0.14WLY

CC ON CONCRETE BASE OF FENCE POST

CLF 1.76SLY,0.18SW

CLF

CLF 0.13WLY,1.04SLY

2.46

7.1

9.9

331.00TP
330.31G
MW

15.9

BF

329.73TP
328.83G
MW

5.5

20.9

N46°28'10"W (P1,P6,P7&MEAS)

LOT 45

45.71

BF 1.15WLY

BF ON LINE

328.50TP
MW 328.43G

4.3

LOT 44

PIN 71281 – 0029(LT)

PIN 71281 – 0030(LT)

(P1,P6,P7&SET)

N45°31'10"W(P4)

REGISTERED PLAN 27

328.36TP
328.25G
MW

11.9

CLF 1.12WLY

N34°16'10"W

LOT 46 LOT 47 LOT 48 LOT 49

WALL 2.57SW

CONCRETE RETAINING WALL

WALL 2.58SW

STEPS 2.52SW

STEPS 2.54SW

WALL 2.67SW

CONCRETE RETAINING WALL

WALL 2.74SW
3.45SLY

WALL 3.45SLY

48.69 (P1,P2,P6,P7&MEAS)

15.2

LOT 43

CLF

90°00'00"
(P1,F1&SET)

BF 2.53NW,1.03WLY

1.10

BF

IB (375)

32.99(P1,P6,F1&MEAS)

IP (375)

N55°43'50"E (P1,P4,P6,P7&MEAS)

50.14 (P3,P6&MEAS)

IB (375)

83.13 (P6&MEAS)

SOUTHEAST ANGLE
LOT 43, REGISTERED PLAN 27

POSTED AS 'EDINBURGH ROAD SOUTH'
(ROAD ALLOWANCE BETWEEN LOTS 1 TO 12, DIVISION 'A')
PIN 71281 – 0001(LT)

N46°26'00"W (P6&MEAS)
N46°27'10"W(P5)

20.58 (P6&MEAS)

PRESTON STREET
(BY REGISTERED PLAN 27)
PIN 71281 – 0051(LT)

SIB (VH)

LOT 25 REGISTERED PLAN 27 LOT 26

120.34(P5)
120.32(P6&MEAS)
140.90(P6&MEAS)

RIB (375)

Ⓐ GALT STREET

PLAN OF SURVEY OF

LOTS 43, 44 & 45 REGISTERED PLAN 27

CITY OF GUELPH
COUNTY OF WELLINGTON

SCALE 1 : 250

5 0 5 10 15 metres

J.D. BARNES LIMITED

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

INTEGRATION DATA

OBSERVED REFERENCE POINTS (ORPs): UTM ZONE 17, NAD83 (CSRS) (2010.0). COORDINATES TO URBAN ACCURACY PER SECTION 14 (2) OF O.REG 216/10.

POINT ID	EASTING	NORTHING
ORP Ⓐ	560 073.57	4 820 666.11
ORP Ⓑ	559 920.45	4 820 810.53

COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.

THE RESULTANT TIE BETWEEN ORP Ⓐ AND ORP Ⓑ IS 210.57 N46°40'25"W

NOTES

BEARINGS ARE UTM GRID, DERIVED FROM OBSERVED REFERENCE POINTS A AND B, BY REAL TIME NETWORK (RTN) OBSERVATIONS, UTM ZONE 17, NAD83 (CSRS) (2010.0).

DISTANCES ARE GROUND AND CAN BE CONVERTED TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.999603.

FOR BEARING COMPARISONS, A ROTATION OF 0°31'10" COUNTER-CLOCKWISE WAS APPLIED TO BEARINGS ON P4.

FOR BEARING COMPARISONS, A ROTATION OF 0°34'10" COUNTER-CLOCKWISE WAS APPLIED TO BEARINGS ON P1 & P7.

LEGEND

■	DENOTES	SURVEY MONUMENT FOUND
□	DENOTES	SURVEY MONUMENT SET
SIB	DENOTES	STANDARD IRON BAR
CC	DENOTES	CUT CROSS
IB	DENOTES	IRON BAR
PB	DENOTES	PLASTIC BAR
RIB	DENOTES	ROUND IRON BAR
IP	DENOTES	IRON PIPE
MEAS	DENOTES	MEASURED
JDB	DENOTES	J.D. BARNES LIMITED
375	DENOTES	BLACK, SHOEMAKER, ROBINSON & DONALDSON LTD.
VH	DENOTES	VAN HARTEN SURVEYING INC.
BF	DENOTES	BOARD FENCE
CLF	DENOTES	CHAIN LINK FENCE
TP	DENOTES	ELEVATION OF TOP OF PIPE
G	DENOTES	ELEVATION OF GROUND
MW	DENOTES	MONITORING WELL
F1	DENOTES	375 FIELD NOTE PAGE 82-38
P1	DENOTES	PLAN BY 375, PROJECT No. 421-62, DATED DEC. 7/62
P2	DENOTES	DEPOSITED PLAN 61R-20382
P3	DENOTES	PLAN BY 375, PROJECT No. 126-68, DATED MARCH 25/68
P4	DENOTES	REGISTERED PLAN 27
P5	DENOTES	DEPOSITED PLAN 61R-20542
P6	DENOTES	PLAN BY 375, PROJECT No. 24-14-109-00, DATED SEPT. 12/24
P7	DENOTES	PLAN BY 375, PROJECT No. 87-4381, DATED APRIL 20/87

BENCHMARK

ELEVATIONS SHOWN HEREON ARE GEODETIC (CGVD28-1978) AND ARE DERIVED FROM GNSS OBSERVATIONS USING NATURAL RESOURCES CANADA'S GEOID MODEL HTv2.0.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON 13th DAY OF MAY, 2025.

MAY 22, 2025
DATE

RAYMOND J. SIBTHORP
ONTARIO LAND SURVEYOR

THIS PLAN OF SURVEY RELATES TO AOLS PLAN SUBMISSION FORM NUMBER V-94200

J.D. BARNES LIMITED
SURVEYING MAPPING GIS
LAND INFORMATION SPECIALISTS
257 WOODLAWN ROAD WEST, UNIT 101, GUELPH, ON N1H 8J1
T: (519) 822-4031 F: (519) 822-1220 www.jdbarnes.com

DRAWN BY:	CHECKED BY:	REFERENCE NO.:
DM	RJS	25-14-276-00
		DATED: MAY 22, 2025

FILE: G:\25-14-276\00\Drawing\25-14-276-00 REF PLAN.dwg

PLOT DATE: 5/22/2025 9:59 AM

Appendix B
Sampling and Analysis Plan

Table 1. Sampling and Analysis Plan

14 Edinburgh Road South, Guelph

City of Guelph

Proposed Sampling Location	Existing/ New Location	Related Location	Media	Approximate Depth of BH (mbgs) [1]	Approximate Well Screen Depth (mbgs) [1]	SOIL								GROUNDWATER						Sampling Objectives/Purpose	Sampling Directions [4]
						O.Reg. 153 Metals/Inorganics [2, 3]	Methyl Mercury [4]	PHCs (F1-F4)	VOCs/BTEX	PAHs	SVOCs (ABNs & CPs)	TCLP (Metals, VOCs, BaP)	Grain Size (% Passing)	O.Reg 153 Metals	ORPs (CN-, CrVI, Hg, Na, Cl-)	PHCs (F1-F4)	VOCs/BTEX	PAHs	SVOCs (ABNs & CPs)		
MW101	New	APEC-01	SO/GW	11.5	8 11.05	3	3	3	3	3			1	1	1	1	1	1		Soil and groundwater characterization for APEC-01.	Collect one soil samples from surficial (0 - 1.5 mbgs) and remaining two from subsurface soil (>1.5 mbgs). If field evidence of impacts, collect one of the three samples from that interval. Install monitoring well to straddle the water table. Sample groundwater using low flow techniques.
MW102	New	APEC-01/ 02	SO/GW	11.5	8 11.05	3	3	3	3	3			1	1	1	1	1	1	1	Soil and groundwater characterization for APEC-01. Groundwater characterization for APEC-02.	Collect one soil samples from surficial (0 - 1.5 mbgs) and remaining two from subsurface soil (>1.5 mbgs). If field evidence of impacts, collect one of the three samples from that interval. Install monitoring well to straddle the water table. Sample groundwater using low flow techniques.
MW103	New	APEC-02	SO/GW	11.5	8 11.05	3	3	3	3	3			1	1	1	1	1	1		General site characterization for soil. Groundwater characterization for APEC-02.	Collect one soil samples from surficial (0 - 1.5 mbgs) and remaining two from subsurface soil (>1.5 mbgs). If field evidence of impacts, collect one of the three samples from that interval. Install monitoring well to straddle the water table. Sample groundwater using low flow techniques.
MW104	New	APEC-01	SO/GW	4	1 4.05	2	2	2	2	2			1	1	1	1	1			Additional location to investigate the perched water table. Soil and groundwater characterization for APEC-01.	Collect one soil samples from surficial (0 - 1.5 mbgs) and remaining one from subsurface soil (>1.5 mbgs). Install monitoring well to straddle the water table. Sample groundwater using low flow techniques.
Total Sampling Locations						11	11	11	11	11	0	0	2	3	3	3	3	3	2		
Duplicate Samples						2	2	2	2	2	0	0	0	1	1	1	1	1	1		**Duplicates should be collected at a minimum of 1 in 10 frequency (10%).**
Trip Blank Samples																	1				**1 VOC trip blank is required for each cooler containing VOC groundwater samples.**
TCLP Sample												1									**TCLP analysis is required for all soil waste and should be submitted on a separate chain of custody from the environmental samples.**
Total Samples						13	13	13	13	13	0	1	2	4	4	4	5	4	3		

Notes:

1. The borehole depth is based on screening the shallow water table. The nearest available wells that indicate depth to groundwater may be approximately 8 mbgs. Actual borehole depth and screen installations should be based on the observed water table a installing a 10 ft length screen to straddle the water table.

2. If there is concrete or asphalt present in a sample interval, indicate on the COC to not report pH.

3. Metals and Inorganics include Metals, HF Metals, and ORPs (pH, B-HWS, CN-, CrVI, Hg, EC, SAR)

4. Where mercury samples are being submitted, submit soil jars for methyl mercury, which are required to be analyzed if mercury exceeds the SCS.

4. Sampling depth given in masl are a range from which the sample is to be collected from. Expected actual sample length are between 0.61 - 0.76 m (2.0 - 2.5 ft) depending on drilling method.

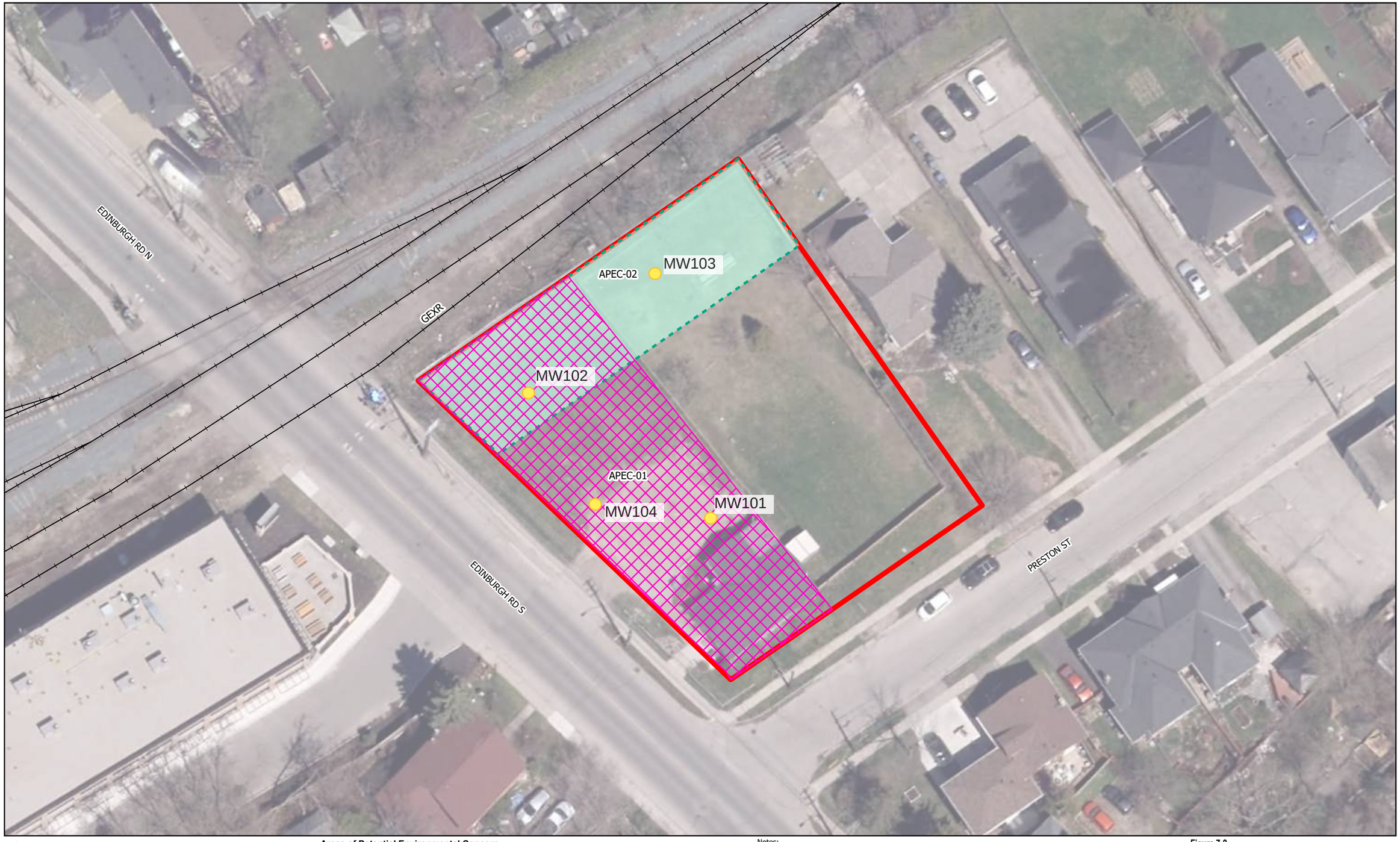
Table 1. Sampling and Analysis Plan

14 Edinburgh Road South, Guelph

City of Guelph

Proposed Sampling Location	Existing/ New Location	Related Location	Media	Approximate Depth of BH (mbgs) [1]	Approximate Well Screen Depth (mbgs) [1]	SOIL								GROUNDWATER						Sampling Objectives/Purpose	Sampling Directions [4]
						O.Reg. 153 Metals/Inorganics [2, 3]	Methyl Mercury [4]	PHCs (F1-F4)	VOCs/BTEX	PAHs	SVOCs (ABNs & CPs)	TCLP (Metals, VOCs, BaP)	Grain Size (% Passing)	O.Reg 153 Metals	ORPs (CN-, CrVI, Hg, Na, Cl-)	PHCs (F1-F4)	VOCs/BTEX	PAHs	SVOCs (ABNs & CPs)		

ABN = acid base neutral compounds
BTEX = benzene, toluene, ethylbenzene, xyler
B-HWS = hot water soluble boron
BH = borehole
CF = controlled fill
CN = cyanide
CrVI = hexavalent chromium
COC = contaminant of concern
CP = chlorophenols
EC = electrical conductivity
F = fraction
Hg = mercury
mbgs = meters below ground surface
MeHg = methyl mercury
MW = monitoring well
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
PHC = petroleum hydrocarbon
SAR = sodium adsorption ratio
SCS = standard
SVOC = semi-volatile organic compound
VOC = volatile organic compound



N

0 5 10
Meters

Railway

Phase One Property Boundary

Areas of Potential Environmental Concern

APEC-01: Guelph Auto-Electric

APEC-02: Offsite PCAs to the north

Notes:
1. Basemaps Source: Esri, NASA, NGA, USGS, Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community, City of Guelph, Region of Waterloo, Maxar, Microsoft
2. A full description of APEC are provided in Table 7-3.

DRAFT

Figure 7-2
Areas of Potential Environmental Concern
Phase One Environmental Site Assessment
City of Guelph
14 Edinburgh Road South, Guelph, ON

Jacobs

\\DC1VS01\GISPROJ\G\GUELPHCITYOF\COG14EDN_14EDINBURGHROAD\MAPFILES\PHASEONEESA\APECS.APRX VM048279 4/4/2025 12:00 PM

Table 1. Sampling and Analysis Plan

14 Edinburgh Road South, Guelph

City of Guelph

Proposed Sampling Location	Existing/ New Location	Related Location	Media	Approximate Depth of BH (mbgs) [1]	Approximate Well Screen Depth (mbgs) [1]		SOIL									GROUNDWATER							AIR	Sampling Objectives/Purpose	Sampling Directions [5]
							O.Reg. 153 Metals/Inorganics [2, 3]	Methyl Mercury [4]	PHCs (F1-F4)	BTEX	VOCs/BTEX	PAHs	SVOCs (ABNs & CPs)	TCLP (Metals, VOCs, BaP)	Grain Size (% Passing)	O.Reg 153 Metals	ORPs (CN-, CrVI, Hg, Na, Cl-)	PHCs (F1-F4)	BTEX	VOCs/BTEX	PAHs	SVOCs (ABNs & CPs)	Cl VOCs 6		
Groundwater Delineation Field Program																									
MW103D	New	MW103 / APEC-02	GW	13.5	10.5	13.5	--	--	--	3	--	--	--	--	--	1	1	--	1	1	--	--	--	Vertical delineation in groundwater for cobalt found in MW103.	Install monitoring well to straddle the deep groundwater table (near the bedrock interface). Sample groundwater using low flow techniques.
MW104D	New	MW104 / APEC-01	GW	13.5	10.5	13.5	--	--	--		--	--	--	--	--	1	1	--	1	1	--	--	--	Vertical delineation in groundwater for cobalt found in MW104.	Install monitoring well to straddle the deep groundwater table (near the bedrock interface). Sample groundwater using low flow techniques.
~~MW105~~	~~New~~	~~MW103 / MW104~~	~~GW~~	~~5~~	~~2~~	~~5~~	—	—	—	~~3~~	—	—	—	—	—			—			—	—	—	~~Lateral delineation for cobalt found in shallow groundwater at MW103 and MW104.~~	~~Install monitoring well to ***straddle the shallow groundwater table if encountered*** . Sample groundwater using low flow techniques.~~
MW105D	New	MW101	GW	13.5	10.5	13.5	--	--	--	3	--	--	--	--	--	1	1	--	1	1	--	--	--	Lateral delineation for TCE found in deep groundwater at MW101.	Install monitoring well to straddle the deep groundwater table (near the bedrock interface). Sample groundwater using low flow techniques.
~~MW106~~	~~New~~	~~MW103 / MW104~~	~~GW~~	~~5~~	~~2~~	~~5~~	—	—	—	~~3~~	—	—	—	—	—			—			—	—	—	~~Lateral delineation for cobalt found in shallow groundwater at MW103 and MW104.~~	~~Install monitoring well to ***straddle the shallow groundwater table if encountered*** . Sample groundwater using low flow techniques.~~
MW106D	New	MW101	GW	13.5	10.5	13.5	--	--	--		--	--	--	--	--	1	1	--	1	1	--	--	--	Lateral delineation for TCE found in deep groundwater at MW101.	Install monitoring well to straddle the deep groundwater table (near the bedrock interface). Sample groundwater using low flow techniques.
Soil Vapour Probe Installation																									
SVP-01A/SVP-01B	New	MW101	Air				--	--	--	3	--	--	--	--	--	--	--	--	--	--	--	--	2	Investigate soil vapour at MW101 where TCE is found in deep groundwater.	Install a pair of soil vapur probes at each location using geoprobe (if possible for reduced annular space) approximately 1.5 m from monitoring well (to maintain integrity of capture zones), and at perpendicular locations if possible so that they are within 1-2 metres of each other. Screens are to be placed above the bedrock within the capillary fringe. Complete leak testing on completed probes to ensure integrity of the probe seal (can be done at time of sampling). Sampling probes will be completed once groundwater results are reviewed.
SVP-04A/SVP-04B	New	MW104	Air				--	--	--		--	--	--	--	--	--	--	--	--	--	--	--	TBD	Investigate soil vapour at MW104 <u>if volatiles are reported in groundwater.</u>	
SVP-05A/SVP-05B	New	MW105	Air				--	--	--	3	--	--	--	--	--	--	--	--	--	--	--	--	2	Investigate soil vapour at MW105 within the proposed building footprint.	
SVP-06A/SVP-06B	New	MW106	Air				--	--	--	3	--	--	--	--	--	--	--	--	--	--	--	--	TBD	Investigate soil vapour at MW106 <u>if volatiles are reported in groundwater.</u>	
Ambient Air	New	AO-14ED	Outdoor Air				--	--	--	3	--	--	--	--	--	--	--	--	--	--	--	--	1	To assess air quality contributions and confirm there is no short cicuiting or other contributions	Collect Ambient sample at upwind location onsite to span the duration of prob sampling
Groundwater Sampling (Round 2) Event																									
MW101	Existing		GW	NA	NA	NA	--	--	--	3	--	--	--	--	--	1	1	1	1	1	1		--	Second round of groundwater sampling at all locations to confirm concentrations and support the proposed MGRA and RSC filing.	Sample groundwater using low flow techniques.
MW102	Existing		GW	NA	NA	NA	--	--	--	3	--	--	--	--	--	1	1	1	1	1	1	1	--		Sample groundwater using low flow techniques.
MW103	Existing		GW	NA	NA	NA	--	--	--	3	--	--	--	--	--	1	1	1	1	1	1	1	--		Sample groundwater using low flow techniques.
MW103D	*Existing*		GW	NA	NA	NA	--	--	--	3	--	--	--	--	--	1	1	--	1	1	--	--	--		Sample groundwater using low flow techniques.
MW104	Existing		GW	NA	NA	NA	--	--	--	3	--	--	--	--	--	1	1	1	1	1	1	--	--		Sample groundwater using low flow techniques.
MW104D	*Existing*		GW	NA	NA	NA	--	--	--		--	--	--	--	--	1	1	--	1	1	--	--	--		Sample groundwater using low flow techniques.
MW105D	*Existing*		GW	NA	NA	NA	--	--	--	3	--	--	--	--	--	1	1	--	1	1	--	--	--		Sample groundwater using low flow techniques.
MW106D	*Existing*		GW	NA	NA	NA	--	--	--		--	--	--	--	--	1	1	--	1	1	--	--	--		Sample groundwater using low flow techniques.
Soil Vapour Probe Sampling																									
SVP-01A/SVP-01B			Air				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	Soil vapour sampling associated with TCE in GW	Complete leak testing on completed probes to ensure integrity of the probe seal (can be done at time of sampling).
SVP-04A/SVP-04B			Air				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2		
SVP-05A/SVP-05B			Air				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2		
SVP-06A/SVP-06B			Air				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2		
Ambient Air			Outdoor Air				--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	To assess air quality contributions and confirm there is no short cicuiting or other contributions	Collect Ambient sample at upwind location onsite to span the duration of prob sampling
Total Sampling Locations							0	0	0	6	0	0	0	0	0	16	16	4	18	16	4	2	14		
Duplicate Samples							0	0	0	1	0	0	0	0	0	2	2	1	2	2	1	1	2	**Duplicates should be collected at a <u>minimum</u> of 1 in 10 frequency (10%).**	
Trip Blank Samples																				2			1	**1 VOC trip blank is required for <u>each cooler</u> containing VOC groundwater samples.**	
TCLP Sample														1										**TCLP analysis is required for all soil waste and should be submitted on a separate chain of custody from the environmental samples.**	
Total Samples							0	0	0	7	0	0	0	1	0	18	18	5	20	20	5	3			
New BH/MW	**6**																								

Table 1. Sampling and Analysis Plan

14 Edinburgh Road South, Guelph

City of Guelph

Proposed Sampling Location	Existing/ New Location	Related Location	Media	Approximate Depth of BH (mbgs) [1]	Approximate Well Screen Depth (mbgs) [1]	SOIL									GROUNDWATER						AIR	Sampling Objectives/Purpose	Sampling Directions [5]
						O.Reg. 153 Metals/Inorganics [2, 3]	Methyl Mercury [4]	PHCs (F1-F4)	BTEX	VOCs/BTEX	PAHs	SVOCs (ABNs & CPs)	TCLP (Metals, VOCs, BaP)	Grain Size (% Passing)	O.Reg 153 Metals	ORPs (CN-, CrVI, Hg, Na, Cl-)	PHCs (F1-F4)	BTEX	VOCs/BTEX	PAHs	SVOCs (ABNs & CPs)	Cl VOCs 6		
Existing BH/MW		10																					

Notes:

1. The borehole depth is based on screening the shallow or deeper water table. Actual borehole depth and screen installations should be based on the observed water table and installing a 10 ft length screen to straddle the water table.

2. If there is concrete or asphalt present in a sample interval, indicate on the COC to not report pH.

3. Metals and Inorganics include Metals, HF Metals, and ORPs (pH, B-HWS, CN-, CrVI, Hg, EC, SAR)

4. Where mercury samples are being submitted, submit soil jars for methyl mercury, which are required to be analyzed if mercury exceeds the SCS.

5. Sampling depth given in masl are a range from which the sample is to be collected from. Expected actual sample length are between 0.61 - 0.76 m (2.0 - 2.5 ft) depending on drilling method.

ABN = acid base neutral compounds
BTEX = benzene, toluene, ethylbenzene, xylenes
B-HWS = hot water soluble boron
BH = borehole
CF = controlled fill
CN = cyanide
CrVI = hexavalent chromium
COC = contaminant of concern
CP = chlorophenols
EC = electrical conductivity
F = fraction
Hg = mercury
mbgs = meters below ground surface
MeHg = methyl mercury
MW = monitoring well
PAH = polycyclic aromatic hydrocarbon
PCB = polychlorinated biphenyl
PHC = petroleum hydrocarbon
SAR = sodium adsorption ratio
SCS = standard
SVOC = semi-volatile organic compound
VOC = volatile organic compound

Appendix C
Borehole and Monitoring Well Logs

RECORD OF MONITORING WELL: MW101

CLIENT: City of Guelph	DATE DRILLED: May 5, 2025	WATER LEVEL DATE: June 22, 2026	TOP OF PIPE: 328.25 masl
LOCATION: 14 Edinburgh Rd S, Guelph	DRILLER: Aardvark Drilling	BOREHOLE DIAMETER: 279 mm	GROUND ELEVATION: 328.36 masl
PROJECT NUMBER: COG14EDN	DRILL RIG: CME 75	MECP WELL TAG#: A422620	NORTHING: 4820780.7
LOGGED BY: J. Gowing	DRILL METHOD: 257 mm HSA and HQ Core		EASTING: 559970.2

DEPTH (mbgs)	SAMPLE Recovery (%)	SAMPLE TYPE	SAMPLE SPT (N-value)	SAMPLE Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
								328.06 / 0.30	Flushmount casing secured in concrete, -0.09 m stick up; Bentonite seal
	29	SS1	19		**FILL:** Sand, light brown, moist, medium to coarse grained, compact, some gravel				0.4
							327.60 / 0.76		
1	29	SS2	12		**FILL:** Silty Sand, brown, moist, compact, trace gravel				0.1
				Metals & Inorg. PHCs VOCs PAHs (14:30) (1.52-2.13)	- increasing silt content below 1.52 mbgs				
	38	SS3	25						0.0
2					- 2 cm seam of saturated gravel at 1.98 mbgs				
							326.07 / 2.29		
	31	SS4	73		**SILT TILL:** Light brown, moist, hard, some fine grained sand, some subrounded fine grained gravel, trace coarse grained subangular gravel				0.3
3									
	46	SS5	85						0.2
	0	SS6	50+/ 5cm						0.3
4									
				Metals & Inorg. PHCs VOCs PAHs (14:45) (4.57-5.18)			323.79 / 4.57		
	23	SS7	50+/ 13cm		**SANDY SILT TILL:** Light brown, moist, hard, some coarse grained gravel				0.3
5									
	42	SS8	53		- light grey below 5.49 mbgs				0.4
6									
	56	SS9	50+/ 5cm		- grey, moist to saturated below 6.10 mbgs				1.5
	44	SS10	50+/ 5cm	Metals & Inorg. PHCs VOCs PAHs (15:10) (7.01-7.62)	- moist below 6.71 mbgs				0.4
7							320.74 / 7.62		
	33	SS11	50+/ 0cm		**SILT TILL:** Medium brown, moist, hard, trace fine grained sand and gravel, trace larger gravel, some orange mottling				0.2

Notes:
1. Information to be used for interpretation of environmental conditions only

DRAFT
7/26/2026

Prepared by: AM
Reviewed by: TM

Jacobs Consultancy Canada Inc.

MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

RECORD OF MONITORING WELL: MW101

CLIENT: City of Guelph	DATE DRILLED: May 5, 2025	WATER LEVEL DATE: June 22, 2026	TOP OF PIPE: 328.25 masl
LOCATION: 14 Edinburgh Rd S, Guelph	DRILLER: Aardvark Drilling	BOREHOLE DIAMETER: 279 mm	GROUND ELEVATION: 328.36 masl
PROJECT NUMBER: COG14EDN	DRILL RIG: CME 75	MECP WELL TAG#: A422620	NORTHING: 4820780.7
LOGGED BY: J. Gowing	DRILL METHOD: 257 mm HSA and HQ Core		EASTING: 559970.2

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: SPT (N-value)	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
9	0	SS12	50+/ 0cm						0.3
	0	SS13	50+/ 13cm						0.5
10	33	SS14	50+/ 0cm		- light brown to white, dry and chalky below 9.75 mbgs			318.15 / 10.21	0.3
								317.84 / 10.52	
					GUELPH FORMATION DOLOSTONE: Light grey to grey brown, some oxidation in fractures		317.77 / 10.59	317.77 / 10.59	
11									
12									
13								314.80 / 13.56	
14					Bottom of borehole at 13.89 mbgs		314.47 / 13.89	314.47 / 13.89	
15									

Silica sand filter pack

50 mm diameter SCH 40 PVC pipe #10-slot well screen
102 mm diameter corehole

316.27 masl

ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB: 20 40 60 80

Notes:
1. Information to be used for interpretation of environmental conditions only

DRAFT
7/26/2026

Prepared by: AM
Reviewed by: TM

Jacobs Consultancy Canada Inc.

MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

RECORD OF MONITORING WELL: MW102

CLIENT: City of Guelph	DATE DRILLED: May 5, 2025	WATER LEVEL DATE: June 22, 2026	TOP OF PIPE: 329.73 masl
LOCATION: 14 Edinburgh Rd S, Guelph	DRILLER: Aardvark Drilling	BOREHOLE DIAMETER: 279 mm	GROUND ELEVATION: 328.83 masl
PROJECT NUMBER: COG14EDN	DRILL RIG: CME 75	MECP WELL TAG#: A422619	NORTHING: 4820792.6
LOGGED BY: J. Gowing	DRILL METHOD: 257 mm HSA		EASTING: 559948.5

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: SPT (N-value)	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	ELEV. (masl) / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
0					**FILL:** Sand, dark brown, moist, loose, some gravel, some rootlets		328.83 / 0.00	Monument casing secured in concrete, 0.90 m stick up	
	27	SS1	8		- medium brown, dry, medium to coarse grained, no rootlets below 0.20 mbgs		328.53 / 0.30	Bentonite seal	0.0
				Metals & Inorg. PHCs VOCs PAHs (10:55) (0.61-1.22)	- compact below 0.76 mbgs		327.94 / 0.89	#2 silica sand filter pack	
1	25	SS2	13				327.64 / 1.19	50 mm diameter SCH 40 PVC pipe #10-slot well screen	0.3
							327.15 / 1.68		
	25	SS3	27		**GRAVEL:** Light brown, saturated, compact, some sand, trace fine grained sand			326.75 masl	0.0
2							326.54 / 2.29		
	23	SS4	50+/ 28cm	Metals & Inorg. PHCs VOCs PAHs (11:05) (2.44-3.05)	**SILT TILL:** Light brown, moist, hard, some fine subrounded gravel, trace larger subangular gravel, trace fine sand				0.0
3	50	SS5	50+/ 15cm				325.50 / 3.33		0.1
					Split spoon and auger refusal on suspected cobbles at 3.33 mbgs Bottom of borehole at 3.33 mbgs		325.50 / 3.33		
4									
5									
6									
7									

ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB: 20 40 60 80

Notes:
1. Information to be used for interpretation of environmental conditions only

DRAFT
7/26/2026

Prepared by: AM
Reviewed by: TM

Jacobs Consultancy Canada Inc.

MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

Jacobs

RECORD OF MONITORING WELL: MW103

CLIENT: City of Guelph	DATE DRILLED: May 8, 2025	WATER LEVEL DATE: May 29, 2025	TOP OF PIPE: 331.00 masl
LOCATION: 14 Edinburgh Rd S, Guelph	DRILLER: Aardvark Drilling	BOREHOLE DIAMETER: 279 mm	GROUND ELEVATION: 330.31 masl
PROJECT NUMBER: COG14EDN	DRILL RIG: CME 75	MECP WELL TAG#: A422557	NORTHING: 4820804.7
LOGGED BY: J. Gowing	DRILL METHOD: 257 mm HSA		EASTING: 559963.1

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: SPT (N-value)	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
0								330.31 0.00		
	33	SS1	10	Metals & Inorg. PHCs VOCs PAHs (11:05) (0.15-0.46)	**FILL:** Sand, dark brown, medium grained, moist, loose, some gravel, some rootlets - dark to medium brown, dry to moist, some silt, some clay, no rootlets below 0.10 mbgs			330.01 0.30	Monument casing secured in concrete, 0.69 m stick up Bentonite seal	0.3
1	21	SS2	29		- light to medium brown, dry, medium to coarse grained, compact below 0.76 mbgs					0.4
	25	SS3	20					328.48 1.83	#2 silica sand filter pack	0.4
2								328.18 2.13	50 mm diameter SCH 40 PVC pipe #10-slot well screen	
					SILT TILL: Medium brown, moist, very stiff, some gravel		328.02 2.29			
	23	SS4	28							0.3
3	25	SS5	22		- increasing moisture below 3.05 mbgs					0.3
					- some gravel below 3.81 mbgs					
4	13	SS6	20							0.2
				Metals & Inorg. PHCs VOCs PAHs (11:30) (4.57-5.18)			325.74 4.57			
					SANDY SILT TILL: Light brown, moist, hard, trace gravel				325.54 masl	
5	38	SS7	34				325.13 5.18	325.13 5.18		0.4
					Bottom of borehole at 5.18 mbgs					
6										
7										

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7/26/2026

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Jacobs Consultancy Canada Inc.

MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

Jacobs

RECORD OF MONITORING WELL: MW103D

CLIENT: City of Guelph	DATE DRILLED: February 11, 2026	WATER LEVEL DATE: June 22, 2026	TOP OF PIPE: 331.09 masl
LOCATION: 14 Edinburgh Rd S, Guelph	DRILLER: Direct Environmental Drilling	BOREHOLE DIAMETER: 210 mm	GROUND ELEVATION: 330.23 masl
PROJECT NUMBER: COG14EDN	DRILL RIG: Diedrich D70	MECP WELL TAG#: A458538	NORTHING: 4820806.3
LOGGED BY: J. Gowing	DRILL METHOD: 108 mm HSA + Air Rotary		EASTING: 559964.1

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: SPT (N-value)	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
0							330.23	330.23 / 0.00	20 40 60 80
	54	SS1			**FILL:** Sand and Gravel, brown, dry, medium grained sand, loose, some silt			329.93 / 0.30 Bentonite seal	0.4
							329.47		
1	50	SS2			**FILL:** Sand, brown, dry, loose, some medium grained gravel		0.76		0.4
					- coarse grained sand below 1.52 mbgs				
	67	SS3							0.4
2							327.94		
					FILL: Sandy Silt, brown, moist, medium to coarse grained, loose, some gravel		2.29		
	42	SS4							0.6
3					- hard below 3.05 mbgs				
	46	SS5							0.3
4									
							325.66		
					SANDY SILT TILL: Light brown, moist, hard, trace gravel		4.57		
	75	SS6							1.7
5									
6									
	75	SS7			- very hard below 6.40 mbgs				1.2
7									
	25	SS8							0.7

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MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

Jacobs

RECORD OF MONITORING WELL: MW103D

CLIENT: City of Guelph	DATE DRILLED: February 11, 2026	WATER LEVEL DATE: June 22, 2026	TOP OF PIPE: 331.09 masl
LOCATION: 14 Edinburgh Rd S, Guelph	DRILLER: Direct Environmental Drilling	BOREHOLE DIAMETER: 210 mm	GROUND ELEVATION: 330.23 masl
PROJECT NUMBER: COG14EDN	DRILL RIG: Diedrich D70	MECP WELL TAG#: A458538	NORTHING: 4820806.3
LOGGED BY: J. Gowing	DRILL METHOD: 108 mm HSA + Air Rotary		EASTING: 559964.1

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: SPT (N-value)	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
9										20 40 60 80
	21	SS9								1.2
10										
	13	SS10								0.4
11					- weathered bedrock contact at approximately 10.97 mbgs, switched to air rotary **GUELPH FORMATION DOLOSTONE:** Light grey to grey brown		319.26 10.97	319.26 10.97	102 mm diameter corehole	
12										
13										
14									315.97 masl	
15								315.29 14.94	Silica sand filter pack	
								314.99 15.24	50 mm diameter SCH 40 PVC pipe #10-slot well screen	

Notes:
1. Information to be used for interpretation of environmental conditions only

DRAFT
7/26/2026

Prepared by: AM
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Jacobs Consultancy Canada Inc.

MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

Jacobs

RECORD OF MONITORING WELL: MW103D

CLIENT: City of Guelph	DATE DRILLED: February 11, 2026	WATER LEVEL DATE: June 22, 2026	TOP OF PIPE: 331.09 masl
LOCATION: 14 Edinburgh Rd S, Guelph	DRILLER: Direct Environmental Drilling	BOREHOLE DIAMETER: 210 mm	GROUND ELEVATION: 330.23 masl
PROJECT NUMBER: COG14EDN	DRILL RIG: Diedrich D70	MECP WELL TAG#: A458538	NORTHING: 4820806.3
LOGGED BY: J. Gowing	DRILL METHOD: 108 mm HSA + Air Rotary		EASTING: 559964.1

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: SPT (N-value)	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
17									20 40 60 80
18									
					Bottom of borehole at 18.29 mbgs		311.94 / 18.29	311.94 / 18.29	
19									
20									
21									
22									
23									

Notes:
1. Information to be used for interpretation of environmental conditions only

DRAFT
7/26/2026

Prepared by: AM
Reviewed by: TM

Jacobs Consultancy Canada Inc.

MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

RECORD OF MONITORING WELL: MW104

CLIENT: City of Guelph	DATE DRILLED: May 8, 2025	WATER LEVEL DATE: June 22, 2026	TOP OF PIPE: 328.43 masl
LOCATION: 14 Edinburgh Rd S, Guelph	DRILLER: Aardvark Drilling	BOREHOLE DIAMETER: 279 mm	GROUND ELEVATION: 328.50 masl
PROJECT NUMBER: COG14EDN	DRILL RIG: CME 75	MECP WELL TAG#:	NORTHING: 4820784.1
LOGGED BY: J. Gowing	DRILL METHOD: 257 mm HSA		EASTING: 559955.6

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: SPT (N-value)	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
										20 40 60 80
0	33	SS1	8	Metals & Inorg. PHCs VOCs PAHs (14:00) (0.61-1.22)	**FILL:** Sand, dark brown, moist, fine to medium grained, loose, some gravel, some rootlets - dry, no rootlets below 0.15 mbgs			328.20 0.30 328.04 0.46 327.89 0.61	Flushmount casing secured in concrete, -0.07 m stick up Bentonite seal #2 silica sand filter pack 50 mm diameter SCH 40 PVC pipe #10-slot well screen	0.1
1	29	SS2	42		**FILL:** Sandy Silt, medium brown, moist to saturated, fine to medium grained, hard, some clay, trace gravel - very stiff below 1.52 mbgs		327.74 0.76			0.1
2	38	SS3	24		**SANDY SILT TILL:** Medium to dark brown, moist to dry, fine to medium grained, very stiff, some gravel - dry, hard below 2.29 mbgs		326.67 1.83	326.37 2.13	326.60 masl	0.1
	40	SS4	82							0.1
3					Bottom of borehole at 2.80 mbgs		325.70 2.80	325.70 2.80		
4										
5										
6										
7										

Notes:
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DRAFT
7/26/2026

Prepared by: AM
Reviewed by: TM

Jacobs Consultancy Canada Inc.

MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

Jacobs

RECORD OF MONITORING WELL: MW104D

CLIENT: City of Guelph	DATE DRILLED: February 13, 2026	WATER LEVEL DATE: June 22, 2026	TOP OF PIPE: 329.32 masl
LOCATION: 14 Edinburgh Rd S, Guelph	DRILLER: Direct Environmental Drilling	BOREHOLE DIAMETER: 210 mm	GROUND ELEVATION: 328.45 masl
PROJECT NUMBER: COG14EDN	DRILL RIG: Diedrich D70	MECP WELL TAG#: A458535	NORTHING: 4820782.0
LOGGED BY: K. Coban	DRILL METHOD: 108 mm HSA + Air Rotary		EASTING: 559953.6

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: SPT (N-value)	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
								328.45 / 0.00	20 40 60 80
	40	SS1	14		**FILL:** Sand, dark brown, moist, medium grained, loose, some silt, trace clay, frequent organic inclusions and rootlets - dry, no rootlets below 0.15 mbgs			328.15 / 0.30 Bentonite seal	0.5
							327.69 / 0.76		
1	29	SS2	32		**FILL:** Silty Sand, brown, moist, medium grained, dense, trace clay, trace gravel				1.0
							326.93 / 1.52		
	125	SS3	50+/ 15cm		**SILTY SAND TILL:** Brown, moist, medium to coarse grained, very dense, trace clay, some gravel				0.9
2									
	125	SS4	50+/ 13cm						0.6
3									
	60	SS5	50+/ 8cm						1.1
4									
	56	SS6	50+/ 14cm						1.0
5									
6									
	65	SS7	50+/ 14cm						1.4
7									
	81	SS8	50+/ 5cm						1.0

Monument casing secured in concrete, 0.87 m stick up

Notes:
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7/26/2026

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MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

RECORD OF MONITORING WELL: MW104D

CLIENT: City of Guelph	DATE DRILLED: February 13, 2026	WATER LEVEL DATE: June 22, 2026	TOP OF PIPE: 329.32 masl
LOCATION: 14 Edinburgh Rd S, Guelph	DRILLER: Direct Environmental Drilling	BOREHOLE DIAMETER: 210 mm	GROUND ELEVATION: 328.45 masl
PROJECT NUMBER: COG14EDN	DRILL RIG: Diedrich D70	MECP WELL TAG#: A458535	NORTHING: 4820782.0
LOGGED BY: K. Coban	DRILL METHOD: 108 mm HSA + Air Rotary		EASTING: 559953.6

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: SPT (N-value)	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
9	100	SS9	50+/ 0cm		- till mixed with weathered light grey bedrock, weathered bedrock contact at approximately 9.27 mbgs, switched to air rotary		319.18 / 9.27	319.18 / 9.27	102 mm diameter corehole	0.3
					GUELPH FORMATION DOLOSTONE: Light grey to grey brown					
10										
11										
12									316.50 masl	
13								315.34 / 13.11	Silica sand filter pack	
								314.73 / 13.72	50 mm diameter SCH 40 PVC pipe #10-slot well screen	
14										
15										

Notes:
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MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

Jacobs

RECORD OF MONITORING WELL: MW104D

CLIENT: City of Guelph
LOCATION: 14 Edinburgh Rd S, Guelph
PROJECT NUMBER: COG14EDN
LOGGED BY: K. Coban

DATE DRILLED: February 13, 2026
DRILLER: Direct Environmental Drilling
DRILL RIG: Diedrich D70
DRILL METHOD: 108 mm HSA + Air Rotary

WATER LEVEL DATE: June 22, 2026
BOREHOLE DIAMETER: 210 mm
MECP WELL TAG#: A458535

TOP OF PIPE: 329.32 masl
GROUND ELEVATION: 328.45 masl
NORTHING: 4820782.0
EASTING: 559953.6

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: SPT (N-value)	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
										20 40 60 80
							311.69 / 16.76	311.69 / 16.76		
					Bottom of borehole at 16.76 mbgs					
17										
18										
19										
20										
21										
22										
23										

Notes:
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DRAFT
7/26/2026

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MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

Jacobs

RECORD OF MONITORING WELL: MW105D

CLIENT: City of Guelph	DATE DRILLED: February 10, 2026	WATER LEVEL DATE: June 22, 2026	TOP OF PIPE: 329.42 masl
LOCATION: 14 Edinburgh Rd S, Guelph	DRILLER: Direct Environmental Drilling	BOREHOLE DIAMETER: 210 mm	GROUND ELEVATION: 328.39 masl
PROJECT NUMBER: COG14EDN	DRILL RIG: Diedrich D70	MECP WELL TAG#: A458556	NORTHING: 4820782.2
LOGGED BY: J. Gowing	DRILL METHOD: 108 mm HSA + Air Rotary		EASTING: 559991.6

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: SPT (N-value)	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
							328.39	328.39 0.00	20 40 60 80
	27	SS1	11		**FILL:** Sand, dark brown, medium grained, moist, loose, some gravel, some rootlets - no rootlets below 0.20 mbgs			328.09 0.30	0.1
1	21	SS2	1		- very loose below 0.76 mbgs		327.17		0.0
					FILL: Sand and Silt, brown, moist, very loose, trace gravel		1.22		
2	35	SS3	46		- hard below 1.52 mbgs				0.3
					SANDY SILT TILL: Brown, dry to moist, hard		326.10 2.29		
3	31	SS4	64						0.1
	29	SS5	66						0.3
4									
5	31	SS6	40		- moist below 4.57 mbgs				0.3
6									
	50	SS7	50+/ 8 cm						1.3
7									
	55	SS8	50+/ 10cm						0.4

Monument casing secured in concrete, 1.03 m stick up

Bentonite seal

Notes:
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DRAFT
7/26/2026

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Reviewed by: TM

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MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

Jacobs

RECORD OF MONITORING WELL: MW105D

CLIENT: City of Guelph	DATE DRILLED: February 10, 2026	WATER LEVEL DATE: June 22, 2026	TOP OF PIPE: 329.42 masl
LOCATION: 14 Edinburgh Rd S, Guelph	DRILLER: Direct Environmental Drilling	BOREHOLE DIAMETER: 210 mm	GROUND ELEVATION: 328.39 masl
PROJECT NUMBER: COG14EDN	DRILL RIG: Diedrich D70	MECP WELL TAG#: A458556	NORTHING: 4820782.2
LOGGED BY: J. Gowing	DRILL METHOD: 108 mm HSA + Air Rotary		EASTING: 559991.6

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: SPT (N-value)	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
9										20 40 60 80
	0	SS9	50+/ 0cm		- 8 cm seam of saturated coarse grained gravel at 8.23 mbgs - weathered bedrock contact at approximately 9.22 mbgs, switched to air rotary **GUELPH FORMATION DOLOSTONE:** Light grey to grey brown		319.17 9.22	319.17 9.22	102 mm diameter corehole	
10										
11										
12									316.02 masl	
13								314.98 13.41	Silica sand filter pack	
								314.67 13.72	50 mm diameter SCH 40 PVC pipe #10-slot well screen	
14										
15										

Notes:
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7/26/2026

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Reviewed by: TM

Jacobs Consultancy Canada Inc.

MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

Jacobs

RECORD OF MONITORING WELL: MW105D

CLIENT: City of Guelph
LOCATION: 14 Edinburgh Rd S, Guelph
PROJECT NUMBER: COG14EDN
LOGGED BY: J. Gowing

DATE DRILLED: February 10, 2026
DRILLER: Direct Environmental Drilling
DRILL RIG: Diedrich D70
DRILL METHOD: 108 mm HSA + Air Rotary

WATER LEVEL DATE: June 22, 2026
BOREHOLE DIAMETER: 210 mm
MECP WELL TAG#: A458556

TOP OF PIPE: 329.42 masl
GROUND ELEVATION: 328.39 masl
NORTHING: 4820782.2
EASTING: 559991.6

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: SPT (N-value)	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
										20 40 60 80
							311.63 / 16.76	311.63 / 16.76		
					Bottom of borehole at 16.76 mbgs					
17										
18										
19										
20										
21										
22										
23										

Notes:
1. Information to be used for interpretation of environmental conditions only

DRAFT
7/26/2026

Prepared by: AM
Reviewed by: TM

Jacobs Consultancy Canada Inc.

MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

Jacobs

RECORD OF MONITORING WELL: MW106D

CLIENT: City of Guelph	DATE DRILLED: February 10, 2026	WATER LEVEL DATE: June 22, 2026	TOP OF PIPE: 330.52 masl
LOCATION: 14 Edinburgh Rd S, Guelph	DRILLER: Direct Environmental Drilling	BOREHOLE DIAMETER: 210 mm	GROUND ELEVATION: 329.66 masl
PROJECT NUMBER: COG14EDN	DRILL RIG: Diedrich D70	MECP WELL TAG#: A458557	NORTHING: 4820792.0
LOGGED BY: J. Gowing	DRILL METHOD: 108 mm HSA + Air Rotary		EASTING: 559973.6

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: SPT (N-value)	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
								329.66 / 0.00	20 40 60 80
	46	SS1			**FILL:** Sand, dark brown, medium grained, moist, loose, some gravel, some rootlets - no rootlets below 0.20 mbgs			329.36 / 0.30 Bentonite seal	0.4
							328.90 / 0.76		
1	71	SS2			**FILL:** Sand and Silt, dry to moist, some gravel				0.4
	96	SS3							0.9
2									
	67	SS4			- moist to wet, compact below 2.29 mbgs				0.6
3							326.61 / 3.05		
	58	SS5			**SANDY SILT TILL:** Brown, moist, hard, some gravel				0.6
4									
	25	SS6							0.6
5									
6									
	67	SS7							1.1
7									
	25	SS8			- medium brown, wet, some coarse gravel below 7.62 mbgs				1.0

Monument casing secured in concrete, 0.86 m stick up

Notes:
1. Information to be used for interpretation of environmental conditions only

DRAFT
7/26/2026

Prepared by: AM
Reviewed by: TM

Jacobs Consultancy Canada Inc.

MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

Jacobs

RECORD OF MONITORING WELL: MW106D

CLIENT: City of Guelph	DATE DRILLED: February 10, 2026	WATER LEVEL DATE: June 22, 2026	TOP OF PIPE: 330.52 masl
LOCATION: 14 Edinburgh Rd S, Guelph	DRILLER: Direct Environmental Drilling	BOREHOLE DIAMETER: 210 mm	GROUND ELEVATION: 329.66 masl
PROJECT NUMBER: COG14EDN	DRILL RIG: Diedrich D70	MECP WELL TAG#: A458557	NORTHING: 4820792.0
LOGGED BY: J. Gowing	DRILL METHOD: 108 mm HSA + Air Rotary		EASTING: 559973.6

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: SPT (N-value)	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
9					- dry to moist, some fine grained gravel below 9.14 mbgs					20 40 60 80
	25	SS9								0.9
10	25	SS10								0.9
					- weathered bedrock contact at approximately 10.36 mbgs, switched to air rotary		319.30 / 10.36	319.30 / 10.36	102 mm diameter corehole	
11					**GUELPH FORMATION DOLOSTONE:** Light grey to grey brown					
12										
13										
									315.96 masl	
14										
								314.72 / 14.94	Silica sand filter pack	
15								314.42 / 15.24	50 mm diameter SCH 40 PVC pipe #10-slot well screen	

Notes:
1. Information to be used for interpretation of environmental conditions only

DRAFT
7/26/2026

Prepared by: AM

Reviewed by: TM

Jacobs Consultancy Canada Inc.

MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

Jacobs

RECORD OF MONITORING WELL: MW106D

CLIENT: City of Guelph	DATE DRILLED: February 10, 2026	WATER LEVEL DATE: June 22, 2026	TOP OF PIPE: 330.52 masl
LOCATION: 14 Edinburgh Rd S, Guelph	DRILLER: Direct Environmental Drilling	BOREHOLE DIAMETER: 210 mm	GROUND ELEVATION: 329.66 masl
PROJECT NUMBER: COG14EDN	DRILL RIG: Diedrich D70	MECP WELL TAG#: A458557	NORTHING: 4820792.0
LOGGED BY: J. Gowing	DRILL METHOD: 108 mm HSA + Air Rotary		EASTING: 559973.6

DEPTH (mbgs)	SAMPLE: Recovery (%)	SAMPLE: TYPE	SAMPLE: SPT (N-value)	SAMPLE: Parameters Analyzed (time) (sample interval mbgs)	SOIL DESCRIPTION	STRATA PLOT	(masl) ELEV. / DEPTH (mbgs)	BOREHOLE COMPLETION DETAILS: (masl) ELEV. / DEPTH (mbgs)	ORGANIC VAPOUR READING (ppm) 10.6 eV PID BULB
17									20 40 60 80
18									
					Bottom of borehole at 18.29 mbgs		311.37 / 18.29	311.37 / 18.29	
19									
20									
21									
22									
23									

Notes:
1. Information to be used for interpretation of environmental conditions only

DRAFT
7/26/2026

Prepared by: AM
Reviewed by: TM

Jacobs Consultancy Canada Inc.

MASTER_MW_FT2M_SS_MASL; COG14EDN_20260722.GPJ; MASTER_LIBRARY_R08 (4).GLB; ; 7/26/26

Appendix D
Investigation-Derived Waste Management

To be included in final submission.

Appendix E
Hydrogeological Investigation Measures

To be included in final submission.

Appendix F
Laboratory Certificates of Analysis

Table F-1. Samples and Laboratory Certificates of Approval

14 Edinburgh Street South, Guelph, Ontario

Location	Sample Name	Sample Date	Matrix	Lab SDG
MW101	MW101-5-7	5/5/2025	SO	WT2510976
MW101	MW101-15-17	5/5/2025	SO	WT2510976
MW101	MW101-23-25	5/5/2025	SO	WT2510976
MW102	MW102-2-4	5/5/2025	SO	WT2510976
MW102	MW102-8-10	5/5/2025	SO	WT2510976
MW103	MW103-1-2	5/8/2025	SO	WT2510976
MW103	MW103-15-17	5/8/2025	SO	WT2510976
MW103	MW105-15-17	5/8/2025	SO	WT2510976
MW104	MW104-2-4	5/8/2025	SO	WT2510976
COMP	50-01-05122025	5/12/2025	SO	WT2511404
COMP	50-02-05122025	5/12/2025	SO	WT2511404
MW102	MW102-05122025	5/12/2025	GW	WT2511335
MW102	DUP01-05122025	5/12/2025	GW	WT2511335
MW103	MW103-05122025	5/12/2025	GW	WT2511335
MW101	MW101-05132025	5/13/2025	GW	WT2511458
MW104	MW104-20250530	5/30/2025	GW	WT2513613
MW104	FD-20250530	5/30/2025	GW	WT2513613
MW102	MW102-03092026	3/9/2026	GW	WT2605588
MW102	FD-20250530	3/9/2026	GW	WT2605588
MW103D	MW103D-03102026	3/10/2026	GW	WT2605588
MW104	MW104-03102026	3/10/2026	GW	WT2605588
MW106D	MW106D-03102026	3/10/2026	GW	WT2605588
MW101	MW101-03122026	3/12/2026	GW	WT2605588
MW103	MW103-03122026	3/12/2026	GW	WT2605588
MW104D	MW104D-03122026	3/12/2026	GW	WT2605588
MW105D	MW105D-03122026	3/12/2026	GW	WT2605588
MW103D	MW-103D-20260622	6/22/2026	GW	WT2615982
MW103D	FD1-20260622	6/22/2026	GW	WT2615982
MW104D	MW-104D-20260622	6/22/2026	GW	WT2615982
MW105D	MW-105D-20260622	6/22/2026	GW	WT2615982
MW106D	MW-106D-20260622	6/22/2026	GW	WT2615982
MW103D	MW103D-20260623	6/23/2026	GW	WT2617951
MW104D	MW104D-20260623	6/23/2026	GW	WT2617951
MW105D	MW105D-20260623	6/23/2026	GW	WT2617951
MW105D	FD2-20260623	6/23/2026	GW	WT2617951
MW106D	MW106D-20260623	6/23/2026	GW	WT2617951

Notes
SO = soil
COMP = composite sample; collected for grain size analysis
GW = groundwater
SDG = sample delivery group

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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	:	**WT2510976**		
Client	:	**Jacobs Consultancy Canada Inc.**	Laboratory	: ALS Environmental - Waterloo
Contact	:	Jon Gowing	Account Manager	: Mathy Mahadeva
Address	:	165 King St West Suite 201 Kitchener Ontario Canada N2G 1A7	Address	: 60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	519 579 3500	Telephone	: +1 519 886 6910
Project	:	COG14EDN	Date Samples Received	: 09-May-2025 16:25
PO	:	----	Date Analysis Commenced	: 12-May-2025
C-O-C number	:	23-1117375	Issue Date	: 29-May-2025 11:14
Sampler	:	Jon Gowing		
Site	:	----		
Quote number	:	Ontario Jacobs Standing Offer 2025		
No. of samples received	:	9		
No. of samples analysed	:	9		

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*
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Andrea Armstrong	Department Manager - Air Quality and Volatiles	VOC, Waterloo, Ontario
Dan Gebert	Supervisor - Metals Mercury & Speciation	Metals, Burnaby, British Columbia
Danielle Gravel	Supervisor - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
David Tremblett	VOC Section Supervisor	VOC, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Metals, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Inorganics, Waterloo, Ontario
Niral Patel		Centralized Prep, Waterloo, Ontario

Summary of Guideline Breaches by Sample

SampleID/Client ID	Matrix	Analyte	Analyte Summary	Guideline	Category	Result	Limit
MW101-5-7	Soil/Solid	Conductivity (1:2 leachate)		ON153/04	T2-A-C	1.10 mS/cm	0.7 mS/cm
	Soil/Solid	Sodium adsorption ratio [SAR]		ON153/04	T2-A-C	16.4 -	5 -
	Soil/Solid	Conductivity (1:2 leachate)		ON153/04	T2-A-F	1.10 mS/cm	0.7 mS/cm
	Soil/Solid	Sodium adsorption ratio [SAR]		ON153/04	T2-A-F	16.4 -	5 -
	Soil/Solid	Sodium adsorption ratio [SAR]		ON153/04	T2-ICC-C	16.4 -	12 -
	Soil/Solid	Sodium adsorption ratio [SAR]		ON153/04	T2-ICC-F	16.4 -	12 -
	Soil/Solid	Conductivity (1:2 leachate)		ON153/04	T2-RPI-C	1.10 mS/cm	0.7 mS/cm
	Soil/Solid	Sodium adsorption ratio [SAR]		ON153/04	T2-RPI-C	16.4 -	5 -
	Soil/Solid	Conductivity (1:2 leachate)		ON153/04	T2-RPI-F	1.10 mS/cm	0.7 mS/cm
	Soil/Solid	Sodium adsorption ratio [SAR]		ON153/04	T2-RPI-F	16.4 -	5 -
MW101-15-17	Soil/Solid	Sodium adsorption ratio [SAR]		ON153/04	T2-A-C	7.33 -	5 -
	Soil/Solid	Sodium adsorption ratio [SAR]		ON153/04	T2-A-F	7.33 -	5 -
	Soil/Solid	Sodium adsorption ratio [SAR]		ON153/04	T2-RPI-C	7.33 -	5 -
	Soil/Solid	Sodium adsorption ratio [SAR]		ON153/04	T2-RPI-F	7.33 -	5 -

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.

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 units
%	percent
mg/kg	milligrams per kilogram
mg/L	milligrams per litre
mS/cm	millisiemens per centimetre
pH units	pH units
µg/kg	micrograms per kilogram

>: greater than.
<: less than.

Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
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.

Workorder Comments

RRQC: Silver recovery outside of ALS DQOs due to issue with standard. Reported data was not affected by this issue.

Qualifiers

Qualifier	Description
M	Peak has been manually integrated.

Analytical Results Evaluation

Matrix: Soil/Solid			Client sample ID	MW102-2-4	MW102-8-10	MW101-5-7	MW101-15-17	MW101-23-25	MW103-1-2	MW103-15-17
			Client sampling date / time	05-May-2025 10:55	05-May-2025 11:05	05-May-2025 14:05	05-May-2025 14:45	05-May-2025 15:10	08-May-2025 11:05	08-May-2025 11:20
			Sub-Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
Analyte	CAS Number	Method/Lab	Unit	WT2510976-001	WT2510976-002	WT2510976-003	WT2510976-004	WT2510976-005	WT2510976-006	WT2510976-007
				Result	Result	Result	Result	Result	Result	Result
Physical Tests										
Conductivity (1:2 leachate)	----	E100-L/WT	mS/cm	0.168	0.155	1.10	0.439	0.352	0.118	0.103
Moisture	----	E144/WT	%	4.07	7.62	8.81	6.80	6.19	3.94	10.9
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	pH units	7.98	8.03	7.97	8.07	8.14	7.97	8.03
Cyanides										
Cyanide, weak acid dissociable	----	E336A/WT	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fixed-Ratio Extractables										
Calcium, soluble ion content	7440-70-2	E484/WT	mg/L	1.30	3.73	7.74	3.06	5.98	3.25	2.38
Magnesium, soluble ion content	7439-95-4	E484/WT	mg/L	0.98	1.36	1.24	1.05	3.56	1.06	0.80
Sodium, soluble ion content	17341-25-2	E484/WT	mg/L	13.2	4.87	186	58.3	32.0	1.15	0.96
Sodium adsorption ratio [SAR]	----	E484/WT	-	2.13	0.55	16.4	7.33	2.56	0.14	0.14
Metals										
Antimony	7440-36-0	E440C/WT	mg/kg	0.11	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Arsenic	7440-38-2	E440C/WT	mg/kg	2.83	2.23	2.55	1.84	2.22	2.44	2.08
Barium	7440-39-3	E440C/WT	mg/kg	16.7	32.4	26.4	21.6	28.2	10.2	16.3
Beryllium	7440-41-7	E440C/WT	mg/kg	0.18	0.26	0.22	0.19	0.22	0.14	0.16
Boron	7440-42-8	E440C/WT	mg/kg	6.2	7.5	5.8	5.7	6.9	5.8	5.2
Boron, hot water soluble	7440-42-8	E487/WT	mg/kg	<0.10	<0.10	<0.10	0.11	0.17	<0.10	<0.10
Cadmium	7440-43-9	E440C/WT	mg/kg	0.282	<0.200	<0.200	<0.200	<0.200	0.273	<0.200
Chromium	7440-47-3	E440C/WT	mg/kg	8.59	12.0	9.38	15.2	34.3	6.65	7.98

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	MW102-2-4	MW102-8-10	MW101-5-7	MW101-15-17	MW101-23-25	MW103-1-2	MW103-15-17
				Client sampling date / time	05-May-2025 10:55	05-May-2025 11:05	05-May-2025 14:05	05-May-2025 14:45	05-May-2025 15:10	08-May-2025 11:05	08-May-2025 11:20
				Sub-Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
					WT2510976-001	WT2510976-002	WT2510976-003	WT2510976-004	WT2510976-005	WT2510976-006	WT2510976-007
					Result	Result	Result	Result	Result	Result	Result
Metals											
Cobalt	7440-48-4	E440C/WT	mg/kg		2.47	3.79	3.16	2.75	3.54	1.96	3.05
Copper	7440-50-8	E440C/WT	mg/kg		10.5	10.1	11.6	9.76	11.8	6.78	9.10
Lead	7439-92-1	E440C/WT	mg/kg		21.2	9.14	9.13	9.05	9.26	18.4	10.8
Mercury	7439-97-6	E510C/WT	mg/kg		0.0121	0.0065	0.0076	0.0056	0.0061	0.0071	0.0056
Molybdenum	7439-98-7	E440C/WT	mg/kg		0.38	0.42	0.22	0.23	0.53	0.69	0.28
Nickel	7440-02-0	E440C/WT	mg/kg		5.41	8.08	6.58	5.76	7.97	4.41	5.83
Selenium	7782-49-2	E440C/WT	mg/kg		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Silver	7440-22-4	E440C/WT	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Thallium	7440-28-0	E440C/WT	mg/kg		0.060	0.070	0.052	0.052	0.058	<0.050	0.056
Uranium	7440-61-1	E440C/WT	mg/kg		0.432	0.413	0.403	0.375	0.411	0.423	0.390
Vanadium	7440-62-2	E440C/WT	mg/kg		15.0	18.6	16.4	14.7	18.4	13.1	16.1
Zinc	7440-66-6	E440C/WT	mg/kg		147	<100	<100	<100	<100	132	<100
Speciated Metals											
Chromium, hexavalent [Cr VI]	18540-29-9	E532/WT	mg/kg		0.10	<0.10	<0.10	<0.10	0.13	0.14	<0.10
Methylmercury (as MeHg)	22967-92-6	E538/VA	µg/kg		<0.050 M	<0.050	<0.050	<0.050 M	<0.050	<0.050	<0.050
Volatile Organic Compounds											
Acetone	67-64-1	E611D/WT	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Benzene	71-43-2	E611D/WT	mg/kg		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromodichloromethane	75-27-4	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bromoform	75-25-2	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	MW102-2-4	MW102-8-10	MW101-5-7	MW101-15-17	MW101-23-25	MW103-1-2	MW103-15-17
				Client sampling date / time	05-May-2025 10:55	05-May-2025 11:05	05-May-2025 14:05	05-May-2025 14:45	05-May-2025 15:10	08-May-2025 11:05	08-May-2025 11:20
				Sub-Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
					WT2510976-001	WT2510976-002	WT2510976-003	WT2510976-004	WT2510976-005	WT2510976-006	WT2510976-007
					Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds											
Bromomethane	74-83-9	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbon tetrachloride	56-23-5	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorobenzene	108-90-7	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chloroform	67-66-3	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibromochloromethane	124-48-1	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibromoethane, 1,2-	106-93-4	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,2-	95-50-1	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,3-	541-73-1	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorobenzene, 1,4-	106-46-7	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichlorodifluoromethane	75-71-8	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,1-	75-34-3	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethane, 1,2-	107-06-2	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, 1,1-	75-35-4	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, cis-1,2-	156-59-2	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloroethylene, trans-1,2-	156-60-5	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloromethane	75-09-2	E611D/WT	mg/kg		<0.045	<0.045	<0.045	<0.045	<0.045	<0.045	<0.045
Dichloropropane, 1,2-	78-87-5	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloropropylene, cis-1,3-	10061-01-5	E611D/WT	mg/kg		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Dichloropropylene, cis+trans-1,3-	542-75-6	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dichloropropylene, trans-1,3-	10061-02-6	E611D/WT	mg/kg		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	MW102-2-4	MW102-8-10	MW101-5-7	MW101-15-17	MW101-23-25	MW103-1-2	MW103-15-17
				Client sampling date / time	05-May-2025 10:55	05-May-2025 11:05	05-May-2025 14:05	05-May-2025 14:45	05-May-2025 15:10	08-May-2025 11:05	08-May-2025 11:20
				Sub-Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
					WT2510976-001	WT2510976-002	WT2510976-003	WT2510976-004	WT2510976-005	WT2510976-006	WT2510976-007
					Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds											
Ethylbenzene	100-41-4	E611D/WT	mg/kg		<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
Hexane, n-	110-54-3	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl ethyl ketone [MEK]	78-93-3	E611D/WT	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl isobutyl ketone [MIBK]	108-10-1	E611D/WT	mg/kg		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WT	mg/kg		<0.040	<0.040	<0.040	<0.040	<0.040	<0.040	<0.040
Styrene	100-42-5	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Tetrachloroethylene	127-18-4	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Toluene	108-88-3	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,1-	71-55-6	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethane, 1,1,2-	79-00-5	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trichloroethylene	79-01-6	E611D/WT	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Trichlorofluoromethane	75-69-4	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Vinyl chloride	75-01-4	E611D/WT	mg/kg		<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Xylene, m+p-	179601-23-1	E611D/WT	mg/kg		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Xylene, o-	95-47-6	E611D/WT	mg/kg		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Xylenes, total	1330-20-7	E611D/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
BTEX, total	----	E611D/WT	mg/kg		<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	MW102-2-4	MW102-8-10	MW101-5-7	MW101-15-17	MW101-23-25	MW103-1-2	MW103-15-17
				Client sampling date / time	05-May-2025 10:55	05-May-2025 11:05	05-May-2025 14:05	05-May-2025 14:45	05-May-2025 15:10	08-May-2025 11:05	08-May-2025 11:20
				Sub-Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
					WT2510976-001	WT2510976-002	WT2510976-003	WT2510976-004	WT2510976-005	WT2510976-006	WT2510976-007
					Result	Result	Result	Result	Result	Result	Result
Hydrocarbons											
F1 (C6-C10)	----	E581.F1/WT	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
F2 (C10-C16)	----	E601.SG-L/WT	mg/kg		<10	<10	<10	<10	<10	<10	<10
F2-Naphthalene	----	EC600/WT	mg/kg		<25	<25	<25	<25	<25	<25	<25
F3 (C16-C34)	----	E601.SG-L/WT	mg/kg		<50	<50	<50	<50	<50	<50	<50
F3-PAH	n/a	EC600/WT	mg/kg		<50	<50	<50	<50	<50	<50	<50
F4 (C34-C50)	----	E601.SG-L/WT	mg/kg		<50	<50	<50	<50	<50	<50	<50
F1-BTEX	----	EC580/WT	mg/kg		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Hydrocarbons, total (C6-C50)	n/a	EC581/WT	mg/kg		<80	<80	<80	<80	<80	<80	<80
Chromatogram to baseline at nC50	n/a	E601.SG-L/WT	-		YES	YES	YES	YES	YES	YES	YES
Hydrocarbons Surrogates											
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG-L/WT	%		85.0	80.1	80.4	80.4	82.2	79.5	80.2
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WT	%		101	105	109	111	104	114	104
Volatile Organic Compounds Surrogates											
Bromofluorobenzene, 4-	460-00-4	E611D/WT	%		98.2	98.6	102	100	97.0	104	101
Difluorobenzene, 1,4-	540-36-3	E611D/WT	%		97.8	104	107	108	105	110	106
Polycyclic Aromatic Hydrocarbons											
Acenaphthene	83-32-9	E641A/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Acenaphthylene	208-96-8	E641A/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Anthracene	120-12-7	E641A/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benz(a)anthracene	56-55-3	E641A/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	MW102-2-4	MW102-8-10	MW101-5-7	MW101-15-17	MW101-23-25	MW103-1-2	MW103-15-17
				Client sampling date / time	05-May-2025 10:55	05-May-2025 11:05	05-May-2025 14:05	05-May-2025 14:45	05-May-2025 15:10	08-May-2025 11:05	08-May-2025 11:20
				Sub-Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil
					WT2510976-001	WT2510976-002	WT2510976-003	WT2510976-004	WT2510976-005	WT2510976-006	WT2510976-007
					Result	Result	Result	Result	Result	Result	Result
Polycyclic Aromatic Hydrocarbons											
Benzo(a)pyrene	50-32-8	E641A/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(b+j)fluoranthene	n/a	E641A/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(g,h,i)perylene	191-24-2	E641A/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(k)fluoranthene	207-08-9	E641A/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chrysene	218-01-9	E641A/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dibenz(a,h)anthracene	53-70-3	E641A/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluoranthene	206-44-0	E641A/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Fluorene	86-73-7	E641A/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methylnaphthalene, 1-	90-12-0	E641A/WT	mg/kg		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Methylnaphthalene, 1+2-	----	E641A/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methylnaphthalene, 2-	91-57-6	E641A/WT	mg/kg		<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Naphthalene	91-20-3	E641A/WT	mg/kg		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Phenanthrene	85-01-8	E641A/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Pyrene	129-00-0	E641A/WT	mg/kg		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Polycyclic Aromatic Hydrocarbons Surrogates											
Acridine-d9	34749-75-2	E641A/WT	%		98.1	95.3	97.4	94.6	96.6	94.8	94.2
Chrysene-d12	1719-03-5	E641A/WT	%		102	104	112	115	115	110	124
Naphthalene-d8	1146-65-2	E641A/WT	%		97.7	95.8	97.5	95.4	97.1	95.9	97.0
Phenanthrene-d10	1517-22-2	E641A/WT	%		101	99.0	100	98.0	99.9	99.1	101

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

Matrix: Soil/Solid			Client sample ID	MW105-15-17	MW104-2-4	----	----	----	----	----
			Client sampling date / time	08-May-2025 11:30	08-May-2025 14:00	----	----	----	----	----
			Sub-Matrix	Soil	Soil	----	----	----	----	----
Analyte	*CAS Number*	*Method/Lab*	*Unit*	**WT2510976-008**	**WT2510976-009**	**----**	**----**	**----**	**----**	**----**
				Result	Result	----	----	----	----	----
Physical Tests										
Conductivity (1:2 leachate)	----	E100-L/WT	mS/cm	0.108	0.120	----	----	----	----	----
Moisture	----	E144/WT	%	11.3	9.20	----	----	----	----	----
pH (1:2 soil:CaCl2-aq)	----	E108A/WT	pH units	8.04	7.99	----	----	----	----	----
Cyanides										
Cyanide, weak acid dissociable	----	E336A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Fixed-Ratio Extractables										
Calcium, soluble ion content	7440-70-2	E484/WT	mg/L	2.56	1.51	----	----	----	----	----
Magnesium, soluble ion content	7439-95-4	E484/WT	mg/L	0.86	0.59	----	----	----	----	----
Sodium, soluble ion content	17341-25-2	E484/WT	mg/L	1.18	5.73	----	----	----	----	----
Sodium adsorption ratio [SAR]	----	E484/WT	-	0.16	1.00	----	----	----	----	----
Metals										
Antimony	7440-36-0	E440C/WT	mg/kg	<0.10	<0.10	----	----	----	----	----
Arsenic	7440-38-2	E440C/WT	mg/kg	1.99	1.84	----	----	----	----	----
Barium	7440-39-3	E440C/WT	mg/kg	16.0	21.7	----	----	----	----	----
Beryllium	7440-41-7	E440C/WT	mg/kg	0.16	0.20	----	----	----	----	----
Boron	7440-42-8	E440C/WT	mg/kg	5.0	5.4	----	----	----	----	----
Boron, hot water soluble	7440-42-8	E487/WT	mg/kg	<0.10	<0.10	----	----	----	----	----
Cadmium	7440-43-9	E440C/WT	mg/kg	<0.200	<0.200	----	----	----	----	----
Chromium	7440-47-3	E440C/WT	mg/kg	7.97	8.05	----	----	----	----	----

Matrix: Soil/Solid

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	MW105-15-17	MW104-2-4	----	----	----	----	----
				Client sampling date / time	08-May-2025 11:30	08-May-2025 14:00	----	----	----	----	----
				Sub-Matrix	Soil	Soil	----	----	----	----	----
					WT2510976-008	WT2510976-009	----	----	----	----	----
					Result	Result	----	----	----	----	----
Metals											
Cobalt	7440-48-4	E440C/WT	mg/kg		2.87	3.06	----	----	----	----	----
Copper	7440-50-8	E440C/WT	mg/kg		8.61	8.12	----	----	----	----	----
Lead	7439-92-1	E440C/WT	mg/kg		10.7	8.72	----	----	----	----	----
Mercury	7439-97-6	E510C/WT	mg/kg		0.0057	0.0052	----	----	----	----	----
Molybdenum	7439-98-7	E440C/WT	mg/kg		0.28	0.22	----	----	----	----	----
Nickel	7440-02-0	E440C/WT	mg/kg		5.51	6.34	----	----	----	----	----
Selenium	7782-49-2	E440C/WT	mg/kg		<0.20	<0.20	----	----	----	----	----
Silver	7440-22-4	E440C/WT	mg/kg		<0.10	<0.10	----	----	----	----	----
Thallium	7440-28-0	E440C/WT	mg/kg		0.060	0.051	----	----	----	----	----
Uranium	7440-61-1	E440C/WT	mg/kg		0.403	0.380	----	----	----	----	----
Vanadium	7440-62-2	E440C/WT	mg/kg		16.0	15.5	----	----	----	----	----
Zinc	7440-66-6	E440C/WT	mg/kg		<100	<100	----	----	----	----	----
Speciated Metals											
Chromium, hexavalent [Cr VI]	18540-29-9	E532/WT	mg/kg		<0.10	<0.10	----	----	----	----	----
Methylmercury (as MeHg)	22967-92-6	E538/VA	µg/kg		<0.050 M	<0.050	----	----	----	----	----
Volatile Organic Compounds											
Acetone	67-64-1	E611D/WT	mg/kg		<0.50	<0.50	----	----	----	----	----
Benzene	71-43-2	E611D/WT	mg/kg		<0.0050	<0.0050	----	----	----	----	----
Bromodichloromethane	75-27-4	E611D/WT	mg/kg		<0.050	<0.050	----	----	----	----	----
Bromoform	75-25-2	E611D/WT	mg/kg		<0.050	<0.050	----	----	----	----	----

Matrix: Soil/Solid			Client sample ID	MW105-15-17	MW104-2-4	----	----	----	----	----
			Client sampling date / time	08-May-2025 11:30	08-May-2025 14:00	----	----	----	----	----
			Sub-Matrix	Soil	Soil	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	WT2510976-008	WT2510976-009	----	----	----	----	----
				Result	Result	----	----	----	----	----
Volatile Organic Compounds										
Bromomethane	74-83-9	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Carbon tetrachloride	56-23-5	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Chlorobenzene	108-90-7	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Chloroform	67-66-3	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Dibromochloromethane	124-48-1	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Dibromoethane, 1,2-	106-93-4	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Dichlorobenzene, 1,2-	95-50-1	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Dichlorobenzene, 1,3-	541-73-1	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Dichlorobenzene, 1,4-	106-46-7	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Dichlorodifluoromethane	75-71-8	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Dichloroethane, 1,1-	75-34-3	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Dichloroethane, 1,2-	107-06-2	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Dichloroethylene, 1,1-	75-35-4	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Dichloroethylene, cis-1,2-	156-59-2	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Dichloroethylene, trans-1,2-	156-60-5	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Dichloromethane	75-09-2	E611D/WT	mg/kg	<0.045	<0.045	----	----	----	----	----
Dichloropropane, 1,2-	78-87-5	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D/WT	mg/kg	<0.030	<0.030	----	----	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D/WT	mg/kg	<0.030	<0.030	----	----	----	----	----

Matrix: Soil/Solid			Client sample ID	MW105-15-17	MW104-2-4	----	----	----	----	----
			Client sampling date / time	08-May-2025 11:30	08-May-2025 14:00	----	----	----	----	----
			Sub-Matrix	Soil	Soil	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	WT2510976-008	WT2510976-009	----	----	----	----	----
				Result	Result	----	----	----	----	----
Volatile Organic Compounds										
Ethylbenzene	100-41-4	E611D/WT	mg/kg	<0.015	<0.015	----	----	----	----	----
Hexane, n-	110-54-3	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Methyl ethyl ketone [MEK]	78-93-3	E611D/WT	mg/kg	<0.50	<0.50	----	----	----	----	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D/WT	mg/kg	<0.50	<0.50	----	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WT	mg/kg	<0.040	<0.040	----	----	----	----	----
Styrene	100-42-5	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Tetrachloroethylene	127-18-4	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Toluene	108-88-3	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Trichloroethane, 1,1,1-	71-55-6	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Trichloroethane, 1,1,2-	79-00-5	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Trichloroethylene	79-01-6	E611D/WT	mg/kg	<0.010	<0.010	----	----	----	----	----
Trichlorofluoromethane	75-69-4	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Vinyl chloride	75-01-4	E611D/WT	mg/kg	<0.020	<0.020	----	----	----	----	----
Xylene, m+p-	179601-23-1	E611D/WT	mg/kg	<0.030	<0.030	----	----	----	----	----
Xylene, o-	95-47-6	E611D/WT	mg/kg	<0.030	<0.030	----	----	----	----	----
Xylenes, total	1330-20-7	E611D/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
BTEX, total	----	E611D/WT	mg/kg	<0.10	<0.10	----	----	----	----	----

Matrix: Soil/Solid			Client sample ID	MW105-15-17	MW104-2-4	----	----	----	----	----
			Client sampling date / time	08-May-2025 11:30	08-May-2025 14:00	----	----	----	----	----
			Sub-Matrix	Soil	Soil	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	WT2510976-008	WT2510976-009	----	----	----	----	----
				Result	Result	----	----	----	----	----
Hydrocarbons										
F1 (C6-C10)	----	E581.F1/WT	mg/kg	<5.0	<5.0	----	----	----	----	----
F2 (C10-C16)	----	E601.SG-L/WT	mg/kg	<10	<10	----	----	----	----	----
F2-Naphthalene	----	EC600/WT	mg/kg	<25	<25	----	----	----	----	----
F3 (C16-C34)	----	E601.SG-L/WT	mg/kg	<50	<50	----	----	----	----	----
F3-PAH	n/a	EC600/WT	mg/kg	<50	<50	----	----	----	----	----
F4 (C34-C50)	----	E601.SG-L/WT	mg/kg	<50	<50	----	----	----	----	----
F1-BTEX	----	EC580/WT	mg/kg	<5.0	<5.0	----	----	----	----	----
Hydrocarbons, total (C6-C50)	n/a	EC581/WT	mg/kg	<80	<80	----	----	----	----	----
Chromatogram to baseline at nC50	n/a	E601.SG-L/WT	-	YES	YES	----	----	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG-L/WT	%	80.7	84.1	----	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1/WT	%	106	117	----	----	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611D/WT	%	103	110	----	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611D/WT	%	108	115	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Acenaphthylene	208-96-8	E641A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Anthracene	120-12-7	E641A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Benz(a)anthracene	56-55-3	E641A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----

Matrix: Soil/Solid			Client sample ID	MW105-15-17	MW104-2-4	----	----	----	----	----
			Client sampling date / time	08-May-2025 11:30	08-May-2025 14:00	----	----	----	----	----
			Sub-Matrix	Soil	Soil	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	WT2510976-008	WT2510976-009	----	----	----	----	----
				Result	Result	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Benzo(a)pyrene	50-32-8	E641A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Chrysene	218-01-9	E641A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Fluoranthene	206-44-0	E641A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Fluorene	86-73-7	E641A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/WT	mg/kg	<0.030	<0.030	----	----	----	----	----
Methylnaphthalene, 1+2-	----	E641A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/WT	mg/kg	<0.030	<0.030	----	----	----	----	----
Naphthalene	91-20-3	E641A/WT	mg/kg	<0.010	<0.010	----	----	----	----	----
Phenanthrene	85-01-8	E641A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Pyrene	129-00-0	E641A/WT	mg/kg	<0.050	<0.050	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Acridine-d9	34749-75-2	E641A/WT	%	92.7	96.5	----	----	----	----	----
Chrysene-d12	1719-03-5	E641A/WT	%	123	127	----	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/WT	%	96.6	96.4	----	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/WT	%	98.7	99.5	----	----	----	----	----

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

Summary of Guideline Limits

Analyte	CAS Number	Unit	ON153/04 T2-A-C	ON153/04 T2-A-F	ON153/04 T2-ICC-C	ON153/04 T2-ICC-F	ON153/04 T2-RPI-C	ON153/04 T2-RPI-F	
Physical Tests									
Conductivity (1:2 leachate)		mS/cm	**0.7 mS/cm**	**0.7 mS/cm**	**1.4 mS/cm**	**1.4 mS/cm**	**0.7 mS/cm**	**0.7 mS/cm**	----
Moisture	----	%	----	----	----	----	----	----	----
pH (1:2 soil:CaCl2-aq)		pH units	----	----	----	----	----	----	----
Cyanides									
Cyanide, weak acid dissociable		mg/kg	**0.051 µg/g**	**0.051 µg/g**	**0.051 µg/g**	**0.051 µg/g**	**0.051 µg/g**	**0.051 µg/g**	----
Fixed-Ratio Extractables									
Calcium, soluble ion content	7440-70-2	mg/L	----	----	----	----	----	----	----
Magnesium, soluble ion content	7439-95-4	mg/L	----	----	----	----	----	----	----
Sodium, soluble ion content	17341-25-2	mg/L	----	----	----	----	----	----	----
Sodium adsorption ratio [SAR]		-	**5 -**	**5 -**	**12 -**	**12 -**	**5 -**	**5 -**	----
Metals									
Antimony	7440-36-0	mg/kg	**7.5 µg/g**	**7.5 µg/g**	**40 µg/g**	**50 µg/g**	**7.5 µg/g**	**7.5 µg/g**	----
Arsenic	7440-38-2	mg/kg	**11 µg/g**	**11 µg/g**	**18 µg/g**	**18 µg/g**	**18 µg/g**	**18 µg/g**	----
Barium	7440-39-3	mg/kg	**390 µg/g**	**390 µg/g**	**670 µg/g**	**670 µg/g**	**390 µg/g**	**390 µg/g**	----
Beryllium	7440-41-7	mg/kg	**4 µg/g**	**5 µg/g**	**8 µg/g**	**10 µg/g**	**4 µg/g**	**5 µg/g**	----
Boron	7440-42-8	mg/kg	**120 µg/g**	**120 µg/g**	**120 µg/g**	**120 µg/g**	**120 µg/g**	**120 µg/g**	----
Boron, hot water soluble	7440-42-8	mg/kg	**1.5 µg/g**	**1.5 µg/g**	**2 µg/g**	**2 µg/g**	**1.5 µg/g**	**1.5 µg/g**	----
Cadmium	7440-43-9	mg/kg	**1 µg/g**	**1 µg/g**	**1.9 µg/g**	**1.9 µg/g**	**1.2 µg/g**	**1.2 µg/g**	----
Chromium	7440-47-3	mg/kg	**160 µg/g**	**160 µg/g**	**160 µg/g**	**160 µg/g**	**160 µg/g**	**160 µg/g**	----
Cobalt	7440-48-4	mg/kg	**22 µg/g**	**22 µg/g**	**80 µg/g**	**100 µg/g**	**22 µg/g**	**22 µg/g**	----
Copper	7440-50-8	mg/kg	**140 µg/g**	**180 µg/g**	**230 µg/g**	**300 µg/g**	**140 µg/g**	**180 µg/g**	----
Lead	7439-92-1	mg/kg	**45 µg/g**	**45 µg/g**	**120 µg/g**	**120 µg/g**	**120 µg/g**	**120 µg/g**	----
Mercury	7439-97-6	mg/kg	**0.25 µg/g**	**1.8 µg/g**	**3.9 µg/g**	**20 µg/g**	**0.27 µg/g**	**1.8 µg/g**	----

Molybdenum	7439-98-7	mg/kg	6.9 µg/g	6.9 µg/g	40 µg/g	40 µg/g	6.9 µg/g	6.9 µg/g	----
Nickel	7440-02-0	mg/kg	100 µg/g	130 µg/g	270 µg/g	340 µg/g	100 µg/g	130 µg/g	----
Selenium	7782-49-2	mg/kg	2.4 µg/g	2.4 µg/g	5.5 µg/g	5.5 µg/g	2.4 µg/g	2.4 µg/g	----
Silver	7440-22-4	mg/kg	20 µg/g	25 µg/g	40 µg/g	50 µg/g	20 µg/g	25 µg/g	----
Thallium	7440-28-0	mg/kg	1 µg/g	1 µg/g	3.3 µg/g	3.3 µg/g	1 µg/g	1 µg/g	----
Uranium	7440-61-1	mg/kg	23 µg/g	23 µg/g	33 µg/g	33 µg/g	23 µg/g	23 µg/g	----
Vanadium	7440-62-2	mg/kg	86 µg/g	86 µg/g	86 µg/g	86 µg/g	86 µg/g	86 µg/g	----
Zinc	7440-66-6	mg/kg	340 µg/g	340 µg/g	340 µg/g	340 µg/g	340 µg/g	340 µg/g	----
Speciated Metals									
Chromium, hexavalent [Cr VI]	18540-29-9	mg/kg	8 µg/g	10 µg/g	8 µg/g	10 µg/g	8 µg/g	10 µg/g	----
Methylmercury (as MeHg)	22967-92-6	µg/kg	0.0084 µg/g	0.0094 µg/g	0.0084 µg/g	0.0094 µg/g	0.0084 µg/g	0.0094 µg/g	----
Volatile Organic Compounds									
Acetone	67-64-1	mg/kg	16 µg/g	28 µg/g	16 µg/g	28 µg/g	16 µg/g	28 µg/g	----
Benzene	71-43-2	mg/kg	0.21 µg/g	0.17 µg/g	0.32 µg/g	0.4 µg/g	0.21 µg/g	0.17 µg/g	----
Bromodichloromethane	75-27-4	mg/kg	1.5 µg/g	1.9 µg/g	1.5 µg/g	1.9 µg/g	1.5 µg/g	1.9 µg/g	----
Bromoform	75-25-2	mg/kg	0.27 µg/g	0.26 µg/g	0.61 µg/g	1.7 µg/g	0.27 µg/g	0.26 µg/g	----
Bromomethane	74-83-9	mg/kg	0.05 µg/g	0.05 µg/g	0.05 µg/g	0.05 µg/g	0.05 µg/g	0.05 µg/g	----
Carbon tetrachloride	56-23-5	mg/kg	0.05 µg/g	0.12 µg/g	0.21 µg/g	0.71 µg/g	0.05 µg/g	0.12 µg/g	----
Chlorobenzene	108-90-7	mg/kg	2.4 µg/g	2.7 µg/g	2.4 µg/g	2.7 µg/g	2.4 µg/g	2.7 µg/g	----
Chloroform	67-66-3	mg/kg	0.05 µg/g	0.18 µg/g	0.47 µg/g	0.18 µg/g	0.05 µg/g	0.18 µg/g	----
Dibromochloromethane	124-48-1	mg/kg	2.3 µg/g	2.9 µg/g	2.3 µg/g	2.9 µg/g	2.3 µg/g	2.9 µg/g	----
Dibromoethane, 1,2-	106-93-4	mg/kg	0.05 µg/g	0.05 µg/g	0.05 µg/g	0.05 µg/g	0.05 µg/g	0.05 µg/g	----
Dichlorobenzene, 1,2-	95-50-1	mg/kg	1.2 µg/g	1.7 µg/g	1.2 µg/g	1.7 µg/g	1.2 µg/g	1.7 µg/g	----
Dichlorobenzene, 1,3-	541-73-1	mg/kg	4.8 µg/g	6 µg/g	9.6 µg/g	12 µg/g	4.8 µg/g	6 µg/g	----
Dichlorobenzene, 1,4-	106-46-7	mg/kg	0.083 µg/g	0.097 µg/g	0.2 µg/g	0.57 µg/g	0.083 µg/g	0.097 µg/g	----
Dichlorodifluoromethane	75-71-8	mg/kg	16 µg/g	25 µg/g	16 µg/g	25 µg/g	16 µg/g	25 µg/g	----
Dichloroethane, 1,1-	75-34-3	mg/kg	0.47 µg/g	0.6 µg/g	0.47 µg/g	0.6 µg/g	0.47 µg/g	0.6 µg/g	----

Dichloroethane, 1,2-	107-06-2	mg/kg	0.05 µg/g	0.05 µg/g	0.05 µg/g	0.05 µg/g	0.05 µg/g	0.05 µg/g	----
Dichloroethylene, 1,1-	75-35-4	mg/kg	0.05 µg/g	0.05 µg/g	0.064 µg/g	0.48 µg/g	0.05 µg/g	0.05 µg/g	----
Dichloroethylene, cis-1,2-	156-59-2	mg/kg	1.9 µg/g	2.5 µg/g	1.9 µg/g	2.5 µg/g	1.9 µg/g	2.5 µg/g	----
Dichloroethylene, trans-1,2-	156-60-5	mg/kg	0.084 µg/g	0.75 µg/g	1.3 µg/g	2.5 µg/g	0.084 µg/g	0.75 µg/g	----
Dichloromethane	75-09-2	mg/kg	0.1 µg/g	0.96 µg/g	1.6 µg/g	2 µg/g	0.1 µg/g	0.96 µg/g	----
Dichloropropane, 1,2-	78-87-5	mg/kg	0.05 µg/g	0.085 µg/g	0.16 µg/g	0.68 µg/g	0.05 µg/g	0.085 µg/g	----
Dichloropropylene, cis-1,3-	10061-01-5	mg/kg	----	----	----	----	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	mg/kg	0.05 µg/g	0.081 µg/g	0.059 µg/g	0.081 µg/g	0.05 µg/g	0.081 µg/g	----
Dichloropropylene, trans-1,3-	10061-02-6	mg/kg	----	----	----	----	----	----	----
Ethylbenzene	100-41-4	mg/kg	1.1 µg/g	1.6 µg/g	1.1 µg/g	1.6 µg/g	1.1 µg/g	1.6 µg/g	----
Hexane, n-	110-54-3	mg/kg	2.8 µg/g	34 µg/g	46 µg/g	88 µg/g	2.8 µg/g	34 µg/g	----
Methyl ethyl ketone [MEK]	78-93-3	mg/kg	16 µg/g	44 µg/g	70 µg/g	88 µg/g	16 µg/g	44 µg/g	----
Methyl isobutyl ketone [MIBK]	108-10-1	mg/kg	1.7 µg/g	4.3 µg/g	31 µg/g	210 µg/g	1.7 µg/g	4.3 µg/g	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	mg/kg	0.75 µg/g	1.4 µg/g	1.6 µg/g	2.3 µg/g	0.75 µg/g	1.4 µg/g	----
Styrene	100-42-5	mg/kg	0.7 µg/g	2.2 µg/g	34 µg/g	43 µg/g	0.7 µg/g	2.2 µg/g	----
Tetrachloroethane, 1,1,1,2-	630-20-6	mg/kg	0.058 µg/g	0.05 µg/g	0.087 µg/g	0.11 µg/g	0.058 µg/g	0.05 µg/g	----
Tetrachloroethane, 1,1,2,2-	79-34-5	mg/kg	0.05 µg/g	0.05 µg/g	0.05 µg/g	0.094 µg/g	0.05 µg/g	0.05 µg/g	----
Tetrachloroethylene	127-18-4	mg/kg	0.28 µg/g	2.3 µg/g	1.9 µg/g	2.5 µg/g	0.28 µg/g	2.3 µg/g	----
Toluene	108-88-3	mg/kg	2.3 µg/g	6 µg/g	6.4 µg/g	9 µg/g	2.3 µg/g	6 µg/g	----
Trichloroethane, 1,1,1-	71-55-6	mg/kg	0.38 µg/g	3.4 µg/g	6.1 µg/g	12 µg/g	0.38 µg/g	3.4 µg/g	----
Trichloroethane, 1,1,2-	79-00-5	mg/kg	0.05 µg/g	0.05 µg/g	0.05 µg/g	0.11 µg/g	0.05 µg/g	0.05 µg/g	----
Trichloroethylene	79-01-6	mg/kg	0.061 µg/g	0.52 µg/g	0.55 µg/g	0.61 µg/g	0.061 µg/g	0.52 µg/g	----
Trichlorofluoromethane	75-69-4	mg/kg	4 µg/g	5.8 µg/g	4 µg/g	5.8 µg/g	4 µg/g	5.8 µg/g	----
Vinyl chloride	75-01-4	mg/kg	0.02 µg/g	0.022 µg/g	0.032 µg/g	0.25 µg/g	0.02 µg/g	0.022 µg/g	----
Xylene, m+p-	179601-23-1	mg/kg	----	----	----	----	----	----	----
Xylene, o-	95-47-6	mg/kg	----	----	----	----	----	----	----
Xylenes, total	1330-20-7	mg/kg	3.1 µg/g	25 µg/g	26 µg/g	30 µg/g	3.1 µg/g	25 µg/g	----

BTEX, total		mg/kg	----	----	----	----	----	----	----
Hydrocarbons									
F1 (C6-C10)		mg/kg	**55 µg/g**	**65 µg/g**	**55 µg/g**	**65 µg/g**	**55 µg/g**	**65 µg/g**	----
F2 (C10-C16)	----	mg/kg	**98 µg/g**	**150 µg/g**	**230 µg/g**	**250 µg/g**	**98 µg/g**	**150 µg/g**	----
F2-Naphthalene		mg/kg	----	----	----	----	----	----	----
F3 (C16-C34)	----	mg/kg	**300 µg/g**	**1300 µg/g**	**1700 µg/g**	**2500 µg/g**	**300 µg/g**	**1300 µg/g**	----
F3-PAH	n/a	mg/kg	----	----	----	----	----	----	----
F4 (C34-C50)	----	mg/kg	**2800 µg/g**	**5600 µg/g**	**3300 µg/g**	**6600 µg/g**	**2800 µg/g**	**5600 µg/g**	----
F1-BTEX		mg/kg	**55 µg/g**	**65 µg/g**	**55 µg/g**	**65 µg/g**	**55 µg/g**	**65 µg/g**	----
Hydrocarbons, total (C6-C50)	n/a	mg/kg	----	----	----	----	----	----	----
Chromatogram to baseline at nC50	n/a	-	----	----	----	----	----	----	----
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	%	----	----	----	----	----	----	----
Bromofluorobenzene, 4-	460-00-4	%	----	----	----	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	%	----	----	----	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	%	----	----	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons									
Acenaphthene	83-32-9	mg/kg	**7.9 µg/g**	**29 µg/g**	**21 µg/g**	**29 µg/g**	**7.9 µg/g**	**29 µg/g**	----
Acenaphthylene	208-96-8	mg/kg	**0.15 µg/g**	**0.17 µg/g**	**0.15 µg/g**	**0.17 µg/g**	**0.15 µg/g**	**0.17 µg/g**	----
Anthracene	120-12-7	mg/kg	**0.67 µg/g**	**0.74 µg/g**	**0.67 µg/g**	**0.74 µg/g**	**0.67 µg/g**	**0.74 µg/g**	----
Benz(a)anthracene	56-55-3	mg/kg	**0.5 µg/g**	**0.63 µg/g**	**0.96 µg/g**	**0.96 µg/g**	**0.5 µg/g**	**0.63 µg/g**	----
Benzo(a)pyrene	50-32-8	mg/kg	**0.078 µg/g**	**0.078 µg/g**	**0.3 µg/g**	**0.3 µg/g**	**0.3 µg/g**	**0.3 µg/g**	----
Benzo(b+j)fluoranthene	n/a	mg/kg	**0.78 µg/g**	**0.78 µg/g**	**0.96 µg/g**	**0.96 µg/g**	**0.78 µg/g**	**0.78 µg/g**	----
Benzo(g,h,i)perylene	191-24-2	mg/kg	**6.6 µg/g**	**7.8 µg/g**	**9.6 µg/g**	**9.6 µg/g**	**6.6 µg/g**	**7.8 µg/g**	----
Benzo(k)fluoranthene	207-08-9	mg/kg	**0.78 µg/g**	**0.78 µg/g**	**0.96 µg/g**	**0.96 µg/g**	**0.78 µg/g**	**0.78 µg/g**	----
Chrysene	218-01-9	mg/kg	**7 µg/g**	**7.8 µg/g**	**9.6 µg/g**	**9.6 µg/g**	**7 µg/g**	**7.8 µg/g**	----
Dibenz(a,h)anthracene	53-70-3	mg/kg	**0.1 µg/g**	**0.1 µg/g**	**0.1 µg/g**	**0.1 µg/g**	**0.1 µg/g**	**0.1 µg/g**	----
Fluoranthene	206-44-0	mg/kg	**0.69 µg/g**	**0.69 µg/g**	**9.6 µg/g**	**9.6 µg/g**	**0.69 µg/g**	**0.69 µg/g**	----

Fluorene	86-73-7	mg/kg	**62 µg/g**	**69 µg/g**	**62 µg/g**	**69 µg/g**	**62 µg/g**	**69 µg/g**	----
Indeno(1,2,3-c,d)pyrene	193-39-5	mg/kg	**0.38 µg/g**	**0.48 µg/g**	**0.76 µg/g**	**0.95 µg/g**	**0.38 µg/g**	**0.48 µg/g**	----
Methylnaphthalene, 1-	90-12-0	mg/kg	**0.99 µg/g**	**3.4 µg/g**	**30 µg/g**	**42 µg/g**	**0.99 µg/g**	**3.4 µg/g**	----
Methylnaphthalene, 1+2-	----	mg/kg	**0.99 µg/g**	**3.4 µg/g**	**30 µg/g**	**42 µg/g**	**0.99 µg/g**	**3.4 µg/g**	----
Methylnaphthalene, 2-	91-57-6	mg/kg	**0.99 µg/g**	**3.4 µg/g**	**30 µg/g**	**42 µg/g**	**0.99 µg/g**	**3.4 µg/g**	----
Naphthalene	91-20-3	mg/kg	**0.6 µg/g**	**0.75 µg/g**	**9.6 µg/g**	**28 µg/g**	**0.6 µg/g**	**0.75 µg/g**	----
Phenanthrene	85-01-8	mg/kg	**6.2 µg/g**	**7.8 µg/g**	**12 µg/g**	**16 µg/g**	**6.2 µg/g**	**7.8 µg/g**	----
Pyrene	129-00-0	mg/kg	**78 µg/g**	**78 µg/g**	**96 µg/g**	**96 µg/g**	**78 µg/g**	**78 µg/g**	----
Acridine-d9	34749-75-2	%	----	----	----	----	----	----	----
Chrysene-d12	1719-03-5	%	----	----	----	----	----	----	----
Naphthalene-d8	1146-65-2	%	----	----	----	----	----	----	----
Phenanthrene-d10	1517-22-2	%	----	----	----	----	----	----	----

Key:

ON153/04	Ontario Regulation 153/04 - April 15, 2011 Standards (JUL, 2011)
T2-A-C	153 T2-Soil-Agricultural or Other Property Use (Coarse)
T2-A-F	153 T2-Soil-Agricultural or Other Property Use (Fine)
T2-ICC-C	153 T2-Soil-Ind/Com/Commu Property Use (Coarse)
T2-ICC-F	153 T2-Soil-Ind/Com/Commu Property Use (Fine)
T2-RPI-C	153 T2-Soil-Res/Park/Inst. Property Use (Coarse)
T2-RPI-F	153 T2-Soil-Res/Park/Inst. Property Use (Fine)

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2510976**	Page	: 1 of 24
Client	: **Jacobs Consultancy Canada Inc.**	Laboratory	: ALS Environmental - Waterloo
Contact	: Jon Gowing	Account Manager	: Mathy Mahadeva
Address	: 165 King St West Suite 201 Kitchener ON Canada N2G 1A7	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 519 579 3500	Telephone	: +1 519 886 6910
Project	: COG14EDN	Date Samples Received	: 09-May-2025 16:25
PO	: ----	Issue Date	: 29-May-2025 11:14
C-O-C number	: 23-1117375		
Sampler	: Jon Gowing		
Site	: ----		
Quote number	: Ontario Jacobs Standing Offer 2025		
No. of samples received	: 9		
No. of samples analysed	: 9		

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

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Soil/Solid**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Laboratory Control Sample (LCS) Recoveries								
Metals	QC-MRG2-1991157 002	----	Silver	7440-22-4	E440C	46.0 % RRQC	80.0-120%	Recovery less than lower control limit

Result Qualifiers

Qualifier	Description
RRQC	Refer to report comments for information regarding this QC result.

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 : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW103-1-2	E336A	08-May-2025	12-May-2025	14 days	4 days	✓	14-May-2025	14 days	2 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW103-15-17	E336A	08-May-2025	12-May-2025	14 days	4 days	✓	14-May-2025	14 days	2 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW104-2-4	E336A	08-May-2025	12-May-2025	14 days	4 days	✓	14-May-2025	14 days	2 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW105-15-17	E336A	08-May-2025	12-May-2025	14 days	4 days	✓	14-May-2025	14 days	2 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-15-17	E336A	05-May-2025	12-May-2025	14 days	7 days	✓	14-May-2025	14 days	2 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-23-25	E336A	05-May-2025	12-May-2025	14 days	7 days	✓	14-May-2025	14 days	2 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-5-7	E336A	05-May-2025	12-May-2025	14 days	7 days	✓	14-May-2025	14 days	2 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW102-2-4	E336A	05-May-2025	12-May-2025	14 days	7 days	✓	14-May-2025	14 days	2 days	✓
Cyanides : WAD Cyanide (0.01M NaOH Extraction)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW102-8-10	E336A	05-May-2025	12-May-2025	14 days	7 days	✓	14-May-2025	14 days	2 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
MW103-1-2	E581.F1	08-May-2025	12-May-2025	14 days	4 days	✓	12-May-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
MW103-15-17	E581.F1	08-May-2025	12-May-2025	14 days	4 days	✓	12-May-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
MW104-2-4	E581.F1	08-May-2025	12-May-2025	14 days	4 days	✓	12-May-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
MW105-15-17	E581.F1	08-May-2025	12-May-2025	14 days	4 days	✓	12-May-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
MW101-15-17	E581.F1	05-May-2025	12-May-2025	14 days	7 days	✓	12-May-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
MW101-23-25	E581.F1	05-May-2025	12-May-2025	14 days	7 days	✓	12-May-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP]										
MW101-5-7	E581.F1	05-May-2025	12-May-2025	14 days	7 days	✓	12-May-2025	40 days	0 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] MW102-2-4	E581.F1	05-May-2025	12-May-2025	14 days	7 days	✓	12-May-2025	40 days	0 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID										
Glass soil methanol vial [ON MECP] MW102-8-10	E581.F1	05-May-2025	12-May-2025	14 days	7 days	✓	12-May-2025	40 days	0 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] MW103-1-2	E601.SG-L	08-May-2025	13-May-2025	14 days	5 days	✓	20-May-2025	40 days	7 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] MW103-15-17	E601.SG-L	08-May-2025	13-May-2025	14 days	5 days	✓	20-May-2025	40 days	7 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] MW104-2-4	E601.SG-L	08-May-2025	13-May-2025	14 days	5 days	✓	20-May-2025	40 days	7 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] MW105-15-17	E601.SG-L	08-May-2025	13-May-2025	14 days	5 days	✓	20-May-2025	40 days	7 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] MW101-15-17	E601.SG-L	05-May-2025	13-May-2025	14 days	8 days	✓	20-May-2025	40 days	7 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] MW101-23-25	E601.SG-L	05-May-2025	13-May-2025	14 days	8 days	✓	20-May-2025	40 days	7 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] MW101-5-7	E601.SG-L	05-May-2025	13-May-2025	14 days	8 days	✓	20-May-2025	40 days	7 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW102-2-4	E601.SG-L	05-May-2025	13-May-2025	14 days	8 days	✓	20-May-2025	40 days	7 days	✓
Hydrocarbons : CCME PHCs - F2-F4 by GC-FID (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW102-8-10	E601.SG-L	05-May-2025	13-May-2025	14 days	8 days	✓	20-May-2025	40 days	7 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-15-17	E487	05-May-2025	15-May-2025	180 days	10 days	✓	16-May-2025	180 days	1 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-23-25	E487	05-May-2025	15-May-2025	180 days	10 days	✓	16-May-2025	180 days	1 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-5-7	E487	05-May-2025	15-May-2025	180 days	10 days	✓	16-May-2025	180 days	1 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
MW102-2-4	E487	05-May-2025	15-May-2025	180 days	10 days	✓	16-May-2025	180 days	1 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
MW102-8-10	E487	05-May-2025	15-May-2025	180 days	10 days	✓	16-May-2025	180 days	1 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
MW103-1-2	E487	08-May-2025	15-May-2025	180 days	7 days	✓	16-May-2025	180 days	1 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
MW103-15-17	E487	08-May-2025	15-May-2025	180 days	7 days	✓	16-May-2025	180 days	1 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
MW104-2-4	E487	08-May-2025	15-May-2025	180 days	7 days	✓	16-May-2025	180 days	1 days	✓
Metals : Boron-Hot Water Extractable by ICPOES										
Glass soil jar/Teflon lined cap [ON MECP]										
MW105-15-17	E487	08-May-2025	15-May-2025	180 days	7 days	✓	16-May-2025	180 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-15-17	E510C	05-May-2025	15-May-2025	28 days	10 days	✓	16-May-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-23-25	E510C	05-May-2025	15-May-2025	28 days	10 days	✓	16-May-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-5-7	E510C	05-May-2025	15-May-2025	28 days	10 days	✓	16-May-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW102-2-4	E510C	05-May-2025	15-May-2025	28 days	10 days	✓	16-May-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW102-8-10	E510C	05-May-2025	15-May-2025	28 days	10 days	✓	16-May-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW103-1-2	E510C	08-May-2025	15-May-2025	28 days	7 days	✓	16-May-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW103-15-17	E510C	08-May-2025	15-May-2025	28 days	7 days	✓	16-May-2025	28 days	1 days	✓

Matrix: **Soil/Solid**

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			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW104-2-4	E510C	08-May-2025	15-May-2025	28 days	7 days	✓	16-May-2025	28 days	1 days	✓
Metals : Mercury in Soil/Solid by CVAAS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW105-15-17	E510C	08-May-2025	15-May-2025	28 days	7 days	✓	16-May-2025	28 days	1 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-15-17	E440C	05-May-2025	15-May-2025	180 days	10 days	✓	16-May-2025	180 days	10 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-23-25	E440C	05-May-2025	15-May-2025	180 days	10 days	✓	16-May-2025	180 days	10 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-5-7	E440C	05-May-2025	15-May-2025	180 days	10 days	✓	16-May-2025	180 days	10 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW102-2-4	E440C	05-May-2025	15-May-2025	180 days	10 days	✓	16-May-2025	180 days	10 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW102-8-10	E440C	05-May-2025	15-May-2025	180 days	10 days	✓	16-May-2025	180 days	10 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW103-1-2	E440C	08-May-2025	15-May-2025	180 days	7 days	✓	16-May-2025	180 days	7 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW103-15-17	E440C	08-May-2025	15-May-2025	180 days	7 days	✓	16-May-2025	180 days	7 days	✓

Matrix: **Soil/Solid**

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			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW104-2-4	E440C	08-May-2025	15-May-2025	180 days	7 days	✓	16-May-2025	180 days	7 days	✓
Metals : Metals in Soil/Solid by CRC ICPMS (<355 µm)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW105-15-17	E440C	08-May-2025	15-May-2025	180 days	7 days	✓	16-May-2025	180 days	7 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-15-17	E484	05-May-2025	15-May-2025	180 days	10 days	✓	16-May-2025	180 days	1 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-23-25	E484	05-May-2025	15-May-2025	180 days	10 days	✓	16-May-2025	180 days	1 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-5-7	E484	05-May-2025	15-May-2025	180 days	10 days	✓	16-May-2025	180 days	1 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW102-2-4	E484	05-May-2025	15-May-2025	180 days	10 days	✓	16-May-2025	180 days	1 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW102-8-10	E484	05-May-2025	15-May-2025	180 days	10 days	✓	16-May-2025	180 days	1 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW103-1-2	E484	08-May-2025	15-May-2025	180 days	7 days	✓	16-May-2025	180 days	1 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW103-15-17	E484	08-May-2025	15-May-2025	180 days	7 days	✓	16-May-2025	180 days	1 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW104-2-4	E484	08-May-2025	15-May-2025	180 days	7 days	✓	16-May-2025	180 days	1 days	✓
Metals : Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW105-15-17	E484	08-May-2025	15-May-2025	180 days	7 days	✓	16-May-2025	180 days	1 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-15-17	E100-L	05-May-2025	15-May-2025	30 days	10 days	✓	16-May-2025	30 days	10 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-23-25	E100-L	05-May-2025	15-May-2025	30 days	10 days	✓	16-May-2025	30 days	10 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-5-7	E100-L	05-May-2025	15-May-2025	30 days	10 days	✓	16-May-2025	30 days	10 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW102-2-4	E100-L	05-May-2025	15-May-2025	30 days	10 days	✓	16-May-2025	30 days	10 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW102-8-10	E100-L	05-May-2025	15-May-2025	30 days	10 days	✓	16-May-2025	30 days	10 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW103-1-2	E100-L	08-May-2025	15-May-2025	30 days	7 days	✓	16-May-2025	30 days	7 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP]										
MW103-15-17	E100-L	08-May-2025	15-May-2025	30 days	7 days	✓	16-May-2025	30 days	7 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] MW104-2-4	E100-L	08-May-2025	15-May-2025	30 days	7 days	✓	16-May-2025	30 days	7 days	✓
Physical Tests : Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)										
Glass soil jar/Teflon lined cap [ON MECP] MW105-15-17	E100-L	08-May-2025	15-May-2025	30 days	7 days	✓	16-May-2025	30 days	7 days	✓
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] MW101-15-17	E144	05-May-2025	----	----	----		12-May-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] MW101-23-25	E144	05-May-2025	----	----	----		12-May-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] MW101-5-7	E144	05-May-2025	----	----	----		12-May-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] MW102-2-4	E144	05-May-2025	----	----	----		12-May-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] MW102-8-10	E144	05-May-2025	----	----	----		12-May-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] MW103-1-2	E144	08-May-2025	----	----	----		12-May-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP] MW103-15-17	E144	08-May-2025	----	----	----		12-May-2025	----	----	

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
MW104-2-4	E144	08-May-2025	----	----	----		12-May-2025	----	----	
Physical Tests : Moisture Content by Gravimetry										
Glass soil jar/Teflon lined cap [ON MECP]										
MW105-15-17	E144	08-May-2025	----	----	----		12-May-2025	----	----	
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
MW103-1-2	E108A	08-May-2025	12-May-2025	30 days	4 days	✓	15-May-2025	30 days	4 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
MW103-15-17	E108A	08-May-2025	12-May-2025	30 days	4 days	✓	15-May-2025	30 days	4 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
MW104-2-4	E108A	08-May-2025	12-May-2025	30 days	4 days	✓	15-May-2025	30 days	4 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
MW105-15-17	E108A	08-May-2025	12-May-2025	30 days	4 days	✓	15-May-2025	30 days	4 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-15-17	E108A	05-May-2025	12-May-2025	30 days	7 days	✓	15-May-2025	30 days	7 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-23-25	E108A	05-May-2025	12-May-2025	30 days	7 days	✓	15-May-2025	30 days	7 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-5-7	E108A	05-May-2025	12-May-2025	30 days	7 days	✓	15-May-2025	30 days	7 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] MW102-2-4	E108A	05-May-2025	12-May-2025	30 days	7 days	✓	15-May-2025	30 days	7 days	✓
Physical Tests : pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received										
Glass soil jar/Teflon lined cap [ON MECP] MW102-8-10	E108A	05-May-2025	12-May-2025	30 days	7 days	✓	15-May-2025	30 days	7 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap [ON MECP] MW103-1-2	E641A	08-May-2025	13-May-2025	60 days	5 days	✓	16-May-2025	40 days	3 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap [ON MECP] MW103-15-17	E641A	08-May-2025	13-May-2025	60 days	5 days	✓	16-May-2025	40 days	3 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap [ON MECP] MW104-2-4	E641A	08-May-2025	13-May-2025	60 days	5 days	✓	16-May-2025	40 days	3 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap [ON MECP] MW105-15-17	E641A	08-May-2025	13-May-2025	60 days	5 days	✓	16-May-2025	40 days	3 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap [ON MECP] MW101-15-17	E641A	05-May-2025	13-May-2025	60 days	8 days	✓	16-May-2025	40 days	3 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap [ON MECP] MW101-23-25	E641A	05-May-2025	13-May-2025	60 days	8 days	✓	16-May-2025	40 days	3 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap [ON MECP] MW101-5-7	E641A	05-May-2025	13-May-2025	60 days	8 days	✓	16-May-2025	40 days	3 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap [ON MECP] MW102-2-4	E641A	05-May-2025	13-May-2025	60 days	8 days	✓	16-May-2025	40 days	3 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Soil/solid by Hex:Ace GC-MS										
Glass soil jar/Teflon lined cap [ON MECP] MW102-8-10	E641A	05-May-2025	13-May-2025	60 days	8 days	✓	16-May-2025	40 days	3 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] MW103-1-2	E532	08-May-2025	12-May-2025	30 days	4 days	✓	15-May-2025	7 days	3 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] MW103-15-17	E532	08-May-2025	12-May-2025	30 days	4 days	✓	15-May-2025	7 days	3 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] MW104-2-4	E532	08-May-2025	12-May-2025	30 days	4 days	✓	15-May-2025	7 days	3 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] MW105-15-17	E532	08-May-2025	12-May-2025	30 days	4 days	✓	15-May-2025	7 days	3 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] MW101-15-17	E532	05-May-2025	12-May-2025	30 days	7 days	✓	15-May-2025	7 days	3 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] MW101-23-25	E532	05-May-2025	12-May-2025	30 days	7 days	✓	15-May-2025	7 days	3 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] MW101-5-7	E532	05-May-2025	12-May-2025	30 days	7 days	✓	15-May-2025	7 days	3 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] MW102-2-4	E532	05-May-2025	12-May-2025	30 days	7 days	✓	15-May-2025	7 days	3 days	✓
Speciated Metals : Hexavalent Chromium (Cr VI) by IC										
Glass soil jar/Teflon lined cap [ON MECP] MW102-8-10	E532	05-May-2025	12-May-2025	30 days	7 days	✓	15-May-2025	7 days	3 days	✓
Speciated Metals : Methylmercury in Soil by GCAFS										
Glass soil jar/Teflon lined cap [ON MECP] MW103-1-2	E538	08-May-2025	22-May-2025	28 days	14 days	✓	22-May-2025	28 days	0 days	✓
Speciated Metals : Methylmercury in Soil by GCAFS										
Glass soil jar/Teflon lined cap [ON MECP] MW103-15-17	E538	08-May-2025	22-May-2025	28 days	14 days	✓	22-May-2025	28 days	0 days	✓
Speciated Metals : Methylmercury in Soil by GCAFS										
Glass soil jar/Teflon lined cap [ON MECP] MW104-2-4	E538	08-May-2025	22-May-2025	28 days	14 days	✓	22-May-2025	28 days	0 days	✓
Speciated Metals : Methylmercury in Soil by GCAFS										
Glass soil jar/Teflon lined cap [ON MECP] MW105-15-17	E538	08-May-2025	22-May-2025	28 days	14 days	✓	22-May-2025	28 days	0 days	✓
Speciated Metals : Methylmercury in Soil by GCAFS										
Glass soil jar/Teflon lined cap [ON MECP] MW101-23-25	E538	05-May-2025	22-May-2025	28 days	17 days	✓	22-May-2025	28 days	0 days	✓
Speciated Metals : Methylmercury in Soil by GCAFS										
Glass soil jar/Teflon lined cap [ON MECP] MW101-5-7	E538	05-May-2025	22-May-2025	28 days	17 days	✓	22-May-2025	28 days	0 days	✓
Speciated Metals : Methylmercury in Soil by GCAFS										
Glass soil jar/Teflon lined cap [ON MECP] MW102-2-4	E538	05-May-2025	22-May-2025	28 days	17 days	✓	22-May-2025	28 days	0 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Speciated Metals : Methylmercury in Soil by GCAFS										
Glass soil jar/Teflon lined cap [ON MECP]										
MW102-8-10	E538	05-May-2025	22-May-2025	28 days	17 days	✓	22-May-2025	28 days	0 days	✓
Speciated Metals : Methylmercury in Soil by GCAFS										
Glass soil jar/Teflon lined cap [ON MECP]										
MW101-15-17	E538	05-May-2025	22-May-2025	28 days	17 days	✓	22-May-2025	28 days	5 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
MW103-1-2	E611D	08-May-2025	12-May-2025	14 days	4 days	✓	12-May-2025	40 days	0 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
MW103-15-17	E611D	08-May-2025	12-May-2025	14 days	4 days	✓	12-May-2025	40 days	0 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
MW104-2-4	E611D	08-May-2025	12-May-2025	14 days	4 days	✓	12-May-2025	40 days	0 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
MW105-15-17	E611D	08-May-2025	12-May-2025	14 days	4 days	✓	12-May-2025	40 days	0 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
MW101-15-17	E611D	05-May-2025	12-May-2025	14 days	7 days	✓	12-May-2025	40 days	0 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
MW101-23-25	E611D	05-May-2025	12-May-2025	14 days	7 days	✓	12-May-2025	40 days	0 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP]										
MW101-5-7	E611D	05-May-2025	12-May-2025	14 days	7 days	✓	12-May-2025	40 days	0 days	✓

Matrix: **Soil/Solid**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP] MW102-2-4	E611D	05-May-2025	12-May-2025	14 days	7 days	✓	12-May-2025	40 days	0 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass soil methanol vial [ON MECP] MW102-8-10	E611D	05-May-2025	12-May-2025	14 days	7 days	✓	12-May-2025	40 days	0 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			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	1991154	1	20	5.0	5.0	✓
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	1991153	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	1991162	1	20	5.0	5.0	✓
WAD Cyanide (0.01M NaOH Extraction)	E336A	1991150	1	20	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS (<355 µm)	E440C	1991157	1	20	5.0	5.0	✓
Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)	E484	1991155	1	20	5.0	5.0	✓
Boron-Hot Water Extractable by ICPOES	E487	1991156	1	20	5.0	5.0	✓
Mercury in Soil/Solid by CVAAS (<355 µm)	E510C	1991158	1	20	5.0	5.0	✓
Hexavalent Chromium (Cr VI) by IC	E532	1991152	1	20	5.0	5.0	✓
Methylmercury in Soil by GCAFS	E538	2009032	1	17	5.8	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1992418	2	40	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L	1993060	1	20	5.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1992419	2	40	5.0	5.0	✓
PAHs in Soil/solid by Hex:Ace GC-MS	E641A	1993061	1	16	6.2	5.0	✓
Laboratory Control Samples (LCS)							
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	1991154	2	20	10.0	10.0	✓
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A	1991153	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	1991162	1	20	5.0	5.0	✓
WAD Cyanide (0.01M NaOH Extraction)	E336A	1991150	1	20	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS (<355 µm)	E440C	1991157	2	20	10.0	10.0	✓
Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)	E484	1991155	2	20	10.0	10.0	✓
Boron-Hot Water Extractable by ICPOES	E487	1991156	2	20	10.0	10.0	✓
Mercury in Soil/Solid by CVAAS (<355 µm)	E510C	1991158	2	20	10.0	10.0	✓
Hexavalent Chromium (Cr VI) by IC	E532	1991152	2	20	10.0	10.0	✓
Methylmercury in Soil by GCAFS	E538	2009032	2	17	11.7	10.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1992418	2	40	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L	1993060	1	20	5.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1992419	2	40	5.0	5.0	✓
PAHs in Soil/solid by Hex:Ace GC-MS	E641A	1993061	1	16	6.2	5.0	✓
Method Blanks (MB)							
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L	1991154	1	20	5.0	5.0	✓
Moisture Content by Gravimetry	E144	1991162	1	20	5.0	5.0	✓
WAD Cyanide (0.01M NaOH Extraction)	E336A	1991150	1	20	5.0	5.0	✓
Metals in Soil/Solid by CRC ICPMS (<355 µm)	E440C	1991157	1	20	5.0	5.0	✓
Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)	E484	1991155	1	20	5.0	5.0	✓

Matrix: **Soil/Solid**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Method Blanks (MB) - Continued							
Boron-Hot Water Extractable by ICPOES	E487	1991156	1	20	5.0	5.0	✓
Mercury in Soil/Solid by CVAAS (<355 µm)	E510C	1991158	1	20	5.0	5.0	✓
Hexavalent Chromium (Cr VI) by IC	E532	1991152	1	20	5.0	5.0	✓
Methylmercury in Soil by GCAFS	E538	2009032	1	17	5.8	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1992418	2	40	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L	1993060	1	20	5.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1992419	2	40	5.0	5.0	✓
PAHs in Soil/solid by Hex:Ace GC-MS	E641A	1993061	1	16	6.2	5.0	✓
Matrix Spikes (MS)							
WAD Cyanide (0.01M NaOH Extraction)	E336A	1991150	1	20	5.0	5.0	✓
CCME PHC - F1 by Headspace GC-FID	E581.F1	1992418	2	40	5.0	5.0	✓
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L	1993060	1	20	5.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1992419	2	40	5.0	5.0	✓
PAHs in Soil/solid by Hex:Ace GC-MS	E641A	1993061	1	16	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
Conductivity in Soil (1:2 Soil:Water Extraction) (Low Level)	E100-L ALS Environmental - Waterloo	Soil/Solid	CSSS Ch. 15 (mod)/APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a soil sample that has been added in a defined ratio of soil to deionized water, then shaken well and allowed to settle. Conductance is measured in the fluid that is observed in the upper layer.
pH by Meter (1:2 Soil:0.01M CaCl2 Extraction) - As Received	E108A ALS Environmental - Waterloo	Soil/Solid	MECP E3530	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C) and is carried out in accordance with procedures described in the Analytical Protocol (prescriptive method). A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling, or decanting and then analyzed using a pH meter and electrode. This method is equivalent to ASTM D4972 and is acceptable for topsoil analysis.
Moisture Content by Gravimetry	E144 ALS Environmental - Waterloo	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.
WAD Cyanide (0.01M NaOH Extraction)	E336A ALS Environmental - Waterloo	Soil/Solid	APHA 4500-CN I (mod)	Weak Acid Dissociable (WAD) cyanide is determined after extraction by Continuous Flow Analyzer (CFA) with in-line distillation followed by colourmetric analysis.
Metals in Soil/Solid by CRC ICPMS (<355 µm)	E440C ALS Environmental - Waterloo	Soil/Solid	EPA 6020B (mod)	This method is intended to liberate metals that may be environmentally available. Samples are dried, then sieved through a 355 µm sieve, and digested with HNO3 and HCl. Dependent on sample matrix, some metals may be only partially recovered, including Al, Ba, Be, Cr, Sr, Ti, Tl, 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. Analysis is by Collision/Reaction Cell ICPMS.
Sodium Adsorption Ratio (SAR) - 1:2 Soil:Water (Dry)	E484 ALS Environmental - Waterloo	Soil/Solid	SW846 6010C	A dried, disaggregated solid sample is extracted with deionized water, the aqueous extract is separated from the solid, acidified and then analyzed using a ICP/OES. The concentrations of Na, Ca and Mg are reported as per CALA requirements for calculated parameters. These individual parameters are not for comparison to any guideline.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Boron-Hot Water Extractable by ICPOES	E487 ALS Environmental - Waterloo	Soil/Solid	HW EXTR, EPA 6010B	A dried solid sample is extracted with calcium chloride, the sample undergoes a heating process. After cooling the sample is filtered and analyzed by ICP/OES. Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011).
Mercury in Soil/Solid by CVAAS (<355 µm)	E510C ALS Environmental - Waterloo	Soil/Solid	EPA 200.2/1631 Appendix (mod)	Samples are sieved through a 355 µm sieve, and digested with HNO_3 and HCl, followed by CVAAS analysis.
Hexavalent Chromium (Cr VI) by IC	E532 ALS Environmental - Waterloo	Soil/Solid	APHA 3500-CR C	Instrumental analysis is performed by ion chromatography with UV detection.
Methylmercury in Soil by GCAFS	E538 ALS Environmental - Vancouver	Soil/Solid	DeWild et al. (2004)/EPA 1630 (mod)	This method follows procedures published by DeWild, Olund, Olsen and Tate (2004) for the US Geological Survey (Techniques and Methods 5A-7). Samples are leached with an acidic copper sulphate solution to solubilize methylmercury for inorganic complexes. The methylmercury is then extracted into dichloromethane and then an aliquot is back extracted into ultra-pure water. The extract is analyzed by aqueous phase ethylation, purge and trap, desorption and GC separation. The separated species are then pyrolized to elemental Hg and quantified by cold vapour atomic fluorescence spectroscopy. Results are reported "as MeHg".
CCME PHC - F1 by Headspace GC-FID	E581.F1 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	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. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Test results are expressed on a dry weight basis. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
CCME PHCs - F2-F4 by GC-FID (Low Level)	E601.SG-L ALS Environmental - Waterloo	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). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Test results are expressed on a dry weight basis. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
VOCs (Eastern Canada List) by Headspace GC-MS	E611D ALS Environmental - Waterloo	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.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
PAHs in Soil/solid by Hex:Ace GC-MS	E641A ALS Environmental - Waterloo	Soil/Solid	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are extracted with hexane/acetone 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 ALS Environmental - Waterloo	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).
Sum F1 to F4 (C6-C50)	EC581 ALS Environmental - Waterloo	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.
F2 to F3 minus PAH	EC600 ALS Environmental - Waterloo	Soil/Solid	CCME PHC in Soil - Tier 1	F2-Naphthalene = CCME Fraction 2 (C10-C16) minus Naphthalene F3-PAH = CCME Fraction 3 (C16-C34) minus sPhenanthrene, Fluoranthene, Pyrene, Benz(a)anthracene, benzo(b+j)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Indeno(1,2,3-c,d)pyrene, and Dibenz(a,h)anthracene.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Leach 1:2 Soil:Water for pH/EC	EP108 ALS Environmental - Waterloo	Soil/Solid	BC WLAP METHOD: PH, ELECTROMETRIC, SOIL	The procedure involves mixing the dried (at <60°C) and sieved (No. 10 / 2mm) sample with deionized/distilled water at a 1:2 ratio of sediment to water.
Leach 1:2 Soil : 0.01CaCl2 - As Received for pH	EP108A ALS Environmental - Waterloo	Soil/Solid	MOEE E3137A	A minimum 10g portion of the sample, as received, is extracted with 20mL of 0.01M calcium chloride solution by shaking for at least 30 minutes. The aqueous layer is separated from the soil by centrifuging, settling or decanting and then analyzed using a pH meter and electrode.
Cyanide Extraction for CFA (0.01M NaOH)	EP333A ALS Environmental - Waterloo	Soil/Solid	ON MECP E3015 (mod)	Extraction for various cyanide analysis is by rotary extraction of the soil with 0.01M Sodium Hydroxide.
Digestion for Metals and Mercury (355 µm Sieve)	EP440C ALS Environmental - Waterloo	Soil/Solid	EPA 200.2 (mod)	Samples are sieved through a 355 µm sieve, and digested with HNO3 and HCl. This method is intended to liberate metals that may be environmentally available.
Boron-Hot Water Extractable	EP487 ALS Environmental - Waterloo	Soil/Solid	HW EXTR, EPA 6010B	A dried solid sample is extracted with weak calcium chloride, the sample undergoes a heating process. After cooling the sample is filtered and analyzed by ICP/OES. Analysis conducted in accordance with the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act (July 1, 2011)
Preparation of Hexavalent Chromium (Cr VI) for IC	EP532 ALS Environmental - Waterloo	Soil/Solid	EPA 3060A	Field moist samples are digested with a sodium hydroxide/sodium carbonate solution as described in EPA 3060A.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Methylmercury Soil Digestion	EP538 ALS Environmental - Vancouver	Soil/Solid	DeWild et al. (2004)	This method follows procedures published by DeWild, Olund, Olsen and Tate (2004) for the US Geological Survey (Techniques and Methods 5A-7). Samples are leached with an acidic copper sulphate solution to solubilize methylmercury for inorganic complexes. The methylmercury is then extracted into dichloromethane and then an aliquot is back extracted into ultra-pure water. The extract is analyzed by aqueous phase ethylation, purge and trap, desorption and GC separation. The separated species are then pyrolized to elemental Hg and quantified by cold vapour atomic flourescence spectroscopy. Results are reported "as MeHg".
VOCs Methanol Extraction for Headspace Analysis	EP581 ALS Environmental - Waterloo	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 ALS Environmental - Waterloo	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.

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QUALITY CONTROL REPORT

Work Order	: **WT2510976**	Page	: 1 of 22
Client	: Jacobs Consultancy Canada Inc.	Laboratory	: ALS Environmental - Waterloo
Contact	: Jon Gowing	Account Manager	: Mathy Mahadeva
Address	: 165 King St West Suite 201 Kitchener ON Canada N2G 1A7	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 519 579 3500	Telephone	: +1 519 886 6910
Project	: COG14EDN	Date Samples Received	: 09-May-2025 16:25
PO	: ----	Date Analysis Commenced	: 12-May-2025
C-O-C number	: 23-1117375	Issue Date	: 29-May-2025 11:14
Sampler	: Jon Gowing		
Site	: ----		
Quote number	: Ontario Jacobs Standing Offer 2025		
No. of samples received	: 9		
No. of samples analysed	: 9		

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.

Signatories	*Position*	*Laboratory Department*
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
Andrea Armstrong	Department Manager - Air Quality and Volatiles	Waterloo VOC, Waterloo, Ontario
Dan Gebert	Supervisor - Metals Mercury & Speciation	Vancouver Metals, Burnaby, British Columbia
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Greg Pokocky	Manager - Inorganics	Waterloo Metals, Waterloo, Ontario
Niral Patel		Waterloo Centralized Prep, Waterloo, Ontario

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 (QCI) 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).

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
Physical Tests (QC Lot: 1991153)											
WT2510951-001	Anonymous	pH (1:2 soil:CaCl2-aq)	----	E108A	0.10	pH units	7.96	7.94	0.252%	5%	----
Physical Tests (QC Lot: 1991154)											
WT2510951-001	Anonymous	Conductivity (1:2 leachate)	----	E100-L	5.00	µS/cm	0.853 mS/cm	840	1.54%	20%	----
Physical Tests (QC Lot: 1991162)											
WT2510951-001	Anonymous	Moisture	----	E144	0.25	%	13.4	13.7	2.10%	20%	----
Cyanides (QC Lot: 1991150)											
WT2510951-001	Anonymous	Cyanide, weak acid dissociable	----	E336A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
Metals (QC Lot: 1991155)											
WT2510951-001	Anonymous	Calcium, soluble ion content	7440-70-2	E484	0.50	mg/L	0.76	0.78	0.02	Diff <2x LOR	----
		Magnesium, soluble ion content	7439-95-4	E484	0.50	mg/L	3.32	3.71	11.1%	30%	----
		Sodium, soluble ion content	17341-25-2	E484	0.50	mg/L	151	147	2.68%	30%	----
Metals (QC Lot: 1991156)											
WT2510951-001	Anonymous	Boron, hot water soluble	7440-42-8	E487	0.10	mg/kg	0.10	<0.10	0.001	Diff <2x LOR	----
Metals (QC Lot: 1991157)											
WT2510951-001	Anonymous	Antimony	7440-36-0	E440C	0.10	mg/kg	0.12	0.13	0.007	Diff <2x LOR	----
		Arsenic	7440-38-2	E440C	0.10	mg/kg	2.22	2.28	2.22%	30%	----
		Barium	7440-39-3	E440C	0.50	mg/kg	25.0	25.8	3.12%	40%	----
		Beryllium	7440-41-7	E440C	0.10	mg/kg	0.37	0.39	0.01	Diff <2x LOR	----
		Boron	7440-42-8	E440C	5.0	mg/kg	10.9	12.2	1.3	Diff <2x LOR	----
		Cadmium	7440-43-9	E440C	0.200	mg/kg	<0.200	<0.200	0	Diff <2x LOR	----
		Chromium	7440-47-3	E440C	0.50	mg/kg	11.1	11.9	6.45%	30%	----
		Cobalt	7440-48-4	E440C	0.10	mg/kg	6.06	6.19	2.03%	30%	----
		Copper	7440-50-8	E440C	0.50	mg/kg	17.4	17.6	1.45%	30%	----
		Lead	7439-92-1	E440C	0.50	mg/kg	7.80	7.87	0.833%	40%	----
		Molybdenum	7439-98-7	E440C	0.10	mg/kg	0.46	0.45	0.009	Diff <2x LOR	----
		Nickel	7440-02-0	E440C	0.50	mg/kg	12.3	12.6	2.55%	30%	----
		Selenium	7782-49-2	E440C	0.20	mg/kg	<0.20	<0.20	0	Diff <2x LOR	----
		Silver	7440-22-4	E440C	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
		Thallium	7440-28-0	E440C	0.050	mg/kg	0.062	0.066	0.003	Diff <2x LOR	----
		Uranium	7440-61-1	E440C	0.050	mg/kg	0.448	0.445	0.774%	30%	----

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: 1991157) - continued											
WT2510951-001	Anonymous	Vanadium	7440-62-2	E440C	0.20	mg/kg	18.5	20.0	8.00%	30%	----
		Zinc	7440-66-6	E440C	100	mg/kg	<100	<100	0	Diff <2x LOR	----
Metals (QC Lot: 1991158)											
WT2510951-001	Anonymous	Mercury	7439-97-6	E510C	0.0050	mg/kg	0.0054	<0.0050	0.0004	Diff <2x LOR	----
Speciated Metals (QC Lot: 1991152)											
WT2510951-002	Anonymous	Chromium, hexavalent [Cr VI]	18540-29-9	E532	0.10	mg/kg	<0.10	<0.10	0	Diff <2x LOR	----
Speciated Metals (QC Lot: 2009032)											
WT2509629-001	Anonymous	Methylmercury (as MeHg)	22967-92-6	E538	0.050	µg/kg	<0.050	<0.050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1992419)											
WT2510964-002	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	<0.0050	<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	----
		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	----

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: 1992419) - continued											
WT2510964-002	Anonymous	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	0.070	0.071	0.0003	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	<0.030	<0.030	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611D	0.030	mg/kg	<0.030	<0.030	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1992727)											
WT2510976-002	MW102-8-10	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	<0.0050	<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	----

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: 1992727) - continued											
WT2510976-002	MW102-8-10	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	<0.015	<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	<0.010	<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	<0.030	<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: 1992418)											
WT2510964-002	Anonymous	F1 (C6-C10)	----	E581.F1	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1992726)											
WT2510976-002	MW102-8-10	F1 (C6-C10)	----	E581.F1	5.0	mg/kg	<5.0	<5.0	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1993060)											
WT2510948-001	Anonymous	F2 (C10-C16)	----	E601.SG-L	10	mg/kg	14	18	3	Diff <2x LOR	----
		F3 (C16-C34)	----	E601.SG-L	50	mg/kg	79	82	3	Diff <2x LOR	----
		F4 (C34-C50)	----	E601.SG-L	50	mg/kg	68	76	7	Diff <2x LOR	----
Polycyclic Aromatic Hydrocarbons (QC Lot: 1993061)											
WT2510948-001	Anonymous	Acenaphthene	83-32-9	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Acenaphthylene	208-96-8	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Anthracene	120-12-7	E641A	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*
Polycyclic Aromatic Hydrocarbons (QC Lot: 1993061) - continued											
WT2510948-001	Anonymous	Benz(a)anthracene	56-55-3	E641A	0.050	mg/kg	0.137	0.155	0.018	Diff <2x LOR	J
		Benzo(a)pyrene	50-32-8	E641A	0.050	mg/kg	0.171	0.192	0.021	Diff <2x LOR	J
		Benzo(b+j)fluoranthene	n/a	E641A	0.050	mg/kg	0.235	0.268	13.1%	50%	----
		Benzo(g,h,i)perylene	191-24-2	E641A	0.050	mg/kg	0.143	0.154	0.011	Diff <2x LOR	J
		Benzo(k)fluoranthene	207-08-9	E641A	0.050	mg/kg	0.093	0.105	0.012	Diff <2x LOR	J
		Chrysene	218-01-9	E641A	0.050	mg/kg	0.186	0.209	0.023	Diff <2x LOR	J
		Dibenz(a,h)anthracene	53-70-3	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Fluoranthene	206-44-0	E641A	0.050	mg/kg	0.380	0.410	7.70%	50%	----
		Fluorene	86-73-7	E641A	0.050	mg/kg	<0.050	<0.050	0	Diff <2x LOR	----
		Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.050	mg/kg	0.143	0.154	0.011	Diff <2x LOR	J
		Methylnaphthalene, 1-	90-12-0	E641A	0.030	mg/kg	<0.030	<0.030	0	Diff <2x LOR	----
		Methylnaphthalene, 2-	91-57-6	E641A	0.030	mg/kg	0.036	0.037	0.0004	Diff <2x LOR	J
		Naphthalene	91-20-3	E641A	0.010	mg/kg	0.015	0.016	0.0008	Diff <2x LOR	J
		Phenanthrene	85-01-8	E641A	0.050	mg/kg	0.216	0.206	4.86%	50%	----
		Pyrene	129-00-0	E641A	0.050	mg/kg	0.322	0.338	4.94%	50%	----

Qualifiers

Qualifier	*Description*
J	*Duplicate results and limits are expressed in terms of absolute difference.*

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 (QCLot: 1991154)						
Conductivity (1:2 leachate)	----	E100-L	5	µS/cm	<5.00	----
Physical Tests (QCLot: 1991162)						
Moisture	----	E144	0.25	%	<0.25	----
Cyanides (QCLot: 1991150)						
Cyanide, weak acid dissociable	----	E336A	0.05	mg/kg	<0.050	----
Metals (QCLot: 1991155)						
Calcium, soluble ion content	7440-70-2	E484	0.5	mg/L	<0.50	----
Magnesium, soluble ion content	7439-95-4	E484	0.5	mg/L	<0.50	----
Sodium, soluble ion content	17341-25-2	E484	0.5	mg/L	<0.50	----
Metals (QCLot: 1991156)						
Boron, hot water soluble	7440-42-8	E487	0.1	mg/kg	<0.10	----
Metals (QCLot: 1991157)						
Antimony	7440-36-0	E440C	0.1	mg/kg	<0.10	----
Arsenic	7440-38-2	E440C	0.1	mg/kg	<0.10	----
Barium	7440-39-3	E440C	0.5	mg/kg	<0.50	----
Beryllium	7440-41-7	E440C	0.1	mg/kg	<0.10	----
Boron	7440-42-8	E440C	5	mg/kg	<5.0	----
Cadmium	7440-43-9	E440C	0.02	mg/kg	<0.020	----
Chromium	7440-47-3	E440C	0.5	mg/kg	<0.50	----
Cobalt	7440-48-4	E440C	0.1	mg/kg	<0.10	----
Copper	7440-50-8	E440C	0.5	mg/kg	<0.50	----
Lead	7439-92-1	E440C	0.5	mg/kg	<0.50	----
Molybdenum	7439-98-7	E440C	0.1	mg/kg	<0.10	----
Nickel	7440-02-0	E440C	0.5	mg/kg	<0.50	----
Selenium	7782-49-2	E440C	0.2	mg/kg	<0.20	----
Silver	7440-22-4	E440C	0.1	mg/kg	<0.10	----
Thallium	7440-28-0	E440C	0.05	mg/kg	<0.050	----
Uranium	7440-61-1	E440C	0.05	mg/kg	<0.050	----
Vanadium	7440-62-2	E440C	0.2	mg/kg	<0.20	----
Zinc	7440-66-6	E440C	2	mg/kg	<2.0	----
Metals (QCLot: 1991158)						
Mercury	7439-97-6	E510C	0.005	mg/kg	<0.0050	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Speciated Metals (QCLot: 1991152)						
Chromium, hexavalent [Cr VI]	18540-29-9	E532	0.1	mg/kg	<0.10	----
Speciated Metals (QCLot: 2009032)						
Methylmercury (as MeHg)	22967-92-6	E538	0.05	µg/kg	<0.050	----
Volatile Organic Compounds (QCLot: 1992419)						
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	----
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	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1992419) - continued						
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	----
Volatile Organic Compounds (QCLot: 1992727)						
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	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1992727) - continued						
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	----
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	----
Hydrocarbons (QCLot: 1992418)						
F1 (C6-C10)	----	E581.F1	5	mg/kg	<5.0	----
Hydrocarbons (QCLot: 1992726)						
F1 (C6-C10)	----	E581.F1	5	mg/kg	<5.0	----
Hydrocarbons (QCLot: 1993060)						
F2 (C10-C16)	----	E601.SG-L	10	mg/kg	<10	----
F3 (C16-C34)	----	E601.SG-L	50	mg/kg	<50	----
F4 (C34-C50)	----	E601.SG-L	50	mg/kg	<50	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1993061)						
Acenaphthene	83-32-9	E641A	0.05	mg/kg	<0.050	----
Acenaphthylene	208-96-8	E641A	0.05	mg/kg	<0.050	----
Anthracene	120-12-7	E641A	0.05	mg/kg	<0.050	----
Benz(a)anthracene	56-55-3	E641A	0.05	mg/kg	<0.050	----
Benzo(a)pyrene	50-32-8	E641A	0.05	mg/kg	<0.050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.05	mg/kg	<0.050	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.05	mg/kg	<0.050	----
Benzo(k)fluoranthene	207-08-9	E641A	0.05	mg/kg	<0.050	----
Chrysene	218-01-9	E641A	0.05	mg/kg	<0.050	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.05	mg/kg	<0.050	----
Fluoranthene	206-44-0	E641A	0.05	mg/kg	<0.050	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1993061) - continued						
Fluorene	86-73-7	E641A	0.05	mg/kg	<0.050	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.05	mg/kg	<0.050	----
Methylnaphthalene, 1-	90-12-0	E641A	0.03	mg/kg	<0.030	----
Methylnaphthalene, 2-	91-57-6	E641A	0.03	mg/kg	<0.030	----
Naphthalene	91-20-3	E641A	0.01	mg/kg	<0.010	----
Phenanthrene	85-01-8	E641A	0.05	mg/kg	<0.050	----
Pyrene	129-00-0	E641A	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**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 1991153)									
pH (1:2 soil:CaCl2-aq)	----	E108A	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 1991154)									
Conductivity (1:2 leachate)	----	E100-L	5	µS/cm	1410 µS/cm	99.7	90.0	110	----
Physical Tests (QCLot: 1991162)									
Moisture	----	E144	0.25	%	50 %	99.6	90.0	110	----
Cyanides (QCLot: 1991150)									
Cyanide, weak acid dissociable	----	E336A	0.05	mg/kg	1.25 mg/kg	86.3	80.0	120	----
Metals (QCLot: 1991155)									
Calcium, soluble ion content	7440-70-2	E484	0.5	mg/L	300 mg/L	105	80.0	120	----
Magnesium, soluble ion content	7439-95-4	E484	0.5	mg/L	50 mg/L	102	80.0	120	----
Sodium, soluble ion content	17341-25-2	E484	0.5	mg/L	50 mg/L	100	80.0	120	----
Metals (QCLot: 1991156)									
Boron, hot water soluble	7440-42-8	E487	0.1	mg/kg	2 mg/kg	103	70.0	130	----
Metals (QCLot: 1991157)									
Antimony	7440-36-0	E440C	0.1	mg/kg	100 mg/kg	97.8	80.0	120	----
Arsenic	7440-38-2	E440C	0.1	mg/kg	100 mg/kg	102	80.0	120	----
Barium	7440-39-3	E440C	0.5	mg/kg	25 mg/kg	99.9	80.0	120	----
Beryllium	7440-41-7	E440C	0.1	mg/kg	10 mg/kg	96.8	80.0	120	----
Boron	7440-42-8	E440C	5	mg/kg	100 mg/kg	97.1	80.0	120	----
Cadmium	7440-43-9	E440C	0.02	mg/kg	10 mg/kg	99.9	80.0	120	----
Chromium	7440-47-3	E440C	0.5	mg/kg	25 mg/kg	100	80.0	120	----
Cobalt	7440-48-4	E440C	0.1	mg/kg	25 mg/kg	97.5	80.0	120	----
Copper	7440-50-8	E440C	0.5	mg/kg	25 mg/kg	98.6	80.0	120	----
Lead	7439-92-1	E440C	0.5	mg/kg	50 mg/kg	103	80.0	120	----
Molybdenum	7439-98-7	E440C	0.1	mg/kg	25 mg/kg	100	80.0	120	----
Nickel	7440-02-0	E440C	0.5	mg/kg	50 mg/kg	97.6	80.0	120	----
Selenium	7782-49-2	E440C	0.2	mg/kg	100 mg/kg	99.2	80.0	120	----
Silver	7440-22-4	E440C	0.1	mg/kg	10 mg/kg	# 46.0	80.0	120	RRQC
Thallium	7440-28-0	E440C	0.05	mg/kg	100 mg/kg	102	80.0	120	----
Uranium	7440-61-1	E440C	0.05	mg/kg	0.5 mg/kg	97.6	80.0	120	----
Vanadium	7440-62-2	E440C	0.2	mg/kg	50 mg/kg	101	80.0	120	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Metals (QCLot: 1991157) - continued									
Zinc	7440-66-6	E440C	2	mg/kg	50 mg/kg	96.0	80.0	120	----
Metals (QCLot: 1991158)									
Mercury	7439-97-6	E510C	0.005	mg/kg	0.1 mg/kg	106	80.0	120	----
Speciated Metals (QCLot: 1991152)									
Chromium, hexavalent [Cr VI]	18540-29-9	E532	0.1	mg/kg	0.8 mg/kg	105	80.0	120	----
Speciated Metals (QCLot: 2009032)									
Methylmercury (as MeHg)	22967-92-6	E538	0.05	µg/kg	10 µg/kg	99.6	70.0	130	----
Volatile Organic Compounds (QCLot: 1992419)									
Acetone	67-64-1	E611D	0.5	mg/kg	3.48 mg/kg	130	60.0	140	----
Benzene	71-43-2	E611D	0.005	mg/kg	3.48 mg/kg	112	70.0	130	----
Bromodichloromethane	75-27-4	E611D	0.05	mg/kg	3.48 mg/kg	115	50.0	140	----
Bromoform	75-25-2	E611D	0.05	mg/kg	3.48 mg/kg	109	70.0	130	----
Bromomethane	74-83-9	E611D	0.05	mg/kg	3.48 mg/kg	81.9	50.0	140	----
Carbon tetrachloride	56-23-5	E611D	0.05	mg/kg	3.48 mg/kg	110	70.0	130	----
Chlorobenzene	108-90-7	E611D	0.05	mg/kg	3.48 mg/kg	103	70.0	130	----
Chloroform	67-66-3	E611D	0.05	mg/kg	3.48 mg/kg	109	70.0	130	----
Dibromochloromethane	124-48-1	E611D	0.05	mg/kg	3.48 mg/kg	120	60.0	130	----
Dibromoethane, 1,2-	106-93-4	E611D	0.05	mg/kg	3.48 mg/kg	106	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.05	mg/kg	3.48 mg/kg	110	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.05	mg/kg	3.48 mg/kg	107	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.05	mg/kg	3.48 mg/kg	107	70.0	130	----
Dichlorodifluoromethane	75-71-8	E611D	0.05	mg/kg	3.48 mg/kg	69.4	50.0	140	----
Dichloroethane, 1,1-	75-34-3	E611D	0.05	mg/kg	3.48 mg/kg	111	60.0	130	----
Dichloroethane, 1,2-	107-06-2	E611D	0.05	mg/kg	3.48 mg/kg	116	60.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.05	mg/kg	3.48 mg/kg	108	60.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.05	mg/kg	3.48 mg/kg	114	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.05	mg/kg	3.48 mg/kg	108	60.0	130	----
Dichloromethane	75-09-2	E611D	0.045	mg/kg	3.48 mg/kg	110	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611D	0.05	mg/kg	3.48 mg/kg	112	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.03	mg/kg	3.48 mg/kg	104	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.03	mg/kg	3.48 mg/kg	103	70.0	130	----
Ethylbenzene	100-41-4	E611D	0.015	mg/kg	3.48 mg/kg	110	70.0	130	----
Hexane, n-	110-54-3	E611D	0.05	mg/kg	3.48 mg/kg	121	70.0	130	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	0.5	mg/kg	3.48 mg/kg	114	60.0	140	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1992419) - continued									
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.5	mg/kg	3.48 mg/kg	117	60.0	140	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.04	mg/kg	3.48 mg/kg	103	70.0	130	----
Styrene	100-42-5	E611D	0.05	mg/kg	3.48 mg/kg	108	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.05	mg/kg	3.48 mg/kg	109	60.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.05	mg/kg	3.48 mg/kg	120	60.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.05	mg/kg	3.48 mg/kg	112	60.0	130	----
Toluene	108-88-3	E611D	0.05	mg/kg	3.48 mg/kg	111	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.05	mg/kg	3.48 mg/kg	95.0	60.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.05	mg/kg	3.48 mg/kg	111	60.0	130	----
Trichloroethylene	79-01-6	E611D	0.01	mg/kg	3.48 mg/kg	107	60.0	130	----
Trichlorofluoromethane	75-69-4	E611D	0.05	mg/kg	3.48 mg/kg	104	50.0	140	----
Vinyl chloride	75-01-4	E611D	0.02	mg/kg	3.48 mg/kg	98.5	60.0	140	----
Xylene, m+p-	179601-23-1	E611D	0.03	mg/kg	6.95 mg/kg	111	70.0	130	----
Xylene, o-	95-47-6	E611D	0.03	mg/kg	3.48 mg/kg	111	70.0	130	----
Volatile Organic Compounds (QCLot: 1992727)									
Acetone	67-64-1	E611D	0.5	mg/kg	3.48 mg/kg	109	60.0	140	----
Benzene	71-43-2	E611D	0.005	mg/kg	3.48 mg/kg	96.3	70.0	130	----
Bromodichloromethane	75-27-4	E611D	0.05	mg/kg	3.48 mg/kg	97.8	50.0	140	----
Bromoform	75-25-2	E611D	0.05	mg/kg	3.48 mg/kg	101	70.0	130	----
Bromomethane	74-83-9	E611D	0.05	mg/kg	3.48 mg/kg	69.2	50.0	140	----
Carbon tetrachloride	56-23-5	E611D	0.05	mg/kg	3.48 mg/kg	104	70.0	130	----
Chlorobenzene	108-90-7	E611D	0.05	mg/kg	3.48 mg/kg	96.2	70.0	130	----
Chloroform	67-66-3	E611D	0.05	mg/kg	3.48 mg/kg	101	70.0	130	----
Dibromochloromethane	124-48-1	E611D	0.05	mg/kg	3.48 mg/kg	104	60.0	130	----
Dibromoethane, 1,2-	106-93-4	E611D	0.05	mg/kg	3.48 mg/kg	95.5	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.05	mg/kg	3.48 mg/kg	100	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.05	mg/kg	3.48 mg/kg	98.1	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.05	mg/kg	3.48 mg/kg	98.6	70.0	130	----
Dichlorodifluoromethane	75-71-8	E611D	0.05	mg/kg	3.48 mg/kg	63.0	50.0	140	----
Dichloroethane, 1,1-	75-34-3	E611D	0.05	mg/kg	3.48 mg/kg	95.0	60.0	130	----
Dichloroethane, 1,2-	107-06-2	E611D	0.05	mg/kg	3.48 mg/kg	106	60.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.05	mg/kg	3.48 mg/kg	91.6	60.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.05	mg/kg	3.48 mg/kg	95.4	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.05	mg/kg	3.48 mg/kg	95.7	60.0	130	----
Dichloromethane	75-09-2	E611D	0.045	mg/kg	3.48 mg/kg	96.9	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611D	0.05	mg/kg	3.48 mg/kg	97.1	70.0	130	----

Sub-Matrix: **Soil/Solid**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report: Spike – Target Concentration	Recovery (%) – LCS	Recovery Limits (%) – Low	Recovery Limits (%) – High	Qualifier
Volatile Organic Compounds (QCLot: 1992727) - continued									
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.03	mg/kg	3.48 mg/kg	99.4	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.03	mg/kg	3.48 mg/kg	95.3	70.0	130	----
Ethylbenzene	100-41-4	E611D	0.015	mg/kg	3.48 mg/kg	88.6	70.0	130	----
Hexane, n-	110-54-3	E611D	0.05	mg/kg	3.48 mg/kg	86.2	70.0	130	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	0.5	mg/kg	3.48 mg/kg	99.3	60.0	140	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	0.5	mg/kg	3.48 mg/kg	91.8	60.0	140	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.04	mg/kg	3.48 mg/kg	101	70.0	130	----
Styrene	100-42-5	E611D	0.05	mg/kg	3.48 mg/kg	93.9	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.05	mg/kg	3.48 mg/kg	99.1	60.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.05	mg/kg	3.48 mg/kg	92.0	60.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.05	mg/kg	3.48 mg/kg	97.4	60.0	130	----
Toluene	108-88-3	E611D	0.05	mg/kg	3.48 mg/kg	89.4	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.05	mg/kg	3.48 mg/kg	103	60.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.05	mg/kg	3.48 mg/kg	95.5	60.0	130	----
Trichloroethylene	79-01-6	E611D	0.01	mg/kg	3.48 mg/kg	103	60.0	130	----
Trichlorofluoromethane	75-69-4	E611D	0.05	mg/kg	3.48 mg/kg	95.7	50.0	140	----
Vinyl chloride	75-01-4	E611D	0.02	mg/kg	3.48 mg/kg	78.4	60.0	140	----
Xylene, m+p-	179601-23-1	E611D	0.03	mg/kg	6.95 mg/kg	93.9	70.0	130	----
Xylene, o-	95-47-6	E611D	0.03	mg/kg	3.48 mg/kg	93.1	70.0	130	----
Hydrocarbons (QCLot: 1992418)									
F1 (C6-C10)	----	E581.F1	5	mg/kg	69.2 mg/kg	102	80.0	120	----
Hydrocarbons (QCLot: 1992726)									
F1 (C6-C10)	----	E581.F1	5	mg/kg	69.2 mg/kg	109	80.0	120	----
Hydrocarbons (QCLot: 1993060)									
F2 (C10-C16)	----	E601.SG-L	10	mg/kg	671 mg/kg	98.9	70.0	130	----
F3 (C16-C34)	----	E601.SG-L	50	mg/kg	1380 mg/kg	96.7	70.0	130	----
F4 (C34-C50)	----	E601.SG-L	50	mg/kg	748 mg/kg	97.4	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1993061)									
Acenaphthene	83-32-9	E641A	0.05	mg/kg	0.5 mg/kg	98.3	60.0	130	----
Acenaphthylene	208-96-8	E641A	0.05	mg/kg	0.5 mg/kg	97.7	60.0	130	----
Anthracene	120-12-7	E641A	0.05	mg/kg	0.5 mg/kg	104	60.0	130	----
Benz(a)anthracene	56-55-3	E641A	0.05	mg/kg	0.5 mg/kg	101	60.0	130	----
Benzo(a)pyrene	50-32-8	E641A	0.05	mg/kg	0.5 mg/kg	95.1	60.0	130	----
Benzo(b+j)fluoranthene	n/a	E641A	0.05	mg/kg	0.5 mg/kg	102	60.0	130	----

Sub-Matrix: **Soil/Solid**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 1993061) - continued									
Benzo(g,h,i)perylene	191-24-2	E641A	0.05	mg/kg	0.5 mg/kg	116	60.0	130	----
Benzo(k)fluoranthene	207-08-9	E641A	0.05	mg/kg	0.5 mg/kg	101	60.0	130	----
Chrysene	218-01-9	E641A	0.05	mg/kg	0.5 mg/kg	110	60.0	130	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.05	mg/kg	0.5 mg/kg	97.1	60.0	130	----
Fluoranthene	206-44-0	E641A	0.05	mg/kg	0.5 mg/kg	99.4	60.0	130	----
Fluorene	86-73-7	E641A	0.05	mg/kg	0.5 mg/kg	98.0	60.0	130	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.05	mg/kg	0.5 mg/kg	106	60.0	130	----
Methylnaphthalene, 1-	90-12-0	E641A	0.03	mg/kg	0.5 mg/kg	101	60.0	130	----
Methylnaphthalene, 2-	91-57-6	E641A	0.03	mg/kg	0.5 mg/kg	106	60.0	130	----
Naphthalene	91-20-3	E641A	0.01	mg/kg	0.5 mg/kg	95.1	60.0	130	----
Phenanthrene	85-01-8	E641A	0.05	mg/kg	0.5 mg/kg	101	60.0	130	----
Pyrene	129-00-0	E641A	0.05	mg/kg	0.5 mg/kg	101	60.0	130	----

Qualifiers

Qualifier	Description
RRQC	*Refer to report comments for information regarding this QC result.*

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**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Cyanides (QCLot: 1991150)										
WT2510951-001	Anonymous	Cyanide, weak acid dissociable	----	E336A	1.09 mg/kg	1.25 mg/kg	86.9	70.0	130	----
Volatile Organic Compounds (QCLot: 1992419)										
WT2510964-002	Anonymous	Acetone	67-64-1	E611D	2.80 mg/kg	2.05 mg/kg	137	50.0	140	----
		Benzene	71-43-2	E611D	2.21 mg/kg	2.05 mg/kg	108	50.0	140	----
		Bromodichloromethane	75-27-4	E611D	2.36 mg/kg	2.05 mg/kg	115	50.0	140	----
		Bromoform	75-25-2	E611D	2.31 mg/kg	2.05 mg/kg	112	50.0	140	----
		Bromomethane	74-83-9	E611D	1.67 mg/kg	2.05 mg/kg	81.6	50.0	140	----
		Carbon tetrachloride	56-23-5	E611D	2.08 mg/kg	2.05 mg/kg	101	50.0	140	----
		Chlorobenzene	108-90-7	E611D	2.02 mg/kg	2.05 mg/kg	98.4	50.0	140	----
		Chloroform	67-66-3	E611D	2.18 mg/kg	2.05 mg/kg	106	50.0	140	----
		Dibromochloromethane	124-48-1	E611D	2.51 mg/kg	2.05 mg/kg	122	50.0	140	----
		Dibromoethane, 1,2-	106-93-4	E611D	2.27 mg/kg	2.05 mg/kg	111	50.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	2.19 mg/kg	2.05 mg/kg	107	50.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	2.08 mg/kg	2.05 mg/kg	101	50.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	2.11 mg/kg	2.05 mg/kg	103	50.0	140	----
		Dichlorodifluoromethane	75-71-8	E611D	1.90 mg/kg	2.05 mg/kg	92.8	50.0	140	----
		Dichloroethane, 1,1-	75-34-3	E611D	2.20 mg/kg	2.05 mg/kg	107	50.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611D	2.47 mg/kg	2.05 mg/kg	120	50.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611D	2.10 mg/kg	2.05 mg/kg	102	50.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	2.28 mg/kg	2.05 mg/kg	111	50.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	2.09 mg/kg	2.05 mg/kg	102	50.0	140	----
		Dichloromethane	75-09-2	E611D	2.26 mg/kg	2.05 mg/kg	110	50.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611D	2.27 mg/kg	2.05 mg/kg	111	50.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	2.10 mg/kg	2.05 mg/kg	102	50.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	2.08 mg/kg	2.05 mg/kg	101	50.0	140	----
		Ethylbenzene	100-41-4	E611D	2.13 mg/kg	2.05 mg/kg	104	50.0	140	----
		Hexane, n-	110-54-3	E611D	2.22 mg/kg	2.05 mg/kg	108	50.0	140	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	2.68 mg/kg	2.05 mg/kg	131	50.0	140	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	2.65 mg/kg	2.05 mg/kg	129	50.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	2.09 mg/kg	2.05 mg/kg	102	50.0	140	----
		Styrene	100-42-5	E611D	2.14 mg/kg	2.05 mg/kg	104	50.0	140	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	2.16 mg/kg	2.05 mg/kg	105	50.0	140	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	2.58 mg/kg	2.05 mg/kg	126	50.0	140	----
		Tetrachloroethylene	127-18-4	E611D	2.09 mg/kg	2.05 mg/kg	102	50.0	140	----
		Toluene	108-88-3	E611D	2.13 mg/kg	2.05 mg/kg	104	50.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	1.81 mg/kg	2.05 mg/kg	88.4	50.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	2.34 mg/kg	2.05 mg/kg	114	50.0	140	----
		Trichloroethylene	79-01-6	E611D	2.07 mg/kg	2.05 mg/kg	101	50.0	140	----
		Trichlorofluoromethane	75-69-4	E611D	2.04 mg/kg	2.05 mg/kg	99.3	50.0	140	----

Sub-Matrix: **Soil/Solid**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1992419) - continued										
WT2510964-002	Anonymous	Vinyl chloride	75-01-4	E611D	2.06 mg/kg	2.05 mg/kg	100	50.0	140	----
		Xylene, m+p-	179601-23-1	E611D	4.26 mg/kg	4.1 mg/kg	104	50.0	140	----
		Xylene, o-	95-47-6	E611D	2.16 mg/kg	2.05 mg/kg	105	50.0	140	----
Volatile Organic Compounds (QCLot: 1992727)										
WT2510976-002	MW102-8-10	Acetone	67-64-1	E611D	2.79 mg/kg	2.17 mg/kg	129	50.0	140	----
		Benzene	71-43-2	E611D	2.16 mg/kg	2.17 mg/kg	99.6	50.0	140	----
		Bromodichloromethane	75-27-4	E611D	2.34 mg/kg	2.17 mg/kg	108	50.0	140	----
		Bromoform	75-25-2	E611D	2.25 mg/kg	2.17 mg/kg	104	50.0	140	----
		Bromomethane	74-83-9	E611D	1.90 mg/kg	2.17 mg/kg	87.8	50.0	140	----
		Carbon tetrachloride	56-23-5	E611D	2.31 mg/kg	2.17 mg/kg	106	50.0	140	----
		Chlorobenzene	108-90-7	E611D	2.14 mg/kg	2.17 mg/kg	98.9	50.0	140	----
		Chloroform	67-66-3	E611D	2.26 mg/kg	2.17 mg/kg	104	50.0	140	----
		Dibromochloromethane	124-48-1	E611D	2.25 mg/kg	2.17 mg/kg	104	50.0	140	----
		Dibromoethane, 1,2-	106-93-4	E611D	2.14 mg/kg	2.17 mg/kg	98.8	50.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	2.22 mg/kg	2.17 mg/kg	102	50.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	2.18 mg/kg	2.17 mg/kg	100	50.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	2.14 mg/kg	2.17 mg/kg	98.5	50.0	140	----
		Dichlorodifluoromethane	75-71-8	E611D	2.82 mg/kg	2.17 mg/kg	130	50.0	140	----
		Dichloroethane, 1,1-	75-34-3	E611D	2.24 mg/kg	2.17 mg/kg	104	50.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611D	2.33 mg/kg	2.17 mg/kg	107	50.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611D	2.27 mg/kg	2.17 mg/kg	105	50.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	2.14 mg/kg	2.17 mg/kg	98.6	50.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	2.34 mg/kg	2.17 mg/kg	108	50.0	140	----
		Dichloromethane	75-09-2	E611D	2.39 mg/kg	2.17 mg/kg	110	50.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611D	2.13 mg/kg	2.17 mg/kg	98.1	50.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	2.38 mg/kg	2.17 mg/kg	110	50.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	2.11 mg/kg	2.17 mg/kg	97.2	50.0	140	----
		Ethylbenzene	100-41-4	E611D	1.99 mg/kg	2.17 mg/kg	91.6	50.0	140	----
		Hexane, n-	110-54-3	E611D	2.13 mg/kg	2.17 mg/kg	98.3	50.0	140	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	2.33 mg/kg	2.17 mg/kg	107	50.0	140	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	2.29 mg/kg	2.17 mg/kg	106	50.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	2.24 mg/kg	2.17 mg/kg	103	50.0	140	----
		Styrene	100-42-5	E611D	2.20 mg/kg	2.17 mg/kg	101	50.0	140	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	2.13 mg/kg	2.17 mg/kg	98.5	50.0	140	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	2.01 mg/kg	2.17 mg/kg	92.8	50.0	140	----
		Tetrachloroethylene	127-18-4	E611D	2.10 mg/kg	2.17 mg/kg	97.0	50.0	140	----
		Toluene	108-88-3	E611D	2.00 mg/kg	2.17 mg/kg	92.3	50.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	2.28 mg/kg	2.17 mg/kg	105	50.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	2.10 mg/kg	2.17 mg/kg	96.7	50.0	140	----
		Trichloroethylene	79-01-6	E611D	2.27 mg/kg	2.17 mg/kg	105	50.0	140	----
		Trichlorofluoromethane	75-69-4	E611D	2.50 mg/kg	2.17 mg/kg	115	50.0	140	----
		Vinyl chloride	75-01-4	E611D	2.22 mg/kg	2.17 mg/kg	102	50.0	140	----
		Xylene, m+p-	179601-23-1	E611D	4.09 mg/kg	4.34 mg/kg	94.2	50.0	140	----
		Xylene, o-	95-47-6	E611D	2.00 mg/kg	2.17 mg/kg	92.3	50.0	140	----

Sub-Matrix: **Soil/Solid**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Hydrocarbons (QCLot: 1992418)										
WT2510964-002	Anonymous	F1 (C6-C10)	----	E581.F1	32.9 mg/kg	41 mg/kg	80.2	60.0	140	----
Hydrocarbons (QCLot: 1992726)										
WT2510976-002	MW102-8-10	F1 (C6-C10)	----	E581.F1	45.6 mg/kg	43.4 mg/kg	105	60.0	140	----
Hydrocarbons (QCLot: 1993060)										
WT2510948-001	Anonymous	F2 (C10-C16)	----	E601.SG-L	524 mg/kg	538 mg/kg	97.4	60.0	140	----
		F3 (C16-C34)	----	E601.SG-L	1150 mg/kg	1110 mg/kg	104	60.0	140	----
		F4 (C34-C50)	----	E601.SG-L	606 mg/kg	600 mg/kg	101	60.0	140	----
Polycyclic Aromatic Hydrocarbons (QCLot: 1993061)										
WT2510948-001	Anonymous	Acenaphthene	83-32-9	E641A	0.383 mg/kg	0.386 mg/kg	99.2	50.0	140	----
		Acenaphthylene	208-96-8	E641A	0.371 mg/kg	0.386 mg/kg	96.1	50.0	140	----
		Anthracene	120-12-7	E641A	0.400 mg/kg	0.386 mg/kg	104	50.0	140	----
		Benz(a)anthracene	56-55-3	E641A	0.368 mg/kg	0.386 mg/kg	95.6	50.0	140	----
		Benzo(a)pyrene	50-32-8	E641A	0.376 mg/kg	0.386 mg/kg	97.6	50.0	140	----
		Benzo(b+j)fluoranthene	n/a	E641A	0.378 mg/kg	0.386 mg/kg	98.0	50.0	140	----
		Benzo(g,h,i)perylene	191-24-2	E641A	0.405 mg/kg	0.386 mg/kg	105	50.0	140	----
		Benzo(k)fluoranthene	207-08-9	E641A	0.386 mg/kg	0.386 mg/kg	100	50.0	140	----
		Chrysene	218-01-9	E641A	0.384 mg/kg	0.386 mg/kg	99.5	50.0	140	----
		Dibenz(a,h)anthracene	53-70-3	E641A	0.377 mg/kg	0.386 mg/kg	97.6	50.0	140	----
		Fluoranthene	206-44-0	E641A	0.377 mg/kg	0.386 mg/kg	97.7	50.0	140	----
		Fluorene	86-73-7	E641A	0.384 mg/kg	0.386 mg/kg	99.5	50.0	140	----
		Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.389 mg/kg	0.386 mg/kg	101	50.0	140	----
		Methylnaphthalene, 1-	90-12-0	E641A	0.387 mg/kg	0.386 mg/kg	100	50.0	140	----
		Methylnaphthalene, 2-	91-57-6	E641A	0.410 mg/kg	0.386 mg/kg	106	50.0	140	----
		Naphthalene	91-20-3	E641A	0.372 mg/kg	0.386 mg/kg	96.4	50.0	140	----
		Phenanthrene	85-01-8	E641A	0.407 mg/kg	0.386 mg/kg	105	50.0	140	----
		Pyrene	129-00-0	E641A	0.386 mg/kg	0.386 mg/kg	100	50.0	140	----

Reference Material (RM) Report

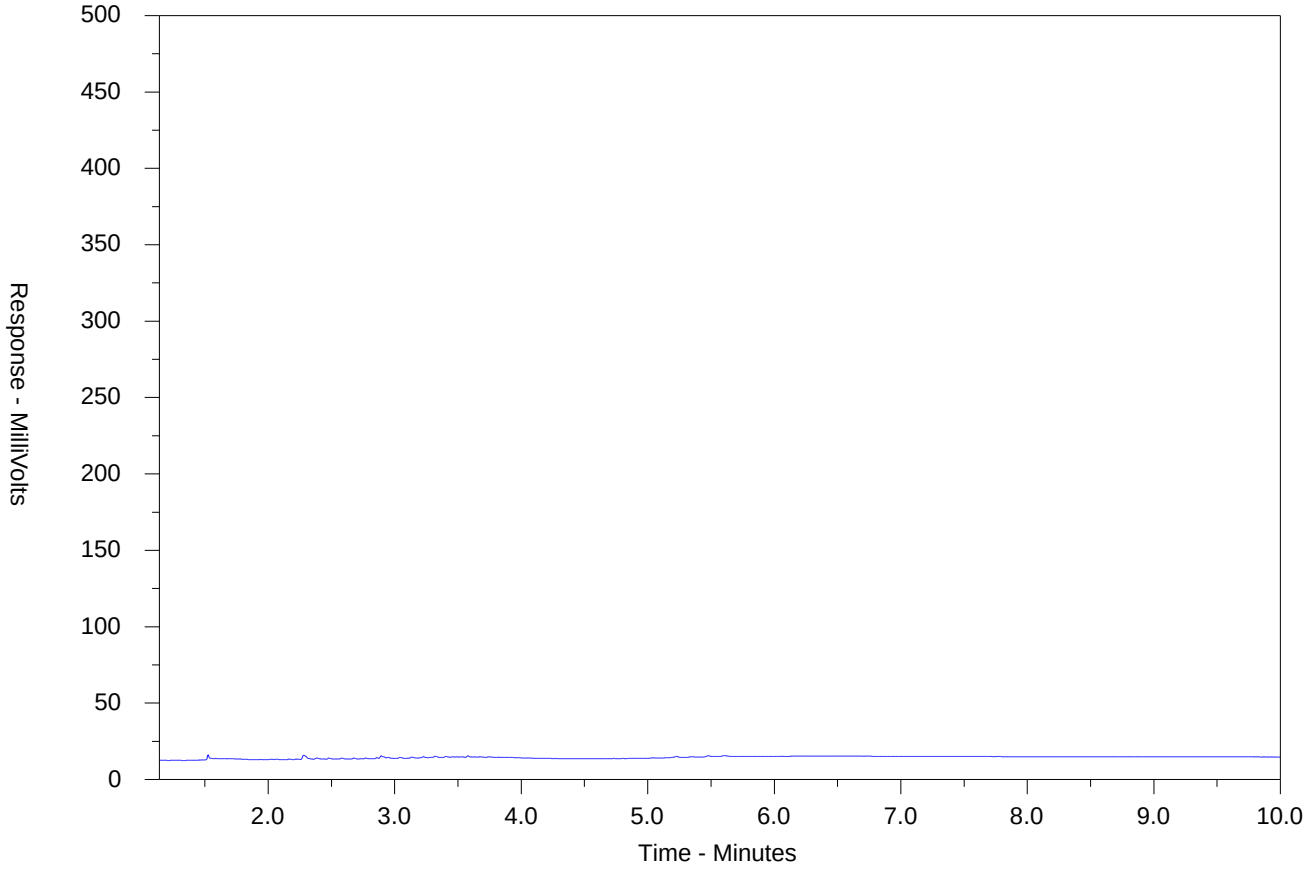
A Reference Material (RM) is a homogenous material with known and well-established analyte concentrations. RMs are processed in an identical manner to test samples, and are used to monitor and control the accuracy and precision of a test method for a typical sample matrix. RM results are expressed as 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:

Reference Material (RM) Report									
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Physical Tests (QCLot: 1991154)									
QC-1991154-003	RM	Conductivity (1:2 leachate)	----	E100-L	3130 µS/cm	92.9	70.0	130	----
Metals (QCLot: 1991155)									
QC-1991155-003	RM	Calcium, soluble ion content	7440-70-2	E484	169 mg/L	91.3	70.0	130	----
QC-1991155-003	RM	Magnesium, soluble ion content	7439-95-4	E484	60.4 mg/L	91.6	70.0	130	----
QC-1991155-003	RM	Sodium, soluble ion content	17341-25-2	E484	107 mg/L	95.5	70.0	130	----
Metals (QCLot: 1991156)									
QC-1991156-003	RM	Boron, hot water soluble	7440-42-8	E487	1.82 mg/kg	105	60.0	140	----
Metals (QCLot: 1991157)									
QC-1991157-003	RM	Antimony	7440-36-0	E440C	24.8 mg/kg	84.4	70.0	130	----
QC-1991157-003	RM	Arsenic	7440-38-2	E440C	21.2 mg/kg	97.5	70.0	130	----
QC-1991157-003	RM	Barium	7440-39-3	E440C	788 mg/kg	102	70.0	130	----
QC-1991157-003	RM	Beryllium	7440-41-7	E440C	1.82 mg/kg	99.6	70.0	130	----
QC-1991157-003	RM	Cadmium	7440-43-9	E440C	2.15 mg/kg	95.5	70.0	130	----
QC-1991157-003	RM	Chromium	7440-47-3	E440C	56.9 mg/kg	97.2	70.0	130	----
QC-1991157-003	RM	Cobalt	7440-48-4	E440C	32 mg/kg	96.2	70.0	130	----
QC-1991157-003	RM	Copper	7440-50-8	E440C	969 mg/kg	102	70.0	130	----
QC-1991157-003	RM	Lead	7439-92-1	E440C	919 mg/kg	96.9	70.0	130	----
QC-1991157-003	RM	Molybdenum	7439-98-7	E440C	25.1 mg/kg	100	70.0	130	----
QC-1991157-003	RM	Nickel	7440-02-0	E440C	1000 mg/kg	102	70.0	130	----
QC-1991157-003	RM	Selenium	7782-49-2	E440C	1.04 mg/kg	106	60.0	140	----
QC-1991157-003	RM	Silver	7440-22-4	E440C	8.98 mg/kg	92.9	70.0	130	----
QC-1991157-003	RM	Thallium	7440-28-0	E440C	0.907 mg/kg	91.7	70.0	130	----
QC-1991157-003	RM	Uranium	7440-61-1	E440C	3.97 mg/kg	83.1	70.0	130	----
QC-1991157-003	RM	Vanadium	7440-62-2	E440C	66.2 mg/kg	96.8	70.0	130	----
QC-1991157-003	RM	Zinc	7440-66-6	E440C	828 mg/kg	94.1	70.0	130	----
Metals (QCLot: 1991158)									
QC-1991158-003	RM	Mercury	7439-97-6	E510C	0.068 mg/kg	104	70.0	130	----
Speciated Metals (QCLot: 1991152)									
QC-1991152-003	RM	Chromium, hexavalent [Cr VI]	18540-29-9	E532	172 mg/kg	96.1	70.0	130	----
Speciated Metals (QCLot: 2009032)									
QC-2009032-003	RM	Methylmercury (as MeHg)	22967-92-6	E538	75 µg/kg	71.9	70.0	130	----

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2510976-001-E601.SG-L
Client Sample ID: MW102-2-4



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

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

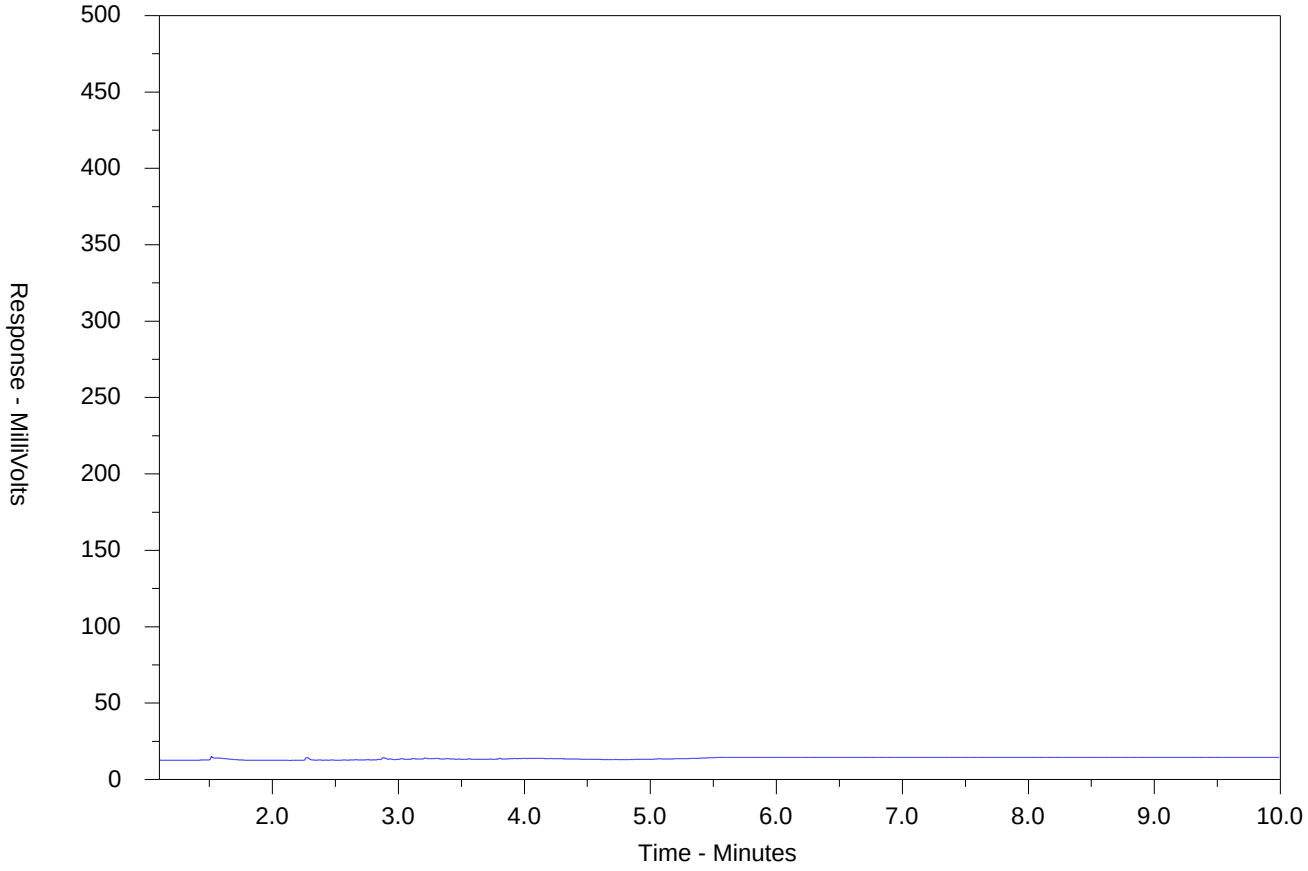
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2510976-002-E601.SG-L
Client Sample ID: MW102-8-10



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

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

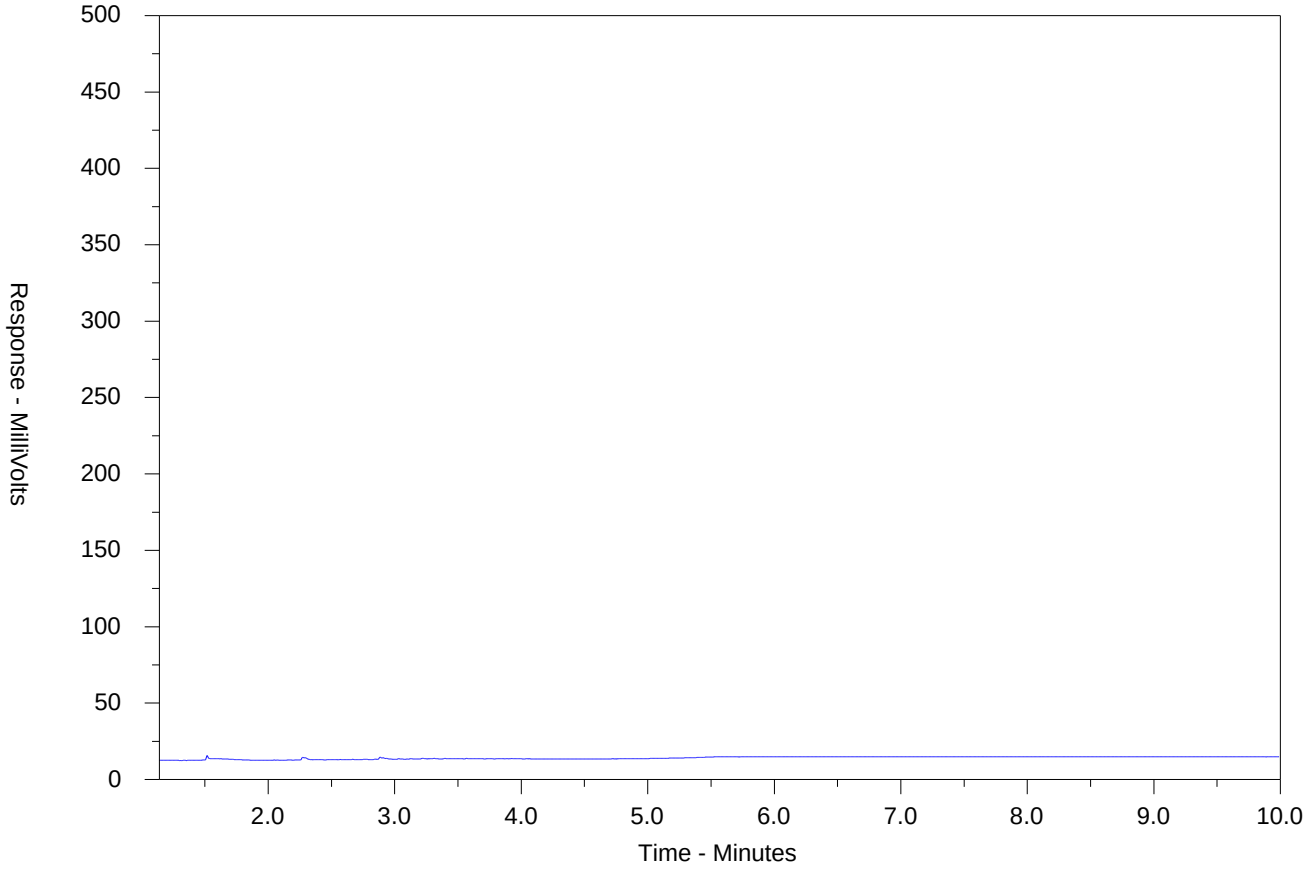
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2510976-003-E601.SG-L
Client Sample ID: MW101-5-7



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

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

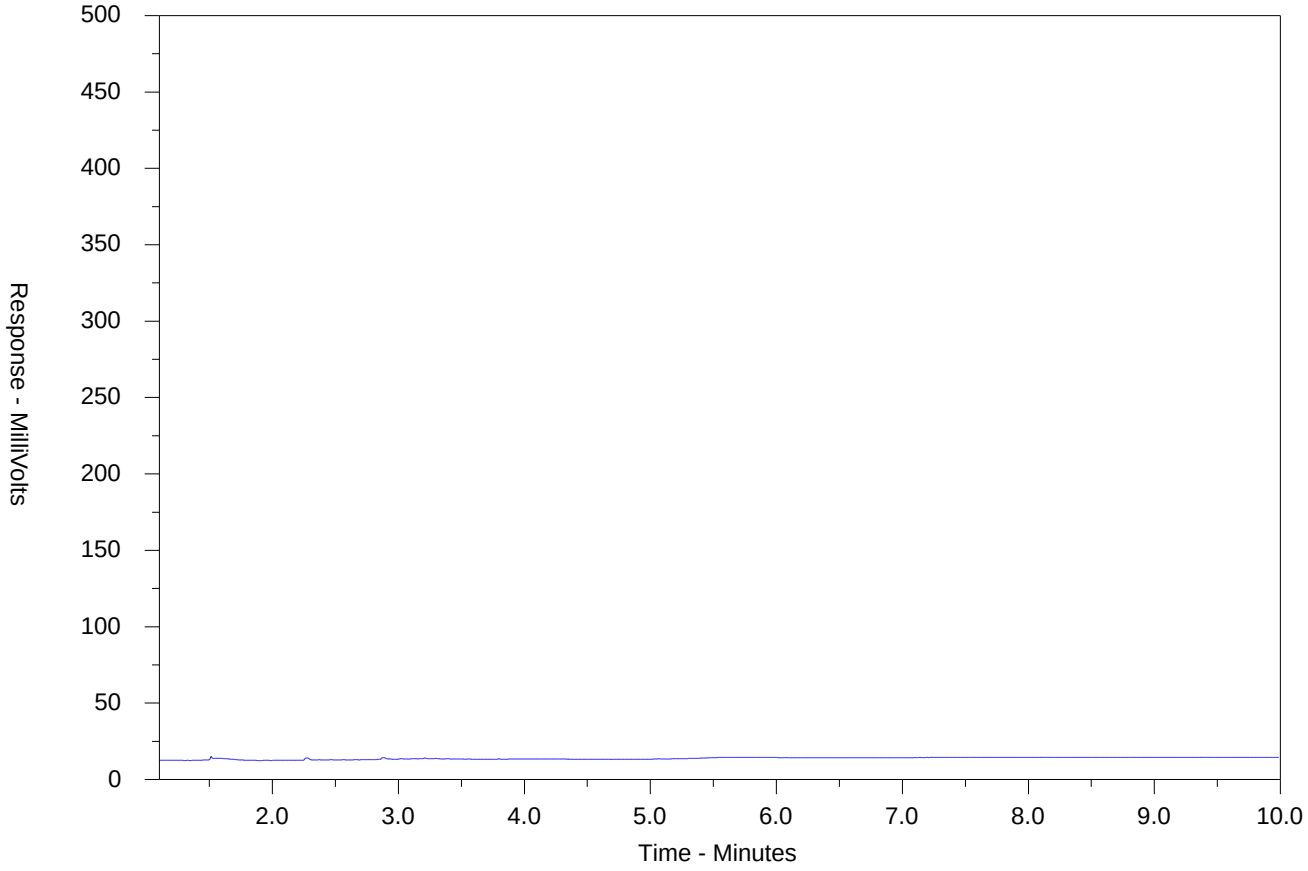
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2510976-004-E601.SG-L
Client Sample ID: MW101-15-17



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

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

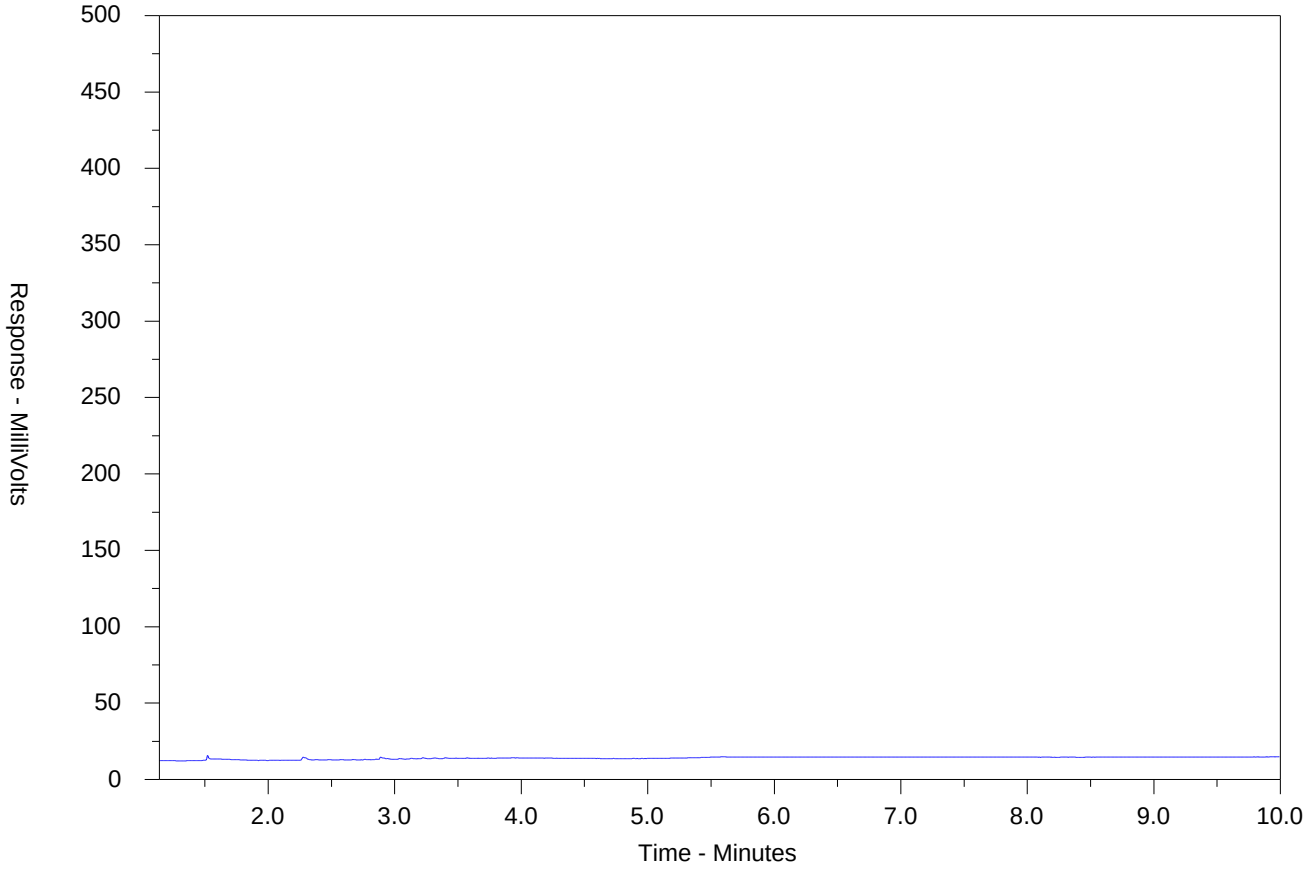
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2510976-005-E601.SG-L
Client Sample ID: MW101-23-25



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

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

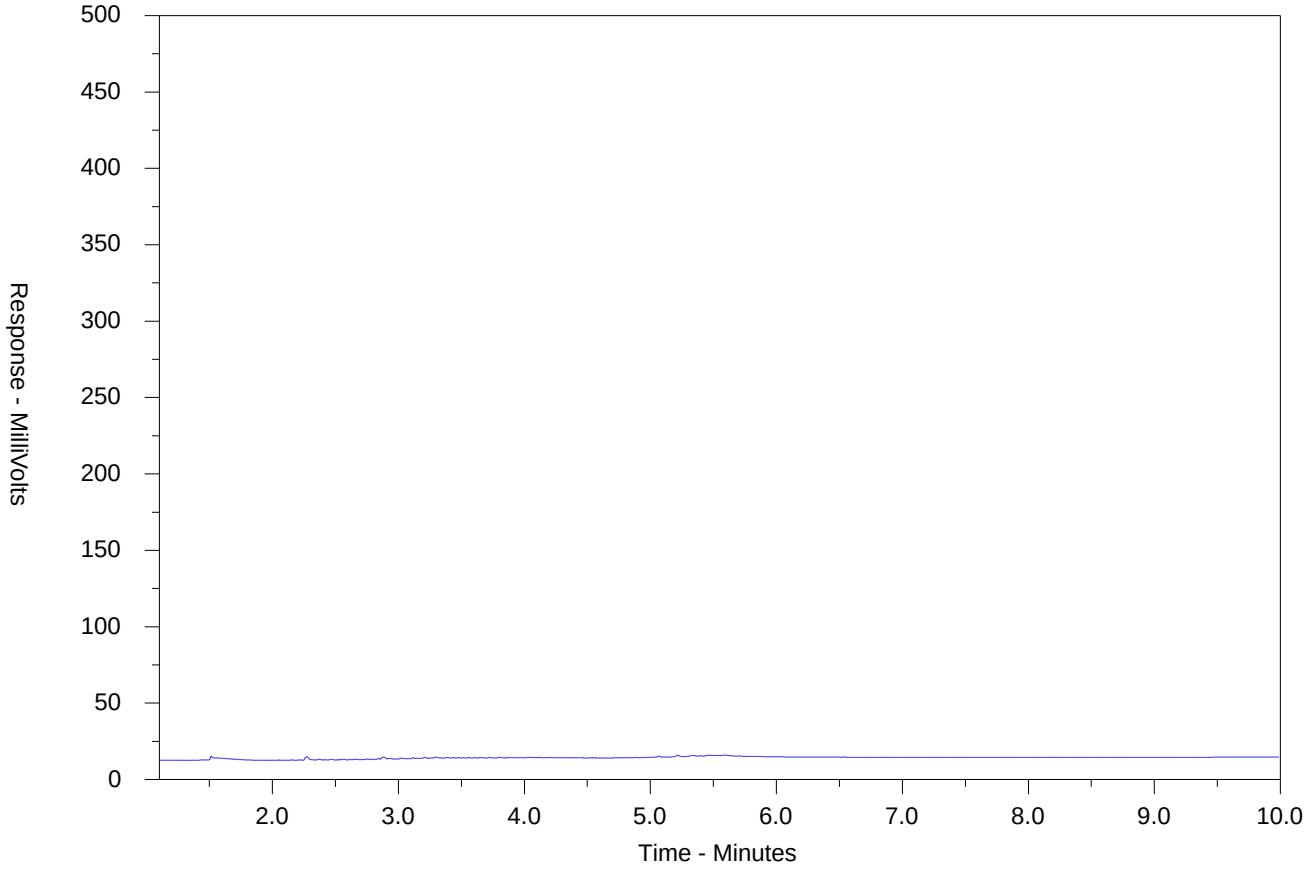
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2510976-006-E601.SG-L
Client Sample ID: MW103-1-2



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

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

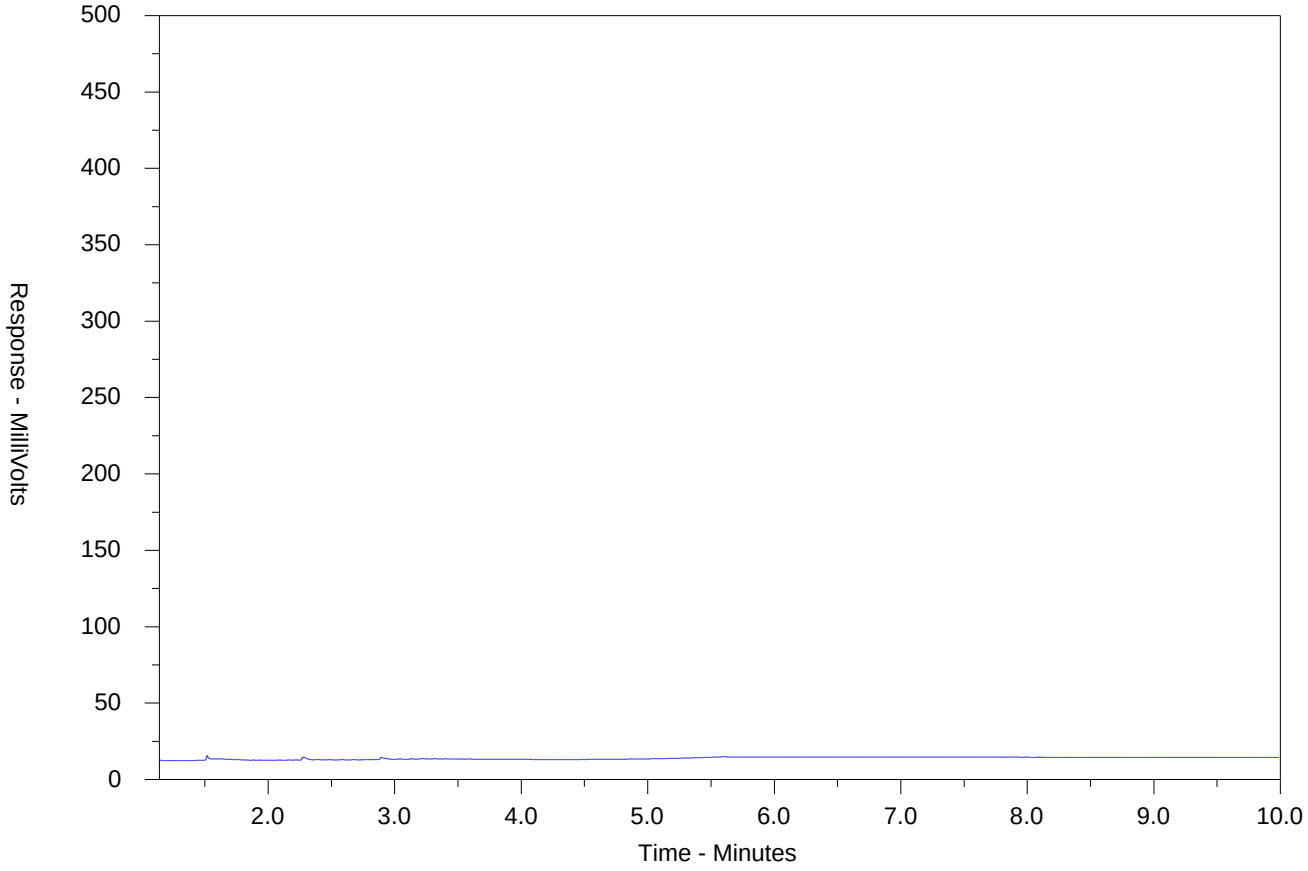
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2510976-007-E601.SG-L
Client Sample ID: MW103-15-17



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

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

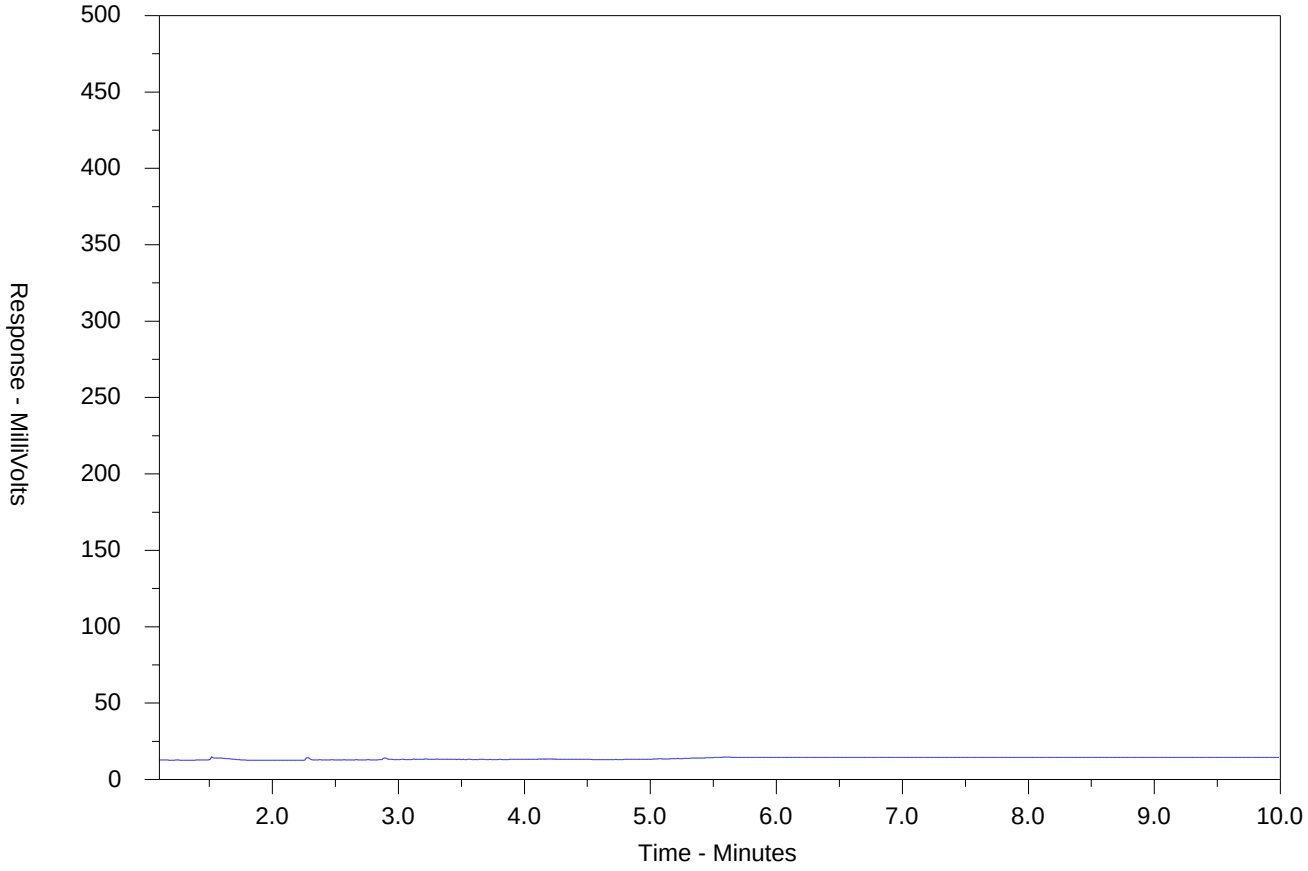
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2510976-008-E601.SG-L
Client Sample ID: MW105-15-17



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

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

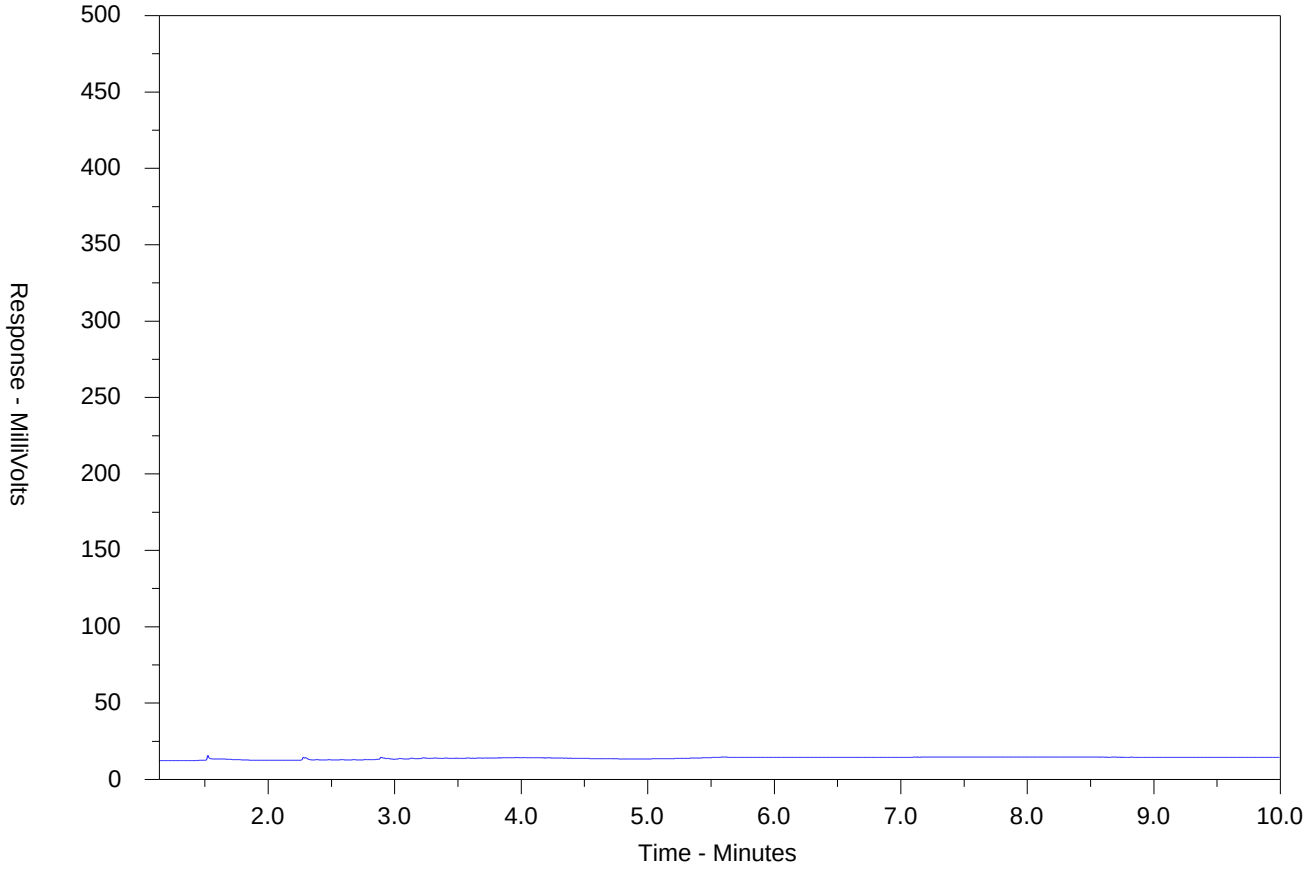
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2510976-009-E601.SG-L
Client Sample ID: MW104-2-4



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

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

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

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

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

VS-053

Chain of Custody (COC) / Analytical Request Form

COC Number: 23 - 1117375

Page 1 of 1

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

Environmental Division Waterloo
Work Order Reference
WT2510976

Telephone : +1 519 886 6910

Report To	Contact and company name below will appear on the final report	Reports / Recipients	Turnaround Time (TAT) Requested
Company:	JACOBS	Select Report Format: PDF, EXCEL, EDD (DIGITAL)	Routine [R] if received by 3pm M-F - no surcharges apply
Contact:	J. Gowing	Merge QC/QCI Reports with COA: YES, NO, N/A	4 day [P4] if received by 3pm M-F - 20% rush surcharge
Phone:	519 497 3011	Compare Results to Criteria on Report - provide details below if box checked	3 day [P3] if received by 3pm M-F - 25% rush surcharge
	Company address below will appear on the final report	Select Distribution: EMAIL, MAIL, FAX	2 day [P2] if received by 3pm M-F - 50% rush surcharge
Street:	KWO Office.	Email 1 or Fax: Tania.McCarthy@Jacobs.com	1 day [E] if received by 3pm M-F - 100% rush surcharge
City/Province:		Email 2: Michael.Shang@Jacobs.com	Same day [E2] if received by 10am M-S - 200% rush surc
Postal Code:		Email 3: EPMA@Jacobs.com	Additional fees may apply to rush requests on w
Invoice To	Same as Report To: YES, NO	**Invoice Recipients**	Date and Time Required for all E&P TATs:
	Copy of Invoice with Report: YES, NO	Select Invoice Distribution: EMAIL, MAIL, FAX	For all tests with rush TATs requested, p
Company:		Email 1 or Fax: CAMD Invoices	Analysi
Contact:		Email 2	

Project Information		Oil and Gas Required Fields (client use)	
ALS Client Code / QUOTE #:	11596	AFE/Cost Center:	PO#:
Job / Project #:	COG 14 EDN.	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	
ALS Lab Work Order # (ALS use only):	WT2510976 FH	ALS Contact: Matty	Sampler: J. Gowing

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	Bulk metals & inorganics	Bulk VOC (BTEX) TFE2 PHC	Methyl Hg	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MW102-2-4	5-5-25	1055	Soil	5	X	X	X			
	MW102-8-10		1105		5	X	X	X			
	MW101-5-7		1405		5	X	X	X			
	MW101-15-17		1445		5	X	X	X			
	MW101-23-25		1510		5	X	X	X			
	MW103-1-2	5/8/25	1105		5	X	X	X			
	MW103-15-17		1120		5	X	X	X			
	MW105-15-17		1130		5	X	X	X			
	MW104-2-4		1400		5	X	X	X			

Drinking Water (DW) Samples[1] (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)
Are samples taken from a Regulated DW System? YES, NO	T2
Are samples for human consumption/ use? YES, NO	

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: NONE, ICE, ICE PACKS, FROZEN, COOLING INITIATED
Cooler Custody Seals Intact: YES, N/A — Sample Custody Seals Intact: YES, N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				3.8	5.7		

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by:	Date: 5/8/2025	Time: 1625	Received by:	Date:	Time:	Received by:	Date: 5-8-25	Time: 16:25

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JAN 2023 FRONT

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

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

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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	:	**WT2510977**			
Client	:	**Jacobs Consultancy Canada Inc.**	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Jon Gowing	Account Manager	:	Mathy Mahadeva
Address	:	165 King St West Suite 201 Kitchener Ontario Canada N2G 1A7	Address	:	60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	519 579 3500	Telephone	:	+1 519 886 6910
Project	:	COG14EDN	Date Samples Received	:	09-May-2025 16:25
PO	:	----	Date Analysis Commenced	:	14-May-2025
C-O-C number	:	23-1117376	Issue Date	:	16-May-2025 19:35
Sampler	:	Jon Gowing			
Site	:	----			
Quote number	:	Ontario Jacobs Standing Offer 2025			
No. of samples received	:	1			
No. of samples analysed	:	1			

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*
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Andrea Armstrong	Department Manager - Air Quality and Volatiles	VOC, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Metals, Waterloo, Ontario
Robert Braun	Soils Team Supervisor	Inorganics, Waterloo, Ontario

No Breaches Found

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.

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*
mg/L	milligrams per litre
pH units	pH units
µg/L	micrograms per litre

>: greater than.
<: less than.

Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
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.

Analytical Results Evaluation

Matrix: Soil/Solid				Client sample ID	IDW-1	----	----	----	----	----	----
				Client sampling date / time	08-May-2025 14:15	----	----	----	----	----	----
				Sub-Matrix	Soil	----	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit		WT2510977-001	----	----	----	----	----	----
					Result	----	----	----	----	----	----
TCLP Extractables											
Benzo(a)pyrene, TCLP	50-32-8	E644/WT	mg/L		<0.00020	----	----	----	----	----	----
TCLP Extractables Surrogates											
Chrysene-d12, TCLP	1719-03-5	E644/WT	%		88.6	----	----	----	----	----	----
Naphthalene-d8, TCLP	1146-65-2	E644/WT	%		94.7	----	----	----	----	----	----
Phenanthrene-d10, TCLP	1517-22-2	E644/WT	%		106	----	----	----	----	----	----
TCLP Metals											
Arsenic, TCLP	7440-38-2	E444/WT	mg/L		<1.0	----	----	----	----	----	----
pH, TCLP 1st preliminary	----	EPP444/WT	pH units		9.72	----	----	----	----	----	----
pH, TCLP 2nd preliminary	----	EPP444/WT	pH units		6.05	----	----	----	----	----	----
pH, TCLP extraction fluid initial	----	EPP444/WT	pH units		2.87	----	----	----	----	----	----
pH, TCLP final	----	EPP444/WT	pH units		5.83	----	----	----	----	----	----
Barium, TCLP	7440-39-3	E444/WT	mg/L		<2.5	----	----	----	----	----	----
Boron, TCLP	7440-42-8	E444/WT	mg/L		<0.50	----	----	----	----	----	----
Cadmium, TCLP	7440-43-9	E444/WT	mg/L		<0.050	----	----	----	----	----	----
Chromium, TCLP	7440-47-3	E444/WT	mg/L		<0.25	----	----	----	----	----	----
Lead, TCLP	7439-92-1	E444/WT	mg/L		<0.25	----	----	----	----	----	----
Selenium, TCLP	7782-49-2	E444/WT	mg/L		<0.10	----	----	----	----	----	----
Silver, TCLP	7440-22-4	E444/WT	mg/L		<0.050	----	----	----	----	----	----
Uranium, TCLP	7440-61-1	E444/WT	mg/L		<0.20	----	----	----	----	----	----

Matrix: Soil/Solid				Client sample ID	IDW-1	----	----	----	----	----	----
				Client sampling date / time	08-May-2025 14:15	----	----	----	----	----	----
				Sub-Matrix	Soil	----	----	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit		WT2510977-001	----	----	----	----	----	----
					Result	----	----	----	----	----	----
TCLP Metals											
Mercury, TCLP	7439-97-6	E512/WT	mg/L		<0.0010	----	----	----	----	----	----
TCLP VOCs											
Benzene, TCLP	71-43-2	E615B/WT	mg/L		<0.0050	----	----	----	----	----	----
Carbon tetrachloride, TCLP	56-23-5	E615B/WT	mg/L		<0.025	----	----	----	----	----	----
Chlorobenzene, TCLP	108-90-7	E615B/WT	mg/L		<0.025	----	----	----	----	----	----
Chloroform, TCLP	67-66-3	E615B/WT	mg/L		<0.10	----	----	----	----	----	----
Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B/WT	mg/L		<0.025	----	----	----	----	----	----
Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B/WT	mg/L		<0.025	----	----	----	----	----	----
Dichloroethane, 1,2-, TCLP	107-06-2	E615B/WT	mg/L		<0.025	----	----	----	----	----	----
Dichloroethylene, 1,1-, TCLP	75-35-4	E615B/WT	mg/L		<0.025	----	----	----	----	----	----
Dichloromethane, TCLP	75-09-2	E615B/WT	mg/L		<0.10	----	----	----	----	----	----
Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B/WT	mg/L		<0.10	----	----	----	----	----	----
Tetrachloroethylene, TCLP	127-18-4	E615B/WT	mg/L		<0.025	----	----	----	----	----	----
Trichloroethylene, TCLP	79-01-6	E615B/WT	mg/L		<0.025	----	----	----	----	----	----
Vinyl chloride, TCLP	75-01-4	E615B/WT	mg/L		<0.050	----	----	----	----	----	----
TCLP VOCs Surrogates											
Bromofluorobenzene, 4-, TCLP	460-00-4	E615B/WT	%		96.6	----	----	----	----	----	----
Difluorobenzene, 1,4-, TCLP	540-36-3	E615B/WT	%		95.5	----	----	----	----	----	----

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

Summary of Guideline Limits

Analyte	CAS Number	Unit	ONWCR Sch. 4						
TCLP Extractables									
Benzo(a)pyrene, TCLP	50-32-8	mg/L	**0.001 mg/L**	----	----	----	----	----	----
TCLP Extractables Surrogates									
Chrysene-d12, TCLP	1719-03-5	%	----	----	----	----	----	----	----
Naphthalene-d8, TCLP	1146-65-2	%	----	----	----	----	----	----	----
Phenanthrene-d10, TCLP	1517-22-2	%	----	----	----	----	----	----	----
TCLP Metals									
Arsenic, TCLP	7440-38-2	mg/L	**2.5 mg/L**	----	----	----	----	----	----
pH, TCLP 1st preliminary	----	pH units	----	----	----	----	----	----	----
pH, TCLP 2nd preliminary	----	pH units	----	----	----	----	----	----	----
pH, TCLP extraction fluid initial	----	pH units	----	----	----	----	----	----	----
pH, TCLP final	----	pH units	----	----	----	----	----	----	----
Barium, TCLP	7440-39-3	mg/L	**100 mg/L**	----	----	----	----	----	----
Boron, TCLP	7440-42-8	mg/L	**500 mg/L**	----	----	----	----	----	----
Cadmium, TCLP	7440-43-9	mg/L	**0.5 mg/L**	----	----	----	----	----	----
Chromium, TCLP	7440-47-3	mg/L	**5 mg/L**	----	----	----	----	----	----
Lead, TCLP	7439-92-1	mg/L	**5 mg/L**	----	----	----	----	----	----
Selenium, TCLP	7782-49-2	mg/L	**1 mg/L**	----	----	----	----	----	----
Silver, TCLP	7440-22-4	mg/L	**5 mg/L**	----	----	----	----	----	----
Uranium, TCLP	7440-61-1	mg/L	**10 mg/L**	----	----	----	----	----	----
Mercury, TCLP	7439-97-6	mg/L	**0.1 mg/L**	----	----	----	----	----	----
TCLP VOCs									
Benzene, TCLP	71-43-2	mg/L	**0.5 mg/L**	----	----	----	----	----	----
Carbon tetrachloride, TCLP	56-23-5	mg/L	**0.5 mg/L**	----	----	----	----	----	----

Chlorobenzene, TCLP	108-90-7	mg/L	**8 mg/L**	----	----	----	----	----	----
Chloroform, TCLP	67-66-3	mg/L	**10 mg/L**	----	----	----	----	----	----
Dichlorobenzene, 1,2-, TCLP	95-50-1	mg/L	**20 mg/L**	----	----	----	----	----	----
Dichlorobenzene, 1,4-, TCLP	106-46-7	mg/L	**0.5 mg/L**	----	----	----	----	----	----
Dichloroethane, 1,2-, TCLP	107-06-2	mg/L	**0.5 mg/L**	----	----	----	----	----	----
Dichloroethylene, 1,1-, TCLP	75-35-4	mg/L	**1.4 mg/L**	----	----	----	----	----	----
Dichloromethane, TCLP	75-09-2	mg/L	**5 mg/L**	----	----	----	----	----	----
Methyl ethyl ketone [MEK], TCLP	78-93-3	mg/L	**200 mg/L**	----	----	----	----	----	----
Tetrachloroethylene, TCLP	127-18-4	mg/L	**3 mg/L**	----	----	----	----	----	----
Trichloroethylene, TCLP	79-01-6	mg/L	**5 mg/L**	----	----	----	----	----	----
Vinyl chloride, TCLP	75-01-4	mg/L	**0.2 mg/L**	----	----	----	----	----	----
Bromofluorobenzene, 4-, TCLP	460-00-4	%	**----**	----	----	----	----	----	----
Difluorobenzene, 1,4-, TCLP	540-36-3	%	**----**	----	----	----	----	----	----

Key:

ONWCR — Ontario MECP, General Waste Control Regulation No. 347/90,558/00

Sch. 4 — Schedule 4 Leachate Quality Criteria

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2510977**	Page	: 1 of 5
Client	: **Jacobs Consultancy Canada Inc.**	Laboratory	: ALS Environmental - Waterloo
Contact	: Jon Gowing	Account Manager	: Mathy Mahadeva
Address	: 165 King St West Suite 201 Kitchener ON Canada N2G 1A7	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 519 579 3500	Telephone	: +1 519 886 6910
Project	: COG14EDN	Date Samples Received	: 09-May-2025 16:25
PO	: ----	Issue Date	: 16-May-2025 19:33
C-O-C number	: 23-1117376		
Sampler	: Jon Gowing		
Site	: ----		
Quote number	: Ontario Jacobs Standing Offer 2025		
No. of samples received	: 1		
No. of samples analysed	: 1		

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 Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- 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

- No Quality Control Sample Frequency Outliers occur.

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 : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
TCLP Extractables : PAHs by GC-MS (TCLP)										
Amber glass/Teflon lined cap (sodium bisulfate)										
IDW-1	E644	14-May-2025	16-May-2025	20 days	8 days	✓	16-May-2025	40 days	0 days	✓
TCLP Metals : Mercury by CVAAS (TCLP)										
Glass vial - total (lab preserved)										
IDW-1	E512	08-May-2025	15-May-2025	28 days	7 days	✓	15-May-2025	28 days	7 days	✓
TCLP Metals : Metals by CRC ICPMS (TCLP)										
HDPE - total (lab preserved)										
IDW-1	E444	14-May-2025	15-May-2025	186 days	7 days	✓	15-May-2025	186 days	7 days	✓
TCLP Metals : TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)										
Lab Split - Non-Volatile Leach: 14 day HT (e.g. CN,SVOC)										
IDW-1	EPP444	08-May-2025	14-May-2025	----	----		----	14 days	6 days	✓
TCLP VOCs : VOCs by Headspace GC-MS (TCLP)										
Glass vial (sodium bisulfate)										
IDW-1	E615B	08-May-2025	15-May-2025	14 days	7 days	✓	15-May-2025	14 days	7 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			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Metals by CRC ICPMS (TCLP)	E444	1998319	1	13	7.6	5.0	✓
Mercury by CVAAS (TCLP)	E512	1998543	1	13	7.6	5.0	✓
VOCs by Headspace GC-MS (TCLP)	E615B	1998073	1	14	7.1	5.0	✓
PAHs by GC-MS (TCLP)	E644	2000170	1	6	16.6	5.0	✓
Laboratory Control Samples (LCS)							
Metals by CRC ICPMS (TCLP)	E444	1998319	1	13	7.6	5.0	✓
Mercury by CVAAS (TCLP)	E512	1998543	1	13	7.6	5.0	✓
VOCs by Headspace GC-MS (TCLP)	E615B	1998073	1	14	7.1	5.0	✓
PAHs by GC-MS (TCLP)	E644	2000170	1	6	16.6	5.0	✓
Method Blanks (MB)							
Metals by CRC ICPMS (TCLP)	E444	1998319	1	13	7.6	5.0	✓
Mercury by CVAAS (TCLP)	E512	1998543	1	13	7.6	5.0	✓
VOCs by Headspace GC-MS (TCLP)	E615B	1998073	1	14	7.1	5.0	✓
PAHs by GC-MS (TCLP)	E644	2000170	1	6	16.6	5.0	✓
Matrix Spikes (MS)							
Metals by CRC ICPMS (TCLP)	E444	1998319	1	13	7.6	5.0	✓
Mercury by CVAAS (TCLP)	E512	1998543	1	13	7.6	5.0	✓
VOCs by Headspace GC-MS (TCLP)	E615B	1998073	1	14	7.1	5.0	✓
PAHs by GC-MS (TCLP)	E644	2000170	1	6	16.6	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
Metals by CRC ICPMS (TCLP)	E444 ALS Environmental - Waterloo	Soil/Solid	EPA 1311/6020B (mod)	An extract produced by the Toxicity Characteristic Leachate Procedure (TCLP) as per EPA 1311 is analyzed by Collision/Reaction Cell ICPMS.
Mercury by CVAAS (TCLP)	E512 ALS Environmental - Waterloo	Soil/Solid	EPA 1311/245.1 (mod)	An extract produced by the Toxicity Characteristic Leachate Procedure (TCLP) as per EPA 1311 is analyzed by CVAAS.
VOCs by Headspace GC-MS (TCLP)	E615B ALS Environmental - Waterloo	Soil/Solid	EPA 1311/8260D (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 GC-MS (TCLP)	E644 ALS Environmental - Waterloo	Soil/Solid	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by GC-MS.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
VOCs Preparation for Headspace Analysis (TCLP)	EP582 ALS Environmental - Waterloo	Soil/Solid	EPA 5021A (mod)	Liquid obtained after the TCLP process is 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 Extraction (TCLP)	EP602 ALS Environmental - Waterloo	Soil/Solid	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.
TCLP Leachate Preparation (Metals, Inorganics, and SVOCs)	EPP444 ALS Environmental - Waterloo	Soil/Solid	EPA 1311	Preparation of a Toxicity Characteristic Leaching Procedure (TCLP) solid sample involves particle size reduction, homogenization, then determination of appropriate extraction fluid. A measured portion of fresh subsample is placed in an extraction bottle with the appropriate extraction fluid then tumbled in a rotary extractor for 18+/- 2 hours at 23 +/- 2 C. The liquid leachate is filtered to separate from solids then bottled and prepared for analytical tests.
TCLP Leachate Preparation (VOCs)	EPP582 ALS Environmental - Waterloo	Soil/Solid	EPA 1311	An extract produced by the Toxicity Characteristic Leaching Procedure (TCLP) as per EPA 1311.

QUALITY CONTROL REPORT

Work Order	: **WT2510977**	Page	: 1 of 6
Client	: Jacobs Consultancy Canada Inc.	Laboratory	: ALS Environmental - Waterloo
Contact	: Jon Gowing	Account Manager	: Mathy Mahadeva
Address	: 165 King St West Suite 201 Kitchener ON Canada N2G 1A7	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 519 579 3500	Telephone	: +1 519 886 6910
Project	: COG14EDN	Date Samples Received	: 09-May-2025 16:25
PO	: ----	Date Analysis Commenced	: 14-May-2025
C-O-C number	: 23-1117376	Issue Date	: 16-May-2025 19:33
Sampler	: Jon Gowing		
Site	: ----		
Quote number	: Ontario Jacobs Standing Offer 2025		
No. of samples received	: 1		
No. of samples analysed	: 1		

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
- 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.

Signatories	*Position*	*Laboratory Department*
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
Andrea Armstrong	Department Manager - Air Quality and Volatiles	Waterloo VOC, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Waterloo Metals, Waterloo, Ontario
Robert Braun	Soils Team Supervisor	Waterloo Inorganics, Waterloo, Ontario

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 (QCI) 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).

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
TCLP Extractables (QC Lot: 2000170)											
WT2510977-001	IDW-1	Benzo(a)pyrene, TCLP	50-32-8	E644	0.20	µg/L	<0.00020 mg/L	<0.20	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 1998319)											
WP2506305-032	Anonymous	Arsenic, TCLP	7440-38-2	E444	1.0	mg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	<2.5	0	Diff <2x LOR	----
		Boron, TCLP	7440-42-8	E444	0.50	mg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Cadmium, TCLP	7440-43-9	E444	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	<0.25	0	Diff <2x LOR	----
		Lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	<0.25	0	Diff <2x LOR	----
		Selenium, TCLP	7782-49-2	E444	0.10	mg/L	<0.10	<0.10	0	Diff <2x LOR	----
		Silver, TCLP	7440-22-4	E444	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
		Uranium, TCLP	7440-61-1	E444	0.20	mg/L	<0.20	<0.20	0	Diff <2x LOR	----
TCLP Metals (QC Lot: 1998543)											
WP2506305-032	Anonymous	Mercury, TCLP	7439-97-6	E512	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
TCLP VOCs (QC Lot: 1998073)											
TY2504585-001	Anonymous	Benzene, TCLP	71-43-2	E615B	5.0	µg/L	<0.0050 mg/L	<5.0	0	Diff <2x LOR	----
		Carbon tetrachloride, TCLP	56-23-5	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Chlorobenzene, TCLP	108-90-7	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Chloroform, TCLP	67-66-3	E615B	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Dichloroethane, 1,2-, TCLP	107-06-2	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-, TCLP	75-35-4	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Dichloromethane, TCLP	75-09-2	E615B	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----
		Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B	100	µg/L	<0.10 mg/L	<100	0	Diff <2x LOR	----
		Tetrachloroethylene, TCLP	127-18-4	E615B	25	µg/L	0.243 mg/L	244	0.564%	50%	----
		Trichloroethylene, TCLP	79-01-6	E615B	25	µg/L	<0.025 mg/L	<25	0	Diff <2x LOR	----
		Vinyl chloride, TCLP	75-01-4	E615B	50	µg/L	<0.050 mg/L	<50	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
TCLP Extractables (QCLot: 2000170)						
Benzo(a)pyrene, TCLP	50-32-8	E644	0.2	µg/L	<0.20	----
TCLP Metals (QCLot: 1998319)						
Arsenic, TCLP	7440-38-2	E444	1	mg/L	<1.0	----
Barium, TCLP	7440-39-3	E444	2.5	mg/L	<2.5	----
Boron, TCLP	7440-42-8	E444	0.5	mg/L	<0.50	----
Cadmium, TCLP	7440-43-9	E444	0.05	mg/L	<0.050	----
Chromium, TCLP	7440-47-3	E444	0.25	mg/L	<0.25	----
Lead, TCLP	7439-92-1	E444	0.25	mg/L	<0.25	----
Selenium, TCLP	7782-49-2	E444	0.1	mg/L	<0.10	----
Silver, TCLP	7440-22-4	E444	0.05	mg/L	<0.050	----
Uranium, TCLP	7440-61-1	E444	0.2	mg/L	<0.20	----
TCLP Metals (QCLot: 1998543)						
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	<0.0010	----
TCLP VOCs (QCLot: 1998073)						
Benzene, TCLP	71-43-2	E615B	5	µg/L	<5.0	----
Carbon tetrachloride, TCLP	56-23-5	E615B	25	µg/L	<25	----
Chlorobenzene, TCLP	108-90-7	E615B	25	µg/L	<25	----
Chloroform, TCLP	67-66-3	E615B	100	µg/L	<100	----
Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B	25	µg/L	<25	----
Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B	25	µg/L	<25	----
Dichloroethane, 1,2-, TCLP	107-06-2	E615B	25	µg/L	<25	----
Dichloroethylene, 1,1-, TCLP	75-35-4	E615B	25	µg/L	<25	----
Dichloromethane, TCLP	75-09-2	E615B	100	µg/L	<100	----
Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B	100	µg/L	<100	----
Tetrachloroethylene, TCLP	127-18-4	E615B	25	µg/L	<25	----
Trichloroethylene, TCLP	79-01-6	E615B	25	µg/L	<25	----
Vinyl chloride, TCLP	75-01-4	E615B	50	µg/L	<50	----

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**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
TCLP Extractables (QCLot: 2000170)									
Benzo(a)pyrene, TCLP	50-32-8	E644	0.2	µg/L	0.526 µg/L	91.8	60.0	140	----
TCLP Metals (QCLot: 1998319)									
Arsenic, TCLP	7440-38-2	E444	1	mg/L	0.05 mg/L	116	70.0	130	----
Barium, TCLP	7440-39-3	E444	2.5	mg/L	0.012 mg/L	113	70.0	130	----
Boron, TCLP	7440-42-8	E444	0.5	mg/L	0.05 mg/L	95.1	70.0	130	----
Cadmium, TCLP	7440-43-9	E444	0.05	mg/L	0.005 mg/L	109	70.0	130	----
Chromium, TCLP	7440-47-3	E444	0.25	mg/L	0.012 mg/L	107	70.0	130	----
Lead, TCLP	7439-92-1	E444	0.25	mg/L	0.025 mg/L	104	70.0	130	----
Selenium, TCLP	7782-49-2	E444	0.1	mg/L	0.05 mg/L	103	70.0	130	----
Silver, TCLP	7440-22-4	E444	0.05	mg/L	0.005 mg/L	98.6	70.0	130	----
Uranium, TCLP	7440-61-1	E444	0.2	mg/L	0 mg/L	107	70.0	130	----
TCLP Metals (QCLot: 1998543)									
Mercury, TCLP	7439-97-6	E512	0.001	mg/L	0 mg/L	96.4	70.0	130	----
TCLP VOCs (QCLot: 1998073)									
Benzene, TCLP	71-43-2	E615B	5	µg/L	100 µg/L	106	70.0	130	----
Carbon tetrachloride, TCLP	56-23-5	E615B	25	µg/L	100 µg/L	92.1	60.0	140	----
Chlorobenzene, TCLP	108-90-7	E615B	25	µg/L	100 µg/L	99.0	70.0	130	----
Chloroform, TCLP	67-66-3	E615B	100	µg/L	100 µg/L	102	70.0	130	----
Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B	25	µg/L	100 µg/L	99.8	70.0	130	----
Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B	25	µg/L	100 µg/L	98.7	70.0	130	----
Dichloroethane, 1,2-, TCLP	107-06-2	E615B	25	µg/L	100 µg/L	104	70.0	130	----
Dichloroethylene, 1,1-, TCLP	75-35-4	E615B	25	µg/L	100 µg/L	103	70.0	130	----
Dichloromethane, TCLP	75-09-2	E615B	100	µg/L	100 µg/L	106	70.0	130	----
Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B	100	µg/L	100 µg/L	131	50.0	150	----
Tetrachloroethylene, TCLP	127-18-4	E615B	25	µg/L	100 µg/L	92.1	70.0	130	----
Trichloroethylene, TCLP	79-01-6	E615B	25	µg/L	100 µg/L	99.2	70.0	130	----
Vinyl chloride, TCLP	75-01-4	E615B	50	µg/L	100 µg/L	114	60.0	130	----

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**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
TCLP Extractables (QCLot: 2000170)										
WT2510977-001	IDW-1	Benzo(a)pyrene, TCLP	50-32-8	E644	0.47 µg/L	0.526 µg/L	89.4	50.0	140	----
TCLP Metals (QCLot: 1998319)										
WP2506305-032	Anonymous	Arsenic, TCLP	7440-38-2	E444	6.1 mg/L	5 mg/L	122	50.0	140	----
		Barium, TCLP	7440-39-3	E444	14.5 mg/L	12.5 mg/L	116	50.0	140	----
		Boron, TCLP	7440-42-8	E444	10.6 mg/L	10 mg/L	106	50.0	140	----
		Cadmium, TCLP	7440-43-9	E444	0.279 mg/L	0.25 mg/L	112	50.0	140	----
		Chromium, TCLP	7440-47-3	E444	1.42 mg/L	1.25 mg/L	114	50.0	140	----
		Lead, TCLP	7439-92-1	E444	11.0 mg/L	10 mg/L	110	50.0	140	----
		Selenium, TCLP	7782-49-2	E444	5.72 mg/L	5 mg/L	114	50.0	140	----
		Silver, TCLP	7440-22-4	E444	0.109 mg/L	0.1 mg/L	109	50.0	140	----
		Uranium, TCLP	7440-61-1	E444	5.66 mg/L	5 mg/L	113	50.0	140	----
TCLP Metals (QCLot: 1998543)										
WP2506305-032	Anonymous	Mercury, TCLP	7439-97-6	E512	0.0026 mg/L	0.003 mg/L	88.4	50.0	140	----
TCLP VOCs (QCLot: 1998073)										
TY2504585-001	Anonymous	Benzene, TCLP	71-43-2	E615B	248 µg/L	250 µg/L	99.3	50.0	140	----
		Carbon tetrachloride, TCLP	56-23-5	E615B	230 µg/L	250 µg/L	92.0	50.0	140	----
		Chlorobenzene, TCLP	108-90-7	E615B	241 µg/L	250 µg/L	96.5	50.0	140	----
		Chloroform, TCLP	67-66-3	E615B	240 µg/L	250 µg/L	94.7	50.0	140	----
		Dichlorobenzene, 1,2-, TCLP	95-50-1	E615B	248 µg/L	250 µg/L	99.3	50.0	140	----
		Dichlorobenzene, 1,4-, TCLP	106-46-7	E615B	254 µg/L	250 µg/L	102	50.0	140	----
		Dichloroethane, 1,2-, TCLP	107-06-2	E615B	218 µg/L	250 µg/L	87.1	50.0	140	----
		Dichloroethylene, 1,1-, TCLP	75-35-4	E615B	254 µg/L	250 µg/L	102	50.0	140	----
		Dichloromethane, TCLP	75-09-2	E615B	230 µg/L	250 µg/L	93.3	50.0	140	----
		Methyl ethyl ketone [MEK], TCLP	78-93-3	E615B	230 µg/L	250 µg/L	90.9	50.0	140	----
		Tetrachloroethylene, TCLP	127-18-4	E615B	249 µg/L	250 µg/L	99.5	50.0	140	----
		Trichloroethylene, TCLP	79-01-6	E615B	242 µg/L	250 µg/L	96.8	50.0	140	----
		Vinyl chloride, TCLP	75-01-4	E615B	271 µg/L	250 µg/L	108	50.0	140	----

T-820

Chain of Custody (COC) / Analytical Request Form

COC Number: 23 - 1117376

Page 1 of 1

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

Environmental Division Waterloo
Work Order Reference
WT2510977

Telephone : +1 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	JACOBS
Contact:	J. Gowin
Phone:	519-497-2011
	Company address below will appear on the final report
Street:	EWO office
City/Province:	
Postal Code:	
Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	
Contact:	

Reports / Recipients

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

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

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

Select Distribution: ☐ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax Tania.McCarthy@Jacobs

Email 2 Michael.Shim@Jacobs

Email 3 EDWA@Jacobs.com

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax CHAP Invoices

Email 2

Turnaround Time (TAT) Requested

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

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

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

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

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

☐ Same day [E2] if received by 10am M-S - 200% rush su

Additional fees may apply to rush requests r

Date and Time Required for all E&P TATs:

For all tests with rush TATs reques

Project Information		Oil and Gas Required Fields (client use)	
ALS Client Code / QUOTE #:	11546	AFE/Cost Center:	PO#
Job / Project #:	COG14EDN	Major/Minor Code:	Routing Code:
PO / AFE:		Requisitioner:	
LSD:		Location:	

ALS Lab Work Order # (ALS use only): WT2510977 FH

ALS Contact: Mark Hy Sampler: J. Gowin

Analysis Request

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

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	TCP	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	IDW-1	8-5-25	1415	Soil	2	X			

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

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

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

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

SAMPLE RECEIPT DETAILS (ALS use only)

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

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

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				3.8	5.7		

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
	5/8/2025	1621

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
MM	5-8-25	16:25

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

JAN 2023 FRONT

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

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

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2511335**			
Client	:	**Jacobs Consultancy Canada Inc.**	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Tania Mccarthy	Account Manager	:	Mathy Mahadeva
Address	:	165 King St West Suite 201 Kitchener Ontario Canada N2G 1A7	Address	:	60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	519 579 3500	E-mail	:	Mathy.Mahadeva@alsglobal.com
Project	:	COG14EDN	Telephone	:	+1 519 886 6910
PO	:	----	Date Samples Received	:	13-May-2025 10:00
C-O-C number	:	23-1123833	Date Analysis Commenced	:	14-May-2025
Sampler	:	JN	Issue Date	:	02-Jun-2025 13:01
Site	:	----			
Quote number	:	Ontario Jacobs Standing Offer 2025			
No. of samples received	:	4			
No. of samples analysed	:	4			

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.

Signatories	*Position*	*Laboratory Department*
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Andrea Armstrong	Department Manager - Air Quality and Volatiles	VOC, Waterloo, Ontario
Danielle Gravel	Supervisor - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Inorganics, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Metals, 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).

Unit	*Description*
-	no units
mS/cm	millisiemens per centimetre
pH units	pH units
µg/L	micrograms per litre

<: 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.

Qualifiers

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW102-05122025	MW103-05122025	DUP01-05122025	TRIP BLANK	----
					Client sampling date / time	12-May-2025 12:16	12-May-2025 14:49	12-May-2025 00:00	12-May-2025 00:00	----
						WT2511335-001	WT2511335-002	WT2511335-003	WT2511335-004	----
						Result	Result	Result	Result	----
Physical Tests										
Conductivity	----	E100/WT	0.0010	mS/cm		1.96	0.580	1.94	----	----
pH	----	E108/WT	0.10	pH units		7.75	7.68	7.76	----	----
Anions and Nutrients										
Chloride	16887-00-6	E235.Cl/WT	500	µg/L		454000 DLDS	42400	430000 DLDS	----	----
Cyanides										
Cyanide, weak acid dissociable	----	E336/WT	2.0	µg/L		<2.0	<2.0	<2.0	----	----
Dissolved Metals										
Antimony, dissolved	7440-36-0	E421/WT	0.10	µg/L		0.32	0.24	0.32	----	----
Arsenic, dissolved	7440-38-2	E421/WT	0.10	µg/L		0.49	0.40	0.46	----	----
Barium, dissolved	7440-39-3	E421/WT	0.10	µg/L		144	117	147	----	----
Beryllium, dissolved	7440-41-7	E421/WT	0.020	µg/L		<0.020	<0.020	<0.020	----	----
Boron, dissolved	7440-42-8	E421/WT	10	µg/L		40	59	40	----	----
Cadmium, dissolved	7440-43-9	E421/WT	0.0050	µg/L		0.0217	0.0986	0.0224	----	----
Chromium, dissolved	7440-47-3	E421/WT	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Cobalt, dissolved	7440-48-4	E421/WT	0.10	µg/L		1.65	10.4	1.57	----	----
Copper, dissolved	7440-50-8	E421/WT	0.20	µg/L		2.85	1.79	2.73	----	----
Lead, dissolved	7439-92-1	E421/WT	0.050	µg/L		<0.050	<0.050	<0.050	----	----
Mercury, dissolved	7439-97-6	E509/WT	0.0050	µg/L		<0.0050	<0.0050	<0.0050	----	----
Molybdenum, dissolved	7439-98-7	E421/WT	0.050	µg/L		2.28	1.28	2.30	----	----
Nickel, dissolved	7440-02-0	E421/WT	0.50	µg/L		3.47	7.23	3.40	----	----
Selenium, dissolved	7782-49-2	E421/WT	0.050	µg/L		0.849	2.90	0.826	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

					Client sample ID	MW102-05122025	MW103-05122025	DUP01-05122025	TRIP BLANK	----
					Client sampling date / time	12-May-2025 12:16	12-May-2025 14:49	12-May-2025 00:00	12-May-2025 00:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit		WT2511335-001	WT2511335-002	WT2511335-003	WT2511335-004	----
						Result	Result	Result	Result	----
Dissolved Metals										
Silver, dissolved	7440-22-4	E421/WT	0.010	µg/L		0.013	<0.010	0.014	----	----
Sodium, dissolved	7440-23-5	E421/WT	50	µg/L		200000	12600	191000	----	----
Thallium, dissolved	7440-28-0	E421/WT	0.010	µg/L		0.034	0.047	0.033	----	----
Uranium, dissolved	7440-61-1	E421/WT	0.010	µg/L		1.65	1.50	1.62	----	----
Vanadium, dissolved	7440-62-2	E421/WT	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Zinc, dissolved	7440-66-6	E421/WT	1.0	µg/L		2.3	3.3	2.0	----	----
Dissolved mercury filtration location	----	EP509/WT	-	-		Field	Field	Field	----	----
Dissolved metals filtration location	----	EP421/WT	-	-		Field	Field	Field	----	----
Speciated Metals										
Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A/WT	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Volatile Organic Compounds										
Acetone	67-64-1	E611D/WT	20	µg/L		<20	<20	<20	<20	----
Benzene	71-43-2	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Bromodichloromethane	75-27-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Bromoform	75-25-2	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Bromomethane	74-83-9	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Carbon tetrachloride	56-23-5	E611D/WT	0.20	µg/L		<0.20	<0.20	<0.20	<0.20	----
Chlorobenzene	108-90-7	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Chloroform	67-66-3	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Dibromochloromethane	124-48-1	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Dibromoethane, 1,2-	106-93-4	E611D/WT	0.20	µg/L		<0.20	<0.20	<0.20	<0.20	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW102-05122025	MW103-05122025	DUP01-05122025	TRIP BLANK	----
					Client sampling date / time	12-May-2025 12:16	12-May-2025 14:49	12-May-2025 00:00	12-May-2025 00:00	----
						WT2511335-001	WT2511335-002	WT2511335-003	WT2511335-004	----
						Result	Result	Result	Result	----
Volatile Organic Compounds										
Dichlorobenzene, 1,2-	95-50-1	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Dichlorodifluoromethane	75-71-8	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Dichloroethylene, trans-1,2-	156-60-5	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Dichloromethane	75-09-2	E611D/WT	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D/WT	0.30	µg/L		<0.30	<0.30	<0.30	<0.30	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D/WT	0.30	µg/L		<0.30	<0.30	<0.30	<0.30	----
Ethylbenzene	100-41-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Hexane, n-	110-54-3	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Methyl ethyl ketone [MEK]	78-93-3	E611D/WT	20	µg/L		<20	<20	<20	<20	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D/WT	20	µg/L		<20	<20	<20	<20	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Styrene	100-42-5	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW102-05122025	MW103-05122025	DUP01-05122025	TRIP BLANK	----
					Client sampling date / time	12-May-2025 12:16	12-May-2025 14:49	12-May-2025 00:00	12-May-2025 00:00	----
						WT2511335-001	WT2511335-002	WT2511335-003	WT2511335-004	----
						Result	Result	Result	Result	----
Volatile Organic Compounds										
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Tetrachloroethylene	127-18-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Toluene	108-88-3	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Trichloroethane, 1,1,1-	71-55-6	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Trichloroethylene	79-01-6	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Trichlorofluoromethane	75-69-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
Vinyl chloride	75-01-4	E611D/WT	0.20	µg/L		<0.20	<0.20	<0.20	<0.20	----
Xylene, m+p-	179601-23-1	E611D/WT	0.40	µg/L		<0.40	<0.40	<0.40	<0.40	----
Xylene, o-	95-47-6	E611D/WT	0.30	µg/L		<0.30	<0.30	<0.30	<0.30	----
Xylenes, total	1330-20-7	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	----
BTEX, total	----	E611D/WT	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	----
Hydrocarbons										
F1 (C6-C10)	----	E581.F1-L/WT	25	µg/L		<25	<25	<25	<25	----
F2 (C10-C16)	----	E601.SG/WT	100	µg/L		<100	<100	<100	----	----
F3 (C16-C34)	----	E601.SG/WT	250	µg/L		<250	<250	<250	----	----
F4 (C34-C50)	----	E601.SG/WT	250	µg/L		<250	<250	<250	----	----
F1-BTEX	----	EC580/WT	25	µg/L		<25	<25	<25	<25	----
Hydrocarbons, total (C6-C50)	n/a	EC581SG/WT	240	µg/L		<370	<370	<370	----	----
Chromatogram to baseline at nC50	n/a	E601.SG/WT	-	-		YES	YES	YES	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

					Client sample ID	MW102-05122025	MW103-05122025	DUP01-05122025	TRIP BLANK	----
					Client sampling date / time	12-May-2025 12:16	12-May-2025 14:49	12-May-2025 00:00	12-May-2025 00:00	----
Analyte	CAS Number	Method/Lab	LOR	Unit		WT2511335-001	WT2511335-002	WT2511335-003	WT2511335-004	----
						Result	Result	Result	Result	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG/WT	1.0	%		84.8	83.7	84.6	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1-L/WT	1.0	%		99.6	98.9	95.5	94.9	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611D/WT	1.0	%		96.7	96.7	97.2	90.6	----
Difluorobenzene, 1,4-	540-36-3	E611D/WT	1.0	%		96.0	95.9	95.8	97.3	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Acenaphthylene	208-96-8	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Anthracene	120-12-7	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Benz(a)anthracene	56-55-3	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Benzo(a)pyrene	50-32-8	E641A/WT	0.0050	µg/L		<0.0050	<0.0050	<0.0050	----	----
Benzo(b+j)fluoranthene	n/a	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Benzo(k)fluoranthene	207-08-9	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Chrysene	218-01-9	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/WT	0.0050	µg/L		<0.0050	<0.0050	<0.0050	----	----
Fluoranthene	206-44-0	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Fluorene	86-73-7	E641A/WT	0.010	µg/L		<0.010	0.013	<0.010	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Methylnaphthalene, 1-	90-12-0	E641A/WT	0.010	µg/L		0.011	0.010	<0.010	----	----
Methylnaphthalene, 1+2-	----	E641A/WT	0.015	µg/L		0.026	0.031	<0.015	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	MW102-05122025	MW103-05122025	DUP01-05122025	TRIP BLANK	----
Client sample ID					MW102-05122025	MW103-05122025	DUP01-05122025	TRIP BLANK	----
Client sampling date / time					12-May-2025 12:16	12-May-2025 14:49	12-May-2025 00:00	12-May-2025 00:00	----
					WT2511335-001	WT2511335-002	WT2511335-003	WT2511335-004	----
					Result	Result	Result	Result	----
Polycyclic Aromatic Hydrocarbons									
Methylnaphthalene, 2-	91-57-6	E641A/WT	0.010	µg/L	0.015	0.021	0.014	----	----
Naphthalene	91-20-3	E641A/WT	0.050	µg/L	<0.050	<0.050	<0.050	----	----
Phenanthrene	85-01-8	E641A/WT	0.020	µg/L	<0.020	0.025	<0.020	----	----
Pyrene	129-00-0	E641A/WT	0.010	µg/L	<0.010	<0.010	<0.010	----	----
Polycyclic Aromatic Hydrocarbons Surrogates									
Chrysene-d12	1719-03-5	E641A/WT	0.1	%	118	113	110	----	----
Naphthalene-d8	1146-65-2	E641A/WT	0.1	%	112	111	110	----	----
Phenanthrene-d10	1517-22-2	E641A/WT	0.1	%	121	117	116	----	----
Phthalate Esters									
bis(2-Ethylhexyl) phthalate [DEHP]	117-81-7	E625A/WT	0.60	µg/L	<0.60	<0.60	<0.60	----	----
Diethyl phthalate	84-66-2	E625A/WT	0.20	µg/L	<0.20	<0.20	<0.20	----	----
Dimethyl phthalate	131-11-3	E625A/WT	0.20	µg/L	<0.20	<0.20	<0.20	----	----
Semi-Volatile Organics									
Biphenyl	92-52-4	E625A/WT	0.20	µg/L	<0.20	<0.20	<0.20	----	----
bis(2-Chloro-1-methylethyl) ether	108-60-1	E625A/WT	0.40	µg/L	<0.40	<0.40	<0.40	----	----
bis(2-Chloroethyl) ether	111-44-4	E625A/WT	0.40	µg/L	<0.40	<0.40	<0.40	----	----
Chloroaniline, 4-	106-47-8	E625A/WT	0.40	µg/L	<0.40	<0.40	<0.40	----	----
Dichlorobenzidine, 3,3'-	91-94-1	E625A/WT	0.40	µg/L	<0.40	<0.40	<0.40	----	----
Dinitrotoluene, 2,4 + 2,6-	n/a	E625A/WT	0.60	µg/L	<0.60	<0.60	<0.60	----	----
Dinitrotoluene, 2,4-	121-14-2	E625A/WT	0.40	µg/L	<0.40	<0.40	<0.40	----	----
Dinitrotoluene, 2,6-	606-20-2	E625A/WT	0.40	µg/L	<0.40	<0.40	<0.40	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW102-05122025	MW103-05122025	DUP01-05122025	TRIP BLANK	----
					Client sampling date / time	12-May-2025 12:16	12-May-2025 14:49	12-May-2025 00:00	12-May-2025 00:00	----
						WT2511335-001	WT2511335-002	WT2511335-003	WT2511335-004	----
						Result	Result	Result	Result	----
Semi-Volatile Organics										
Trichlorobenzene, 1,2,4-	120-82-1	E625A/WT	0.40	µg/L		<0.40	<0.40	<0.40	----	----
Semi-Volatile Organics Surrogates										
Fluorobiphenyl, 2-	321-60-8	E625A/WT	1.0	%		75.8	84.9	75.8	----	----
Nitrobenzene-d5	4165-60-0	E625A/WT	1.0	%		89.1	102	87.0	----	----
Terphenyl-d14, p-	1718-51-0	E625A/WT	1.0	%		117	140	134	----	----
Chlorinated Phenolics										
Chlorophenol, 2-	95-57-8	E625A/WT	0.30	µg/L		<0.30	<0.30	<0.30	----	----
Dichlorophenol, 2,4-	120-83-2	E625A/WT	0.20	µg/L		<0.20	<0.20	<0.20	----	----
Pentachlorophenol [PCP]	87-86-5	E625A/WT	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Trichlorophenol, 2,4,5-	95-95-4	E625A/WT	0.20	µg/L		<0.20	<0.20	<0.20	----	----
Trichlorophenol, 2,4,6-	88-06-2	E625A/WT	0.20	µg/L		<0.20	<0.20	<0.20	----	----
Non-Chlorinated Phenolics										
Dimethylphenol, 2,4-	105-67-9	E625A/WT	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Dinitrophenol, 2,4-	51-28-5	E625A/WT	1.0	µg/L		<1.0	<1.0	<1.0	----	----
Phenol	108-95-2	E625A/WT	0.50	µg/L		<0.50	<0.50	<0.50	----	----
Phenolics Surrogates										
Tribromophenol, 2,4,6-	118-79-6	E625A/WT	0.50	%		108	132	134	----	----

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

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2511335**	Page	: 1 of 14
Client	: **Jacobs Consultancy Canada Inc.**	Laboratory	: ALS Environmental - Waterloo
Contact	: Tania Mccarthy	Account Manager	: Mathy Mahadeva
Address	: 165 King St West Suite 201 Kitchener ON Canada N2G 1A7	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 519 579 3500	Telephone	: +1 519 886 6910
Project	: COG14EDN	Date Samples Received	: 13-May-2025 10:00
PO	: ----	Issue Date	: 02-Jun-2025 13:00
C-O-C number	: 23-1123833		
Sampler	: JN		
Site	: ----		
Quote number	: Ontario Jacobs Standing Offer 2025		
No. of samples received	: 4		
No. of samples analysed	: 4		

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)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result	Limits	Comment
Laboratory Control Sample (LCS) Recoveries								
Phthalate Esters	QC-MRG2-2023042 002	----	bis(2-Ethylhexyl) phthalate [DEHP]	117-81-7	E625A	146 % LCS-H	50.0-140%	Recovery greater than upper control limit

Result Qualifiers

Qualifier	Description
LCS-H	*Lab Control Sample recovery was above ALS DQO. Non-detected sample results are considered reliable. Other results, if reported, have been qualified.*

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: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE [ON MECP] DUP01-05122025	E235.Cl	12-May-2025	17-May-2025	28 days	5 days	✓	20-May-2025	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE [ON MECP] MW102-05122025	E235.Cl	12-May-2025	17-May-2025	28 days	5 days	✓	20-May-2025	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE [ON MECP] MW103-05122025	E235.Cl	12-May-2025	17-May-2025	28 days	5 days	✓	20-May-2025	28 days	5 days	✓
Chlorinated Phenolics : BNA (Routine List) by GC-MS-MS										
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP] DUP01-05122025	E625A	12-May-2025	29-May-2025	14 days	17 days	× EHT	30-May-2025	40 days	1 days	✓
Chlorinated Phenolics : BNA (Routine List) by GC-MS-MS										
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP] MW102-05122025	E625A	12-May-2025	29-May-2025	14 days	17 days	× EHT	30-May-2025	40 days	1 days	✓
Chlorinated Phenolics : BNA (Routine List) by GC-MS-MS										
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP] MW103-05122025	E625A	12-May-2025	29-May-2025	14 days	17 days	× EHT	30-May-2025	40 days	1 days	✓
Cyanides : WAD Cyanide										
Opaque HDPE - total (sodium hydroxide) DUP01-05122025	E336	12-May-2025	15-May-2025	14 days	3 days	✓	15-May-2025	14 days	3 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Cyanides : WAD Cyanide										
Opaque HDPE - total (sodium hydroxide)										
MW102-05122025	E336	12-May-2025	15-May-2025	14 days	3 days	✓	15-May-2025	14 days	3 days	✓
Cyanides : WAD Cyanide										
Opaque HDPE - total (sodium hydroxide)										
MW103-05122025	E336	12-May-2025	15-May-2025	14 days	3 days	✓	15-May-2025	14 days	3 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
DUP01-05122025	E509	12-May-2025	16-May-2025	28 days	4 days	✓	16-May-2025	28 days	4 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MW102-05122025	E509	12-May-2025	16-May-2025	28 days	4 days	✓	16-May-2025	28 days	4 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid)										
MW103-05122025	E509	12-May-2025	16-May-2025	28 days	4 days	✓	16-May-2025	28 days	4 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid)										
DUP01-05122025	E421	12-May-2025	14-May-2025	180 days	2 days	✓	14-May-2025	180 days	2 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid)										
MW102-05122025	E421	12-May-2025	14-May-2025	180 days	2 days	✓	14-May-2025	180 days	2 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid)										
MW103-05122025	E421	12-May-2025	14-May-2025	180 days	2 days	✓	14-May-2025	180 days	2 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID (Low Level)										
Glass vial (sodium bisulfate)										
DUP01-05122025	E581.F1-L	12-May-2025	14-May-2025	14 days	1 days	✓	14-May-2025	14 days	1 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID (Low Level)										
Glass vial (sodium bisulfate) MW103-05122025	E581.F1-L	12-May-2025	14-May-2025	14 days	1 days	✓	14-May-2025	14 days	1 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID (Low Level)										
Glass vial (sodium bisulfate) MW102-05122025	E581.F1-L	12-May-2025	14-May-2025	14 days	2 days	✓	14-May-2025	14 days	2 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID (Low Level)										
Glass vial (sodium bisulfate) TRIP BLANK	E581.F1-L	12-May-2025	14-May-2025	14 days	2 days	✓	14-May-2025	14 days	2 days	✓
Hydrocarbons : Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) DUP01-05122025	E601.SG	12-May-2025	21-May-2025	14 days	9 days	✓	22-May-2025	40 days	1 days	✓
Hydrocarbons : Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MW102-05122025	E601.SG	12-May-2025	21-May-2025	14 days	9 days	✓	22-May-2025	40 days	1 days	✓
Hydrocarbons : Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) MW103-05122025	E601.SG	12-May-2025	21-May-2025	14 days	9 days	✓	22-May-2025	40 days	1 days	✓
Non-Chlorinated Phenolics : BNA (Routine List) by GC-MS-MS										
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP] DUP01-05122025	E625A	12-May-2025	29-May-2025	14 days	17 days	× EHT	30-May-2025	40 days	1 days	✓
Non-Chlorinated Phenolics : BNA (Routine List) by GC-MS-MS										
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP] MW102-05122025	E625A	12-May-2025	29-May-2025	14 days	17 days	× EHT	30-May-2025	40 days	1 days	✓
Non-Chlorinated Phenolics : BNA (Routine List) by GC-MS-MS										
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP] MW103-05122025	E625A	12-May-2025	29-May-2025	14 days	17 days	× EHT	30-May-2025	40 days	1 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Phthalate Esters : BNA (Routine List) by GC-MS-MS										
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP]										
DUP01-05122025	E625A	12-May-2025	29-May-2025	14 days	17 days	× EHT	30-May-2025	40 days	1 days	✓
Phthalate Esters : BNA (Routine List) by GC-MS-MS										
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP]										
MW102-05122025	E625A	12-May-2025	29-May-2025	14 days	17 days	× EHT	30-May-2025	40 days	1 days	✓
Phthalate Esters : BNA (Routine List) by GC-MS-MS										
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP]										
MW103-05122025	E625A	12-May-2025	29-May-2025	14 days	17 days	× EHT	30-May-2025	40 days	1 days	✓
Physical Tests : Conductivity in Water										
HDPE [ON MECP]										
DUP01-05122025	E100	12-May-2025	17-May-2025	28 days	5 days	✓	17-May-2025	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE [ON MECP]										
MW102-05122025	E100	12-May-2025	17-May-2025	28 days	5 days	✓	17-May-2025	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE [ON MECP]										
MW103-05122025	E100	12-May-2025	17-May-2025	28 days	5 days	✓	17-May-2025	28 days	5 days	✓
Physical Tests : pH by Meter										
HDPE [ON MECP]										
DUP01-05122025	E108	12-May-2025	17-May-2025	14 days	5 days	✓	17-May-2025	14 days	5 days	✓
Physical Tests : pH by Meter										
HDPE [ON MECP]										
MW102-05122025	E108	12-May-2025	17-May-2025	14 days	5 days	✓	17-May-2025	14 days	5 days	✓
Physical Tests : pH by Meter										
HDPE [ON MECP]										
MW103-05122025	E108	12-May-2025	17-May-2025	14 days	5 days	✓	17-May-2025	14 days	5 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) DUP01-05122025	E641A	12-May-2025	21-May-2025	14 days	9 days	✓	22-May-2025	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MW102-05122025	E641A	12-May-2025	21-May-2025	14 days	9 days	✓	22-May-2025	40 days	1 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) MW103-05122025	E641A	12-May-2025	21-May-2025	14 days	9 days	✓	22-May-2025	40 days	1 days	✓
Semi-Volatile Organics : BNA (Routine List) by GC-MS-MS										
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP] DUP01-05122025	E625A	12-May-2025	29-May-2025	14 days	17 days	× EHT	30-May-2025	40 days	1 days	✓
Semi-Volatile Organics : BNA (Routine List) by GC-MS-MS										
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP] MW102-05122025	E625A	12-May-2025	29-May-2025	14 days	17 days	× EHT	30-May-2025	40 days	1 days	✓
Semi-Volatile Organics : BNA (Routine List) by GC-MS-MS										
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP] MW103-05122025	E625A	12-May-2025	29-May-2025	14 days	17 days	× EHT	30-May-2025	40 days	1 days	✓
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (NaOH+Buf) [ON MECP] DUP01-05122025	E532A	12-May-2025	----	----	----		15-May-2025	28 days	3 days	✓
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (NaOH+Buf) [ON MECP] MW102-05122025	E532A	12-May-2025	----	----	----		15-May-2025	28 days	3 days	✓
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (NaOH+Buf) [ON MECP] MW103-05122025	E532A	12-May-2025	----	----	----		15-May-2025	28 days	3 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass vial (sodium bisulfate) DUP01-05122025	E611D	12-May-2025	14-May-2025	14 days	1 days	✓	14-May-2025	14 days	1 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass vial (sodium bisulfate) MW103-05122025	E611D	12-May-2025	14-May-2025	14 days	1 days	✓	14-May-2025	14 days	1 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass vial (sodium bisulfate) MW102-05122025	E611D	12-May-2025	14-May-2025	14 days	2 days	✓	14-May-2025	14 days	2 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass vial (sodium bisulfate) TRIP BLANK	E611D	12-May-2025	14-May-2025	14 days	2 days	✓	14-May-2025	14 days	2 days	✓

Legend & Qualifier Definitions

EHT: Exceeded ALS recommended hold time prior to analysis.

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: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Conductivity in Water	E100	2002646	1	15	6.6	5.0	✓
pH by Meter	E108	2002645	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	2002640	1	16	6.2	5.0	✓
WAD Cyanide	E336	1995307	1	10	10.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1995003	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2000329	1	14	7.1	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	1999027	1	8	12.5	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L	1995030	2	16	12.5	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1995029	2	33	6.0	5.0	✓
Laboratory Control Samples (LCS)							
Conductivity in Water	E100	2002646	1	15	6.6	5.0	✓
pH by Meter	E108	2002645	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	2002640	1	16	6.2	5.0	✓
WAD Cyanide	E336	1995307	1	10	10.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1995003	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2000329	1	14	7.1	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	1999027	1	8	12.5	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L	1995030	2	16	12.5	5.0	✓
Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID	E601.SG	2007094	1	16	6.2	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1995029	3	33	9.0	5.0	✓
BNA (Routine List) by GC-MS-MS	E625A	2023042	1	8	12.5	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	2007105	1	3	33.3	5.0	✓
Method Blanks (MB)							
Conductivity in Water	E100	2002646	1	15	6.6	5.0	✓
Chloride in Water by IC	E235.Cl	2002640	1	16	6.2	5.0	✓
WAD Cyanide	E336	1995307	1	10	10.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1995003	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2000329	1	14	7.1	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	1999027	1	8	12.5	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L	1995030	2	16	12.5	5.0	✓
Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID	E601.SG	2007094	1	16	6.2	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1995029	3	33	9.0	5.0	✓
BNA (Routine List) by GC-MS-MS	E625A	2023042	1	8	12.5	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	2007105	1	3	33.3	5.0	✓
Matrix Spikes (MS)							

Matrix: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Matrix Spikes (MS) - Continued							
Chloride in Water by IC	E235.Cl	2002640	1	16	6.2	5.0	✓
WAD Cyanide	E336	1995307	1	10	10.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1995003	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2000329	1	14	7.1	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	1999027	1	8	12.5	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L	1995030	1	16	6.2	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1995029	2	33	6.0	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
Conductivity in Water	E100 ALS Environmental - Waterloo	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Waterloo	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Chloride in Water by IC	E235.Cl ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
WAD Cyanide	E336 ALS Environmental - Waterloo	Water	APHA 4500-CN I (mod)	Weak Acid Dissociable (WAD) cyanide is determined by Continuous Flow Analyzer (CFA) with in-line distillation followed by colourmetric analysis.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Waterloo	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Mercury in Water by CVAAS	E509 ALS Environmental - Waterloo	Water	APHA 3030B/EPA 1631E (mod)	Water samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A ALS Environmental - Waterloo	Water	APHA 3500-Cr C (Ion Chromatography)	Hexavalent Chromium is measured by Ion chromatography-Post column reaction and UV detection. sample pretreatment involved field or lab filtration following by sample preservation.
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1 (mod)	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. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID	E601.SG ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1 (mod)	Sample extracts are subjected to in-situ silica gel treatment prior to analysis by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
VOCs (Eastern Canada List) by Headspace GC-MS	E611D ALS Environmental - Waterloo	Water	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.
BNA (Routine List) by GC-MS-MS	E625A ALS Environmental - Waterloo	Water	EPA 8270E (mod)	BNA are analyzed by GC-MS-MS.
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Waterloo	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
F1-BTEX	EC580 ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
SUM F1 to F4 where F2-F4 is SG treated	EC581SG ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1	Hydrocarbons, total (C6-C50) is the sum of CCME Fraction F1(C6-C10), F2(C10-C16), F3(C16-C34), and F4(C34-C50), where F2-F4 have been treated with silica gel. F4G-sg is not used within this calculation due to overlap with other fractions.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Metals Water Filtration	EP421 ALS Environmental - Waterloo	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Waterloo	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Waterloo	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into a GC-MS-FID.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Waterloo	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
BNA Extraction	EP625 ALS Environmental - Waterloo	Water	EPA 3510C (mod)	SVOCs are extracted from aqueous sample using DCM liquid-liquid extraction.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **WT2511335**	Page	: 1 of 22
Client	: Jacobs Consultancy Canada Inc.	Laboratory	: ALS Environmental - Waterloo
Contact	: Tania Mccarthy	Account Manager	: Mathy Mahadeva
Address	: 165 King St West Suite 201 Kitchener ON Canada N2G 1A7	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 519 579 3500	Telephone	: +1 519 886 6910
Project	: COG14EDN	Date Samples Received	: 13-May-2025 10:00
PO	: ----	Date Analysis Commenced	: 14-May-2025
C-O-C number	: 23-1123833	Issue Date	: 02-Jun-2025 13:00
Sampler	: JN		
Site	: ----		
Quote number	: Ontario Jacobs Standing Offer 2025		
No. of samples received	: 4		
No. of samples analysed	: 4		

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
- 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.

Signatories	*Position*	*Laboratory Department*
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
Andrea Armstrong	Department Manager - Air Quality and Volatiles	Waterloo VOC, Waterloo, Ontario
Danielle Gravel	Supervisor - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Waterloo Inorganics, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Waterloo Metals, Waterloo, Ontario

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 (QCI) 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).

Sub-Matrix: **Water**

					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: 2002645)											
WT2511598-002	Anonymous	pH	----	E108	0.10	pH units	7.98	7.99	0.125%	4%	----
Physical Tests (QC Lot: 2002646)											
WT2511598-002	Anonymous	Conductivity	----	E100	1.0	µS/cm	923	907	1.75%	10%	----
Anions and Nutrients (QC Lot: 2002640)											
WT2511680-011	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	8.79	8.77	0.236%	20%	----
Cyanides (QC Lot: 1995307)											
WT2511265-001	Anonymous	Cyanide, weak acid dissociable	----	E336	0.0020	mg/L	<2.0 µg/L	<0.0020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1995003)											
WT2511265-001	Anonymous	Antimony, dissolved	7440-36-0	E421	0.00100	mg/L	3.56 µg/L	0.00358	0.00002	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00100	mg/L	2.59 µg/L	0.00266	0.00008	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00100	mg/L	25.8 µg/L	0.0261	1.35%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000200	mg/L	<0.200 µg/L	<0.000200	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.100	mg/L	<100 µg/L	<0.100	0	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000500	mg/L	<0.0500 µg/L	<0.0000500	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E421	0.00500	mg/L	<5.00 µg/L	<0.00500	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00100	mg/L	11.2 µg/L	0.0115	2.25%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00200	mg/L	<2.00 µg/L	<0.00200	0	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E421	0.000500	mg/L	1.58 µg/L	0.00161	0.000031	Diff <2x LOR	----
		Molybdenum, dissolved	7439-98-7	E421	0.000500	mg/L	<0.500 µg/L	<0.000500	0	Diff <2x LOR	----
		Nickel, dissolved	7440-02-0	E421	0.00500	mg/L	<5.00 µg/L	<0.00500	0	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000500	mg/L	<0.500 µg/L	<0.000500	0	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E421	0.000100	mg/L	<0.100 µg/L	<0.000100	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.500	mg/L	17900 µg/L	18.6	3.83%	20%	----
		Thallium, dissolved	7440-28-0	E421	0.000100	mg/L	<0.100 µg/L	<0.000100	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000100	mg/L	<0.100 µg/L	<0.000100	0	Diff <2x LOR	----
		Vanadium, dissolved	7440-62-2	E421	0.00500	mg/L	5.70 µg/L	0.00584	0.00015	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0100	mg/L	<10.0 µg/L	<0.0100	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 2000329)											
WT2511131-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	----
Speciated Metals (QC Lot: 1999027)											

Sub-Matrix: **Water**

					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*
Speciated Metals (QC Lot: 1999027) - continued											
WT2511335-001	MW102-05122025	Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.00050	mg/L	<0.50 µg/L	<0.00050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1995029)											
WT2511265-001	Anonymous	Acetone	67-64-1	E611D	600	µg/L	<660	<600	60	Diff <2x LOR	----
		Benzene	71-43-2	E611D	1.00	µg/L	1370	1350	1.64%	30%	----
		Bromodichloromethane	75-27-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromoform	75-25-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromomethane	74-83-9	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Carbon tetrachloride	56-23-5	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Chlorobenzene	108-90-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroform	67-66-3	E611D	12.5	µg/L	<13.0	<12.5	0.50	Diff <2x LOR	----
		Dibromochloromethane	124-48-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dibromoethane, 1,2-	106-93-4	E611D	0.60	µg/L	<1.60	1.21	0.39	Diff <2x LOR	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorodifluoromethane	75-71-8	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,1-	75-34-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,2-	107-06-2	E611D	0.50	µg/L	<1.00	<0.50	0.50	Diff <2x LOR	----
		Dichloroethylene, 1,1-	75-35-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloromethane	75-09-2	E611D	63.0	µg/L	<67.0	<63.0	4.0	Diff <2x LOR	----
		Dichloropropane, 1,2-	78-87-5	E611D	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611D	1.00	µg/L	791	727	8.42%	30%	----
		Hexane, n-	110-54-3	E611D	0.50	µg/L	95.4	93.8	1.65%	30%	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	50	µg/L	<60	<50	10	Diff <2x LOR	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	30	µg/L	<30	<30	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethylene	127-18-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					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: 1995029) - continued											
WT2511265-001	Anonymous	Toluene	108-88-3	E611D	0.50	µg/L	308	292	5.24%	30%	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethylene	79-01-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichlorofluoromethane	75-69-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Vinyl chloride	75-01-4	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611D	1.50	µg/L	1890	1870	0.964%	30%	----
		Xylene, o-	95-47-6	E611D	1.00	µg/L	127	119	6.02%	30%	----
Volatile Organic Compounds (QC Lot: 1995352)											
WT2511324-001	Anonymous	Acetone	67-64-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Benzene	71-43-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromodichloromethane	75-27-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromoform	75-25-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromomethane	74-83-9	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Carbon tetrachloride	56-23-5	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Chlorobenzene	108-90-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroform	67-66-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dibromochloromethane	124-48-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dibromoethane, 1,2-	106-93-4	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorodifluoromethane	75-71-8	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,1-	75-34-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,2-	107-06-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-	75-35-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloromethane	75-09-2	E611D	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Dichloropropane, 1,2-	78-87-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Hexane, n-	110-54-3	E611D	0.50	µg/L	0.73	0.72	0.01	Diff <2x LOR	----

Sub-Matrix: **Water**

					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: 1995352) - continued											
WT2511324-001	Anonymous	Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	1.00	µg/L	<1.00	<1.00	0	Diff <2x LOR	----
		Tetrachloroethylene	127-18-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethylene	79-01-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichlorofluoromethane	75-69-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Vinyl chloride	75-01-4	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611D	0.40	µg/L	1.79	1.77	0.02	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1995030)											
WT2511265-001	Anonymous	F1 (C6-C10)	----	E581.F1-L	100	µg/L	8420	7890	6.46%	30%	----
Hydrocarbons (QC Lot: 1995353)											
WT2511324-001	Anonymous	F1 (C6-C10)	----	E581.F1-L	25	µg/L	91	96	4	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: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2002646)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Anions and Nutrients (QCLot: 2002640)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Cyanides (QCLot: 1995307)						
Cyanide, weak acid dissociable	----	E336	0.002	mg/L	<0.0020	----
Dissolved Metals (QCLot: 1995003)						
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Dissolved Metals (QCLot: 2000329)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Speciated Metals (QCLot: 1999027)						
Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0005	mg/L	<0.00050	----
Volatile Organic Compounds (QCLot: 1995029)						
Acetone	67-64-1	E611D	20	µg/L	<20	----
Benzene	71-43-2	E611D	0.5	µg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1995029) - continued						
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611D	0.5	µg/L	<0.50	----
Bromomethane	74-83-9	E611D	0.5	µg/L	<0.50	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	<0.20	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611D	0.5	µg/L	<0.50	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	<0.50	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	<0.20	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	<0.50	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611D	1	µg/L	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	<0.30	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	<0.30	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	<0.50	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	<0.50	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	<0.50	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	<0.50	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1995029) - continued						
Vinyl chloride	75-01-4	E611D	0.2	µg/L	<0.20	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	<0.30	----
Volatile Organic Compounds (QCLot: 1995352)						
Acetone	67-64-1	E611D	20	µg/L	<20	----
Benzene	71-43-2	E611D	0.5	µg/L	<0.50	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611D	0.5	µg/L	<0.50	----
Bromomethane	74-83-9	E611D	0.5	µg/L	<0.50	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	<0.20	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611D	0.5	µg/L	<0.50	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	<0.50	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	<0.20	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	<0.50	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611D	1	µg/L	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	<0.30	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	<0.30	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	<0.50	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	<0.50	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1995352) - continued						
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	<0.50	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	<0.50	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	<0.50	----
Vinyl chloride	75-01-4	E611D	0.2	µg/L	<0.20	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	<0.30	----
Volatile Organic Compounds (QCLot: 1998038)						
Acetone	67-64-1	E611D	20	µg/L	<20	----
Benzene	71-43-2	E611D	0.5	µg/L	<0.50	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611D	0.5	µg/L	<0.50	----
Bromomethane	74-83-9	E611D	0.5	µg/L	<0.50	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	<0.20	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611D	0.5	µg/L	<0.50	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	<0.50	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	<0.20	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	<0.50	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611D	1	µg/L	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	<0.30	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	<0.30	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	<0.50	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1998038) - continued						
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	<0.50	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	<0.50	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	<0.50	----
Vinyl chloride	75-01-4	E611D	0.2	µg/L	<0.20	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1995030)						
F1 (C6-C10)	----	E581.F1-L	25	µg/L	<25	----
Hydrocarbons (QCLot: 1995353)						
F1 (C6-C10)	----	E581.F1-L	25	µg/L	<25	----
Hydrocarbons (QCLot: 2007094)						
F2 (C10-C16)	----	E601.SG	100	µg/L	<100	----
F3 (C16-C34)	----	E601.SG	250	µg/L	<250	----
F4 (C34-C50)	----	E601.SG	250	µg/L	<250	----
Polycyclic Aromatic Hydrocarbons (QCLot: 2007105)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 2007105) - continued						
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Phthalate Esters (QCLot: 2023042)						
bis(2-Ethylhexyl) phthalate [DEHP]	117-81-7	E625A	0.6	µg/L	<0.60	----
Diethyl phthalate	84-66-2	E625A	0.2	µg/L	<0.20	----
Dimethyl phthalate	131-11-3	E625A	0.2	µg/L	<0.20	----
Semi-Volatile Organics (QCLot: 2023042)						
Biphenyl	92-52-4	E625A	0.2	µg/L	<0.20	----
bis(2-Chloro-1-methylethyl) ether	108-60-1	E625A	0.4	µg/L	<0.40	----
bis(2-Chloroethyl) ether	111-44-4	E625A	0.4	µg/L	<0.40	----
Chloroaniline, 4-	106-47-8	E625A	0.4	µg/L	<0.40	----
Dichlorobenzidine, 3,3'-	91-94-1	E625A	0.4	µg/L	<0.40	----
Dinitrotoluene, 2,4-	121-14-2	E625A	0.4	µg/L	<0.40	----
Dinitrotoluene, 2,6-	606-20-2	E625A	0.4	µg/L	<0.40	----
Trichlorobenzene, 1,2,4-	120-82-1	E625A	0.4	µg/L	<0.40	----
Chlorinated Phenolics (QCLot: 2023042)						
Chlorophenol, 2-	95-57-8	E625A	0.3	µg/L	<0.30	----
Dichlorophenol, 2,4-	120-83-2	E625A	0.2	µg/L	<0.20	----
Pentachlorophenol [PCP]	87-86-5	E625A	0.5	µg/L	<0.50	----
Trichlorophenol, 2,4,5-	95-95-4	E625A	0.2	µg/L	<0.20	----
Trichlorophenol, 2,4,6-	88-06-2	E625A	0.2	µg/L	<0.20	----
Non-Chlorinated Phenolics (QCLot: 2023042)						
Dimethylphenol, 2,4-	105-67-9	E625A	0.5	µg/L	<0.50	----
Dinitrophenol, 2,4-	51-28-5	E625A	1	µg/L	<1.0	----
Phenol	108-95-2	E625A	0.5	µg/L	<0.50	----

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: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2002645)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 2002646)									
Conductivity	----	E100	1	µS/cm	1410 µS/cm	98.9	90.0	110	----
Anions and Nutrients (QCLot: 2002640)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	99.0	90.0	110	----
Cyanides (QCLot: 1995307)									
Cyanide, weak acid dissociable	----	E336	0.002	mg/L	0.125 mg/L	95.7	80.0	120	----
Dissolved Metals (QCLot: 1995003)									
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	0.05 mg/L	103	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	0.05 mg/L	104	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.012 mg/L	103	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.005 mg/L	104	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	0.05 mg/L	99.0	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.005 mg/L	97.8	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.012 mg/L	101	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.012 mg/L	99.6	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.012 mg/L	98.7	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.025 mg/L	98.2	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.012 mg/L	103	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.025 mg/L	98.6	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	0.05 mg/L	98.2	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.005 mg/L	98.1	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	2.5 mg/L	101	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	0.05 mg/L	102	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0 mg/L	97.5	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.025 mg/L	101	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.025 mg/L	98.4	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	99.4	80.0	120	----
Speciated Metals (QCLot: 1999027)									

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Speciated Metals (QCLot: 1999027) - continued									
Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0005	mg/L	0.025 mg/L	99.1	80.0	120	----
Volatile Organic Compounds (QCLot: 1995029)									
Acetone	67-64-1	E611D	20	µg/L	100 µg/L	118	70.0	130	----
Benzene	71-43-2	E611D	0.5	µg/L	100 µg/L	94.3	70.0	130	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	100 µg/L	93.9	70.0	130	----
Bromoform	75-25-2	E611D	0.5	µg/L	100 µg/L	92.6	70.0	130	----
Bromomethane	74-83-9	E611D	0.5	µg/L	100 µg/L	72.6	60.0	140	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	100 µg/L	82.5	70.0	130	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	100 µg/L	92.8	70.0	130	----
Chloroform	67-66-3	E611D	0.5	µg/L	100 µg/L	92.7	70.0	130	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	100 µg/L	95.7	70.0	130	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	100 µg/L	96.8	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	100 µg/L	95.4	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	100 µg/L	93.6	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	100 µg/L	94.7	70.0	130	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	100 µg/L	80.4	60.0	140	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	100 µg/L	93.9	70.0	130	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	100 µg/L	93.8	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	100 µg/L	90.0	70.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	100 µg/L	96.6	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	100 µg/L	92.5	70.0	130	----
Dichloromethane	75-09-2	E611D	1	µg/L	100 µg/L	94.0	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	100 µg/L	99.1	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	100 µg/L	95.3	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	100 µg/L	95.8	70.0	130	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	100 µg/L	94.5	70.0	130	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	100 µg/L	93.8	70.0	130	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	100 µg/L	114	70.0	130	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	100 µg/L	111	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	100 µg/L	92.9	70.0	130	----
Styrene	100-42-5	E611D	0.5	µg/L	100 µg/L	91.1	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	100 µg/L	90.0	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	100 µg/L	109	70.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	100 µg/L	85.0	70.0	130	----
Toluene	108-88-3	E611D	0.5	µg/L	100 µg/L	95.3	70.0	130	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1995029) - continued									
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	100 µg/L	82.6	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	100 µg/L	98.3	70.0	130	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	100 µg/L	88.4	70.0	130	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	100 µg/L	81.6	60.0	140	----
Vinyl chloride	75-01-4	E611D	0.2	µg/L	100 µg/L	91.2	60.0	140	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	200 µg/L	97.8	70.0	130	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	100 µg/L	94.2	70.0	130	----
Volatile Organic Compounds (QCLot: 1995352)									
Acetone	67-64-1	E611D	20	µg/L	100 µg/L	124	70.0	130	----
Benzene	71-43-2	E611D	0.5	µg/L	100 µg/L	105	70.0	130	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	100 µg/L	97.8	70.0	130	----
Bromoform	75-25-2	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Bromomethane	74-83-9	E611D	0.5	µg/L	100 µg/L	75.2	60.0	140	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	100 µg/L	84.2	70.0	130	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	100 µg/L	98.8	70.0	130	----
Chloroform	67-66-3	E611D	0.5	µg/L	100 µg/L	95.6	70.0	130	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	100 µg/L	104	70.0	130	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	100 µg/L	96.5	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	100 µg/L	101	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	100 µg/L	90.5	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	100 µg/L	92.8	70.0	130	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	100 µg/L	114	60.0	140	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	100 µg/L	98.5	70.0	130	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	100 µg/L	99.2	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	100 µg/L	100	70.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	100 µg/L	101	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	100 µg/L	99.1	70.0	130	----
Dichloromethane	75-09-2	E611D	1	µg/L	100 µg/L	98.2	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	100 µg/L	101	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	100 µg/L	99.0	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	100 µg/L	97.6	70.0	130	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	100 µg/L	92.2	70.0	130	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	100 µg/L	106	70.0	130	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	100 µg/L	113	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1995352) - continued									
Styrene	100-42-5	E611D	0.5	µg/L	100 µg/L	94.7	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	100 µg/L	92.9	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	100 µg/L	120	70.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	100 µg/L	90.6	70.0	130	----
Toluene	108-88-3	E611D	0.5	µg/L	100 µg/L	99.3	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	100 µg/L	83.9	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	100 µg/L	101	70.0	130	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	100 µg/L	93.7	70.0	130	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	100 µg/L	88.8	60.0	140	----
Vinyl chloride	75-01-4	E611D	0.2	µg/L	100 µg/L	99.0	60.0	140	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	200 µg/L	93.2	70.0	130	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	100 µg/L	99.2	70.0	130	----
Volatile Organic Compounds (QCLot: 1998038)									
Acetone	67-64-1	E611D	20	µg/L	100 µg/L	128	70.0	130	----
Benzene	71-43-2	E611D	0.5	µg/L	100 µg/L	112	70.0	130	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	100 µg/L	109	70.0	130	----
Bromoform	75-25-2	E611D	0.5	µg/L	100 µg/L	106	70.0	130	----
Bromomethane	74-83-9	E611D	0.5	µg/L	100 µg/L	91.4	60.0	140	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	100 µg/L	104	70.0	130	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	100 µg/L	103	70.0	130	----
Chloroform	67-66-3	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	100 µg/L	103	70.0	130	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	100 µg/L	101	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	100 µg/L	106	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	100 µg/L	107	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	100 µg/L	109	70.0	130	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	100 µg/L	121	60.0	140	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	100 µg/L	93.7	70.0	130	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	100 µg/L	113	70.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	100 µg/L	110	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	100 µg/L	115	70.0	130	----
Dichloromethane	75-09-2	E611D	1	µg/L	100 µg/L	110	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	100 µg/L	105	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	100 µg/L	102	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	100 µg/L	99.2	70.0	130	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1998038) - continued									
Ethylbenzene	100-41-4	E611D	0.5	µg/L	100 µg/L	104	70.0	130	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	100 µg/L	105	70.0	130	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	100 µg/L	115	70.0	130	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	100 µg/L	91.0	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	100 µg/L	103	70.0	130	----
Styrene	100-42-5	E611D	0.5	µg/L	100 µg/L	97.8	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	100 µg/L	98.4	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	100 µg/L	109	70.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	100 µg/L	105	70.0	130	----
Toluene	108-88-3	E611D	0.5	µg/L	100 µg/L	104	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	100 µg/L	98.6	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	100 µg/L	101	70.0	130	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	100 µg/L	109	70.0	130	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	100 µg/L	108	60.0	140	----
Vinyl chloride	75-01-4	E611D	0.2	µg/L	100 µg/L	118	60.0	140	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	200 µg/L	101	70.0	130	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	100 µg/L	106	70.0	130	----
Hydrocarbons (QCLot: 1995030)									
F1 (C6-C10)	----	E581.F1-L	25	µg/L	2000 µg/L	103	80.0	120	----
Hydrocarbons (QCLot: 1995353)									
F1 (C6-C10)	----	E581.F1-L	25	µg/L	2000 µg/L	94.5	80.0	120	----
Hydrocarbons (QCLot: 2007094)									
F2 (C10-C16)	----	E601.SG	100	µg/L	3770 µg/L	109	70.0	130	----
F3 (C16-C34)	----	E601.SG	250	µg/L	7760 µg/L	115	70.0	130	----
F4 (C34-C50)	----	E601.SG	250	µg/L	4200 µg/L	110	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 2007105)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.526 µg/L	92.4	50.0	140	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.526 µg/L	83.2	50.0	140	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.526 µg/L	79.8	50.0	140	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.526 µg/L	126	50.0	140	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.526 µg/L	95.2	50.0	140	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.526 µg/L	97.1	50.0	140	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.526 µg/L	75.3	50.0	140	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.526 µg/L	93.0	50.0	140	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 2007105) - continued									
Chrysene	218-01-9	E641A	0.01	µg/L	0.526 µg/L	113	50.0	140	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.526 µg/L	92.9	50.0	140	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.526 µg/L	94.0	50.0	140	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.526 µg/L	94.5	50.0	140	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.526 µg/L	84.4	50.0	140	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.526 µg/L	92.4	50.0	140	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.526 µg/L	96.0	50.0	140	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.526 µg/L	95.8	50.0	140	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.526 µg/L	100	50.0	140	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.526 µg/L	97.0	50.0	140	----
Phthalate Esters (QCLot: 2023042)									
bis(2-Ethylhexyl) phthalate [DEHP]	117-81-7	E625A	0.6	µg/L	33.7 µg/L	# 146	50.0	140	LCS-H
Diethyl phthalate	84-66-2	E625A	0.2	µg/L	33.7 µg/L	103	50.0	140	----
Dimethyl phthalate	131-11-3	E625A	0.2	µg/L	33.7 µg/L	98.2	50.0	140	----
Semi-Volatile Organics (QCLot: 2023042)									
Biphenyl	92-52-4	E625A	0.2	µg/L	8.42 µg/L	74.6	50.0	140	----
bis(2-Chloro-1-methylethyl) ether	108-60-1	E625A	0.4	µg/L	8.42 µg/L	78.4	50.0	140	----
bis(2-Chloroethyl) ether	111-44-4	E625A	0.4	µg/L	8.42 µg/L	75.1	50.0	140	----
Chloroaniline, 4-	106-47-8	E625A	0.4	µg/L	8.42 µg/L	70.7	30.0	140	----
Dichlorobenzidine, 3,3'-	91-94-1	E625A	0.4	µg/L	8.42 µg/L	63.5	50.0	140	----
Dinitrotoluene, 2,4-	121-14-2	E625A	0.4	µg/L	8.42 µg/L	92.8	50.0	140	----
Dinitrotoluene, 2,6-	606-20-2	E625A	0.4	µg/L	8.42 µg/L	88.5	50.0	140	----
Trichlorobenzene, 1,2,4-	120-82-1	E625A	0.4	µg/L	8.42 µg/L	79.0	50.0	130	----
Chlorinated Phenolics (QCLot: 2023042)									
Chlorophenol, 2-	95-57-8	E625A	0.3	µg/L	25.3 µg/L	59.0	50.0	140	----
Dichlorophenol, 2,4-	120-83-2	E625A	0.2	µg/L	25.3 µg/L	79.7	50.0	140	----
Pentachlorophenol [PCP]	87-86-5	E625A	0.5	µg/L	25.3 µg/L	91.0	50.0	140	----
Trichlorophenol, 2,4,5-	95-95-4	E625A	0.2	µg/L	25.3 µg/L	93.7	50.0	140	----
Trichlorophenol, 2,4,6-	88-06-2	E625A	0.2	µg/L	25.3 µg/L	96.5	50.0	140	----
Non-Chlorinated Phenolics (QCLot: 2023042)									
Dimethylphenol, 2,4-	105-67-9	E625A	0.5	µg/L	25.3 µg/L	69.0	50.0	140	----
Dinitrophenol, 2,4-	51-28-5	E625A	1	µg/L	25.3 µg/L	99.2	50.0	140	----
Phenol	108-95-2	E625A	0.5	µg/L	25.3 µg/L	93.5	50.0	140	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier

Qualifiers

Qualifier	Description
LCS-H	Lab Control Sample recovery was above ALS DQO. Non-detected sample results are considered reliable. Other results, if reported, have been qualified.

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: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2002640)										
WT2511680-011	Anonymous	Chloride	16887-00-6	E235.Cl	94.7 mg/L	100 mg/L	94.7	75.0	125	----
Cyanides (QCLot: 1995307)										
WT2511265-001	Anonymous	Cyanide, weak acid dissociable	----	E336	0.121 mg/L	0.125 mg/L	97.0	75.0	125	----
Dissolved Metals (QCLot: 1995003)										
WT2511265-002	Anonymous	Antimony, dissolved	7440-36-0	E421	0.500 mg/L	0.5 mg/L	99.9	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.527 mg/L	0.5 mg/L	105	70.0	130	----
		Barium, dissolved	7440-39-3	E421	0.131 mg/L	0.125 mg/L	105	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0489 mg/L	0.05 mg/L	97.8	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.484 mg/L	0.5 mg/L	96.8	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.0502 mg/L	0.05 mg/L	100	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.126 mg/L	0.125 mg/L	100	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.124 mg/L	0.125 mg/L	99.0	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.123 mg/L	0.125 mg/L	98.7	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.241 mg/L	0.25 mg/L	96.3	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.126 mg/L	0.125 mg/L	101	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.247 mg/L	0.25 mg/L	98.9	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.492 mg/L	0.5 mg/L	98.5	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.0424 mg/L	0.05 mg/L	84.8	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	23.8 mg/L	25 mg/L	95.2	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.488 mg/L	0.5 mg/L	97.6	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00240 mg/L	0.002 mg/L	95.9	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.253 mg/L	0.25 mg/L	101	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.240 mg/L	0.25 mg/L	96.2	70.0	130	----
Dissolved Metals (QCLot: 2000329)										
WT2511131-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000942 mg/L	0 mg/L	94.2	70.0	130	----
Speciated Metals (QCLot: 1999027)										
WT2511335-001	MW102-05122025	Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0412 mg/L	0.04 mg/L	103	70.0	130	----
Volatile Organic Compounds (QCLot: 1995029)										
WT2511265-001	Anonymous	Acetone	67-64-1	E611D	ND µg/L	----	ND	60.0	140	----
		Bromodichloromethane	75-27-4	E611D	98.1 µg/L	100 µg/L	98.1	60.0	140	----
		Bromoform	75-25-2	E611D	96.8 µg/L	100 µg/L	96.8	60.0	140	----
		Bromomethane	74-83-9	E611D	70.8 µg/L	100 µg/L	70.8	60.0	140	----
		Carbon tetrachloride	56-23-5	E611D	83.3 µg/L	100 µg/L	83.3	60.0	140	----
		Chlorobenzene	108-90-7	E611D	97.0 µg/L	100 µg/L	97.0	60.0	140	----
		Chloroform	67-66-3	E611D	92.7 µg/L	100 µg/L	92.7	60.0	140	----
		Dibromochloromethane	124-48-1	E611D	101 µg/L	100 µg/L	101	60.0	140	----

Sub-Matrix: **Water**

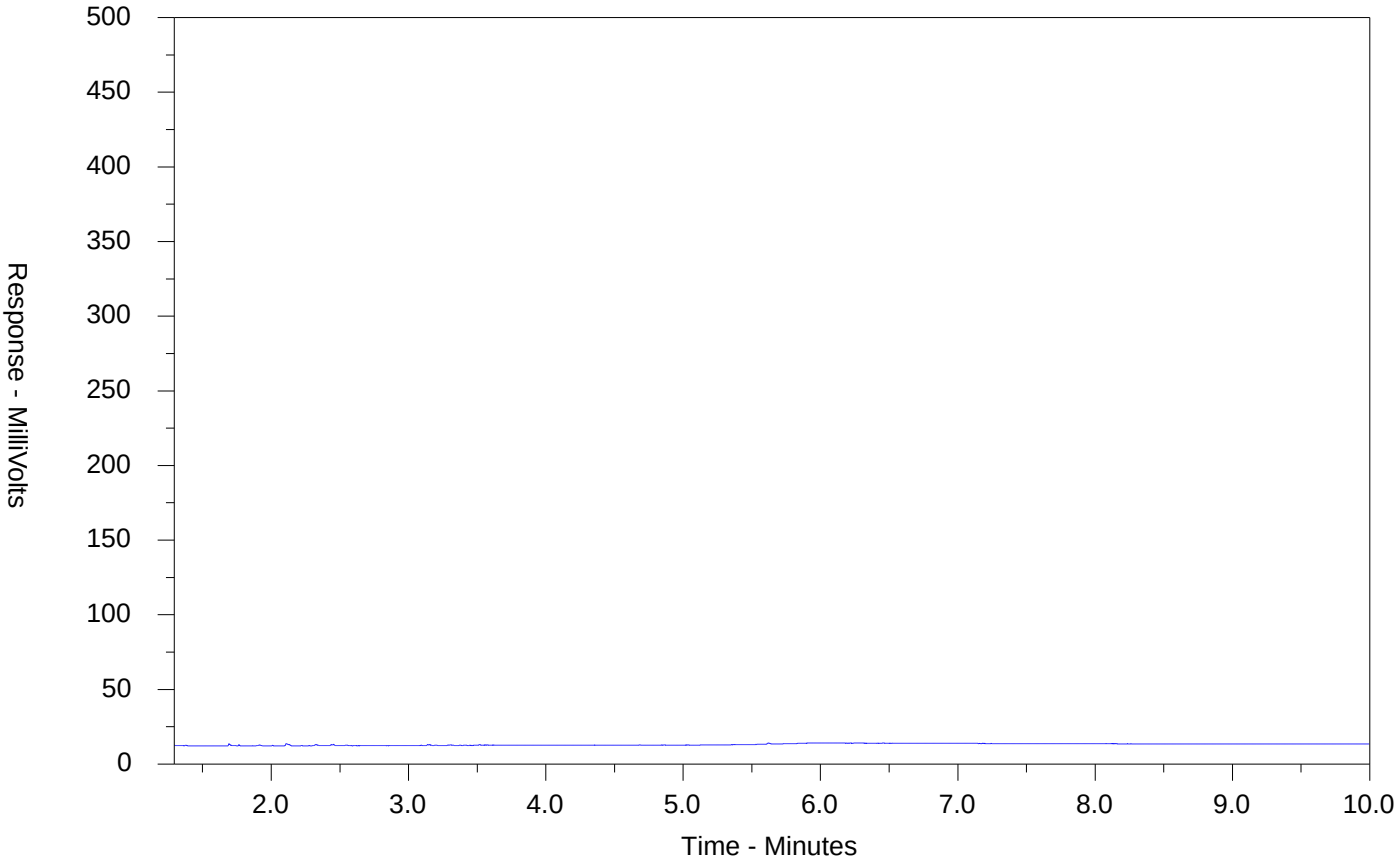
					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1995029) - continued										
WT2511265-001	Anonymous	Dibromoethane, 1,2-	106-93-4	E611D	104 µg/L	100 µg/L	104	60.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	99.0 µg/L	100 µg/L	99.0	60.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	95.6 µg/L	100 µg/L	95.6	60.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	97.6 µg/L	100 µg/L	97.6	60.0	140	----
		Dichlorodifluoromethane	75-71-8	E611D	62.8 µg/L	100 µg/L	62.8	60.0	140	----
		Dichloroethane, 1,1-	75-34-3	E611D	97.4 µg/L	100 µg/L	97.4	60.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611D	98.0 µg/L	100 µg/L	98.0	60.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611D	88.2 µg/L	100 µg/L	88.2	60.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	100 µg/L	100 µg/L	100	60.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	94.3 µg/L	100 µg/L	94.3	60.0	140	----
		Dichloromethane	75-09-2	E611D	91.0 µg/L	100 µg/L	91.0	60.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611D	105 µg/L	100 µg/L	105	60.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	102 µg/L	100 µg/L	102	60.0	140	----
		Hexane, n-	110-54-3	E611D	83.8 µg/L	100 µg/L	83.8	60.0	140	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	121 µg/L	100 µg/L	121	60.0	140	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	123 µg/L	100 µg/L	123	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	94.6 µg/L	100 µg/L	94.6	60.0	140	----
		Styrene	100-42-5	E611D	96.0 µg/L	100 µg/L	96.0	60.0	140	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	92.8 µg/L	100 µg/L	92.8	60.0	140	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	114 µg/L	100 µg/L	114	60.0	140	----
		Tetrachloroethylene	127-18-4	E611D	86.8 µg/L	100 µg/L	86.8	60.0	140	----
		Toluene	108-88-3	E611D	ND µg/L	----	ND	60.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	84.3 µg/L	100 µg/L	84.3	60.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	105 µg/L	100 µg/L	105	60.0	140	----
		Trichloroethylene	79-01-6	E611D	90.9 µg/L	100 µg/L	90.9	60.0	140	----
		Trichlorofluoromethane	75-69-4	E611D	78.3 µg/L	100 µg/L	78.3	60.0	140	----
		Vinyl chloride	75-01-4	E611D	82.6 µg/L	100 µg/L	82.6	60.0	140	----
Volatile Organic Compounds (QCLot: 1995352)										
WT2511324-001	Anonymous	Acetone	67-64-1	E611D	127 µg/L	100 µg/L	127	60.0	140	----
		Benzene	71-43-2	E611D	108 µg/L	100 µg/L	108	60.0	140	----
		Bromodichloromethane	75-27-4	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Bromoform	75-25-2	E611D	111 µg/L	100 µg/L	111	60.0	140	----
		Bromomethane	74-83-9	E611D	75.0 µg/L	100 µg/L	75.0	60.0	140	----
		Carbon tetrachloride	56-23-5	E611D	85.4 µg/L	100 µg/L	85.4	60.0	140	----
		Chlorobenzene	108-90-7	E611D	102 µg/L	100 µg/L	102	60.0	140	----
		Chloroform	67-66-3	E611D	99.0 µg/L	100 µg/L	99.0	60.0	140	----
		Dibromochloromethane	124-48-1	E611D	106 µg/L	100 µg/L	106	60.0	140	----
		Dibromoethane, 1,2-	106-93-4	E611D	97.9 µg/L	100 µg/L	97.9	60.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	104 µg/L	100 µg/L	104	60.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	94.1 µg/L	100 µg/L	94.1	60.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	96.6 µg/L	100 µg/L	96.6	60.0	140	----
		Dichlorodifluoromethane	75-71-8	E611D	99.6 µg/L	100 µg/L	99.6	60.0	140	----
		Dichloroethane, 1,1-	75-34-3	E611D	92.4 µg/L	100 µg/L	92.4	60.0	140	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1995352) - continued										
WT2511324-001	Anonymous	Dichloroethane, 1,2-	107-06-2	E611D	102 µg/L	100 µg/L	102	60.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611D	100 µg/L	100 µg/L	100	60.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	104 µg/L	100 µg/L	104	60.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Dichloromethane	75-09-2	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611D	105 µg/L	100 µg/L	105	60.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	103 µg/L	100 µg/L	103	60.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	100 µg/L	100 µg/L	100	60.0	140	----
		Ethylbenzene	100-41-4	E611D	95.8 µg/L	100 µg/L	95.8	60.0	140	----
		Hexane, n-	110-54-3	E611D	87.5 µg/L	100 µg/L	87.5	60.0	140	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	114 µg/L	100 µg/L	114	60.0	140	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	119 µg/L	100 µg/L	119	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	106 µg/L	100 µg/L	106	60.0	140	----
		Styrene	100-42-5	E611D	97.2 µg/L	100 µg/L	97.2	60.0	140	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	95.1 µg/L	100 µg/L	95.1	60.0	140	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	124 µg/L	100 µg/L	124	60.0	140	----
		Tetrachloroethylene	127-18-4	E611D	91.8 µg/L	100 µg/L	91.8	60.0	140	----
		Toluene	108-88-3	E611D	102 µg/L	100 µg/L	102	60.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	86.3 µg/L	100 µg/L	86.3	60.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	103 µg/L	100 µg/L	103	60.0	140	----
		Trichloroethylene	79-01-6	E611D	96.8 µg/L	100 µg/L	96.8	60.0	140	----
		Trichlorofluoromethane	75-69-4	E611D	86.6 µg/L	100 µg/L	86.6	60.0	140	----
		Vinyl chloride	75-01-4	E611D	96.0 µg/L	100 µg/L	96.0	60.0	140	----
		Xylene, m+p-	179601-23-1	E611D	192 µg/L	200 µg/L	96.1	60.0	140	----
		Xylene, o-	95-47-6	E611D	102 µg/L	100 µg/L	102	60.0	140	----
Hydrocarbons (QCLot: 1995353)										
WT2511324-001	Anonymous	F1 (C6-C10)	----	E581.F1-L	1620 µg/L	2000 µg/L	81.1	60.0	140	----

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2511335-001-E601.SG
Client Sample ID: MW102-05122025



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

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

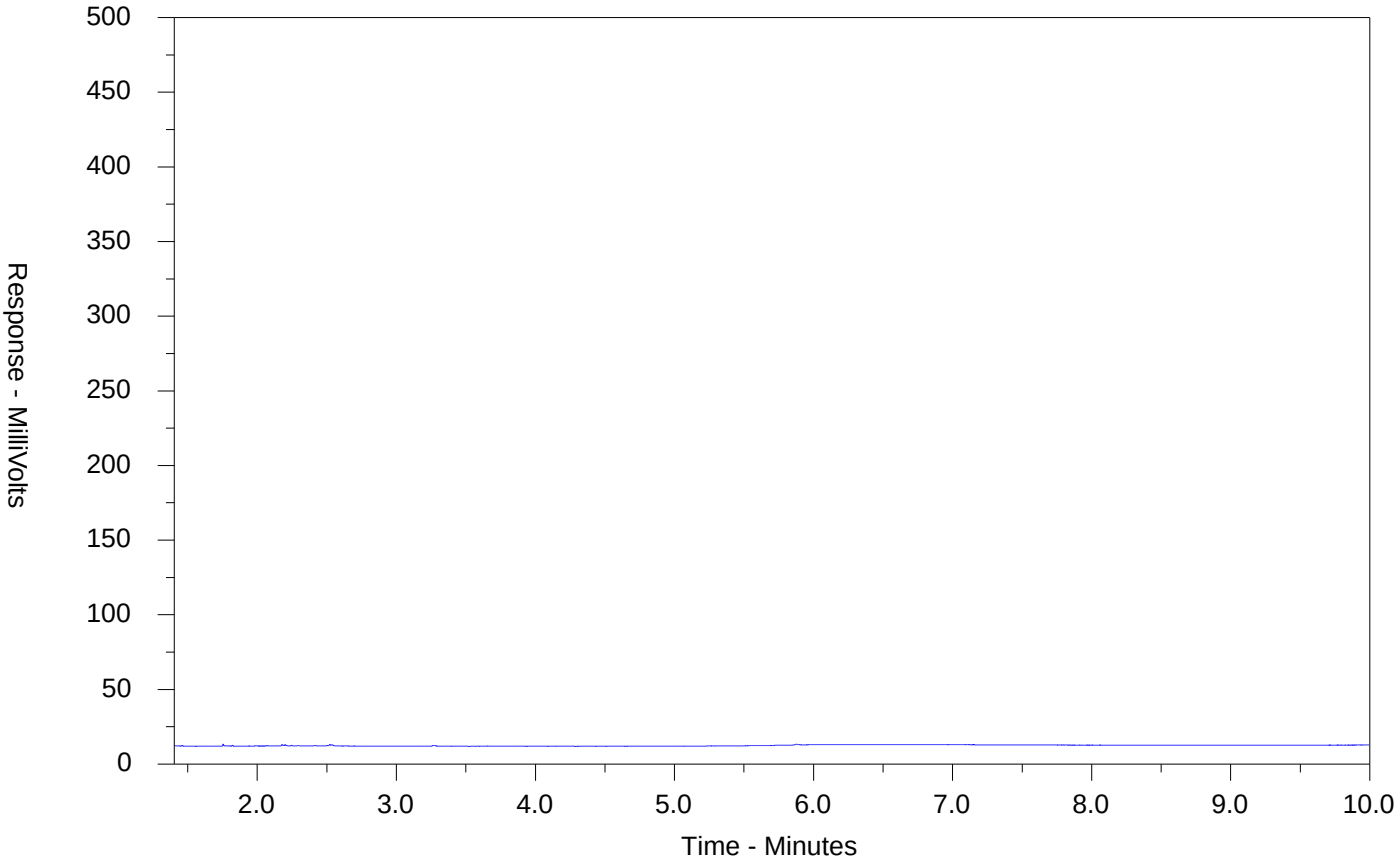
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2511335-002-E601.SG
Client Sample ID: MW103-05122025



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

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

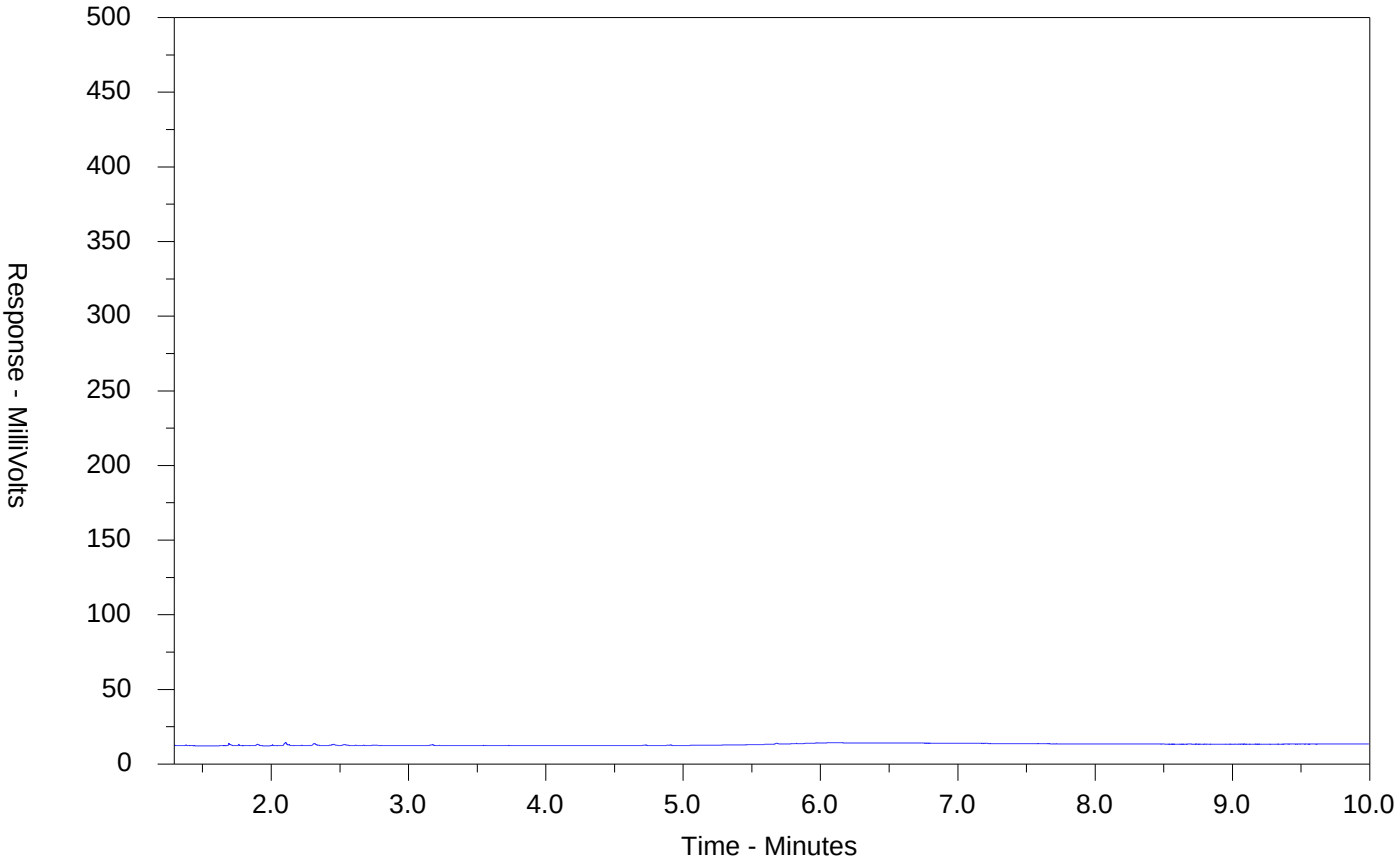
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2511335-003-E601.SG
Client Sample ID: DUP01-05122025



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

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

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

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

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

GC - 983 SC - 249
OR - 458 VW - 175
MM - 878
CN - 900

Chain of Custody (COC) / Analytical Request Form

COC Number: 23 - 1123833

Page 1 of 1

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

Environmental Division Waterloo
Work Order Reference
WT2511335

Telephone : +1 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	Jacobs Engineering Group
Contact:	Tania McCarthy
Phone:	519 880 4901
	Company address below will appear on the final report
Street:	121 King St W JN
City/Province:	Toronto / ONT
Postal Code:	M5H 3T9
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	Jacobs
Contact:	

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Email 2:

Turnaround Time (TAT) Requested

☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.

Additional fees may apply to rush requests on weekends, sta

Date and Time Required for all E&P TATs:

For all tests with rush TATs requested, please contact

Project Information

ALS Client Code / QUOTE #:
Job / Project #: COG/HEPN
PO / AFE:
LSD:

Oil and Gas Required Fields (client use)

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

ALS Lab Work Order # (ALS use only): WT2511335 FH

ALS Contact: Mathi Sampler: JN

Analysis Request

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

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	ORReg 153 Metals	ORReg (CN-CrVI Hg)	PHC (F1-F4)	VOC/BTEX	PAH	SVOC (ABN+PCP)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MW102-0512 2025	12-05-25	12:16	GW	13	✓	✓	✓	✓	✓	✓			
	MW103-05122025	12-05-25	14:49	GW	13	✓	✓	✓	✓	✓	✓			
	DUP01-05122025	12-05-25	N/A	GW	13	✓	✓	✓	✓	✓	✓			

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

Are samples taken from a Regulated DW System? ☐ YES ☑ NO
Are samples for human consumption/ use? ☐ YES ☑ NO

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

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☒ ICE ☐ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED
Cooler Custody Seals Intact: ☐ YES ☒ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
						7.5	

SHIPMENT RELEASE (client use)

Released by: Date: 5 12 2025 Time: 18:35

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by: Date: Time:

FINAL SHIPMENT RECEPTION (ALS use only)

Received by: Date: May 13/25 Time: 1000

JAN 2023 FRONT

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

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

CERTIFICATE OF ANALYSIS

Work Order	: **WT2511404**		
Client	: **Jacobs Consultancy Canada Inc.**	Laboratory	: ALS Environmental - Waterloo
Contact	: Tania McCarthy	Account Manager	: Mathy Mahadeva
Address	: 165 King St West Suite 201 Kitchener Ontario Canada N2G 1A7	Address	: 60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	: 416 499 0090	E-mail	: Mathy.Mahadeva@alsglobal.com
Project	: COG14EDN	Telephone	: +1 519 886 6910
PO	: ----	Date Samples Received	: 13-May-2025 10:00
C-O-C number	: ----	Date Analysis Commenced	: 15-May-2025
Sampler	: JN	Issue Date	: 22-May-2025 16:54
Site	: ----		
Quote number	: Ontario Jacobs Standing Offer 2025		
No. of samples received	: 2		
No. of samples analysed	: 2		

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

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*
Stella Chen	Laboratory Assistant	Inorganics, Saskatoon, Saskatchewan

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).

Unit	*Description*
-	no units
%	percent

<: 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
(Matrix: Soil/Solid)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	50-01-05122025	50-02-05122025	----	----	----
					Client sampling date / time	12-May-2025 17:00	12-May-2025 17:00	----	----	----
						WT2511404-001	WT2511404-002	----	----	----
						Result	Result	----	----	----
Particle Size										
Sand (>0.075mm)	----	E178/SK	1.0	%		42.9	64.4	----	----	----
Fines (<0.075mm)	----	E178/SK	1.0	%		57.1	35.6	----	----	----
Texture class	----	E178/SK	-	-		Fine	Coarse	----	----	----

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

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QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2511404**	Page	: 1 of 5
Client	: **Jacobs Consultancy Canada Inc.**	Laboratory	: ALS Environmental - Waterloo
Contact	: Tania McCarthy	Account Manager	: Mathy Mahadeva
Address	: 165 King St West Suite 201 Kitchener ON Canada N2G 1A7	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 416 499 0090	Telephone	: +1 519 886 6910
Project	: COG14EDN	Date Samples Received	: 13-May-2025 10:00
PO	: ----	Issue Date	: 22-May-2025 16:54
C-O-C number	: ----		
Sampler	: JN		
Site	: ----		
Quote number	: Ontario Jacobs Standing Offer 2025		
No. of samples received	: 2		
No. of samples analysed	: 2		

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 Duplicate outliers occur.
- 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

- No Quality Control Sample Frequency Outliers occur.

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 : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times* Rec	*Holding Times* Actual	*Eval*	*Analysis Date*	*Holding Times* Rec	*Holding Times* Actual	*Eval*
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
Glass soil jar/Teflon lined cap [ON MECP] 50-01-05122025	E178	12-May-2025	----	----	----		16-May-2025	180 days	4 days	✓
Particle Size : CCME fine/coarse Particle Size Analysis by wet sieve										
Glass soil jar/Teflon lined cap [ON MECP] 50-02-05122025	E178	12-May-2025	----	----	----		16-May-2025	180 days	4 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			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
CCME fine/coarse Particle Size Analysis by wet sieve	E178	2000998	1	6	16.6	5.0	✓
Laboratory Control Samples (LCS)							
CCME fine/coarse Particle Size Analysis by wet sieve	E178	2000998	1	6	16.6	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
CCME fine/coarse Particle Size Analysis by wet sieve	E178 ALS Environmental - Saskatoon	Soil/Solid	CCME Vol 4 Analytical Methods	An air-dried sample is reduced to < 2 mm size and mixed with a dispersing agent (sodium hexametaphosphate). The sample is washed through a 200 mesh (0.075 mm) sieve. The retained mass of sample is used to determine % sand fraction. If the percentage of sand is >50%, the soil is considered to be coarse textured soil. If the percentage of sand is <50%, the soil is considered to be fine textured.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dry and Grind in Soil/Solid <60°C	EPP442 ALS Environmental - Saskatoon	Soil/Solid	Soil Sampling and Methods of Analysis, Carter 2008	After removal of any coarse fragments and reservation of wet subsamples a portion of homogenized sample is set in a tray and dried at less than 60°C until dry. The sample is then particle size reduced with an automated crusher or mortar and pestle, typically to <2 mm. Further size reduction may be needed for particular tests.

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QUALITY CONTROL REPORT

Work Order	: **WT2511404**	Page	: 1 of 3
Client	: Jacobs Consultancy Canada Inc.	Laboratory	: ALS Environmental - Waterloo
Contact	: Tania McCarthy	Account Manager	: Mathy Mahadeva
Address	: 165 King St West Suite 201 Kitchener ON Canada N2G 1A7	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 416 499 0090	Telephone	: +1 519 886 6910
Project	: COG14EDN	Date Samples Received	: 13-May-2025 10:00
PO	: ----	Date Analysis Commenced	: 15-May-2025
C-O-C number	: ----	Issue Date	: 22-May-2025 16:54
Sampler	: JN		
Site	: ----		
Quote number	: Ontario Jacobs Standing Offer 2025		
No. of samples received	: 2		
No. of samples analysed	: 2		

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
- Reference Material (RM) 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.

Signatories	*Position*	*Laboratory Department*
Stella Chen	Laboratory Assistant	Saskatoon Inorganics, Saskatoon, Saskatchewan

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 (QCI) 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).

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*
Particle Size (QC Lot: 2000998)											
RG2500479-001	Anonymous	Sand (>0.075mm)	----	E178	1.0	%	22.4	21.5	3.71%	20%	----

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:

					Reference Material (RM) Report				
					RM Target	Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Reference Material ID	Analyte	CAS Number	Method	Concentration	RM	Low	High	Qualifier
Particle Size (QCLot: 2000998)									
QC-2000998-001	RM	Sand (>0.075mm)	----	E178	40.1 %	98.6	88.0	112	----

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

COC Number: 23 - 112

Page 1 of 1

Environmental Division Waterloo

Work Order Reference WT2511404

Telephone : +1 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	Jacobs Engineering Group
Contact:	Tania McCarthy
Phone:	
	Company address below will appear on the final report
Street:	121 King St W
City/Province:	Toronto ONT
Postal Code:	M5H 3T9
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	Jacobs
Contact:	

Reports / Recipients	
Select Report Format:	☑ PDF ☐ EXCEL ☐ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☑ YES ☐ NO ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	Tania.McCarthy@Jacobs.com
Email 2	Michael.Shiry@Jacobs.com
Email 3	

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax	
Email 2	

Turnaround Time (TAT) Requested
☐ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.
Additional fees may apply to rush requests on weekends, st
Date and Time Required for all E&P TATs:

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

Project Information	
ALS Client Code / QUOTE #:	
Job / Project #:	C0614EDM
PO / AFE:	
LSD:	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Lab Work Order # (ALS use only):

ALS Contact: Mathi

Sampler: JN

Analysis Request

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

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	Grain Size	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	SO-01-05122025	12-05-25	17:00	Soil	1	✓			
	SO-02-05122025	12-05-25	17:00	Soil	1	✓			

Drinking Water (DW) Samples[1] (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)
Are samples taken from a Regulated DW System? ☐ YES ☑ NO	
Are samples for human consumption/ use? ☐ YES ☑ NO	

SAMPLE RECEIPT DETAILS (ALS use only)

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

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

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
					7.0		

SHIPMENT RELEASE (client use)		
Released by:	Date: 05122025	Time: 18:35

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

FINAL SHIPMENT RECEPTION (ALS use only)		
Received by:	Date: May 13/25	Time: 1000

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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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**.

CERTIFICATE OF ANALYSIS

Work Order	: **WT2511458**		
Client	: **Jacobs Consultancy Canada Inc.**	Laboratory	: ALS Environmental - Waterloo
Contact	: Tania McCarthy	Account Manager	: Mathy Mahadeva
Address	: 245 Consumers Road Suite 400 Toronto Ontario Canada M2J 1R3	Address	: 60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	: 416 499 0090	E-mail	: Mathy.Mahadeva@alsglobal.com
Project	: COG14EDN	Telephone	: +1 519 886 6910
PO	: ----	Date Samples Received	: 14-May-2025 09:00
C-O-C number	: 23-1117377	Date Analysis Commenced	: 15-May-2025
Sampler	: ----	Issue Date	: 23-May-2025 13:28
Site	: ----		
Quote number	: Ontario Jacobs Standing Offer 2025		
No. of samples received	: 1		
No. of samples analysed	: 1		

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.

Signatories	*Position*	*Laboratory Department*
Andrea Armstrong	Department Manager - Air Quality and Volatiles	VOC, Waterloo, Ontario
Danielle Gravel	Supervisor - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Walt Kippenhuck	Supervisor - Inorganic	Metals, Waterloo, Ontario
Walt Kippenhuck	Supervisor - Inorganic	Inorganics, 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).

Unit	*Description*
-	no units
mS/cm	millisiemens per centimetre
pH units	pH units
µg/L	micrograms per litre

<: 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.

Qualifiers

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
DLMDL	Reported detection limit is at or near the Method Detection Limit (MDL). Measurement uncertainty is high at this level.

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW101-05132025	----	----	----
					Client sampling date / time	13-May-2025 14:05	----	----	----	----
						WT2511458-001	----	----	----	----
						Result	----	----	----	----
Physical Tests										
Conductivity	----	E100/WT	0.0010	mS/cm		3.29	----	----	----	----
pH	----	E108/WT	0.10	pH units		8.00	----	----	----	----
Anions and Nutrients										
Chloride	16887-00-6	E235.Cl/WT	500	µg/L		865000 DLDS	----	----	----	----
Cyanides										
Cyanide, weak acid dissociable	----	E336/WT	2.0	µg/L		<2.0	----	----	----	----
Dissolved Metals										
Antimony, dissolved	7440-36-0	E421/WT	0.10	µg/L		<1.00 DLHC	----	----	----	----
Arsenic, dissolved	7440-38-2	E421/WT	0.10	µg/L		<1.00 DLHC	----	----	----	----
Barium, dissolved	7440-39-3	E421/WT	0.10	µg/L		133 DLHC	----	----	----	----
Beryllium, dissolved	7440-41-7	E421/WT	0.020	µg/L		<0.200 DLHC	----	----	----	----
Boron, dissolved	7440-42-8	E421/WT	10	µg/L		<100 DLHC	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/WT	0.0050	µg/L		<0.0500 DLHC	----	----	----	----
Chromium, dissolved	7440-47-3	E421/WT	0.50	µg/L		<5.00 DLHC	----	----	----	----
Cobalt, dissolved	7440-48-4	E421/WT	0.10	µg/L		<1.00 DLHC	----	----	----	----
Copper, dissolved	7440-50-8	E421/WT	0.20	µg/L		<2.00 DLHC	----	----	----	----
Lead, dissolved	7439-92-1	E421/WT	0.050	µg/L		<0.500 DLHC	----	----	----	----
Mercury, dissolved	7439-97-6	E509/WT	0.0050	µg/L		<0.0050	----	----	----	----
Molybdenum, dissolved	7439-98-7	E421/WT	0.050	µg/L		1.22 DLHC	----	----	----	----
Nickel, dissolved	7440-02-0	E421/WT	0.50	µg/L		<5.00 DLHC	----	----	----	----
Selenium, dissolved	7782-49-2	E421/WT	0.050	µg/L		0.984 DLHC	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW101-05132025	----	----	----	----
					Client sampling date / time	13-May-2025 14:05	----	----	----	----
						WT2511458-001	----	----	----	----
						Result	----	----	----	----
Dissolved Metals										
Silver, dissolved	7440-22-4	E421/WT	0.010	µg/L		<0.100 DLHC	----	----	----	----
Sodium, dissolved	7440-23-5	E421/WT	50	µg/L		534000 DLHC	----	----	----	----
Thallium, dissolved	7440-28-0	E421/WT	0.010	µg/L		<0.100 DLHC	----	----	----	----
Uranium, dissolved	7440-61-1	E421/WT	0.010	µg/L		2.59 DLHC	----	----	----	----
Vanadium, dissolved	7440-62-2	E421/WT	0.50	µg/L		<3.90 DLHC, DLMDL	----	----	----	----
Zinc, dissolved	7440-66-6	E421/WT	1.0	µg/L		15.6 DLHC	----	----	----	----
Dissolved mercury filtration location	----	EP509/WT	-	-		Field	----	----	----	----
Dissolved metals filtration location	----	EP421/WT	-	-		Field	----	----	----	----
Speciated Metals										
Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A/WT	0.50	µg/L		0.74	----	----	----	----
Volatile Organic Compounds										
Acetone	67-64-1	E611D/WT	20	µg/L		<20	----	----	----	----
Benzene	71-43-2	E611D/WT	0.50	µg/L		<0.50	----	----	----	----
Bromodichloromethane	75-27-4	E611D/WT	0.50	µg/L		1.03	----	----	----	----
Bromoform	75-25-2	E611D/WT	0.50	µg/L		<0.50	----	----	----	----
Bromomethane	74-83-9	E611D/WT	0.50	µg/L		<0.50	----	----	----	----
Carbon tetrachloride	56-23-5	E611D/WT	0.20	µg/L		<0.20	----	----	----	----
Chlorobenzene	108-90-7	E611D/WT	0.50	µg/L		<0.50	----	----	----	----
Chloroform	67-66-3	E611D/WT	0.50	µg/L		0.89	----	----	----	----
Dibromochloromethane	124-48-1	E611D/WT	0.50	µg/L		1.09	----	----	----	----
Dibromoethane, 1,2-	106-93-4	E611D/WT	0.20	µg/L		<0.20	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW101-05132025	----	----	----	----
					Client sampling date / time	13-May-2025 14:05	----	----	----	----
					WT2511458-001	----	----	----	----	----
					Result	----	----	----	----	----
Volatile Organic Compounds										
Dichlorobenzene, 1,2-	95-50-1	E611D/WT	0.50	µg/L	<0.50	----	----	----	----
Dichlorobenzene, 1,3-	541-73-1	E611D/WT	0.50	µg/L	<0.50	----	----	----	----
Dichlorobenzene, 1,4-	106-46-7	E611D/WT	0.50	µg/L	<0.50	----	----	----	----
Dichlorodifluoromethane	75-71-8	E611D/WT	0.50	µg/L	<0.50	----	----	----	----
Dichloroethane, 1,1-	75-34-3	E611D/WT	0.50	µg/L	<0.50	----	----	----	----
Dichloroethane, 1,2-	107-06-2	E611D/WT	0.50	µg/L	<0.50	----	----	----	----
Dichloroethylene, 1,1-	75-35-4	E611D/WT	0.50	µg/L	<0.50	----	----	----	----
Dichloroethylene, cis-1,2-	156-59-2	E611D/WT	0.50	µg/L	0.82	----	----	----	----
Dichloroethylene, trans-1,2-	156-60-5	E611D/WT	0.50	µg/L	<0.50	----	----	----	----
Dichloromethane	75-09-2	E611D/WT	1.0	µg/L	<1.0	----	----	----	----
Dichloropropane, 1,2-	78-87-5	E611D/WT	0.50	µg/L	<0.50	----	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D/WT	0.30	µg/L	<0.30	----	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611D/WT	0.50	µg/L	<0.50	----	----	----	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D/WT	0.30	µg/L	<0.30	----	----	----	----
Ethylbenzene	100-41-4	E611D/WT	0.50	µg/L	<0.50	----	----	----	----
Hexane, n-	110-54-3	E611D/WT	0.50	µg/L	<0.50	----	----	----	----
Methyl ethyl ketone [MEK]	78-93-3	E611D/WT	20	µg/L	<20	----	----	----	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D/WT	20	µg/L	<20	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WT	0.50	µg/L	<0.50	----	----	----	----
Styrene	100-42-5	E611D/WT	0.50	µg/L	<0.50	----	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D/WT	0.50	µg/L	<0.50	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

					Client sample ID	MW101-05132025	----	----	----	----
					Client sampling date / time	13-May-2025 14:05	----	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit		WT2511458-001	----	----	----	----
						Result	----	----	----	----
Volatile Organic Compounds										
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D/WT	0.50	µg/L		<0.50	----	----	----	----
Tetrachloroethylene	127-18-4	E611D/WT	0.50	µg/L		<0.50	----	----	----	----
Toluene	108-88-3	E611D/WT	0.50	µg/L		<0.50	----	----	----	----
Trichloroethane, 1,1,1-	71-55-6	E611D/WT	0.50	µg/L		1.16	----	----	----	----
Trichloroethane, 1,1,2-	79-00-5	E611D/WT	0.50	µg/L		<0.50	----	----	----	----
Trichloroethylene	79-01-6	E611D/WT	0.50	µg/L		30.5	----	----	----	----
Trichlorofluoromethane	75-69-4	E611D/WT	0.50	µg/L		<0.50	----	----	----	----
Vinyl chloride	75-01-4	E611D/WT	0.20	µg/L		<0.20	----	----	----	----
Xylene, m+p-	179601-23-1	E611D/WT	0.40	µg/L		<0.40	----	----	----	----
Xylene, o-	95-47-6	E611D/WT	0.30	µg/L		<0.30	----	----	----	----
Xylenes, total	1330-20-7	E611D/WT	0.50	µg/L		<0.50	----	----	----	----
BTEX, total	----	E611D/WT	1.0	µg/L		<1.0	----	----	----	----
Hydrocarbons										
F1 (C6-C10)	----	E581.F1-L/WT	25	µg/L		<25	----	----	----	----
F2 (C10-C16)	----	E601.SG/WT	100	µg/L		<100	----	----	----	----
F2-Naphthalene	----	EC600SG/WT	100	µg/L		<100	----	----	----	----
F3 (C16-C34)	----	E601.SG/WT	250	µg/L		<250	----	----	----	----
F3-PAH	n/a	EC600SG/WT	250	µg/L		<250	----	----	----	----
F4 (C34-C50)	----	E601.SG/WT	250	µg/L		<250	----	----	----	----
F1-BTEX	----	EC580/WT	25	µg/L		<25	----	----	----	----
Hydrocarbons, total (C6-C50)	n/a	EC581SG/WT	240	µg/L		<370	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	MW101-05132025	----	----	----	----
				Client sampling date / time	13-May-2025 14:05	----	----	----	----
					WT2511458-001	----	----	----	----
					Result	----	----	----	----
Hydrocarbons									
Chromatogram to baseline at nC50	n/a	E601.SG/WT	-	-	YES	----	----	----	----
Hydrocarbons Surrogates									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG/WT	1.0	%	76.0	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1-L/WT	1.0	%	89.1	----	----	----	----
Volatile Organic Compounds Surrogates									
Bromofluorobenzene, 4-	460-00-4	E611D/WT	1.0	%	89.4	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611D/WT	1.0	%	97.4	----	----	----	----
Polycyclic Aromatic Hydrocarbons									
Acenaphthene	83-32-9	E641A/WT	0.010	µg/L	<0.010	----	----	----	----
Acenaphthylene	208-96-8	E641A/WT	0.010	µg/L	<0.010	----	----	----	----
Anthracene	120-12-7	E641A/WT	0.010	µg/L	<0.010	----	----	----	----
Benz(a)anthracene	56-55-3	E641A/WT	0.010	µg/L	<0.010	----	----	----	----
Benzo(a)pyrene	50-32-8	E641A/WT	0.0050	µg/L	<0.0050	----	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/WT	0.010	µg/L	<0.010	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/WT	0.010	µg/L	<0.010	----	----	----	----
Benzo(k)fluoranthene	207-08-9	E641A/WT	0.010	µg/L	<0.010	----	----	----	----
Chrysene	218-01-9	E641A/WT	0.010	µg/L	<0.010	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/WT	0.0050	µg/L	<0.0050	----	----	----	----
Fluoranthene	206-44-0	E641A/WT	0.010	µg/L	<0.010	----	----	----	----
Fluorene	86-73-7	E641A/WT	0.010	µg/L	<0.010	----	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/WT	0.010	µg/L	<0.010	----	----	----	----

Analytical Results

Sub-Matrix: Water
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW101-05132025	----	----	----	----
					Client sampling date / time	13-May-2025 14:05	----	----	----	----
						WT2511458-001	----	----	----	----
						Result	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Methylnaphthalene, 1-	90-12-0	E641A/WT	0.010	µg/L		<0.010	----	----	----	----
Methylnaphthalene, 1+2-	----	E641A/WT	0.015	µg/L		<0.015	----	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/WT	0.010	µg/L		<0.010	----	----	----	----
Naphthalene	91-20-3	E641A/WT	0.050	µg/L		<0.050	----	----	----	----
Phenanthrene	85-01-8	E641A/WT	0.020	µg/L		<0.020	----	----	----	----
Pyrene	129-00-0	E641A/WT	0.010	µg/L		<0.010	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/WT	0.1	%		81.0	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/WT	0.1	%		88.5	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/WT	0.1	%		94.3	----	----	----	----

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

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2511458**	Page	: 1 of 9
Client	: **Jacobs Consultancy Canada Inc.**	Laboratory	: ALS Environmental - Waterloo
Contact	: Tania McCarthy	Account Manager	: Mathy Mahadeva
Address	: 245 Consumers Road Suite 400 Toronto ON Canada M2J 1R3	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 416 499 0090	Telephone	: +1 519 886 6910
Project	: COG14EDN	Date Samples Received	: 14-May-2025 09:00
PO	: ----	Issue Date	: 23-May-2025 13:26
C-O-C number	: 23-1117377		
Sampler	: ----		
Site	: ----		
Quote number	: Ontario Jacobs Standing Offer 2025		
No. of samples received	: 1		
No. of samples analysed	: 1		

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 Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- 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

- No Quality Control Sample Frequency Outliers occur.

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: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE [ON MECP] MW101-05132025	E235.Cl	13-May-2025	21-May-2025	28 days	8 days	✓	21-May-2025	28 days	8 days	✓
Cyanides : WAD Cyanide										
Opaque HDPE - total (sodium hydroxide) MW101-05132025	E336	13-May-2025	15-May-2025	14 days	2 days	✓	15-May-2025	14 days	2 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW101-05132025	E509	13-May-2025	16-May-2025	28 days	3 days	✓	16-May-2025	28 days	3 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW101-05132025	E421	13-May-2025	15-May-2025	180 days	2 days	✓	15-May-2025	180 days	2 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID (Low Level)										
Glass vial (sodium bisulfate) MW101-05132025	E581.F1-L	13-May-2025	15-May-2025	14 days	2 days	✓	15-May-2025	14 days	2 days	✓
Hydrocarbons : Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID										
Amber glass/Teflon lined cap (sodium bisulfate) [ON MECP] MW101-05132025	E601.SG	13-May-2025	22-May-2025	40 days	9 days	✓	23-May-2025	40 days	1 days	✓
Physical Tests : Conductivity in Water										
HDPE [ON MECP] MW101-05132025	E100	13-May-2025	21-May-2025	28 days	8 days	✓	21-May-2025	28 days	8 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	*Method*	*Sampling Date*	*Extraction / Preparation*				*Analysis*			
			Preparation Date	*Holding Times*		*Eval*	*Analysis Date*	*Holding Times*		*Eval*
				Rec	*Actual*			*Rec*	*Actual*	
Physical Tests : pH by Meter										
HDPE [ON MECP]										
MW101-05132025	E108	13-May-2025	21-May-2025	14 days	8 days	✓	21-May-2025	14 days	8 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined cap (sodium bisulfate) [ON MECP]										
MW101-05132025	E641A	13-May-2025	22-May-2025	14 days	9 days	✓	23-May-2025	40 days	1 days	✓
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
HDPE - dissolved (NaOH+Buf) [ON MECP]										
MW101-05132025	E532A	13-May-2025	----	----	----		15-May-2025	28 days	2 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass vial (sodium bisulfate)										
MW101-05132025	E611D	13-May-2025	15-May-2025	14 days	2 days	✓	15-May-2025	14 days	2 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: **Water**

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Conductivity in Water	E100	2005848	1	6	16.6	5.0	✓
pH by Meter	E108	2005847	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	2005852	1	11	9.0	5.0	✓
WAD Cyanide	E336	1997613	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1999724	1	18	5.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2000402	1	20	5.0	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	1999027	1	8	12.5	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L	1997514	1	8	12.5	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1997512	1	10	10.0	5.0	✓
Laboratory Control Samples (LCS)							
Conductivity in Water	E100	2005848	1	6	16.6	5.0	✓
pH by Meter	E108	2005847	1	20	5.0	5.0	✓
Chloride in Water by IC	E235.Cl	2005852	1	11	9.0	5.0	✓
WAD Cyanide	E336	1997613	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1999724	1	18	5.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2000402	1	20	5.0	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	1999027	1	8	12.5	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L	1997514	1	8	12.5	5.0	✓
Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID	E601.SG	2009624	1	15	6.6	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1997512	1	10	10.0	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	2009628	1	10	10.0	5.0	✓
Method Blanks (MB)							
Conductivity in Water	E100	2005848	1	6	16.6	5.0	✓
Chloride in Water by IC	E235.Cl	2005852	1	11	9.0	5.0	✓
WAD Cyanide	E336	1997613	1	5	20.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	1999724	1	18	5.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2000402	1	20	5.0	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	1999027	1	8	12.5	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L	1997514	1	8	12.5	5.0	✓
Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID	E601.SG	2009624	1	15	6.6	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1997512	1	10	10.0	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	2009628	1	10	10.0	5.0	✓
Matrix Spikes (MS)							
Chloride in Water by IC	E235.Cl	2005852	1	11	9.0	5.0	✓
WAD Cyanide	E336	1997613	1	5	20.0	5.0	✓

Matrix: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Matrix Spikes (MS) - Continued							
Dissolved Metals in Water by CRC ICPMS	E421	1999724	1	18	5.5	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2000402	1	20	5.0	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	1999027	1	8	12.5	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L	1997514	1	8	12.5	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	1997512	1	10	10.0	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
Conductivity in Water	E100 ALS Environmental - Waterloo	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Waterloo	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Chloride in Water by IC	E235.Cl ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
WAD Cyanide	E336 ALS Environmental - Waterloo	Water	APHA 4500-CN I (mod)	Weak Acid Dissociable (WAD) cyanide is determined by Continuous Flow Analyzer (CFA) with in-line distillation followed by colourmetric analysis.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Waterloo	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Mercury in Water by CVAAS	E509 ALS Environmental - Waterloo	Water	APHA 3030B/EPA 1631E (mod)	Water samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A ALS Environmental - Waterloo	Water	APHA 3500-Cr C (Ion Chromatography)	Hexavalent Chromium is measured by Ion chromatography-Post column reaction and UV detection. sample pretreatment involved field or lab filtration following by sample preservation.
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1 (mod)	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. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID	E601.SG ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1 (mod)	Sample extracts are subjected to in-situ silica gel treatment prior to analysis by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
VOCs (Eastern Canada List) by Headspace GC-MS	E611D ALS Environmental - Waterloo	Water	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 in Water by Hexane LVI GC-MS	E641A ALS Environmental - Waterloo	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
F1-BTEX	EC580 ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
SUM F1 to F4 where F2-F4 is SG treated	EC581SG ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1	Hydrocarbons, total (C6-C50) is the sum of CCME Fraction F1(C6-C10), F2(C10-C16), F3(C16-C34), and F4(C34-C50), where F2-F4 have been treated with silica gel. F4G-sg is not used within this calculation due to overlap with other fractions.
F2-F4 (sg) minus PAH	EC600SG ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1	F2-F4 (sg) minus PAH is calculated as follows: F2-F4 minus PAH = Sum of CCME Fraction 2 (C10-C16), CCME Fraction 3 (C16-C34), and CCME Fraction 4 (C34-C50), minus select Polycyclic Aromatic Hydrocarbons (PAH).

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Metals Water Filtration	EP421 ALS Environmental - Waterloo	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Waterloo	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Waterloo	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into a GC-MS-FID.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Waterloo	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	: **WT2511458**	Page	: 1 of 13
Client	: Jacobs Consultancy Canada Inc.	Laboratory	: ALS Environmental - Waterloo
Contact	: Tania McCarthy	Account Manager	: Mathy Mahadeva
Address	: 245 Consumers Road Suite 400 Toronto ON Canada M2J 1R3	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 416 499 0090	Telephone	: +1 519 886 6910
Project	: COG14EDN	Date Samples Received	: 14-May-2025 09:00
PO	: ----	Date Analysis Commenced	: 15-May-2025
C-O-C number	: 23-1117377	Issue Date	: 23-May-2025 13:26
Sampler	: ----		
Site	: ----		
Quote number	: Ontario Jacobs Standing Offer 2025		
No. of samples received	: 1		
No. of samples analysed	: 1		

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
- 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.

Signatories	*Position*	*Laboratory Department*
Andrea Armstrong	Department Manager - Air Quality and Volatiles	Waterloo VOC, Waterloo, Ontario
Danielle Gravel	Supervisor - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
Walt Kippenhuck	Supervisor - Inorganic	Waterloo Inorganics, Waterloo, Ontario
Walt Kippenhuck	Supervisor - Inorganic	Waterloo Metals, Waterloo, Ontario

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 (QCI) 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).

Sub-Matrix: **Water**

					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: 2005847)											
WT2511657-017	Anonymous	pH	----	E108	0.10	pH units	7.80	7.77	0.385%	4%	----
Physical Tests (QC Lot: 2005848)											
WT2511657-017	Anonymous	Conductivity	----	E100	2.0	µS/cm	4120	4110	0.243%	10%	----
Anions and Nutrients (QC Lot: 2005852)											
WT2511657-017	Anonymous	Chloride	16887-00-6	E235.Cl	5.00	mg/L	14.0	13.2	0.79	Diff <2x LOR	----
Cyanides (QC Lot: 1997613)											
WT2511458-001	MW101-05132025	Cyanide, weak acid dissociable	----	E336	0.0020	mg/L	<2.0 µg/L	<0.0020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 1999724)											
HA2501380-001	Anonymous	Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.21 µg/L	0.00020	0.00001	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	15.2 µg/L	0.0148	2.48%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	701 µg/L	0.716	2.16%	20%	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.50 µg/L	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.20 µg/L	0.00022	0.00002	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.050 µg/L	<0.000050	0	Diff <2x LOR	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00132	0.00124	5.56%	20%	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	16200 µg/L	16.6	2.56%	20%	----
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000522	0.000537	2.78%	20%	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	3.4 µg/L	0.0038	0.0004	Diff <2x LOR	----
Dissolved Metals (QC Lot: 2000402)											
BF2500006-003	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Speciated Metals (QC Lot: 1999027)											

Sub-Matrix: **Water**

					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*
Speciated Metals (QC Lot: 1999027) - continued											
WT2511335-001	Anonymous	Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.00050	mg/L	<0.50 µg/L	<0.00050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 1997512)											
WT2511439-001	Anonymous	Acetone	67-64-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Benzene	71-43-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromodichloromethane	75-27-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromoform	75-25-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromomethane	74-83-9	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Carbon tetrachloride	56-23-5	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Chlorobenzene	108-90-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroform	67-66-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dibromochloromethane	124-48-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dibromoethane, 1,2-	106-93-4	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorodifluoromethane	75-71-8	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,1-	75-34-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,2-	107-06-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-	75-35-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloromethane	75-09-2	E611D	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Dichloropropane, 1,2-	78-87-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Hexane, n-	110-54-3	E611D	0.50	µg/L	0.56	0.59	0.03	Diff <2x LOR	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethylene	127-18-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					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: 1997512) - continued											
WT2511439-001	Anonymous	Toluene	108-88-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethylene	79-01-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichlorofluoromethane	75-69-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Vinyl chloride	75-01-4	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611D	0.40	µg/L	0.46	0.45	0.01	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 1997514)											
WT2511439-001	Anonymous	F1 (C6-C10)	----	E581.F1-L	25	µg/L	<25	<25	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: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2005848)						
Conductivity	----	E100	1	µS/cm	1.4	----
Anions and Nutrients (QCLot: 2005852)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Cyanides (QCLot: 1997613)						
Cyanide, weak acid dissociable	----	E336	0.002	mg/L	<0.0020	----
Dissolved Metals (QCLot: 1999724)						
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Dissolved Metals (QCLot: 2000402)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Speciated Metals (QCLot: 1999027)						
Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0005	mg/L	<0.00050	----
Volatile Organic Compounds (QCLot: 1997512)						
Acetone	67-64-1	E611D	20	µg/L	<20	----
Benzene	71-43-2	E611D	0.5	µg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1997512) - continued						
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611D	0.5	µg/L	<0.50	----
Bromomethane	74-83-9	E611D	0.5	µg/L	<0.50	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	<0.20	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611D	0.5	µg/L	<0.50	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	<0.50	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	<0.20	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	<0.50	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611D	1	µg/L	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	<0.30	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	<0.30	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	<0.50	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	<0.50	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	<0.50	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	<0.50	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 1997512) - continued						
Vinyl chloride	75-01-4	E611D	0.2	µg/L	<0.20	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 1997514)						
F1 (C6-C10)	----	E581.F1-L	25	µg/L	<25	----
Hydrocarbons (QCLot: 2009624)						
F2 (C10-C16)	----	E601.SG	100	µg/L	<100	----
F3 (C16-C34)	----	E601.SG	250	µg/L	<250	----
F4 (C34-C50)	----	E601.SG	250	µg/L	<250	----
Polycyclic Aromatic Hydrocarbons (QCLot: 2009628)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----

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: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2005847)									
pH	----	E108	----	pH units	7 pH units	100	98.0	102	----
Physical Tests (QCLot: 2005848)									
Conductivity	----	E100	1	µS/cm	1410 µS/cm	99.5	90.0	110	----
Anions and Nutrients (QCLot: 2005852)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	----
Cyanides (QCLot: 1997613)									
Cyanide, weak acid dissociable	----	E336	0.002	mg/L	0.125 mg/L	93.2	80.0	120	----
Dissolved Metals (QCLot: 1999724)									
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	0.05 mg/L	97.3	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	0.05 mg/L	103	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.012 mg/L	104	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.005 mg/L	104	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	0.05 mg/L	99.2	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.005 mg/L	102	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.012 mg/L	100	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.012 mg/L	100	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.012 mg/L	99.1	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.025 mg/L	97.7	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.012 mg/L	100	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.025 mg/L	98.8	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	0.05 mg/L	99.1	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.005 mg/L	93.2	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	2.5 mg/L	103	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	0.05 mg/L	96.2	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0 mg/L	98.1	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.025 mg/L	101	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.025 mg/L	100	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	98.6	80.0	120	----
Speciated Metals (QCLot: 1999027)									

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Speciated Metals (QCLot: 1999027) - continued									
Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0005	mg/L	0.025 mg/L	99.1	80.0	120	----
Volatile Organic Compounds (QCLot: 1997512)									
Acetone	67-64-1	E611D	20	µg/L	100 µg/L	126	70.0	130	----
Benzene	71-43-2	E611D	0.5	µg/L	100 µg/L	103	70.0	130	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	100 µg/L	97.3	70.0	130	----
Bromoform	75-25-2	E611D	0.5	µg/L	100 µg/L	110	70.0	130	----
Bromomethane	74-83-9	E611D	0.5	µg/L	100 µg/L	73.6	60.0	140	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	100 µg/L	83.3	70.0	130	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	100 µg/L	96.8	70.0	130	----
Chloroform	67-66-3	E611D	0.5	µg/L	100 µg/L	95.0	70.0	130	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	100 µg/L	94.3	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	100 µg/L	99.2	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	100 µg/L	90.3	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	100 µg/L	92.6	70.0	130	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	100 µg/L	103	60.0	140	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	100 µg/L	98.4	70.0	130	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	100 µg/L	99.4	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	100 µg/L	99.0	70.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	100 µg/L	99.8	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	100 µg/L	98.3	70.0	130	----
Dichloromethane	75-09-2	E611D	1	µg/L	100 µg/L	98.4	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	100 µg/L	100	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	100 µg/L	96.4	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	100 µg/L	94.6	70.0	130	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	100 µg/L	88.9	70.0	130	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	100 µg/L	99.0	70.0	130	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	100 µg/L	109	70.0	130	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	100 µg/L	112	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----
Styrene	100-42-5	E611D	0.5	µg/L	100 µg/L	91.2	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	100 µg/L	90.6	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	100 µg/L	117	70.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	100 µg/L	89.0	70.0	130	----
Toluene	108-88-3	E611D	0.5	µg/L	100 µg/L	96.6	70.0	130	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report: Spike: Target Concentration	Recovery (%): LCS	Recovery Limits (%): Low	Recovery Limits (%): High	Qualifier
Volatile Organic Compounds (QCLot: 1997512) - continued									
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	100 µg/L	83.0	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	100 µg/L	98.7	70.0	130	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	100 µg/L	92.0	70.0	130	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	100 µg/L	87.3	60.0	140	----
Vinyl chloride	75-01-4	E611D	0.2	µg/L	100 µg/L	95.4	60.0	140	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	200 µg/L	90.8	70.0	130	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	100 µg/L	95.7	70.0	130	----
Hydrocarbons (QCLot: 1997514)									
F1 (C6-C10)	----	E581.F1-L	25	µg/L	2000 µg/L	95.1	80.0	120	----
Hydrocarbons (QCLot: 2009624)									
F2 (C10-C16)	----	E601.SG	100	µg/L	3770 µg/L	95.6	70.0	130	----
F3 (C16-C34)	----	E601.SG	250	µg/L	7760 µg/L	106	70.0	130	----
F4 (C34-C50)	----	E601.SG	250	µg/L	4200 µg/L	110	70.0	130	----
Polycyclic Aromatic Hydrocarbons (QCLot: 2009628)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.526 µg/L	94.0	50.0	140	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.526 µg/L	88.3	50.0	140	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.526 µg/L	80.4	50.0	140	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.526 µg/L	109	50.0	140	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.526 µg/L	90.9	50.0	140	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.526 µg/L	94.4	50.0	140	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.526 µg/L	78.6	50.0	140	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.526 µg/L	96.6	50.0	140	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.526 µg/L	112	50.0	140	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.526 µg/L	89.3	50.0	140	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.526 µg/L	96.4	50.0	140	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.526 µg/L	93.9	50.0	140	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.526 µg/L	85.4	50.0	140	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.526 µg/L	89.7	50.0	140	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.526 µg/L	91.2	50.0	140	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.526 µg/L	91.9	50.0	140	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.526 µg/L	101	50.0	140	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.526 µg/L	99.7	50.0	140	----

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: **Water**

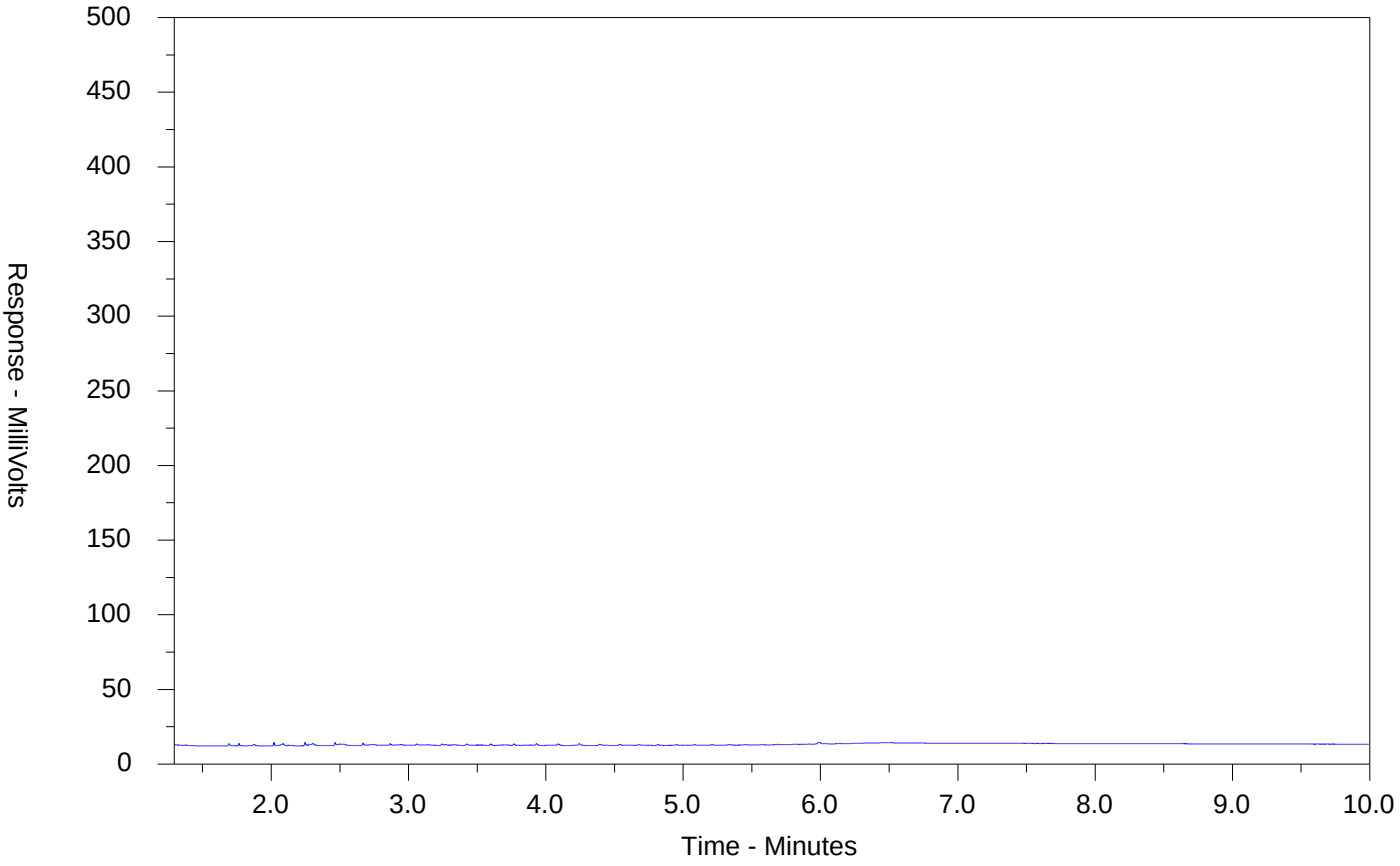
					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2005852)										
WT2511657-017	Anonymous	Chloride	16887-00-6	E235.Cl	985 mg/L	1000 mg/L	98.5	75.0	125	----
Cyanides (QCLot: 1997613)										
WT2511458-001	MW101-05132025	Cyanide, weak acid dissociable	----	E336	0.127 mg/L	0.125 mg/L	101	75.0	125	----
Dissolved Metals (QCLot: 1999724)										
HA2501380-002	Anonymous	Antimony, dissolved	7440-36-0	E421	0.482 mg/L	0.5 mg/L	96.5	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.522 mg/L	0.5 mg/L	104	70.0	130	----
		Barium, dissolved	7440-39-3	E421	0.117 mg/L	0.125 mg/L	93.3	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.0455 mg/L	0.05 mg/L	91.1	70.0	130	----
		Boron, dissolved	7440-42-8	E421	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.0479 mg/L	0.05 mg/L	95.7	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.121 mg/L	0.125 mg/L	96.9	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.121 mg/L	0.125 mg/L	96.6	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.116 mg/L	0.125 mg/L	92.7	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.235 mg/L	0.25 mg/L	93.8	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.121 mg/L	0.125 mg/L	97.0	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.232 mg/L	0.25 mg/L	92.9	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.504 mg/L	0.5 mg/L	101	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.0375 mg/L	0.05 mg/L	74.9	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.467 mg/L	0.5 mg/L	93.3	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.00238 mg/L	0.002 mg/L	95.3	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.249 mg/L	0.25 mg/L	99.6	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.260 mg/L	0.25 mg/L	104	70.0	130	----
Dissolved Metals (QCLot: 2000402)										
HA2501398-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000950 mg/L	0 mg/L	95.0	70.0	130	----
Speciated Metals (QCLot: 1999027)										
WT2511335-001	Anonymous	Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0412 mg/L	0.04 mg/L	103	70.0	130	----
Volatile Organic Compounds (QCLot: 1997512)										
WT2511439-001	Anonymous	Acetone	67-64-1	E611D	118 µg/L	100 µg/L	118	60.0	140	----
		Benzene	71-43-2	E611D	105 µg/L	100 µg/L	105	60.0	140	----
		Bromodichloromethane	75-27-4	E611D	98.6 µg/L	100 µg/L	98.6	60.0	140	----
		Bromoform	75-25-2	E611D	106 µg/L	100 µg/L	106	60.0	140	----
		Bromomethane	74-83-9	E611D	71.6 µg/L	100 µg/L	71.6	60.0	140	----
		Carbon tetrachloride	56-23-5	E611D	86.9 µg/L	100 µg/L	86.9	60.0	140	----
		Chlorobenzene	108-90-7	E611D	99.0 µg/L	100 µg/L	99.0	60.0	140	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 1997512) - continued										
WT2511439-001	Anonymous	Chloroform	67-66-3	E611D	96.4 µg/L	100 µg/L	96.4	60.0	140	----
		Dibromochloromethane	124-48-1	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Dibromoethane, 1,2-	106-93-4	E611D	92.1 µg/L	100 µg/L	92.1	60.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	99.9 µg/L	100 µg/L	99.9	60.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	91.5 µg/L	100 µg/L	91.5	60.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	94.1 µg/L	100 µg/L	94.1	60.0	140	----
		Dichlorodifluoromethane	75-71-8	E611D	90.1 µg/L	100 µg/L	90.1	60.0	140	----
		Dichloroethane, 1,1-	75-34-3	E611D	99.5 µg/L	100 µg/L	99.5	60.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611D	99.0 µg/L	100 µg/L	99.0	60.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611D	99.9 µg/L	100 µg/L	99.9	60.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	100 µg/L	100 µg/L	100	60.0	140	----
		Dichloromethane	75-09-2	E611D	97.7 µg/L	100 µg/L	97.7	60.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	97.8 µg/L	100 µg/L	97.8	60.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	93.5 µg/L	100 µg/L	93.5	60.0	140	----
		Ethylbenzene	100-41-4	E611D	91.4 µg/L	100 µg/L	91.4	60.0	140	----
		Hexane, n-	110-54-3	E611D	98.6 µg/L	100 µg/L	98.6	60.0	140	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	99 µg/L	100 µg/L	99.3	60.0	140	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	102 µg/L	100 µg/L	102	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	103 µg/L	100 µg/L	103	60.0	140	----
		Styrene	100-42-5	E611D	91.8 µg/L	100 µg/L	91.8	60.0	140	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	91.1 µg/L	100 µg/L	91.1	60.0	140	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	115 µg/L	100 µg/L	115	60.0	140	----
		Tetrachloroethylene	127-18-4	E611D	91.2 µg/L	100 µg/L	91.2	60.0	140	----
		Toluene	108-88-3	E611D	98.1 µg/L	100 µg/L	98.1	60.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	84.7 µg/L	100 µg/L	84.7	60.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	97.8 µg/L	100 µg/L	97.8	60.0	140	----
		Trichloroethylene	79-01-6	E611D	94.2 µg/L	100 µg/L	94.2	60.0	140	----
		Trichlorofluoromethane	75-69-4	E611D	87.2 µg/L	100 µg/L	87.2	60.0	140	----
		Vinyl chloride	75-01-4	E611D	92.1 µg/L	100 µg/L	92.1	60.0	140	----
		Xylene, m+p-	179601-23-1	E611D	188 µg/L	200 µg/L	94.2	60.0	140	----
		Xylene, o-	95-47-6	E611D	97.8 µg/L	100 µg/L	97.8	60.0	140	----
Hydrocarbons (QCLot: 1997514)										
WT2511439-001	Anonymous	F1 (C6-C10)	----	E581.F1-L	1460 µg/L	2000 µg/L	73.3	60.0	140	----

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2511458-001-E601.SG
Client Sample ID: MW101-05132025



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

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

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

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

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

MW880, OR463, WW16, SC21, CN58, QC100

Chain of Custody (COC) / Analytical Request Form

COC Number: 23 - 1117[illegible]

Page of

Canada Toll Free: 1 800 668 9878

www.alsglobal.com

Environmental Division Waterloo

Work Order Reference WT2511458

Telephone : +1 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	JACOBS Engineering Group
Contact:	Tania McCarthy
Phone:	519 880 4901
	Company address below will appear on the final report
Street:	121 King St. W, 1 JV
City/Province:	Toronto, ONT
Postal Code:	M5H 3T9
Invoice To	Same as Report To ☐ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	JACOBS
Contact:	

Reports / Recipients

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

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

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

Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax: Tania.McCarthy@Jacobs.com

Email 2:

Email 3:

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX

Email 1 or Fax:

Email 2:

Turnaround Time (TAT) Requested

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

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

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

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

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

☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.

Additional fees may apply to rush requests on weekends, stat

Date and Time Required for all E&P TATs:

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

Project Information

ALS Client Code / QUOTE #:

Job / Project #: COG14EDN

PO / AFE:

LSD:

Oil and Gas Required Fields (client use)

AFE/Cost Center: PO#

Major/Minor Code: Routing Code:

Requisitioner:

Location:

ALS Lab Work Order # (ALS use only): WT2511458

ALS Contact: Sampler:

Analysis Request

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

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	O.Reg 153 Metals (F)	ORBTEX (N-Gr) Hg (F)	PHC (F1-F4)	VOC/BTEX	PAH	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MW101-05132025	13-05-25	14:05	GW	11	✓	✓	✓	✓	✓			

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

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

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

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

SAMPLE RECEIPT DETAILS (ALS use only)

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

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

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
4.5			2.0		

SHIPMENT RELEASE (client use)

Released by: Date: 05/13/2025 Time: 16:45

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by: AM Date: 05/14/25 Time: 9:00

FINAL SHIPMENT RECEPTION (ALS use only)

Received by: Date: 5/14/25 Time: 1130

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

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

JAN 2023 FRONT

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	:	**WT2513613**		
Client	:	**Jacobs Consultancy Canada Inc.**	Laboratory	: ALS Environmental - Waterloo
Contact	:	Tania McCarthy	Account Manager	: Mathy Mahadeva
Address	:	165 King St West Suite 201 Kitchener Ontario Canada N2G 1A7	Address	: 60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	416 499 0090	Telephone	: +1 519 886 6910
Project	:	COG14EDN	Date Samples Received	: 02-Jun-2025 14:37
PO	:	----	Date Analysis Commenced	: 03-Jun-2025
C-O-C number	:	23-1124572	Issue Date	: 10-Jun-2025 07:44
Sampler	:	----		
Site	:	----		
Quote number	:	Ontario Jacobs Standing Offer 2025		
No. of samples received	:	3		
No. of samples analysed	:	3		

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*
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Danielle Gravel	Supervisor - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
David Tremblett	VOC Section Supervisor	VOC, Waterloo, Ontario
Nik Perkio	Senior Analyst	Metals, Waterloo, Ontario
Nik Perkio	Senior Analyst	Inorganics, Waterloo, Ontario
Sarah Birch	VOC Section Supervisor	VOC, Waterloo, Ontario

Summary of Guideline Breaches by Sample

SampleID/Client ID	Matrix	Analyte	Analyte Summary	Guideline	Category	Result	Limit
MW104-20250530	Water	Cobalt, dissolved		ON153/04	T2-GW-C-All	15.1 µg/L	3.8 µg/L
	Water	Cobalt, dissolved		ON153/04	T2-GW-F-All	15.1 µg/L	3.8 µg/L
FD-20250530	Water	Cobalt, dissolved		ON153/04	T2-GW-C-All	15.0 µg/L	3.8 µg/L
	Water	Cobalt, dissolved		ON153/04	T2-GW-F-All	15.0 µg/L	3.8 µg/L

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.

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 units
mS/cm	millisiemens per centimetre
pH units	pH units
µg/L	micrograms per litre

>: greater than.
<: less than.

Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
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
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.

Analytical Results Evaluation

Matrix: Water				Client sample ID	MW104-20250530	FD-20250530	TB-20250530	----	----	----	----
				Client sampling date / time	30-May-2025 18:30	30-May-2025 00:00	30-May-2025 00:00	----	----	----	----
				Sub-Matrix	Water	Water	Water	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit		WT2513613-001	WT2513613-002	WT2513613-003	----	----	----	----
					Result	Result	Result	----	----	----	----
Physical Tests											
Conductivity	----	E100/WT	mS/cm		1.33	1.30	----	----	----	----	----
pH	----	E108/WT	pH units		7.38	7.92	----	----	----	----	----
Anions and Nutrients											
Chloride	16887-00-6	E235.Cl/WT	µg/L		188000 DLDS	184000 DLDS	----	----	----	----	----
Cyanides											
Cyanide, weak acid dissociable	----	E336/WT	µg/L		<2.0	<2.0	----	----	----	----	----
Dissolved Metals											
Antimony, dissolved	7440-36-0	E421/WT	µg/L		0.52	0.53	----	----	----	----	----
Arsenic, dissolved	7440-38-2	E421/WT	µg/L		0.69	0.68	----	----	----	----	----
Barium, dissolved	7440-39-3	E421/WT	µg/L		136	136	----	----	----	----	----
Beryllium, dissolved	7440-41-7	E421/WT	µg/L		<0.020	<0.020	----	----	----	----	----
Boron, dissolved	7440-42-8	E421/WT	µg/L		64	63	----	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/WT	µg/L		0.0811	0.0820	----	----	----	----	----
Chromium, dissolved	7440-47-3	E421/WT	µg/L		<0.50	<0.50	----	----	----	----	----
Cobalt, dissolved	7440-48-4	E421/WT	µg/L		15.1	15.0	----	----	----	----	----
Copper, dissolved	7440-50-8	E421/WT	µg/L		3.19	3.09	----	----	----	----	----
Lead, dissolved	7439-92-1	E421/WT	µg/L		0.065	0.058	----	----	----	----	----
Mercury, dissolved	7439-97-6	E509/WT	µg/L		<0.0050	<0.0050	----	----	----	----	----
Molybdenum, dissolved	7439-98-7	E421/WT	µg/L		3.34	3.40	----	----	----	----	----

Matrix: Water			Client sample ID	MW104-20250530	FD-20250530	TB-20250530	----	----	----	----
			Client sampling date / time	30-May-2025 18:30	30-May-2025 00:00	30-May-2025 00:00	----	----	----	----
			Sub-Matrix	Water	Water	Water	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	WT2513613-001	WT2513613-002	WT2513613-003	----	----	----	----
				Result	Result	Result	----	----	----	----
Dissolved Metals										
Nickel, dissolved	7440-02-0	E421/WT	µg/L	10.1	10.2	----	----	----	----	----
Selenium, dissolved	7782-49-2	E421/WT	µg/L	0.879	0.902	----	----	----	----	----
Silver, dissolved	7440-22-4	E421/WT	µg/L	<0.010	<0.010	----	----	----	----	----
Sodium, dissolved	7440-23-5	E421/WT	µg/L	92500	91700	----	----	----	----	----
Thallium, dissolved	7440-28-0	E421/WT	µg/L	0.029	0.030	----	----	----	----	----
Uranium, dissolved	7440-61-1	E421/WT	µg/L	3.42	3.40	----	----	----	----	----
Vanadium, dissolved	7440-62-2	E421/WT	µg/L	<0.50	<0.50	----	----	----	----	----
Zinc, dissolved	7440-66-6	E421/WT	µg/L	4.7	4.6	----	----	----	----	----
Dissolved mercury filtration location	----	EP509/WT	-	Field	Field	----	----	----	----	----
Dissolved metals filtration location	----	EP421/WT	-	Field	Field	----	----	----	----	----
Speciated Metals										
Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A/WT	µg/L	<0.50	<0.50	----	----	----	----	----
Volatile Organic Compounds										
Acetone	67-64-1	E611D/WT	µg/L	<20	<20	<20	----	----	----	----
Benzene	71-43-2	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Bromodichloromethane	75-27-4	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Bromoform	75-25-2	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Bromomethane	74-83-9	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Carbon tetrachloride	56-23-5	E611D/WT	µg/L	<0.20	<0.20	<0.20	----	----	----	----
Chlorobenzene	108-90-7	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----

Matrix: Water			Client sample ID	MW104-20250530	FD-20250530	TB-20250530	----	----	----	----
			Client sampling date / time	30-May-2025 18:30	30-May-2025 00:00	30-May-2025 00:00	----	----	----	----
			Sub-Matrix	Water	Water	Water	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	WT2513613-001	WT2513613-002	WT2513613-003	----	----	----	----
				Result	Result	Result	----	----	----	----
Volatile Organic Compounds										
Chloroform	67-66-3	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Dibromochloromethane	124-48-1	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Dibromoethane, 1,2-	106-93-4	E611D/WT	µg/L	<0.20	<0.20	<0.20	----	----	----	----
Dichlorobenzene, 1,2-	95-50-1	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Dichlorobenzene, 1,3-	541-73-1	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Dichlorobenzene, 1,4-	106-46-7	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Dichlorodifluoromethane	75-71-8	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Dichloroethane, 1,1-	75-34-3	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Dichloroethane, 1,2-	107-06-2	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Dichloroethylene, 1,1-	75-35-4	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Dichloroethylene, cis-1,2-	156-59-2	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Dichloroethylene, trans-1,2-	156-60-5	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Dichloromethane	75-09-2	E611D/WT	µg/L	<1.0	<1.0	<1.0	----	----	----	----
Dichloropropane, 1,2-	78-87-5	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D/WT	µg/L	<0.30	<0.30	<0.30	----	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D/WT	µg/L	<0.30	<0.30	<0.30	----	----	----	----
Ethylbenzene	100-41-4	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Hexane, n-	110-54-3	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Methyl ethyl ketone [MEK]	78-93-3	E611D/WT	µg/L	<20	<20	<20	----	----	----	----

Matrix: Water			Client sample ID	MW104-20250530	FD-20250530	TB-20250530	----	----	----	----
			Client sampling date / time	30-May-2025 18:30	30-May-2025 00:00	30-May-2025 00:00	----	----	----	----
			Sub-Matrix	Water	Water	Water	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	WT2513613-001	WT2513613-002	WT2513613-003	----	----	----	----
				Result	Result	Result	----	----	----	----
Volatile Organic Compounds										
Methyl isobutyl ketone [MIBK]	108-10-1	E611D/WT	µg/L	<20	<20	<20	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Styrene	100-42-5	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Tetrachloroethylene	127-18-4	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Toluene	108-88-3	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Trichloroethane, 1,1,1-	71-55-6	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Trichloroethane, 1,1,2-	79-00-5	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Trichloroethylene	79-01-6	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Trichlorofluoromethane	75-69-4	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
Vinyl chloride	75-01-4	E611D/WT	µg/L	<0.20	<0.20	<0.20	----	----	----	----
Xylene, m+p-	179601-23-1	E611D/WT	µg/L	<0.40	<0.40	<0.40	----	----	----	----
Xylene, o-	95-47-6	E611D/WT	µg/L	<0.30	<0.30	<0.30	----	----	----	----
Xylenes, total	1330-20-7	E611D/WT	µg/L	<0.50	<0.50	<0.50	----	----	----	----
BTEX, total	----	E611D/WT	µg/L	<1.0	<1.0	<1.0	----	----	----	----
Hydrocarbons										
F1 (C6-C10)	----	E581.F1-L/WT	µg/L	<25	<25	<25	----	----	----	----
F2 (C10-C16)	----	E601.SG/WT	µg/L	<100	<100	----	----	----	----	----
F2-Naphthalene	----	EC600SG/WT	µg/L	<100	<100	----	----	----	----	----

Matrix: Water			Client sample ID	MW104-20250530	FD-20250530	TB-20250530	----	----	----	----
			Client sampling date / time	30-May-2025 18:30	30-May-2025 00:00	30-May-2025 00:00	----	----	----	----
			Sub-Matrix	Water	Water	Water	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	WT2513613-001	WT2513613-002	WT2513613-003	----	----	----	----
				Result	Result	Result	----	----	----	----
Hydrocarbons										
F3 (C16-C34)	----	E601.SG/WT	µg/L	<250	<250	----	----	----	----	----
F3-PAH	n/a	EC600SG/WT	µg/L	<250	<250	----	----	----	----	----
F4 (C34-C50)	----	E601.SG/WT	µg/L	<250	<250	----	----	----	----	----
F1-BTEX	----	EC580/WT	µg/L	<25	<25	<25	----	----	----	----
Hydrocarbons, total (C6-C50)	n/a	EC581SG/WT	µg/L	<370	<370	----	----	----	----	----
Chromatogram to baseline at nC50	n/a	E601.SG/WT	-	YES	YES	----	----	----	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG/WT	%	87.6	81.5	----	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1-L/WT	%	113	104	113	----	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611D/WT	%	102	101	104	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611D/WT	%	99.4	99.6	99.9	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/WT	µg/L	<0.010	<0.010	----	----	----	----	----
Acenaphthylene	208-96-8	E641A/WT	µg/L	<0.010	<0.010	----	----	----	----	----
Anthracene	120-12-7	E641A/WT	µg/L	<0.010	<0.010	----	----	----	----	----
Benz(a)anthracene	56-55-3	E641A/WT	µg/L	<0.010	<0.010	----	----	----	----	----
Benzo(a)pyrene	50-32-8	E641A/WT	µg/L	<0.0050	<0.0050	----	----	----	----	----
Benzo(b+j)fluoranthene	n/a	E641A/WT	µg/L	<0.010	<0.010	----	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/WT	µg/L	<0.010	<0.010	----	----	----	----	----

Matrix: Water			Client sample ID	MW104-20250530	FD-20250530	TB-20250530	----	----	----	----
			Client sampling date / time	30-May-2025 18:30	30-May-2025 00:00	30-May-2025 00:00	----	----	----	----
			Sub-Matrix	Water	Water	Water	----	----	----	----
Analyte	CAS Number	Method/Lab	Unit	WT2513613-001	WT2513613-002	WT2513613-003	----	----	----	----
				Result	Result	Result	----	----	----	----
Polycyclic Aromatic Hydrocarbons										
Benzo(k)fluoranthene	207-08-9	E641A/WT	µg/L	<0.010	<0.010	----	----	----	----	----
Chrysene	218-01-9	E641A/WT	µg/L	<0.010	<0.010	----	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/WT	µg/L	<0.0050	<0.0050	----	----	----	----	----
Fluoranthene	206-44-0	E641A/WT	µg/L	0.011	0.011	----	----	----	----	----
Fluorene	86-73-7	E641A/WT	µg/L	<0.010	<0.010	----	----	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A/WT	µg/L	<0.010	<0.010	----	----	----	----	----
Methylnaphthalene, 1-	90-12-0	E641A/WT	µg/L	0.012	0.012	----	----	----	----	----
Methylnaphthalene, 1+2-	----	E641A/WT	µg/L	0.034	0.044	----	----	----	----	----
Methylnaphthalene, 2-	91-57-6	E641A/WT	µg/L	0.022	0.032	----	----	----	----	----
Naphthalene	91-20-3	E641A/WT	µg/L	0.059	0.101	----	----	----	----	----
Phenanthrene	85-01-8	E641A/WT	µg/L	<0.020	<0.020	----	----	----	----	----
Pyrene	129-00-0	E641A/WT	µg/L	<0.010	<0.010	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/WT	%	97.8	97.9	----	----	----	----	----
Naphthalene-d8	1146-65-2	E641A/WT	%	103	104	----	----	----	----	----
Phenanthrene-d10	1517-22-2	E641A/WT	%	103	107	----	----	----	----	----

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

Summary of Guideline Limits

Analyte	CAS Number	Unit	ON153/04 T2-GW-C-All	ON153/04 T2-GW-F-All					
Physical Tests									
Conductivity	----	mS/cm	----	----	----	----	----	----	----
pH	----	pH units	----	----	----	----	----	----	----
Anions and Nutrients									
Chloride	16887-00-6	µg/L	**790000 µg/L**	**790000 µg/L**	----	----	----	----	----
Cyanides									
Cyanide, weak acid dissociable		µg/L	**66 µg/L**	**66 µg/L**	----	----	----	----	----
Dissolved Metals									
Antimony, dissolved	7440-36-0	µg/L	**6 µg/L**	**6 µg/L**	----	----	----	----	----
Arsenic, dissolved	7440-38-2	µg/L	**25 µg/L**	**25 µg/L**	----	----	----	----	----
Barium, dissolved	7440-39-3	µg/L	**1000 µg/L**	**1000 µg/L**	----	----	----	----	----
Beryllium, dissolved	7440-41-7	µg/L	**4 µg/L**	**4 µg/L**	----	----	----	----	----
Boron, dissolved	7440-42-8	µg/L	**5000 µg/L**	**5000 µg/L**	----	----	----	----	----
Cadmium, dissolved	7440-43-9	µg/L	**2.7 µg/L**	**2.7 µg/L**	----	----	----	----	----
Chromium, dissolved	7440-47-3	µg/L	**50 µg/L**	**50 µg/L**	----	----	----	----	----
Cobalt, dissolved	7440-48-4	µg/L	**3.8 µg/L**	**3.8 µg/L**	----	----	----	----	----
Copper, dissolved	7440-50-8	µg/L	**87 µg/L**	**87 µg/L**	----	----	----	----	----
Lead, dissolved	7439-92-1	µg/L	**10 µg/L**	**10 µg/L**	----	----	----	----	----
Mercury, dissolved	7439-97-6	µg/L	**0.29 µg/L**	**1 µg/L**	----	----	----	----	----
Molybdenum, dissolved	7439-98-7	µg/L	**70 µg/L**	**70 µg/L**	----	----	----	----	----
Nickel, dissolved	7440-02-0	µg/L	**100 µg/L**	**100 µg/L**	----	----	----	----	----
Selenium, dissolved	7782-49-2	µg/L	**10 µg/L**	**10 µg/L**	----	----	----	----	----
Silver, dissolved	7440-22-4	µg/L	**1.5 µg/L**	**1.5 µg/L**	----	----	----	----	----
Sodium, dissolved	7440-23-5	µg/L	**490000 µg/L**	**490000 µg/L**	----	----	----	----	----

Thallium, dissolved	7440-28-0	µg/L	**2 µg/L**	**2 µg/L**	----	----	----	----	----
Uranium, dissolved	7440-61-1	µg/L	**20 µg/L**	**20 µg/L**	----	----	----	----	----
Vanadium, dissolved	7440-62-2	µg/L	**6.2 µg/L**	**6.2 µg/L**	----	----	----	----	----
Zinc, dissolved	7440-66-6	µg/L	**1100 µg/L**	**1100 µg/L**	----	----	----	----	----
Dissolved mercury filtration location	----	-	**----**	**----**	----	----	----	----	----
Dissolved metals filtration location	----	-	**----**	**----**	----	----	----	----	----
Speciated Metals									
Chromium, hexavalent [Cr VI], dissolved	18540-29-9	µg/L	**25 µg/L**	**25 µg/L**	----	----	----	----	----
Volatile Organic Compounds									
Acetone	67-64-1	µg/L	**2700 µg/L**	**2700 µg/L**	----	----	----	----	----
Benzene	71-43-2	µg/L	**5 µg/L**	**5 µg/L**	----	----	----	----	----
Bromodichloromethane	75-27-4	µg/L	**16 µg/L**	**16 µg/L**	----	----	----	----	----
Bromoform	75-25-2	µg/L	**25 µg/L**	**25 µg/L**	----	----	----	----	----
Bromomethane	74-83-9	µg/L	**0.89 µg/L**	**0.89 µg/L**	----	----	----	----	----
Carbon tetrachloride	56-23-5	µg/L	**0.79 µg/L**	**5 µg/L**	----	----	----	----	----
Chlorobenzene	108-90-7	µg/L	**30 µg/L**	**30 µg/L**	----	----	----	----	----
Chloroform	67-66-3	µg/L	**2.4 µg/L**	**22 µg/L**	----	----	----	----	----
Dibromochloromethane	124-48-1	µg/L	**25 µg/L**	**25 µg/L**	----	----	----	----	----
Dibromoethane, 1,2-	106-93-4	µg/L	**0.2 µg/L**	**0.2 µg/L**	----	----	----	----	----
Dichlorobenzene, 1,2-	95-50-1	µg/L	**3 µg/L**	**3 µg/L**	----	----	----	----	----
Dichlorobenzene, 1,3-	541-73-1	µg/L	**59 µg/L**	**59 µg/L**	----	----	----	----	----
Dichlorobenzene, 1,4-	106-46-7	µg/L	**1 µg/L**	**1 µg/L**	----	----	----	----	----
Dichlorodifluoromethane	75-71-8	µg/L	**590 µg/L**	**590 µg/L**	----	----	----	----	----
Dichloroethane, 1,1-	75-34-3	µg/L	**5 µg/L**	**5 µg/L**	----	----	----	----	----
Dichloroethane, 1,2-	107-06-2	µg/L	**1.6 µg/L**	**5 µg/L**	----	----	----	----	----
Dichloroethylene, 1,1-	75-35-4	µg/L	**1.6 µg/L**	**14 µg/L**	----	----	----	----	----
Dichloroethylene, cis-1,2-	156-59-2	µg/L	**1.6 µg/L**	**17 µg/L**	----	----	----	----	----

Dichloroethylene, trans-1,2-	156-60-5	µg/L	**1.6 µg/L**	**17 µg/L**	----	----	----	----	----
Dichloromethane	75-09-2	µg/L	**50 µg/L**	**50 µg/L**	----	----	----	----	----
Dichloropropane, 1,2-	78-87-5	µg/L	**5 µg/L**	**5 µg/L**	----	----	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	µg/L	----	----	----	----	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	µg/L	**0.5 µg/L**	**0.5 µg/L**	----	----	----	----	----
Dichloropropylene, trans-1,3-	10061-02-6	µg/L	----	----	----	----	----	----	----
Ethylbenzene	100-41-4	µg/L	**2.4 µg/L**	**2.4 µg/L**	----	----	----	----	----
Hexane, n-	110-54-3	µg/L	**51 µg/L**	**520 µg/L**	----	----	----	----	----
Methyl ethyl ketone [MEK]	78-93-3	µg/L	**1800 µg/L**	**1800 µg/L**	----	----	----	----	----
Methyl isobutyl ketone [MIBK]	108-10-1	µg/L	**640 µg/L**	**640 µg/L**	----	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	µg/L	**15 µg/L**	**15 µg/L**	----	----	----	----	----
Styrene	100-42-5	µg/L	**5.4 µg/L**	**5.4 µg/L**	----	----	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	µg/L	**1.1 µg/L**	**1.1 µg/L**	----	----	----	----	----
Tetrachloroethane, 1,1,2,2-	79-34-5	µg/L	**1 µg/L**	**1 µg/L**	----	----	----	----	----
Tetrachloroethylene	127-18-4	µg/L	**1.6 µg/L**	**17 µg/L**	----	----	----	----	----
Toluene	108-88-3	µg/L	**24 µg/L**	**24 µg/L**	----	----	----	----	----
Trichloroethane, 1,1,1-	71-55-6	µg/L	**200 µg/L**	**200 µg/L**	----	----	----	----	----
Trichloroethane, 1,1,2-	79-00-5	µg/L	**4.7 µg/L**	**5 µg/L**	----	----	----	----	----
Trichloroethylene	79-01-6	µg/L	**1.6 µg/L**	**5 µg/L**	----	----	----	----	----
Trichlorofluoromethane	75-69-4	µg/L	**150 µg/L**	**150 µg/L**	----	----	----	----	----
Vinyl chloride	75-01-4	µg/L	**0.5 µg/L**	**1.7 µg/L**	----	----	----	----	----
Xylene, m+p-	179601-23-1	µg/L	----	----	----	----	----	----	----
Xylene, o-	95-47-6	µg/L	----	----	----	----	----	----	----
Xylenes, total	1330-20-7	µg/L	**300 µg/L**	**300 µg/L**	----	----	----	----	----
BTEX, total		µg/L	----	----	----	----	----	----	----
Hydrocarbons									
F1 (C6-C10)		µg/L	**750 µg/L**	**750 µg/L**	----	----	----	----	----

F2 (C10-C16)	----	µg/L	**150 µg/L**	**150 µg/L**	----	----	----	----	----
F2-Naphthalene		µg/L	----	----	----	----	----	----	----
F3 (C16-C34)	----	µg/L	**500 µg/L**	**500 µg/L**	----	----	----	----	----
F3-PAH	n/a	µg/L	----	----	----	----	----	----	----
F4 (C34-C50)	----	µg/L	**500 µg/L**	**500 µg/L**	----	----	----	----	----
F1-BTEX		µg/L	**750 µg/L**	**750 µg/L**	----	----	----	----	----
Hydrocarbons, total (C6-C50)	n/a	µg/L	----	----	----	----	----	----	----
Chromatogram to baseline at nC50	n/a	-	----	----	----	----	----	----	----
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	%	----	----	----	----	----	----	----
Bromofluorobenzene, 4-	460-00-4	%	----	----	----	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	%	----	----	----	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	%	----	----	----	----	----	----	----
Polycyclic Aromatic Hydrocarbons									
Acenaphthene	83-32-9	µg/L	**4.1 µg/L**	**4.1 µg/L**	----	----	----	----	----
Acenaphthylene	208-96-8	µg/L	**1 µg/L**	**1 µg/L**	----	----	----	----	----
Anthracene	120-12-7	µg/L	**2.4 µg/L**	**2.4 µg/L**	----	----	----	----	----
Benz(a)anthracene	56-55-3	µg/L	**1 µg/L**	**1 µg/L**	----	----	----	----	----
Benzo(a)pyrene	50-32-8	µg/L	**0.01 µg/L**	**0.01 µg/L**	----	----	----	----	----
Benzo(b+j)fluoranthene	n/a	µg/L	**0.1 µg/L**	**0.1 µg/L**	----	----	----	----	----
Benzo(g,h,i)perylene	191-24-2	µg/L	**0.2 µg/L**	**0.2 µg/L**	----	----	----	----	----
Benzo(k)fluoranthene	207-08-9	µg/L	**0.1 µg/L**	**0.1 µg/L**	----	----	----	----	----
Chrysene	218-01-9	µg/L	**0.1 µg/L**	**0.1 µg/L**	----	----	----	----	----
Dibenz(a,h)anthracene	53-70-3	µg/L	**0.2 µg/L**	**0.2 µg/L**	----	----	----	----	----
Fluoranthene	206-44-0	µg/L	**0.41 µg/L**	**0.41 µg/L**	----	----	----	----	----
Fluorene	86-73-7	µg/L	**120 µg/L**	**120 µg/L**	----	----	----	----	----
Indeno(1,2,3-c,d)pyrene	193-39-5	µg/L	**0.2 µg/L**	**0.2 µg/L**	----	----	----	----	----
Methylnaphthalene, 1-	90-12-0	µg/L	**3.2 µg/L**	**3.2 µg/L**	----	----	----	----	----

Methylnaphthalene, 1+2-	----	µg/L	**3.2 µg/L**	**3.2 µg/L**	----	----	----	----	----
Methylnaphthalene, 2-	91-57-6	µg/L	**3.2 µg/L**	**3.2 µg/L**	----	----	----	----	----
Naphthalene	91-20-3	µg/L	**11 µg/L**	**11 µg/L**	----	----	----	----	----
Phenanthrene	85-01-8	µg/L	**1 µg/L**	**1 µg/L**	----	----	----	----	----
Pyrene	129-00-0	µg/L	**4.1 µg/L**	**4.1 µg/L**	----	----	----	----	----
Chrysene-d12	1719-03-5	%	----	----	----	----	----	----	----
Naphthalene-d8	1146-65-2	%	----	----	----	----	----	----	----
Phenanthrene-d10	1517-22-2	%	----	----	----	----	----	----	----

Key:

ON153/04		Ontario Regulation 153/04 - April 15, 2011 Standards (JUL, 2011)
	T2-GW-C-All	153 T2-Ground Water (Coarse Soil)-All Types of Property Use
	T2-GW-F-All	153 T2-Ground Water (Fine Soil)-All Types of Property Use

ALS Canada Ltd.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: **WT2513613**	Page	: 1 of 11
Client	: **Jacobs Consultancy Canada Inc.**	Laboratory	: ALS Environmental - Waterloo
Contact	: Tania McCarthy	Account Manager	: Mathy Mahadeva
Address	: 165 King St West Suite 201 Kitchener ON Canada N2G 1A7	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 416 499 0090	Telephone	: +1 519 886 6910
Project	: COG14EDN	Date Samples Received	: 02-Jun-2025 14:37
PO	: ----	Issue Date	: 10-Jun-2025 07:43
C-O-C number	: 23-1124572		
Sampler	: ----		
Site	: ----		
Quote number	: Ontario Jacobs Standing Offer 2025		
No. of samples received	: 3		
No. of samples analysed	: 3		

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)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix: **Water**

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-2039969-002	----	Dichlorodifluoromethane	75-71-8	E611D	142 % MES	60.0-140%	Recovery greater than upper 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: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Anions and Nutrients : Chloride in Water by IC										
HDPE MW104-20250530	E235.Cl	30-May-2025	03-Jun-2025	28 days	4 days	✓	04-Jun-2025	28 days	4 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE FD-20250530	E235.Cl	30-May-2025	03-Jun-2025	28 days	5 days	✓	04-Jun-2025	28 days	5 days	✓
Cyanides : WAD Cyanide										
HDPE - total (sodium hydroxide) MW104-20250530	E336	30-May-2025	05-Jun-2025	14 days	6 days	✓	05-Jun-2025	14 days	6 days	✓
Cyanides : WAD Cyanide										
HDPE - total (sodium hydroxide) FD-20250530	E336	30-May-2025	05-Jun-2025	14 days	7 days	✓	05-Jun-2025	14 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) FD-20250530	E509	30-May-2025	06-Jun-2025	28 days	7 days	✓	06-Jun-2025	28 days	7 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW104-20250530	E509	30-May-2025	06-Jun-2025	28 days	7 days	✓	06-Jun-2025	28 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) FD-20250530	E421	30-May-2025	03-Jun-2025	180 days	4 days	✓	03-Jun-2025	180 days	4 days	✓

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW104-20250530	E421	30-May-2025	03-Jun-2025	180 days	4 days	✓	03-Jun-2025	180 days	4 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID (Low Level)										
Glass vial (sodium bisulfate) TB-20250530	E581.F1-L	30-May-2025	08-Jun-2025	14 days	10 days	✓	08-Jun-2025	14 days	10 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID (Low Level)										
Glass vial (sodium bisulfate) MW104-20250530	E581.F1-L	30-May-2025	03-Jun-2025	14 days	4 days	✓	03-Jun-2025	14 days	4 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID (Low Level)										
Glass vial (sodium bisulfate) FD-20250530	E581.F1-L	30-May-2025	03-Jun-2025	14 days	5 days	✓	03-Jun-2025	14 days	5 days	✓
Hydrocarbons : Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID										
Amber glass/Teflon lined septa cap (sodium bisulfate) [ON MECP] MW104-20250530	E601.SG	30-May-2025	06-Jun-2025	40 days	7 days	✓	09-Jun-2025	40 days	3 days	✓
Hydrocarbons : Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID										
Amber glass/Teflon lined septa cap (sodium bisulfate) [ON MECP] FD-20250530	E601.SG	30-May-2025	06-Jun-2025	40 days	8 days	✓	09-Jun-2025	40 days	3 days	✓
Physical Tests : Conductivity in Water										
HDPE MW104-20250530	E100	30-May-2025	03-Jun-2025	28 days	4 days	✓	03-Jun-2025	28 days	4 days	✓
Physical Tests : Conductivity in Water										
HDPE FD-20250530	E100	30-May-2025	03-Jun-2025	28 days	5 days	✓	03-Jun-2025	28 days	5 days	✓
Physical Tests : pH by Meter										
HDPE FD-20250530	E108	30-May-2025	03-Jun-2025	0.25 hrs	108 hrs	× EHTR-FM	03-Jun-2025	0.25 hrs	108 hrs	× EHTR-FM

Matrix: **Water**

Evaluation: × = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Physical Tests : pH by Meter										
HDPE										
MW104-20250530	E108	30-May-2025	03-Jun-2025	0.25 hrs	90 hrs	× EHTR-FM	03-Jun-2025	0.25 hrs	90 hrs	× EHTR-FM
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined septa cap (sodium bisulfate) [ON MECP]										
MW104-20250530	E641A	30-May-2025	06-Jun-2025	14 days	7 days	✓	09-Jun-2025	40 days	3 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS										
Amber glass/Teflon lined septa cap (sodium bisulfate) [ON MECP]										
FD-20250530	E641A	30-May-2025	06-Jun-2025	14 days	8 days	✓	09-Jun-2025	40 days	3 days	✓
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
Opaque HDPE - dissolved (NaOH+Buf) [ON MECP]										
MW104-20250530	E532A	30-May-2025	----	----	----		03-Jun-2025	28 days	4 days	✓
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC										
Opaque HDPE - dissolved (NaOH+Buf) [ON MECP]										
FD-20250530	E532A	30-May-2025	----	----	----		03-Jun-2025	28 days	5 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass vial (sodium bisulfate)										
TB-20250530	E611D	30-May-2025	08-Jun-2025	14 days	10 days	✓	08-Jun-2025	14 days	10 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass vial (sodium bisulfate)										
MW104-20250530	E611D	30-May-2025	03-Jun-2025	14 days	4 days	✓	03-Jun-2025	14 days	4 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS										
Glass vial (sodium bisulfate)										
FD-20250530	E611D	30-May-2025	03-Jun-2025	14 days	5 days	✓	03-Jun-2025	14 days	5 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended

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: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Laboratory Duplicates (DUP)							
Conductivity in Water	E100	2029329	1	12	8.3	5.0	✓
pH by Meter	E108	2029330	1	12	8.3	5.0	✓
Chloride in Water by IC	E235.Cl	2029322	1	17	5.8	5.0	✓
WAD Cyanide	E336	2034619	1	13	7.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	2029498	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2036775	1	20	5.0	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	2030816	1	13	7.6	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L	2039970	2	21	9.5	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	2039969	2	40	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Conductivity in Water	E100	2029329	1	12	8.3	5.0	✓
pH by Meter	E108	2029330	1	12	8.3	5.0	✓
Chloride in Water by IC	E235.Cl	2029322	1	17	5.8	5.0	✓
WAD Cyanide	E336	2034619	1	13	7.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	2029498	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2036775	1	20	5.0	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	2030816	1	13	7.6	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L	2039970	2	21	9.5	5.0	✓
Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID	E601.SG	2037590	1	18	5.5	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	2039969	2	40	5.0	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	2037589	1	18	5.5	5.0	✓
Method Blanks (MB)							
Conductivity in Water	E100	2029329	1	12	8.3	5.0	✓
Chloride in Water by IC	E235.Cl	2029322	1	17	5.8	5.0	✓
WAD Cyanide	E336	2034619	1	13	7.6	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	2029498	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2036775	1	20	5.0	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	2030816	1	13	7.6	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L	2039970	2	21	9.5	5.0	✓
Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID	E601.SG	2037590	1	18	5.5	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	2039969	2	40	5.0	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	2037589	1	18	5.5	5.0	✓
Matrix Spikes (MS)							
Chloride in Water by IC	E235.Cl	2029322	1	17	5.8	5.0	✓
WAD Cyanide	E336	2034619	1	13	7.6	5.0	✓

Matrix: **Water**

Evaluation: × = *QC frequency outside specification*; ✓ = *QC frequency within specification.*

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	*Method*	*QC Lot #*	*QC*	*Regular*	*Actual*	*Expected*	*Evaluation*
Matrix Spikes (MS) - Continued							
Dissolved Metals in Water by CRC ICPMS	E421	2029498	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2036775	1	20	5.0	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	2030816	1	13	7.6	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L	2039970	2	21	9.5	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	2039969	2	40	5.0	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
Conductivity in Water	E100 ALS Environmental - Waterloo	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Waterloo	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Chloride in Water by IC	E235.Cl ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
WAD Cyanide	E336 ALS Environmental - Waterloo	Water	APHA 4500-CN I (mod)	Weak Acid Dissociable (WAD) cyanide is determined by Continuous Flow Analyzer (CFA) with in-line distillation followed by colourmetric analysis.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Waterloo	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Mercury in Water by CVAAS	E509 ALS Environmental - Waterloo	Water	APHA 3030B/EPA 1631E (mod)	Water samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A ALS Environmental - Waterloo	Water	APHA 3500-Cr C (Ion Chromatography)	Hexavalent Chromium is measured by Ion chromatography-Post column reaction and UV detection. sample pretreatment involved field or lab filtration following by sample preservation.
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1 (mod)	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. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID	E601.SG ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1 (mod)	Sample extracts are subjected to in-situ silica gel treatment prior to analysis by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
VOCs (Eastern Canada List) by Headspace GC-MS	E611D ALS Environmental - Waterloo	Water	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 in Water by Hexane LVI GC-MS	E641A ALS Environmental - Waterloo	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large volume injection (LVI) GC-MS.
F1-BTEX	EC580 ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
SUM F1 to F4 where F2-F4 is SG treated	EC581SG ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1	Hydrocarbons, total (C6-C50) is the sum of CCME Fraction F1(C6-C10), F2(C10-C16), F3(C16-C34), and F4(C34-C50), where F2-F4 have been treated with silica gel. F4G-sg is not used within this calculation due to overlap with other fractions.
F2-F4 (sg) minus PAH	EC600SG ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1	F2-F4 (sg) minus PAH is calculated as follows: F2-F4 minus PAH = Sum of CCME Fraction 2 (C10-C16), CCME Fraction 3 (C16-C34), and CCME Fraction 4 (C34-C50), minus select Polycyclic Aromatic Hydrocarbons (PAH).

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Metals Water Filtration	EP421 ALS Environmental - Waterloo	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Waterloo	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Waterloo	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into a GC-MS-FID.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Waterloo	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.

QUALITY CONTROL REPORT

Work Order	: **WT2513613**	Page	: 1 of 19
Client	: Jacobs Consultancy Canada Inc.	Laboratory	: ALS Environmental - Waterloo
Contact	: Tania McCarthy	Account Manager	: Mathy Mahadeva
Address	: 165 King St West Suite 201 Kitchener ON Canada N2G 1A7	Address	: 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8
Telephone	: 416 499 0090	Telephone	: +1 519 886 6910
Project	: COG14EDN	Date Samples Received	: 02-Jun-2025 14:37
PO	: ----	Date Analysis Commenced	: 03-Jun-2025
C-O-C number	: 23-1124572	Issue Date	: 10-Jun-2025 07:44
Sampler	: ----		
Site	: ----		
Quote number	: Ontario Jacobs Standing Offer 2025		
No. of samples received	: 3		
No. of samples analysed	: 3		

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
- 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.

Signatories	*Position*	*Laboratory Department*
Amaninder Dhillon	Team Lead - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
Danielle Gravel	Supervisor - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
David Tremblett	VOC Section Supervisor	Waterloo VOC, Waterloo, Ontario
Nik Perkio	Senior Analyst	Waterloo Inorganics, Waterloo, Ontario
Nik Perkio	Senior Analyst	Waterloo Metals, Waterloo, Ontario
Sarah Birch	VOC Section Supervisor	Waterloo VOC, Waterloo, Ontario

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 (QCI) 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).

Sub-Matrix: **Water**

					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: 2029329)											
WT2513187-012	Anonymous	Conductivity	----	E100	2.0	µS/cm	897	901	0.445%	10%	----
Physical Tests (QC Lot: 2029330)											
WT2513187-012	Anonymous	pH	----	E108	0.10	pH units	7.19	7.19	0.00%	4%	----
Anions and Nutrients (QC Lot: 2029322)											
WT2513187-004	Anonymous	Chloride	16887-00-6	E235.Cl	2.50	mg/L	601	598	0.431%	20%	----
Cyanides (QC Lot: 2034619)											
CG2507177-001	Anonymous	Cyanide, weak acid dissociable	----	E336	0.0020	mg/L	<0.0020	<0.0020	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 2029498)											
HA2501633-022	Anonymous	Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00011	0.00011	0.000003	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00086	0.00092	0.00006	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.00916	0.00919	0.386%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000020	mg/L	0.000065	0.000061	0.000004	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	0.000341	0.000345	1.28%	20%	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	0.00705	0.00709	0.533%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.0149	0.0149	0.357%	20%	----
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	0.00196	0.00198	0.816%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00255	0.00266	0.00011	Diff <2x LOR	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	3.74	3.77	0.786%	20%	----
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000015	0.000016	0.0000003	Diff <2x LOR	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.804	0.815	1.38%	20%	----
Dissolved Metals (QC Lot: 2036775)											
TY2505324-001	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
Speciated Metals (QC Lot: 2030816)											

Sub-Matrix: **Water**

					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*
Speciated Metals (QC Lot: 2030816) - continued											
HA2501655-001	Anonymous	Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 2030685)											
TY2505389-001	Anonymous	Acetone	67-64-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Benzene	71-43-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromodichloromethane	75-27-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromoform	75-25-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromomethane	74-83-9	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Carbon tetrachloride	56-23-5	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Chlorobenzene	108-90-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroform	67-66-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dibromochloromethane	124-48-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dibromoethane, 1,2-	106-93-4	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorodifluoromethane	75-71-8	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,1-	75-34-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,2-	107-06-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-	75-35-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloromethane	75-09-2	E611D	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Dichloropropane, 1,2-	78-87-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Hexane, n-	110-54-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethylene	127-18-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					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: 2030685) - continued											
TY2505389-001	Anonymous	Toluene	108-88-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethylene	79-01-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichlorofluoromethane	75-69-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Vinyl chloride	75-01-4	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611D	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 2039969)											
WT2514022-002	Anonymous	Acetone	67-64-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Benzene	71-43-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromodichloromethane	75-27-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromoform	75-25-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Bromomethane	74-83-9	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Carbon tetrachloride	56-23-5	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Chlorobenzene	108-90-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Chloroform	67-66-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dibromochloromethane	124-48-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dibromoethane, 1,2-	106-93-4	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichlorodifluoromethane	75-71-8	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,1-	75-34-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethane, 1,2-	107-06-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, 1,1-	75-35-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloromethane	75-09-2	E611D	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	----
		Dichloropropane, 1,2-	78-87-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
		Ethylbenzene	100-41-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Hexane, n-	110-54-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----

Sub-Matrix: **Water**

					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: 2039969) - continued											
WT2514022-002	Anonymous	Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Styrene	100-42-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Tetrachloroethylene	127-18-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Toluene	108-88-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichloroethylene	79-01-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Trichlorofluoromethane	75-69-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	----
		Vinyl chloride	75-01-4	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	----
		Xylene, m+p-	179601-23-1	E611D	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	----
		Xylene, o-	95-47-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 2030686)											
TY2505389-001	Anonymous	F1 (C6-C10)	----	E581.F1-L	25	µg/L	<25	<25	0	Diff <2x LOR	----
Hydrocarbons (QC Lot: 2039970)											
WT2514022-002	Anonymous	F1 (C6-C10)	----	E581.F1-L	25	µg/L	<25	<25	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: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2029329)						
Conductivity	----	E100	1	µS/cm	1.2	----
Anions and Nutrients (QCLot: 2029322)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Cyanides (QCLot: 2034619)						
Cyanide, weak acid dissociable	----	E336	0.002	mg/L	<0.0020	----
Dissolved Metals (QCLot: 2029498)						
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Dissolved Metals (QCLot: 2036775)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Speciated Metals (QCLot: 2030816)						
Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0005	mg/L	<0.00050	----
Volatile Organic Compounds (QCLot: 2030685)						
Acetone	67-64-1	E611D	20	µg/L	<20	----
Benzene	71-43-2	E611D	0.5	µg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 2030685) - continued						
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611D	0.5	µg/L	<0.50	----
Bromomethane	74-83-9	E611D	0.5	µg/L	<0.50	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	<0.20	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611D	0.5	µg/L	<0.50	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	<0.50	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	<0.20	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	<0.50	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611D	1	µg/L	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	<0.30	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	<0.30	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	<0.50	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	<0.50	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	<0.50	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	<0.50	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 2030685) - continued						
Vinyl chloride	75-01-4	E611D	0.2	µg/L	<0.20	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	<0.30	----
Volatile Organic Compounds (QCLot: 2039969)						
Acetone	67-64-1	E611D	20	µg/L	<20	----
Benzene	71-43-2	E611D	0.5	µg/L	<0.50	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611D	0.5	µg/L	<0.50	----
Bromomethane	74-83-9	E611D	0.5	µg/L	<0.50	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	<0.20	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611D	0.5	µg/L	<0.50	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	<0.50	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	<0.20	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	<0.50	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611D	1	µg/L	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	<0.30	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	<0.30	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	<0.50	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	<0.50	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	<0.50	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 2039969) - continued						
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	<0.50	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	<0.50	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	<0.50	----
Vinyl chloride	75-01-4	E611D	0.2	µg/L	<0.20	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	<0.30	----
Hydrocarbons (QCLot: 2030686)						
F1 (C6-C10)	----	E581.F1-L	25	µg/L	<25	----
Hydrocarbons (QCLot: 2037590)						
F2 (C10-C16)	----	E601.SG	100	µg/L	<100	----
F3 (C16-C34)	----	E601.SG	250	µg/L	<250	----
F4 (C34-C50)	----	E601.SG	250	µg/L	<250	----
Hydrocarbons (QCLot: 2039970)						
F1 (C6-C10)	----	E581.F1-L	25	µg/L	<25	----
Polycyclic Aromatic Hydrocarbons (QCLot: 2037589)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----

Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 2037589) - continued						
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----

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: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2029329)									
Conductivity	----	E100	1	µS/cm	1410 µS/cm	98.0	90.0	110	----
Physical Tests (QCLot: 2029330)									
pH	----	E108	----	pH units	7 pH units	101	98.0	102	----
Anions and Nutrients (QCLot: 2029322)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	99.0	90.0	110	----
Cyanides (QCLot: 2034619)									
Cyanide, weak acid dissociable	----	E336	0.002	mg/L	0.125 mg/L	97.6	80.0	120	----
Dissolved Metals (QCLot: 2029498)									
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	0.05 mg/L	100	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	0.05 mg/L	107	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.012 mg/L	105	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.005 mg/L	93.5	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	0.05 mg/L	90.3	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.005 mg/L	102	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.012 mg/L	102	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.012 mg/L	102	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.012 mg/L	103	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.025 mg/L	101	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.012 mg/L	101	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.025 mg/L	103	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	0.05 mg/L	102	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.005 mg/L	95.0	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	2.5 mg/L	104	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	0.05 mg/L	100.0	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0 mg/L	101	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.025 mg/L	104	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.025 mg/L	105	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	91.6	80.0	120	----
Speciated Metals (QCLot: 2030816)									

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Speciated Metals (QCLot: 2030816) - continued									
Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0005	mg/L	0.025 mg/L	96.4	80.0	120	----
Volatile Organic Compounds (QCLot: 2030685)									
Acetone	67-64-1	E611D	20	µg/L	100 µg/L	109	70.0	130	----
Benzene	71-43-2	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Bromoform	75-25-2	E611D	0.5	µg/L	100 µg/L	90.7	70.0	130	----
Bromomethane	74-83-9	E611D	0.5	µg/L	100 µg/L	86.2	60.0	140	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	100 µg/L	104	70.0	130	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	100 µg/L	112	70.0	130	----
Chloroform	67-66-3	E611D	0.5	µg/L	100 µg/L	105	70.0	130	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	100 µg/L	103	70.0	130	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	100 µg/L	104	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	100 µg/L	105	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	100 µg/L	105	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	100 µg/L	99.2	70.0	130	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	100 µg/L	121	60.0	140	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	100 µg/L	112	70.0	130	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	100 µg/L	106	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	100 µg/L	113	70.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	100 µg/L	109	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	100 µg/L	115	70.0	130	----
Dichloromethane	75-09-2	E611D	1	µg/L	100 µg/L	107	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	100 µg/L	104	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	100 µg/L	104	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	100 µg/L	106	70.0	130	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	100 µg/L	100	70.0	130	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	100 µg/L	110	70.0	130	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	100 µg/L	101	70.0	130	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	100 µg/L	99.3	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	100 µg/L	104	70.0	130	----
Styrene	100-42-5	E611D	0.5	µg/L	100 µg/L	94.2	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	100 µg/L	98.8	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	100 µg/L	98.6	70.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----
Toluene	108-88-3	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 2030685) - continued									
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	100 µg/L	107	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	100 µg/L	105	70.0	130	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	100 µg/L	111	70.0	130	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	100 µg/L	105	60.0	140	----
Vinyl chloride	75-01-4	E611D	0.2	µg/L	100 µg/L	107	60.0	140	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	200 µg/L	102	70.0	130	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	100 µg/L	99.2	70.0	130	----
Volatile Organic Compounds (QCLot: 2039969)									
Acetone	67-64-1	E611D	20	µg/L	100 µg/L	110	70.0	130	----
Benzene	71-43-2	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	100 µg/L	112	70.0	130	----
Bromoform	75-25-2	E611D	0.5	µg/L	100 µg/L	97.4	70.0	130	----
Bromomethane	74-83-9	E611D	0.5	µg/L	100 µg/L	97.6	60.0	140	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	100 µg/L	110	70.0	130	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	100 µg/L	110	70.0	130	----
Chloroform	67-66-3	E611D	0.5	µg/L	100 µg/L	110	70.0	130	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	100 µg/L	111	70.0	130	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	100 µg/L	109	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	100 µg/L	111	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	100 µg/L	106	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	100 µg/L	# 142	60.0	140	MES
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	100 µg/L	106	70.0	130	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	100 µg/L	104	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	100 µg/L	116	70.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	100 µg/L	115	70.0	130	----
Dichloromethane	75-09-2	E611D	1	µg/L	100 µg/L	116	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	100 µg/L	106	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	100 µg/L	107	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	100 µg/L	100	70.0	130	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	100 µg/L	99.0	70.0	130	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	100 µg/L	114	70.0	130	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	100 µg/L	107	70.0	130	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	100 µg/L	99.4	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	100 µg/L	107	70.0	130	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 2039969) - continued									
Styrene	100-42-5	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	100 µg/L	105	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	100 µg/L	93.6	70.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Toluene	108-88-3	E611D	0.5	µg/L	100 µg/L	99.9	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	100 µg/L	109	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	100 µg/L	106	70.0	130	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	100 µg/L	123	70.0	130	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	100 µg/L	110	60.0	140	----
Vinyl chloride	75-01-4	E611D	0.2	µg/L	100 µg/L	115	60.0	140	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	200 µg/L	100	70.0	130	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	100 µg/L	99.2	70.0	130	----
Hydrocarbons (QCLot: 2030686)									
F1 (C6-C10)	----	E581.F1-L	25	µg/L	2000 µg/L	117	80.0	120	----
Hydrocarbons (QCLot: 2037590)									
F2 (C10-C16)	----	E601.SG	100	µg/L	3770 µg/L	96.8	70.0	130	----
F3 (C16-C34)	----	E601.SG	250	µg/L	7760 µg/L	101	70.0	130	----
F4 (C34-C50)	----	E601.SG	250	µg/L	4200 µg/L	94.7	70.0	130	----
Hydrocarbons (QCLot: 2039970)									
F1 (C6-C10)	----	E581.F1-L	25	µg/L	2000 µg/L	109	80.0	120	----
Polycyclic Aromatic Hydrocarbons (QCLot: 2037589)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.526 µg/L	102	50.0	140	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.526 µg/L	94.0	50.0	140	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.526 µg/L	88.5	50.0	140	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.526 µg/L	120	50.0	140	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.526 µg/L	95.3	50.0	140	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.526 µg/L	103	50.0	140	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.526 µg/L	116	50.0	140	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.526 µg/L	104	50.0	140	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.526 µg/L	112	50.0	140	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.526 µg/L	112	50.0	140	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.526 µg/L	110	50.0	140	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.526 µg/L	102	50.0	140	----
Indeno(1,2,3-c,d)pyrene	193-39-5	E641A	0.01	µg/L	0.526 µg/L	118	50.0	140	----

Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Polycyclic Aromatic Hydrocarbons (QCLot: 2037589) - continued									
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.526 µg/L	98.5	50.0	140	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.526 µg/L	99.9	50.0	140	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.526 µg/L	97.0	50.0	140	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.526 µg/L	115	50.0	140	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.526 µg/L	108	50.0	140	----

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).*

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: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2029322)										
WT2513187-004	Anonymous	Chloride	16887-00-6	E235.Cl	ND mg/L	----	ND	75.0	125	----
Cyanides (QCLot: 2034619)										
CG2507177-001	Anonymous	Cyanide, weak acid dissociable	----	E336	0.123 mg/L	0.125 mg/L	98.8	75.0	125	----
Dissolved Metals (QCLot: 2029498)										
HA2501633-023	Anonymous	Antimony, dissolved	7440-36-0	E421	0.0528 mg/L	0.05 mg/L	106	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0596 mg/L	0.05 mg/L	119	70.0	130	----
		Barium, dissolved	7440-39-3	E421	0.0127 mg/L	0.012 mg/L	101	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.00508 mg/L	0.005 mg/L	102	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.046 mg/L	0.05 mg/L	91.8	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00548 mg/L	0.005 mg/L	110	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0128 mg/L	0.012 mg/L	102	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	ND mg/L	----	ND	70.0	130	----
		Copper, dissolved	7440-50-8	E421	ND mg/L	----	ND	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0248 mg/L	0.025 mg/L	99.3	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0127 mg/L	0.012 mg/L	102	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0247 mg/L	0.025 mg/L	98.6	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0640 mg/L	0.05 mg/L	128	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00461 mg/L	0.005 mg/L	92.2	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	2.52 mg/L	2.5 mg/L	101	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.0503 mg/L	0.05 mg/L	100	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.000250 mg/L	0 mg/L	100	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0260 mg/L	0.025 mg/L	104	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	ND mg/L	----	ND	70.0	130	----
Dissolved Metals (QCLot: 2036775)										
TY2505324-002	Anonymous	Mercury, dissolved	7439-97-6	E509	0.0000829 mg/L	0 mg/L	82.9	70.0	130	----
Speciated Metals (QCLot: 2030816)										
HA2501655-001	Anonymous	Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0392 mg/L	0.04 mg/L	97.9	70.0	130	----
Volatile Organic Compounds (QCLot: 2030685)										
TY2505389-001	Anonymous	Acetone	67-64-1	E611D	112 µg/L	100 µg/L	112	60.0	140	----
		Benzene	71-43-2	E611D	98.2 µg/L	100 µg/L	98.2	60.0	140	----
		Bromodichloromethane	75-27-4	E611D	105 µg/L	100 µg/L	105	60.0	140	----
		Bromoform	75-25-2	E611D	91.0 µg/L	100 µg/L	91.0	60.0	140	----
		Bromomethane	74-83-9	E611D	80.8 µg/L	100 µg/L	80.8	60.0	140	----
		Carbon tetrachloride	56-23-5	E611D	95.4 µg/L	100 µg/L	95.4	60.0	140	----
		Chlorobenzene	108-90-7	E611D	106 µg/L	100 µg/L	106	60.0	140	----
		Chloroform	67-66-3	E611D	108 µg/L	100 µg/L	108	60.0	140	----

Sub-Matrix: **Water**

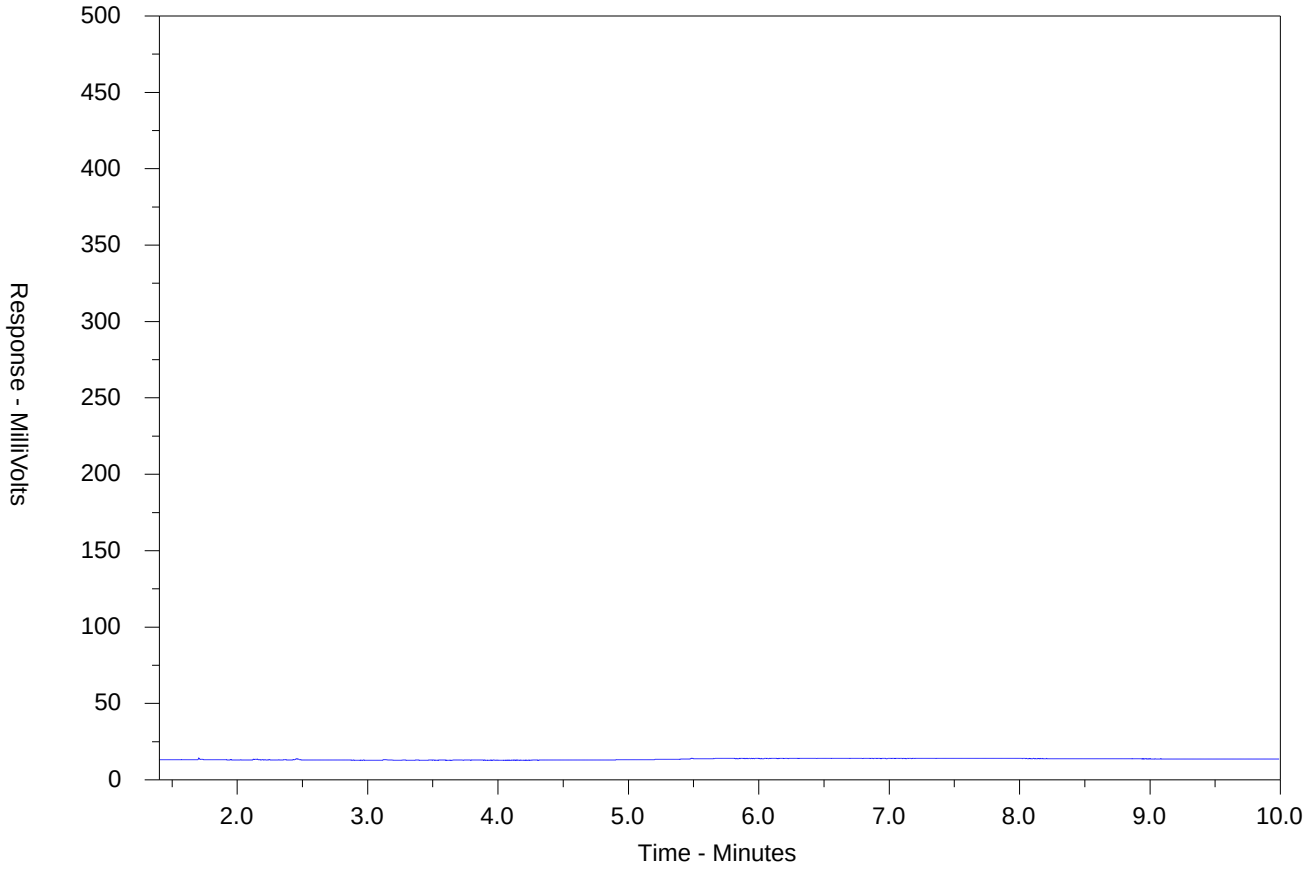
					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 2030685) - continued										
TY2505389-001	Anonymous	Dibromochloromethane	124-48-1	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Dibromoethane, 1,2-	106-93-4	E611D	103 µg/L	100 µg/L	103	60.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	97.6 µg/L	100 µg/L	97.6	60.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	98.2 µg/L	100 µg/L	98.2	60.0	140	----
		Dichlorodifluoromethane	75-71-8	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Dichloroethane, 1,1-	75-34-3	E611D	110 µg/L	100 µg/L	110	60.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611D	105 µg/L	100 µg/L	105	60.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611D	105 µg/L	100 µg/L	105	60.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	109 µg/L	100 µg/L	109	60.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	110 µg/L	100 µg/L	110	60.0	140	----
		Dichloromethane	75-09-2	E611D	106 µg/L	100 µg/L	106	60.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611D	102 µg/L	100 µg/L	102	60.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	102 µg/L	100 µg/L	102	60.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	98.6 µg/L	100 µg/L	98.6	60.0	140	----
		Ethylbenzene	100-41-4	E611D	93.4 µg/L	100 µg/L	93.4	60.0	140	----
		Hexane, n-	110-54-3	E611D	98.0 µg/L	100 µg/L	98.0	60.0	140	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	105 µg/L	100 µg/L	105	60.0	140	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	102 µg/L	100 µg/L	102	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Styrene	100-42-5	E611D	91.2 µg/L	100 µg/L	91.2	60.0	140	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	98.7 µg/L	100 µg/L	98.7	60.0	140	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	99.0 µg/L	100 µg/L	99.0	60.0	140	----
		Tetrachloroethylene	127-18-4	E611D	92.2 µg/L	100 µg/L	92.2	60.0	140	----
		Toluene	108-88-3	E611D	94.1 µg/L	100 µg/L	94.1	60.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	102 µg/L	100 µg/L	102	60.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	104 µg/L	100 µg/L	104	60.0	140	----
		Trichloroethylene	79-01-6	E611D	106 µg/L	100 µg/L	106	60.0	140	----
		Trichlorofluoromethane	75-69-4	E611D	95.4 µg/L	100 µg/L	95.4	60.0	140	----
		Vinyl chloride	75-01-4	E611D	96.6 µg/L	100 µg/L	96.6	60.0	140	----
		Xylene, m+p-	179601-23-1	E611D	189 µg/L	200 µg/L	94.4	60.0	140	----
		Xylene, o-	95-47-6	E611D	95.1 µg/L	100 µg/L	95.1	60.0	140	----
Volatile Organic Compounds (QCLot: 2039969)										
WT2514022-002	Anonymous	Acetone	67-64-1	E611D	112 µg/L	100 µg/L	112	60.0	140	----
		Benzene	71-43-2	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Bromodichloromethane	75-27-4	E611D	107 µg/L	100 µg/L	107	60.0	140	----
		Bromoform	75-25-2	E611D	93.4 µg/L	100 µg/L	93.4	60.0	140	----
		Bromomethane	74-83-9	E611D	93.9 µg/L	100 µg/L	93.9	60.0	140	----
		Carbon tetrachloride	56-23-5	E611D	102 µg/L	100 µg/L	102	60.0	140	----
		Chlorobenzene	108-90-7	E611D	105 µg/L	100 µg/L	105	60.0	140	----
		Chloroform	67-66-3	E611D	106 µg/L	100 µg/L	106	60.0	140	----
		Dibromochloromethane	124-48-1	E611D	107 µg/L	100 µg/L	107	60.0	140	----
		Dibromoethane, 1,2-	106-93-4	E611D	105 µg/L	100 µg/L	105	60.0	140	----
		Dichlorobenzene, 1,2-	95-50-1	E611D	104 µg/L	100 µg/L	104	60.0	140	----

Sub-Matrix: **Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Volatile Organic Compounds (QCLot: 2039969) - continued										
WT2514022-002	Anonymous	Dichlorobenzene, 1,3-	541-73-1	E611D	96.4 µg/L	100 µg/L	96.4	60.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	98.6 µg/L	100 µg/L	98.6	60.0	140	----
		Dichlorodifluoromethane	75-71-8	E611D	126 µg/L	100 µg/L	126	60.0	140	----
		Dichloroethane, 1,1-	75-34-3	E611D	93.7 µg/L	100 µg/L	93.7	60.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611D	103 µg/L	100 µg/L	103	60.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611D	108 µg/L	100 µg/L	108	60.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	106 µg/L	100 µg/L	106	60.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	108 µg/L	100 µg/L	108	60.0	140	----
		Dichloromethane	75-09-2	E611D	113 µg/L	100 µg/L	113	60.0	140	----
		Dichloropropane, 1,2-	78-87-5	E611D	103 µg/L	100 µg/L	103	60.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	105 µg/L	100 µg/L	105	60.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	98.7 µg/L	100 µg/L	98.7	60.0	140	----
		Ethylbenzene	100-41-4	E611D	92.3 µg/L	100 µg/L	92.3	60.0	140	----
		Hexane, n-	110-54-3	E611D	96.1 µg/L	100 µg/L	96.1	60.0	140	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	107 µg/L	100 µg/L	107	60.0	140	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	105 µg/L	100 µg/L	105	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	100 µg/L	100 µg/L	100	60.0	140	----
		Styrene	100-42-5	E611D	96.6 µg/L	100 µg/L	96.6	60.0	140	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	94.1 µg/L	100 µg/L	94.1	60.0	140	----
		Tetrachloroethylene	127-18-4	E611D	98.5 µg/L	100 µg/L	98.5	60.0	140	----
		Toluene	108-88-3	E611D	93.7 µg/L	100 µg/L	93.7	60.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	102 µg/L	100 µg/L	102	60.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	104 µg/L	100 µg/L	104	60.0	140	----
		Trichloroethylene	79-01-6	E611D	113 µg/L	100 µg/L	113	60.0	140	----
		Trichlorofluoromethane	75-69-4	E611D	99.6 µg/L	100 µg/L	99.6	60.0	140	----
		Vinyl chloride	75-01-4	E611D	106 µg/L	100 µg/L	106	60.0	140	----
		Xylene, m+p-	179601-23-1	E611D	188 µg/L	200 µg/L	94.2	60.0	140	----
		Xylene, o-	95-47-6	E611D	92.7 µg/L	100 µg/L	92.7	60.0	140	----
Hydrocarbons (QCLot: 2030686)										
TY2505389-001	Anonymous	F1 (C6-C10)	----	E581.F1-L	1930 µg/L	2000 µg/L	96.6	60.0	140	----
Hydrocarbons (QCLot: 2039970)										
WT2514022-002	Anonymous	F1 (C6-C10)	----	E581.F1-L	1890 µg/L	2000 µg/L	94.4	60.0	140	----

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2513613-001-E601.SG
Client Sample ID: MW104-20250530



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

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

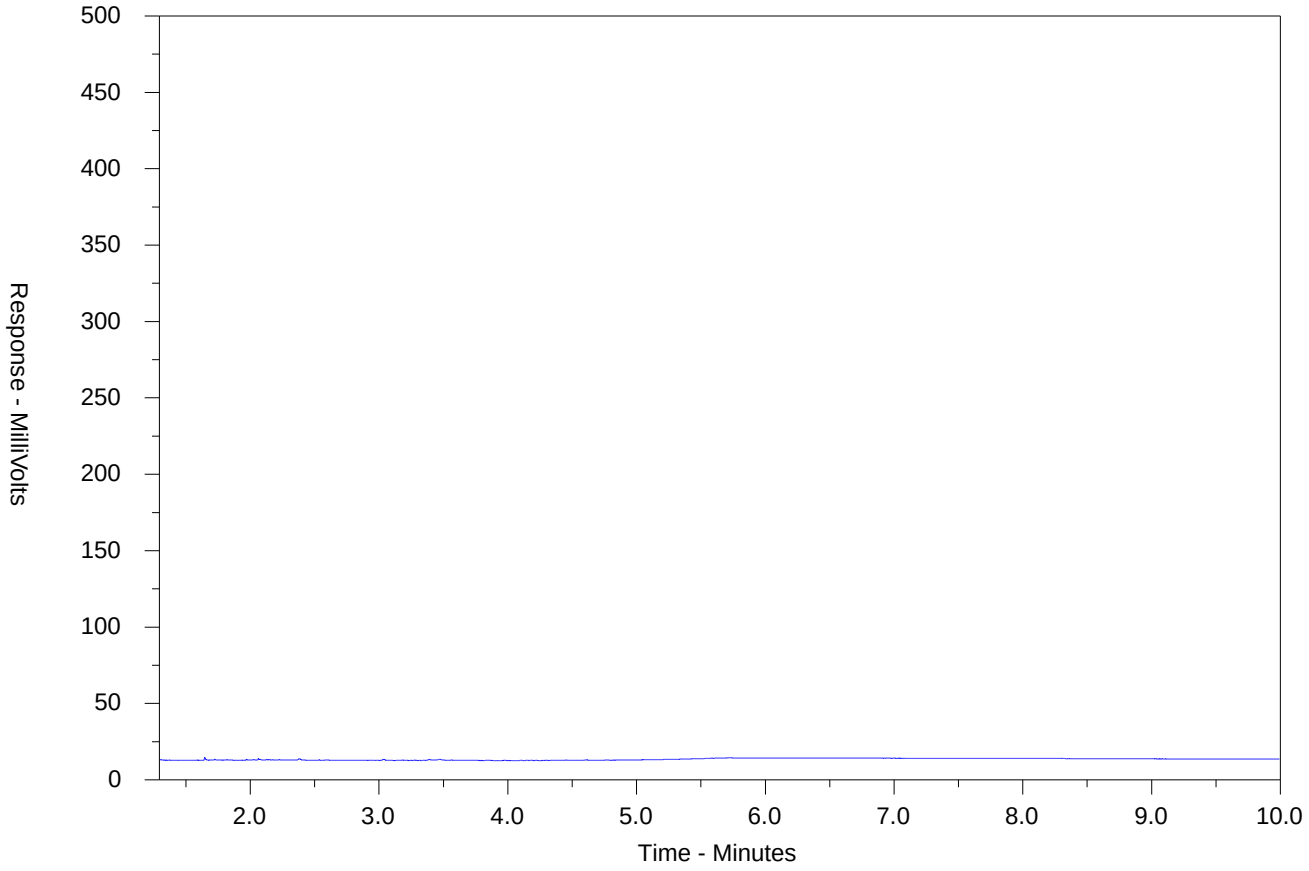
The scale at the bottom of the chromatogram indicates the approximate retention times of commo petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary betwee samples, but general patterns and distributions will remain similar.

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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2513613-002-E601.SG
Client Sample ID: FD-20250530



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

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

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

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

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

VW-267
SC-267
CW-967
OR-576
GC-134

Chain of Custody (COC) / Analytical Request Form

COC Number: 23 - 112[illegible]

Page 1 of 1

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

Environmental Division Waterloo

Work Order Reference WT2513613

Telephone : +1 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	Jacobs Consultancy Canada
Contact:	Tania McCarthy
Phone:	519 579 3500
	Company address below will appear on the final report
Street:	165 King Street West
City/Province:	Kitchener, ON
Postal Code:	N2G 1A7
Invoice To	Same as Report To: YES NO
	Copy of Invoice with Report: YES NO
Company:	
Contact:	

Reports / Recipients

Select Report Format: PDF EXCEL EDD (DIGITAL)

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

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

Select Distribution: EMAIL MAIL FAX

Email 1 ~~or Fax~~: tania.mccarthy@jacobs.com

Email 2:

Email 3:

Invoice Recipients

Select Invoice Distribution: EMAIL MAIL FAX

Email 1 ~~or Fax~~: CAAPinvoices@jacobs.com

Email 2:

Turnaround Time (TAT) Requested

- [x] Routine [R] if received by 3pm M-F - no surcharges apply
- [ ] 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
- [ ] 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
- [ ] 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
- [ ] 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
- [ ] Same day [E2] if received by 10am M-S - 200% rush surcharge

Additional fees may apply to rush requests on weekends, st

Date and Time Required for all E&P TATs:

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

Project Information

ALS Client Code / QUOTE #:

Job / Project #: COG14EDN

PO / AFE:

LSD:

MM

Oil and Gas Required Fields (client use)

AFE/Cost Center: PO#:

Major/Minor Code: Routing Code:

Requisitioner:

Location:

ALS Lab Work Order # (ALS use only):

ALS Contact: Mathy Mahadeva Sampler: AM

Analysis Request

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

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	O.Reg 153 Metals F/P	ORP F	PHC (F1-9) P	VOC/BTEX P	PAH P	PHC F1/VOC	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MW104-20250530	30May25	1830	Water	9	x	x	x	x	x				
	FD-20250530	30May25	—	Water	9	x	x	x	x	x				
	TB-20250530	30May25	—	Lab Water	2					x				

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

Are samples taken from a Regulated DW System? YES NO

Are samples for human consumption/ use? YES NO

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

OReg 153/04 Table 2

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: NONE ICE ICE PACKS FROZEN COOLING INITIATED

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

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
3.4				8.2			

SHIPMENT RELEASE (client use)

Released by: Alum Mirdha Date: 2025/05/31 Time: 11:00

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by: AM Date: 25/06/02/25 Time: 9:00

FINAL SHIPMENT RECEPTION (ALS use only)

Received by: NTB Date: 06/02/025 Time: 12:20

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

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

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

JAN 2023 FRONT

ALS Canada Ltd.

right solutions. right partner.

CERTIFICATE OF ANALYSIS

Work Order	:	**WT2605588**			
Client	:	**Jacobs Consultancy Canada Inc.**	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Lindsay Shaw	Account Manager	:	Mathy Mahadeva
Address	:	201-165 King St. W. Kitchener Ontario Canada N2G 1A7	Address	:	60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	----	E-mail	:	Mathy.Mahadeva@alsglobal.com
Project	:	COG14EDN.K.CS.TPE.05	Telephone	:	+1 519 886 6910
PO	:	----	Date Samples Received	:	13-Mar-2026 11:45
C-O-C number	:	----	Date Analysis Commenced	:	16-Mar-2026
Sampler	:	JG	Issue Date	:	21-Mar-2026 01:53
Site	:	----			
Quote number	:	Ontario Jacobs Standing Offer 2026			
No. of samples received	:	10			
No. of samples analysed	:	10			

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.

Signatories	*Position*	*Laboratory Department*
Andrea Armstrong	Department Manager - Air Quality and Volatiles	VOC, Waterloo, Ontario
Danielle Gravel	Supervisor - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Jeremy Gingras	Supervisor - Semi-Volatile Instrumentation	Organics, Waterloo, Ontario
Walt Kippenhuck	Supervisor - Inorganic	Metals, Waterloo, Ontario
Walt Kippenhuck	Supervisor - Inorganic	Inorganics, 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).

Unit	*Description*
-	no units
mS/cm	millisiemens per centimetre
pH units	pH units
µg/L	micrograms per litre

<: 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.

Qualifiers

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).

Analytical Results

Sub-Matrix: Groundwater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW102 ----	MW107 ----	MW104 ----	MW103D ----	MW106D ----
					Client sampling date / time	09-Mar-2026 15:50	09-Mar-2026 15:55	10-Mar-2026 09:55	10-Mar-2026 12:30	10-Mar-2026 14:20
						WT2605588-001	WT2605588-002	WT2605588-003	WT2605588-004	WT2605588-005
						Result	Result	Result	Result	Result
Physical Tests										
Conductivity	----	E100/WT	0.0010	mS/cm		1.28	1.28	1.77	1.61	4.52
pH	----	E108/WT	0.10	pH units		8.06	8.05	7.91	7.91	7.79
Anions and Nutrients										
Chloride	16887-00-6	E235.Cl/WT	500	µg/L		220000 DLDS	220000 DLDS	320000 DLDS	331000 DLDS	1230000 DLDS
Cyanides										
Cyanide, weak acid dissociable	----	E336/WT	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Metals										
Antimony, dissolved	7440-36-0	E421/WT	0.10	µg/L		0.49	0.49	0.21	<0.10	<1.00 DLHC
Arsenic, dissolved	7440-38-2	E421/WT	0.10	µg/L		0.52	0.53	0.48	0.19	<1.00 DLHC
Barium, dissolved	7440-39-3	E421/WT	0.10	µg/L		53.7	53.3	68.5	43.8	130 DLHC
Beryllium, dissolved	7440-41-7	E421/WT	0.020	µg/L		<0.020	<0.020	<0.020	<0.020	<0.200 DLHC
Boron, dissolved	7440-42-8	E421/WT	10	µg/L		31	32	23	52	<100 DLHC
Cadmium, dissolved	7440-43-9	E421/WT	0.0050	µg/L		0.0355	0.0389	0.146	0.0083	<0.0500 DLHC
Chromium, dissolved	7440-47-3	E421/WT	0.50	µg/L		1.53	1.54	0.63	0.66	<5.00 DLHC
Cobalt, dissolved	7440-48-4	E421/WT	0.10	µg/L		2.15	2.15	11.2	<0.10	<1.00 DLHC
Copper, dissolved	7440-50-8	E421/WT	0.20	µg/L		4.81	4.72	3.69	1.55	<2.00 DLHC
Lead, dissolved	7439-92-1	E421/WT	0.050	µg/L		<0.050	<0.050	<0.050	<0.050	<0.500 DLHC
Mercury, dissolved	7439-97-6	E509/WT	0.0050	µg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Molybdenum, dissolved	7439-98-7	E421/WT	0.050	µg/L		2.33	2.31	2.52	0.535	<0.500 DLHC
Nickel, dissolved	7440-02-0	E421/WT	0.50	µg/L		2.48	2.51	9.33	<0.50	<5.00 DLHC
Selenium, dissolved	7782-49-2	E421/WT	0.050	µg/L		0.868	0.868	1.21	2.15	1.60 DLHC

Analytical Results

Sub-Matrix: Groundwater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW102 ----	MW107 ----	MW104 ----	MW103D ----	MW106D ----
					Client sampling date / time	09-Mar-2026 15:50	09-Mar-2026 15:55	10-Mar-2026 09:55	10-Mar-2026 12:30	10-Mar-2026 14:20
						WT2605588-001	WT2605588-002	WT2605588-003	WT2605588-004	WT2605588-005
						Result	Result	Result	Result	Result
Dissolved Metals										
Silver, dissolved	7440-22-4	E421/WT	0.010	µg/L		<0.010	<0.010	<0.010	<0.010	<0.100 DLHC
Sodium, dissolved	7440-23-5	E421/WT	50	µg/L		156000	158000	229000	205000	761000 DLHC
Thallium, dissolved	7440-28-0	E421/WT	0.010	µg/L		0.014	0.015	0.022	0.017	<0.100 DLHC
Uranium, dissolved	7440-61-1	E421/WT	0.010	µg/L		1.07	1.08	1.76	0.926	1.47 DLHC
Vanadium, dissolved	7440-62-2	E421/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<5.00 DLHC
Zinc, dissolved	7440-66-6	E421/WT	1.0	µg/L		5.8	5.6	7.0	5.8	11.1 DLHC
Dissolved mercury filtration location	----	EP509/WT	-	-		Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421/WT	-	-		Field	Field	Field	Field	Field
Speciated Metals										
Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A/WT	0.50	µg/L		1.59	1.60	0.74	0.77	1.00
Volatile Organic Compounds										
Acetone	67-64-1	E611D/WT	20	µg/L		<20	<20	<20	<20	<20
Benzene	71-43-2	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Bromodichloromethane	75-27-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Bromoform	75-25-2	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Bromomethane	74-83-9	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Carbon tetrachloride	56-23-5	E611D/WT	0.20	µg/L		<0.20	<0.20	<0.20	<0.20	<0.20
Chlorobenzene	108-90-7	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Chloroform	67-66-3	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dibromochloromethane	124-48-1	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dibromoethane, 1,2-	106-93-4	E611D/WT	0.20	µg/L		<0.20	<0.20	<0.20	<0.20	<0.20

Analytical Results

Sub-Matrix: Groundwater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW102 ----	MW107 ----	MW104 ----	MW103D ----	MW106D ----
					Client sampling date / time	09-Mar-2026 15:50	09-Mar-2026 15:55	10-Mar-2026 09:55	10-Mar-2026 12:30	10-Mar-2026 14:20
						WT2605588-001	WT2605588-002	WT2605588-003	WT2605588-004	WT2605588-005
						Result	Result	Result	Result	Result
Volatile Organic Compounds										
Dichlorobenzene, 1,2-	95-50-1	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,3-	541-73-1	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,4-	106-46-7	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	75-71-8	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethane, 1,1-	75-34-3	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethane, 1,2-	107-06-2	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, 1,1-	75-35-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, cis-1,2-	156-59-2	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	1.06
Dichloroethylene, trans-1,2-	156-60-5	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichloromethane	75-09-2	E611D/WT	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dichloropropane, 1,2-	78-87-5	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichloropropylene, cis-1,3-	10061-01-5	E611D/WT	0.30	µg/L		<0.30	<0.30	<0.30	<0.30	<0.30
Dichloropropylene, cis+trans-1,3-	542-75-6	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichloropropylene, trans-1,3-	10061-02-6	E611D/WT	0.30	µg/L		<0.30	<0.30	<0.30	<0.30	<0.30
Ethylbenzene	100-41-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Hexane, n-	110-54-3	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Methyl ethyl ketone [MEK]	78-93-3	E611D/WT	20	µg/L		<20	<20	<20	<20	<20
Methyl isobutyl ketone [MIBK]	108-10-1	E611D/WT	20	µg/L		<20	<20	<20	<20	<20
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Styrene	100-42-5	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50

Analytical Results

Sub-Matrix: Groundwater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW102 ----	MW107 ----	MW104 ----	MW103D ----	MW106D ----
					Client sampling date / time	09-Mar-2026 15:50	09-Mar-2026 15:55	10-Mar-2026 09:55	10-Mar-2026 12:30	10-Mar-2026 14:20
						WT2605588-001	WT2605588-002	WT2605588-003	WT2605588-004	WT2605588-005
						Result	Result	Result	Result	Result
Volatile Organic Compounds										
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethylene	127-18-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	108-88-3	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethane, 1,1,1-	71-55-6	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	2.13
Trichloroethane, 1,1,2-	79-00-5	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	79-01-6	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	15.3	48.7
Trichlorofluoromethane	75-69-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl chloride	75-01-4	E611D/WT	0.20	µg/L		<0.20	<0.20	<0.20	<0.20	<0.20
Xylene, m+p-	179601-23-1	E611D/WT	0.40	µg/L		<0.40	<0.40	<0.40	<0.40	<0.40
Xylene, o-	95-47-6	E611D/WT	0.30	µg/L		<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes, total	1330-20-7	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
BTEX, total	----	E611D/WT	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Hydrocarbons										
F1 (C6-C10)	----	E581.F1-L/WT	25	µg/L		<25	<25	<25	----	----
F2 (C10-C16)	----	E601.SG/WT	100	µg/L		<100	<100	<100	----	----
F2-Naphthalene	----	EC600SG/WT	100	µg/L		<100	<100	<100	----	----
F3 (C16-C34)	----	E601.SG/WT	250	µg/L		<250	<250	<250	----	----
F3-PAH	n/a	EC600SG/WT	250	µg/L		<250	<250	<250	----	----
F4 (C34-C50)	----	E601.SG/WT	250	µg/L		<250	<250	<250	----	----
F1-BTEX	----	EC580/WT	25	µg/L		<25	<25	<25	----	----
Hydrocarbons, total (C6-C50)	n/a	EC581SG/WT	240	µg/L		<370	<370	<370	----	----

Analytical Results

Sub-Matrix: Groundwater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW102 ----	MW107 ----	MW104 ----	MW103D ----	MW106D ----
					Client sampling date / time	09-Mar-2026 15:50	09-Mar-2026 15:55	10-Mar-2026 09:55	10-Mar-2026 12:30	10-Mar-2026 14:20
						WT2605588-001	WT2605588-002	WT2605588-003	WT2605588-004	WT2605588-005
						Result	Result	Result	Result	Result
Hydrocarbons										
Chromatogram to baseline at nC50	n/a	E601.SG/WT	-	-		YES	YES	YES	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG/WT	1.0	%		92.2	85.2	88.4	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1-L/WT	1.0	%		81.2	91.7	80.6	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611D/WT	1.0	%		92.9	93.6	93.0	103	101
Difluorobenzene, 1,4-	540-36-3	E611D/WT	1.0	%		91.0	91.0	91.3	106	106
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Acenaphthylene	208-96-8	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Anthracene	120-12-7	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Benz(a)anthracene	56-55-3	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Benzo(a)pyrene	50-32-8	E641A/WT	0.0050	µg/L		<0.0050	<0.0050	<0.0050	----	----
Benzo(b+j)fluoranthene	n/a	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Benzo(k)fluoranthene	207-08-9	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Chrysene	218-01-9	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/WT	0.0050	µg/L		<0.0050	<0.0050	<0.0050	----	----
Fluoranthene	206-44-0	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Fluorene	86-73-7	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Indeno(1,2,3-cd)pyrene	193-39-5	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----

Analytical Results

Sub-Matrix: Groundwater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW102 ----	MW107 ----	MW104 ----	MW103D ----	MW106D ----
					Client sampling date / time	09-Mar-2026 15:50	09-Mar-2026 15:55	10-Mar-2026 09:55	10-Mar-2026 12:30	10-Mar-2026 14:20
						WT2605588-001	WT2605588-002	WT2605588-003	WT2605588-004	WT2605588-005
						Result	Result	Result	Result	Result
Polycyclic Aromatic Hydrocarbons										
Methylnaphthalene, 1-	90-12-0	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Methylnaphthalene, 1+2-	----	E641A/WT	0.015	µg/L		<0.015	<0.015	<0.015	----	----
Methylnaphthalene, 2-	91-57-6	E641A/WT	0.010	µg/L		0.013	<0.010	0.012	----	----
Naphthalene	91-20-3	E641A/WT	0.050	µg/L		<0.050	<0.050	<0.050	----	----
Phenanthrene	85-01-8	E641A/WT	0.020	µg/L		<0.020	<0.020	<0.020	----	----
Pyrene	129-00-0	E641A/WT	0.010	µg/L		<0.010	<0.010	<0.010	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/WT	0.1	%		107	104	113	----	----
Naphthalene-d8	1146-65-2	E641A/WT	0.1	%		103	99.0	109	----	----
Phenanthrene-d10	1517-22-2	E641A/WT	0.1	%		108	105	115	----	----
Phthalate Esters										
bis(2-Ethylhexyl) phthalate [DEHP]	117-81-7	E625A/WT	0.60	µg/L		<0.60	1.17	----	----	----
Diethyl phthalate	84-66-2	E625A/WT	0.20	µg/L		<0.20	<0.20	----	----	----
Dimethyl phthalate	131-11-3	E625A/WT	0.20	µg/L		<0.20	<0.20	----	----	----
Semi-Volatile Organics										
Biphenyl	92-52-4	E625A/WT	0.20	µg/L		<0.20	<0.20	----	----	----
bis(2-Chloro-1-methylethyl) ether	108-60-1	E625A/WT	0.40	µg/L		<0.40	<0.40	----	----	----
bis(2-Chloroethyl) ether	111-44-4	E625A/WT	0.40	µg/L		<0.40	<0.40	----	----	----
Chloroaniline, 4-	106-47-8	E625A/WT	0.40	µg/L		<0.40	<0.40	----	----	----
Dichlorobenzidine, 3,3'-	91-94-1	E625A/WT	0.40	µg/L		<0.40	<0.40	----	----	----
Dinitrotoluene, 2,4 + 2,6-	n/a	E625A/WT	0.60	µg/L		<0.60	<0.60	----	----	----

Analytical Results

Sub-Matrix: Groundwater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW102 ----	MW107 ----	MW104 ----	MW103D ----	MW106D ----
					Client sampling date / time	09-Mar-2026 15:50	09-Mar-2026 15:55	10-Mar-2026 09:55	10-Mar-2026 12:30	10-Mar-2026 14:20
						WT2605588-001	WT2605588-002	WT2605588-003	WT2605588-004	WT2605588-005
						Result	Result	Result	Result	Result
Semi-Volatile Organics										
Dinitrotoluene, 2,4-	121-14-2	E625A/WT	0.40	µg/L		<0.40	<0.40	----	----	----
Dinitrotoluene, 2,6-	606-20-2	E625A/WT	0.40	µg/L		<0.40	<0.40	----	----	----
Trichlorobenzene, 1,2,4-	120-82-1	E625A/WT	0.40	µg/L		<0.40	<0.40	----	----	----
Semi-Volatile Organics Surrogates										
Fluorobiphenyl, 2-	321-60-8	E625A/WT	1.0	%		75.9	75.0	----	----	----
Nitrobenzene-d5	4165-60-0	E625A/WT	1.0	%		91.4	92.6	----	----	----
Terphenyl-d14, p-	1718-51-0	E625A/WT	1.0	%		97.7	104	----	----	----
Chlorinated Phenolics										
Chlorophenol, 2-	95-57-8	E625A/WT	0.30	µg/L		<0.30	<0.30	----	----	----
Dichlorophenol, 2,4-	120-83-2	E625A/WT	0.20	µg/L		<0.20	<0.20	----	----	----
Pentachlorophenol [PCP]	87-86-5	E625A/WT	0.50	µg/L		<0.50	<0.50	----	----	----
Trichlorophenol, 2,4,5-	95-95-4	E625A/WT	0.20	µg/L		<0.20	<0.20	----	----	----
Trichlorophenol, 2,4,6-	88-06-2	E625A/WT	0.20	µg/L		<0.20	<0.20	----	----	----
Non-Chlorinated Phenolics										
Dimethylphenol, 2,4-	105-67-9	E625A/WT	0.50	µg/L		<0.50	<0.50	----	----	----
Dinitrophenol, 2,4-	51-28-5	E625A/WT	1.0	µg/L		<1.0	<1.0	----	----	----
Phenol	108-95-2	E625A/WT	0.50	µg/L		<0.50	<0.50	----	----	----
Phenolics Surrogates										
Tribromophenol, 2,4,6-	118-79-6	E625A/WT	0.50	%		89.7	89.0	----	----	----

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

Analytical Results

Sub-Matrix: Groundwater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW105D ----	MW103 ----	MW101 ----	MW104D ----	TRIP BLANK ----
					Client sampling date / time	12-Mar-2026 11:35	12-Mar-2026 14:05	12-Mar-2026 15:00	12-Mar-2026 17:25	12-Mar-2026 00:00
						WT2605588-006	WT2605588-007	WT2605588-008	WT2605588-009	WT2605588-010
						Result	Result	Result	Result	Result
Physical Tests										
Conductivity	----	E100/WT	0.0010	mS/cm		2.60	0.639	3.27	2.07	----
pH	----	E108/WT	0.10	pH units		7.84	8.15	8.04	7.88	----
Anions and Nutrients										
Chloride	16887-00-6	E235.Cl/WT	500	µg/L		625000 DLDS	35500	841000 DLDS	426000 DLDS	----
Cyanides										
Cyanide, weak acid dissociable	----	E336/WT	2.0	µg/L		<2.0	<2.0	<2.0	<2.0	----
Dissolved Metals										
Antimony, dissolved	7440-36-0	E421/WT	0.10	µg/L		<1.00 DLHC	0.14	<1.00 DLHC	1.83	----
Arsenic, dissolved	7440-38-2	E421/WT	0.10	µg/L		<1.00 DLHC	0.29	<1.00 DLHC	2.75	----
Barium, dissolved	7440-39-3	E421/WT	0.10	µg/L		82.1 DLHC	50.3	115 DLHC	96.1	----
Beryllium, dissolved	7440-41-7	E421/WT	0.020	µg/L		<0.200 DLHC	<0.020	<0.200 DLHC	<0.020	----
Boron, dissolved	7440-42-8	E421/WT	10	µg/L		<100 DLHC	65	<100 DLHC	72	----
Cadmium, dissolved	7440-43-9	E421/WT	0.0050	µg/L		<0.0500 DLHC	0.0459	<0.0500 DLHC	0.0524	----
Chromium, dissolved	7440-47-3	E421/WT	0.50	µg/L		<5.00 DLHC	<0.50	<5.00 DLHC	<0.50	----
Cobalt, dissolved	7440-48-4	E421/WT	0.10	µg/L		<1.00 DLHC	3.81	<1.00 DLHC	1.06	----
Copper, dissolved	7440-50-8	E421/WT	0.20	µg/L		<2.00 DLHC	1.27	<2.00 DLHC	0.63	----
Lead, dissolved	7439-92-1	E421/WT	0.050	µg/L		<0.500 DLHC	<0.050	<0.500 DLHC	0.266	----
Mercury, dissolved	7439-97-6	E509/WT	0.0050	µg/L		<0.0050	<0.0050	<0.0050	<0.0050	----
Molybdenum, dissolved	7439-98-7	E421/WT	0.050	µg/L		<0.500 DLHC	0.772	1.18 DLHC	0.844	----
Nickel, dissolved	7440-02-0	E421/WT	0.50	µg/L		<5.00 DLHC	2.75	<5.00 DLHC	3.85	----
Selenium, dissolved	7782-49-2	E421/WT	0.050	µg/L		1.00 DLHC	3.31	0.924 DLHC	8.28	----

Analytical Results

Sub-Matrix: Groundwater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW105D ----	MW103 ----	MW101 ----	MW104D ----	TRIP BLANK ----
					Client sampling date / time	12-Mar-2026 11:35	12-Mar-2026 14:05	12-Mar-2026 15:00	12-Mar-2026 17:25	12-Mar-2026 00:00
						WT2605588-006	WT2605588-007	WT2605588-008	WT2605588-009	WT2605588-010
						Result	Result	Result	Result	Result
Dissolved Metals										
Silver, dissolved	7440-22-4	E421/WT	0.010	µg/L	<0.100 DLHC	<0.010	<0.100 DLHC	<0.010	----	
Sodium, dissolved	7440-23-5	E421/WT	50	µg/L	371000 DLHC	9650	517000 DLHC	270000	----	
Thallium, dissolved	7440-28-0	E421/WT	0.010	µg/L	<0.100 DLHC	0.019	<0.100 DLHC	0.169	----	
Uranium, dissolved	7440-61-1	E421/WT	0.010	µg/L	0.512 DLHC	1.22	1.37 DLHC	5.71	----	
Vanadium, dissolved	7440-62-2	E421/WT	0.50	µg/L	<5.00 DLHC	<0.50	<5.00 DLHC	<0.50	----	
Zinc, dissolved	7440-66-6	E421/WT	1.0	µg/L	<10.0 DLHC	5.4	16.5 DLHC	46.8	----	
Dissolved mercury filtration location	----	EP509/WT	-	-	Field	Field	Field	Field	----	
Dissolved metals filtration location	----	EP421/WT	-	-	Field	Field	Field	Field	----	
Speciated Metals										
Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A/WT	0.50	µg/L	1.18	0.65	1.13	<0.50	----	
Volatile Organic Compounds										
Acetone	67-64-1	E611D/WT	20	µg/L	<20	<20	29	<20	<20	
Benzene	71-43-2	E611D/WT	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
Bromodichloromethane	75-27-4	E611D/WT	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
Bromoform	75-25-2	E611D/WT	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
Bromomethane	74-83-9	E611D/WT	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
Carbon tetrachloride	56-23-5	E611D/WT	0.20	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	
Chlorobenzene	108-90-7	E611D/WT	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
Chloroform	67-66-3	E611D/WT	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
Dibromochloromethane	124-48-1	E611D/WT	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	
Dibromoethane, 1,2-	106-93-4	E611D/WT	0.20	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	

Analytical Results

Sub-Matrix: Groundwater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW105D ----	MW103 ----	MW101 ----	MW104D ----	TRIP BLANK ----
					Client sampling date / time	12-Mar-2026 11:35	12-Mar-2026 14:05	12-Mar-2026 15:00	12-Mar-2026 17:25	12-Mar-2026 00:00
						WT2605588-006	WT2605588-007	WT2605588-008	WT2605588-009	WT2605588-010
						Result	Result	Result	Result	Result
Volatile Organic Compounds										
Dichlorobenzene, 1,2-	95-50-1	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,3-	541-73-1	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorobenzene, 1,4-	106-46-7	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichlorodifluoromethane	75-71-8	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethane, 1,1-	75-34-3	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	1.72	<0.50
Dichloroethane, 1,2-	107-06-2	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichloroethylene, 1,1-	75-35-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	1.12	<0.50
Dichloroethylene, cis-1,2-	156-59-2	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	22.4	<0.50
Dichloroethylene, trans-1,2-	156-60-5	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	1.02	<0.50
Dichloromethane	75-09-2	E611D/WT	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Dichloropropane, 1,2-	78-87-5	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichloropropylene, cis-1,3-	10061-01-5	E611D/WT	0.30	µg/L		<0.30	<0.30	<0.30	<0.30	<0.30
Dichloropropylene, cis+trans-1,3-	542-75-6	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Dichloropropylene, trans-1,3-	10061-02-6	E611D/WT	0.30	µg/L		<0.30	<0.30	<0.30	<0.30	<0.30
Ethylbenzene	100-41-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Hexane, n-	110-54-3	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Methyl ethyl ketone [MEK]	78-93-3	E611D/WT	20	µg/L		<20	<20	<20	<20	<20
Methyl isobutyl ketone [MIBK]	108-10-1	E611D/WT	20	µg/L		<20	<20	<20	<20	<20
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Styrene	100-42-5	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50

Analytical Results

Sub-Matrix: Groundwater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW105D ----	MW103 ----	MW101 ----	MW104D ----	TRIP BLANK ----
					Client sampling date / time	12-Mar-2026 11:35	12-Mar-2026 14:05	12-Mar-2026 15:00	12-Mar-2026 17:25	12-Mar-2026 00:00
						WT2605588-006	WT2605588-007	WT2605588-008	WT2605588-009	WT2605588-010
						Result	Result	Result	Result	Result
Volatile Organic Compounds										
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Tetrachloroethylene	127-18-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Toluene	108-88-3	E611D/WT	0.50	µg/L		<0.50	<0.50	0.81	<0.50	<0.50
Trichloroethane, 1,1,1-	71-55-6	E611D/WT	0.50	µg/L		0.77	<0.50	0.70	1.58	<0.50
Trichloroethane, 1,1,2-	79-00-5	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Trichloroethylene	79-01-6	E611D/WT	0.50	µg/L		12.6	<0.50	14.4	249	<0.50
Trichlorofluoromethane	75-69-4	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
Vinyl chloride	75-01-4	E611D/WT	0.20	µg/L		<0.20	<0.20	<0.20	<0.20	<0.20
Xylene, m+p-	179601-23-1	E611D/WT	0.40	µg/L		<0.40	<0.40	<0.40	<0.40	<0.40
Xylene, o-	95-47-6	E611D/WT	0.30	µg/L		<0.30	<0.30	<0.30	<0.30	<0.30
Xylenes, total	1330-20-7	E611D/WT	0.50	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50
BTEX, total	----	E611D/WT	1.0	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0
Hydrocarbons										
F1 (C6-C10)	----	E581.F1-L/WT	25	µg/L		----	<25	<25	----	<25
F2 (C10-C16)	----	E601.SG/WT	100	µg/L		----	<100	<100	----	----
F2-Naphthalene	----	EC600SG/WT	100	µg/L		----	<100	<100	----	----
F3 (C16-C34)	----	E601.SG/WT	250	µg/L		----	<250	<250	----	----
F3-PAH	n/a	EC600SG/WT	250	µg/L		----	<250	<250	----	----
F4 (C34-C50)	----	E601.SG/WT	250	µg/L		----	<250	<250	----	----
F1-BTEX	----	EC580/WT	25	µg/L		----	<25	<25	----	<25
Hydrocarbons, total (C6-C50)	n/a	EC581SG/WT	240	µg/L		----	<370	<370	----	----

Analytical Results

Sub-Matrix: Groundwater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW105D ----	MW103 ----	MW101 ----	MW104D ----	TRIP BLANK ----
					Client sampling date / time	12-Mar-2026 11:35	12-Mar-2026 14:05	12-Mar-2026 15:00	12-Mar-2026 17:25	12-Mar-2026 00:00
						WT2605588-006	WT2605588-007	WT2605588-008	WT2605588-009	WT2605588-010
						Result	Result	Result	Result	Result
Hydrocarbons										
Chromatogram to baseline at nC50	n/a	E601.SG/WT	-	-		----	YES	YES	----	----
Hydrocarbons Surrogates										
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG/WT	1.0	%		----	82.3	79.8	----	----
Dichlorotoluene, 3,4-	95-75-0	E581.F1-L/WT	1.0	%		----	89.2	83.1	----	89.8
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611D/WT	1.0	%		101	93.0	91.4	103	91.6
Difluorobenzene, 1,4-	540-36-3	E611D/WT	1.0	%		105	90.8	91.3	106	91.3
Polycyclic Aromatic Hydrocarbons										
Acenaphthene	83-32-9	E641A/WT	0.010	µg/L		----	<0.010	<0.010	----	----
Acenaphthylene	208-96-8	E641A/WT	0.010	µg/L		----	<0.010	<0.010	----	----
Anthracene	120-12-7	E641A/WT	0.010	µg/L		----	<0.010	<0.010	----	----
Benz(a)anthracene	56-55-3	E641A/WT	0.010	µg/L		----	<0.010	<0.010	----	----
Benzo(a)pyrene	50-32-8	E641A/WT	0.0050	µg/L		----	<0.0050	<0.0050	----	----
Benzo(b+j)fluoranthene	n/a	E641A/WT	0.010	µg/L		----	<0.010	<0.010	----	----
Benzo(g,h,i)perylene	191-24-2	E641A/WT	0.010	µg/L		----	<0.010	<0.010	----	----
Benzo(k)fluoranthene	207-08-9	E641A/WT	0.010	µg/L		----	<0.010	<0.010	----	----
Chrysene	218-01-9	E641A/WT	0.010	µg/L		----	<0.010	<0.010	----	----
Dibenz(a,h)anthracene	53-70-3	E641A/WT	0.0050	µg/L		----	<0.0050	<0.0050	----	----
Fluoranthene	206-44-0	E641A/WT	0.010	µg/L		----	<0.010	<0.010	----	----
Fluorene	86-73-7	E641A/WT	0.010	µg/L		----	<0.010	<0.010	----	----
Indeno(1,2,3-cd)pyrene	193-39-5	E641A/WT	0.010	µg/L		----	<0.010	<0.010	----	----

Analytical Results

Sub-Matrix: Groundwater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW105D ----	MW103 ----	MW101 ----	MW104D ----	TRIP BLANK ----
					Client sampling date / time	12-Mar-2026 11:35	12-Mar-2026 14:05	12-Mar-2026 15:00	12-Mar-2026 17:25	12-Mar-2026 00:00
						WT2605588-006	WT2605588-007	WT2605588-008	WT2605588-009	WT2605588-010
						Result	Result	Result	Result	Result
Polycyclic Aromatic Hydrocarbons										
Methylnaphthalene, 1-	90-12-0	E641A/WT	0.010	µg/L		----	<0.010	<0.010	----	----
Methylnaphthalene, 1+2-	----	E641A/WT	0.015	µg/L		----	<0.015	<0.015	----	----
Methylnaphthalene, 2-	91-57-6	E641A/WT	0.010	µg/L		----	<0.010	<0.010	----	----
Naphthalene	91-20-3	E641A/WT	0.050	µg/L		----	<0.050	<0.050	----	----
Phenanthrene	85-01-8	E641A/WT	0.020	µg/L		----	<0.020	<0.020	----	----
Pyrene	129-00-0	E641A/WT	0.010	µg/L		----	<0.010	<0.010	----	----
Polycyclic Aromatic Hydrocarbons Surrogates										
Chrysene-d12	1719-03-5	E641A/WT	0.1	%		----	105	101	----	----
Naphthalene-d8	1146-65-2	E641A/WT	0.1	%		----	101	96.5	----	----
Phenanthrene-d10	1517-22-2	E641A/WT	0.1	%		----	108	103	----	----
Phthalate Esters										
bis(2-Ethylhexyl) phthalate [DEHP]	117-81-7	E625A/WT	0.60	µg/L		----	<0.60	----	----	----
Diethyl phthalate	84-66-2	E625A/WT	0.20	µg/L		----	0.36	----	----	----
Dimethyl phthalate	131-11-3	E625A/WT	0.20	µg/L		----	<0.20	----	----	----
Semi-Volatile Organics										
Biphenyl	92-52-4	E625A/WT	0.20	µg/L		----	<0.20	----	----	----
bis(2-Chloro-1-methylethyl) ether	108-60-1	E625A/WT	0.40	µg/L		----	<0.40	----	----	----
bis(2-Chloroethyl) ether	111-44-4	E625A/WT	0.40	µg/L		----	<0.40	----	----	----
Chloroaniline, 4-	106-47-8	E625A/WT	0.40	µg/L		----	<0.40	----	----	----
Dichlorobenzidine, 3,3'-	91-94-1	E625A/WT	0.40	µg/L		----	<0.40	----	----	----
Dinitrotoluene, 2,4 + 2,6-	n/a	E625A/WT	0.60	µg/L		----	<0.60	----	----	----

Analytical Results

Sub-Matrix: Groundwater
(Matrix: Water)

Analyte	CAS Number	Method/Lab	LOR	Unit	Client sample ID	MW105D ----	MW103 ----	MW101 ----	MW104D ----	TRIP BLANK ----
					Client sampling date / time	12-Mar-2026 11:35	12-Mar-2026 14:05	12-Mar-2026 15:00	12-Mar-2026 17:25	12-Mar-2026 00:00
						WT2605588-006	WT2605588-007	WT2605588-008	WT2605588-009	WT2605588-010
						Result	Result	Result	Result	Result
Semi-Volatile Organics										
Dinitrotoluene, 2,4-	121-14-2	E625A/WT	0.40	µg/L	----	<0.40	----	----	----	
Dinitrotoluene, 2,6-	606-20-2	E625A/WT	0.40	µg/L	----	<0.40	----	----	----	
Trichlorobenzene, 1,2,4-	120-82-1	E625A/WT	0.40	µg/L	----	<0.40	----	----	----	
Semi-Volatile Organics Surrogates										
Fluorobiphenyl, 2-	321-60-8	E625A/WT	1.0	%	----	79.1	----	----	----	
Nitrobenzene-d5	4165-60-0	E625A/WT	1.0	%	----	88.2	----	----	----	
Terphenyl-d14, p-	1718-51-0	E625A/WT	1.0	%	----	97.6	----	----	----	
Chlorinated Phenolics										
Chlorophenol, 2-	95-57-8	E625A/WT	0.30	µg/L	----	<0.30	----	----	----	
Dichlorophenol, 2,4-	120-83-2	E625A/WT	0.20	µg/L	----	<0.20	----	----	----	
Pentachlorophenol [PCP]	87-86-5	E625A/WT	0.50	µg/L	----	<0.50	----	----	----	
Trichlorophenol, 2,4,5-	95-95-4	E625A/WT	0.20	µg/L	----	<0.20	----	----	----	
Trichlorophenol, 2,4,6-	88-06-2	E625A/WT	0.20	µg/L	----	<0.20	----	----	----	
Non-Chlorinated Phenolics										
Dimethylphenol, 2,4-	105-67-9	E625A/WT	0.50	µg/L	----	<0.50	----	----	----	
Dinitrophenol, 2,4-	51-28-5	E625A/WT	1.0	µg/L	----	<1.0	----	----	----	
Phenol	108-95-2	E625A/WT	0.50	µg/L	----	<0.50	----	----	----	
Phenolics Surrogates										
Tribromophenol, 2,4,6-	118-79-6	E625A/WT	0.50	%	----	94.4	----	----	----	

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

ALS Canada Ltd.

Quality Control Interpretive Report

Work Order	:	**WT2605588**			
Client	:	Jacobs Consultancy Canada Inc.	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Lindsay Shaw	Account Manager	:	Mathy Mahadeva
Address	:	201-165 King St. W. Kitchener ON Canada N2G 1A7	Address	:	60 Northland Road, Unit 1 Waterloo Ontario Canada N2V 2B8
Telephone	:	----	Telephone	:	+1 519 886 6910
Project	:	COG14EDN.K.CS.TPE.05	Date Samples Received	:	13-Mar-2026 11:45
PO	:	----	Issue Date	:	21-Mar-2026 01:52
C-O-C number	:	----			
Sampler	:	JG			
Site	:	----			
Quote number	:	Ontario Jacobs Standing Offer 2026			
No. of samples received	:	10			
No. of samples analysed	:	10			

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 Services 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.
- Laboratory Control Sample (LCS) outliers occur - please see following pages for full details.
- No Laboratory Control Sample Duplicate (LCSD) outliers occur
- No Matrix Spike outliers occur.
- No Matrix Spike Duplicate (MSD) outliers occur.
- 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

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix :**Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result		Limits	Comment
Laboratory Control Sample (LCS) Recoveries									
Semi-Volatile Organics	QC-MRG2-2500907-002	----	Dichlorobenzidine, 3,3'-	91-94-1	E625A	47.6 %	LCS-ND	50.0-140%	Recovery less than lower control limit

Result Qualifiers

Qualifier	Description
LCS-ND	*Lab Control Sample recovery was slightly outside ALS DQO. Reported non-detect results for associated samples were unaffected.*

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: Water

Evaluation: × = Holding time exceedance; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Anions and Nutrients : Chloride in Water by IC												
HDPE [ON MECP]												
MW102	001	2501455	E235.Cl	09-Mar-2026	18-Mar-2026	28 days	9 days	✓	19-Mar-2026	28 days	10 days	✓
MW107	002	2501455	E235.Cl	09-Mar-2026	18-Mar-2026	28 days	9 days	✓	19-Mar-2026	28 days	10 days	✓
MW104	003	2501455	E235.Cl	10-Mar-2026	18-Mar-2026	28 days	8 days	✓	19-Mar-2026	28 days	9 days	✓
MW103D	004	2501455	E235.Cl	10-Mar-2026	18-Mar-2026	28 days	8 days	✓	19-Mar-2026	28 days	9 days	✓
MW106D	005	2501455	E235.Cl	10-Mar-2026	18-Mar-2026	28 days	8 days	✓	19-Mar-2026	28 days	9 days	✓
MW105D	006	2501455	E235.Cl	12-Mar-2026	18-Mar-2026	28 days	6 days	✓	19-Mar-2026	28 days	7 days	✓
MW103	007	2501455	E235.Cl	12-Mar-2026	18-Mar-2026	28 days	6 days	✓	19-Mar-2026	28 days	7 days	✓
MW101	008	2501455	E235.Cl	12-Mar-2026	18-Mar-2026	28 days	6 days	✓	19-Mar-2026	28 days	7 days	✓
MW104D	009	2501455	E235.Cl	12-Mar-2026	18-Mar-2026	28 days	6 days	✓	19-Mar-2026	28 days	7 days	✓
Chlorinated Phenolics : BNA (Routine List) by GC-MS-MS												
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP]												
MW102	001	2500907	E625A	09-Mar-2026	18-Mar-2026	14 days	9 days	✓	18-Mar-2026	40 days	0 days	✓
MW107	002	2500907	E625A	09-Mar-2026	18-Mar-2026	14 days	9 days	✓	18-Mar-2026	40 days	0 days	✓

Matrix: Water

Evaluation: × = Holding time exceedance; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Chlorinated Phenolics : BNA (Routine List) by GC-MS-MS												
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP]												
MW103	007	2500907	E625A	12-Mar-2026	18-Mar-2026	14 days	6 days	✓	18-Mar-2026	40 days	0 days	✓
Cyanides : WAD Cyanide												
Opaque HDPE - total (sodium hydroxide)												
MW102	001	2495029	E336	09-Mar-2026	16-Mar-2026	14 days	7 days	✓	16-Mar-2026	14 days	7 days	✓
MW107	002	2495029	E336	09-Mar-2026	16-Mar-2026	14 days	7 days	✓	16-Mar-2026	14 days	7 days	✓
MW104	003	2495029	E336	10-Mar-2026	16-Mar-2026	14 days	6 days	✓	16-Mar-2026	14 days	6 days	✓
MW103D	004	2495029	E336	10-Mar-2026	16-Mar-2026	14 days	6 days	✓	16-Mar-2026	14 days	6 days	✓
MW106D	005	2495029	E336	10-Mar-2026	16-Mar-2026	14 days	6 days	✓	16-Mar-2026	14 days	6 days	✓
MW105D	006	2495029	E336	12-Mar-2026	16-Mar-2026	14 days	4 days	✓	16-Mar-2026	14 days	4 days	✓
MW103	007	2495029	E336	12-Mar-2026	16-Mar-2026	14 days	4 days	✓	16-Mar-2026	14 days	4 days	✓
MW101	008	2495029	E336	12-Mar-2026	16-Mar-2026	14 days	4 days	✓	16-Mar-2026	14 days	4 days	✓
MW104D	009	2495029	E336	12-Mar-2026	16-Mar-2026	14 days	4 days	✓	16-Mar-2026	14 days	4 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS												
Glass vial dissolved (hydrochloric acid)												
MW102	001	2495052	E509	09-Mar-2026	16-Mar-2026	28 days	7 days	✓	16-Mar-2026	28 days	7 days	✓
MW107	002	2495052	E509	09-Mar-2026	16-Mar-2026	28 days	7 days	✓	16-Mar-2026	28 days	7 days	✓
MW104	003	2495052	E509	10-Mar-2026	16-Mar-2026	28 days	6 days	✓	16-Mar-2026	28 days	6 days	✓
MW103D	004	2495052	E509	10-Mar-2026	16-Mar-2026	28 days	6 days	✓	16-Mar-2026	28 days	6 days	✓
MW106D	005	2495052	E509	10-Mar-2026	16-Mar-2026	28 days	6 days	✓	16-Mar-2026	28 days	6 days	✓

Matrix: Water

Evaluation: × = Holding time exceedance; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Mercury in Water by CVAAS												
Glass vial dissolved (hydrochloric acid)												
MW105D	006	2495052	E509	12-Mar-2026	16-Mar-2026	28 days	4 days	✓	16-Mar-2026	28 days	4 days	✓
MW103	007	2495052	E509	12-Mar-2026	16-Mar-2026	28 days	4 days	✓	16-Mar-2026	28 days	4 days	✓
MW101	008	2495052	E509	12-Mar-2026	16-Mar-2026	28 days	4 days	✓	16-Mar-2026	28 days	4 days	✓
MW104D	009	2495052	E509	12-Mar-2026	16-Mar-2026	28 days	4 days	✓	16-Mar-2026	28 days	4 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS												
HDPE dissolved (nitric acid)												
MW102	001	2495287	E421	09-Mar-2026	16-Mar-2026	180 days	7 days	✓	16-Mar-2026	180 days	7 days	✓
MW107	002	2495287	E421	09-Mar-2026	16-Mar-2026	180 days	7 days	✓	16-Mar-2026	180 days	7 days	✓
MW104	003	2495287	E421	10-Mar-2026	16-Mar-2026	180 days	6 days	✓	16-Mar-2026	180 days	6 days	✓
MW103D	004	2495287	E421	10-Mar-2026	16-Mar-2026	180 days	6 days	✓	16-Mar-2026	180 days	6 days	✓
MW106D	005	2495287	E421	10-Mar-2026	16-Mar-2026	180 days	6 days	✓	16-Mar-2026	180 days	6 days	✓
MW105D	006	2495287	E421	12-Mar-2026	16-Mar-2026	180 days	4 days	✓	16-Mar-2026	180 days	4 days	✓
MW103	007	2495287	E421	12-Mar-2026	16-Mar-2026	180 days	4 days	✓	16-Mar-2026	180 days	4 days	✓
MW101	008	2495287	E421	12-Mar-2026	16-Mar-2026	180 days	4 days	✓	16-Mar-2026	180 days	4 days	✓
MW104D	009	2495287	E421	12-Mar-2026	16-Mar-2026	180 days	4 days	✓	16-Mar-2026	180 days	4 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID (Low Level)												
Glass vial (sodium bisulfate)												
MW102	001	2496091	E581.F1-L	09-Mar-2026	17-Mar-2026	14 days	7 days	✓	17-Mar-2026	14 days	7 days	✓
MW107	002	2496091	E581.F1-L	09-Mar-2026	17-Mar-2026	14 days	7 days	✓	17-Mar-2026	14 days	7 days	✓

Matrix: Water

Evaluation: × = Holding time exceedance; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID (Low Level)												
Glass vial (sodium bisulfate)												
MW104	003	2496091	E581.F1-L	10-Mar-2026	17-Mar-2026	14 days	6 days	✓	17-Mar-2026	14 days	6 days	✓
MW103	007	2496091	E581.F1-L	12-Mar-2026	17-Mar-2026	14 days	4 days	✓	17-Mar-2026	14 days	4 days	✓
MW101	008	2496091	E581.F1-L	12-Mar-2026	17-Mar-2026	14 days	4 days	✓	17-Mar-2026	14 days	4 days	✓
TRIP BLANK	010	2496091	E581.F1-L	12-Mar-2026	17-Mar-2026	14 days	5 days	✓	17-Mar-2026	14 days	5 days	✓
Hydrocarbons : Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID												
Amber glass/Teflon lined cap (sodium bisulfate)												
MW102	001	2502642	E601.SG	09-Mar-2026	19-Mar-2026	14 days	10 days	✓	20-Mar-2026	40 days	0 days	✓
MW107	002	2502642	E601.SG	09-Mar-2026	19-Mar-2026	14 days	10 days	✓	20-Mar-2026	40 days	0 days	✓
MW104	003	2502642	E601.SG	10-Mar-2026	19-Mar-2026	14 days	9 days	✓	20-Mar-2026	40 days	0 days	✓
MW103	007	2502642	E601.SG	12-Mar-2026	19-Mar-2026	14 days	7 days	✓	20-Mar-2026	40 days	0 days	✓
MW101	008	2502642	E601.SG	12-Mar-2026	19-Mar-2026	14 days	7 days	✓	20-Mar-2026	40 days	0 days	✓
Non-Chlorinated Phenolics : BNA (Routine List) by GC-MS-MS												
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP]												
MW102	001	2500907	E625A	09-Mar-2026	18-Mar-2026	14 days	9 days	✓	18-Mar-2026	40 days	0 days	✓
MW107	002	2500907	E625A	09-Mar-2026	18-Mar-2026	14 days	9 days	✓	18-Mar-2026	40 days	0 days	✓
MW103	007	2500907	E625A	12-Mar-2026	18-Mar-2026	14 days	6 days	✓	18-Mar-2026	40 days	0 days	✓
Phthalate Esters : BNA (Routine List) by GC-MS-MS												
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP]												
MW102	001	2500907	E625A	09-Mar-2026	18-Mar-2026	14 days	9 days	✓	18-Mar-2026	40 days	0 days	✓

Matrix: Water

Evaluation: × = Holding time exceedance; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Phthalate Esters : BNA (Routine List) by GC-MS-MS												
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP]												
MW107	002	2500907	E625A	09-Mar-2026	18-Mar-2026	14 days	9 days	✓	18-Mar-2026	40 days	0 days	✓
MW103	007	2500907	E625A	12-Mar-2026	18-Mar-2026	14 days	6 days	✓	18-Mar-2026	40 days	0 days	✓
Physical Tests : Conductivity in Water												
HDPE [ON MECP]												
MW102	001	2501460	E100	09-Mar-2026	18-Mar-2026	28 days	9 days	✓	19-Mar-2026	28 days	10 days	✓
MW107	002	2501460	E100	09-Mar-2026	18-Mar-2026	28 days	9 days	✓	19-Mar-2026	28 days	10 days	✓
MW104	003	2501460	E100	10-Mar-2026	18-Mar-2026	28 days	8 days	✓	19-Mar-2026	28 days	9 days	✓
MW103D	004	2501460	E100	10-Mar-2026	18-Mar-2026	28 days	8 days	✓	19-Mar-2026	28 days	9 days	✓
MW106D	005	2501460	E100	10-Mar-2026	18-Mar-2026	28 days	8 days	✓	19-Mar-2026	28 days	9 days	✓
MW105D	006	2501460	E100	12-Mar-2026	18-Mar-2026	28 days	6 days	✓	19-Mar-2026	28 days	7 days	✓
MW103	007	2501460	E100	12-Mar-2026	18-Mar-2026	28 days	6 days	✓	19-Mar-2026	28 days	7 days	✓
MW101	008	2501460	E100	12-Mar-2026	18-Mar-2026	28 days	6 days	✓	19-Mar-2026	28 days	7 days	✓
MW104D	009	2501460	E100	12-Mar-2026	18-Mar-2026	28 days	6 days	✓	19-Mar-2026	28 days	7 days	✓
Physical Tests : pH by Meter												
HDPE [ON MECP]												
MW102	001	2501461	E108	09-Mar-2026	18-Mar-2026	14 days	9 days	✓	19-Mar-2026	14 days	10 days	✓
MW107	002	2501461	E108	09-Mar-2026	18-Mar-2026	14 days	9 days	✓	19-Mar-2026	14 days	10 days	✓
MW104	003	2501461	E108	10-Mar-2026	18-Mar-2026	14 days	8 days	✓	19-Mar-2026	14 days	9 days	✓
MW103D	004	2501461	E108	10-Mar-2026	18-Mar-2026	14 days	8 days	✓	19-Mar-2026	14 days	9 days	✓

Matrix: Water

Evaluation: × = Holding time exceedance; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter												
HDPE [ON MECP]												
MW106D	005	2501461	E108	10-Mar-2026	18-Mar-2026	14 days	8 days	✓	19-Mar-2026	14 days	9 days	✓
MW105D	006	2501461	E108	12-Mar-2026	18-Mar-2026	14 days	6 days	✓	19-Mar-2026	14 days	7 days	✓
MW103	007	2501461	E108	12-Mar-2026	18-Mar-2026	14 days	6 days	✓	19-Mar-2026	14 days	7 days	✓
MW101	008	2501461	E108	12-Mar-2026	18-Mar-2026	14 days	6 days	✓	19-Mar-2026	14 days	7 days	✓
MW104D	009	2501461	E108	12-Mar-2026	18-Mar-2026	14 days	6 days	✓	19-Mar-2026	14 days	7 days	✓
Polycyclic Aromatic Hydrocarbons : PAHs in Water by Hexane LVI GC-MS												
Amber glass/Teflon lined cap (sodium bisulfate)												
MW102	001	2502640	E641A	09-Mar-2026	19-Mar-2026	14 days	10 days	✓	20-Mar-2026	40 days	1 days	✓
MW107	002	2502640	E641A	09-Mar-2026	19-Mar-2026	14 days	10 days	✓	20-Mar-2026	40 days	1 days	✓
MW104	003	2502640	E641A	10-Mar-2026	19-Mar-2026	14 days	9 days	✓	20-Mar-2026	40 days	1 days	✓
MW103	007	2502640	E641A	12-Mar-2026	19-Mar-2026	14 days	7 days	✓	20-Mar-2026	40 days	1 days	✓
MW101	008	2502640	E641A	12-Mar-2026	19-Mar-2026	14 days	7 days	✓	20-Mar-2026	40 days	1 days	✓
Semi-Volatile Organics : BNA (Routine List) by GC-MS-MS												
Amber glass/Teflon lined septa cap - SVOCs (sodium thiosulfate) [ON MECP]												
MW102	001	2500907	E625A	09-Mar-2026	18-Mar-2026	14 days	9 days	✓	18-Mar-2026	40 days	0 days	✓
MW107	002	2500907	E625A	09-Mar-2026	18-Mar-2026	14 days	9 days	✓	18-Mar-2026	40 days	0 days	✓
MW103	007	2500907	E625A	12-Mar-2026	18-Mar-2026	14 days	6 days	✓	18-Mar-2026	40 days	0 days	✓

Matrix: Water

Evaluation: × = Holding time exceedance; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Speciated Metals : Dissolved Hexavalent Chromium (Cr VI) by IC												
Opaque HDPE - dissolved Cr(VI) (NaOH+Buf) [ON MECP]												
MW102	001	2495124	E532A	09-Mar-2026	----	----	----		16-Mar-2026	28 days	7 days	✓
MW107	002	2495124	E532A	09-Mar-2026	----	----	----		16-Mar-2026	28 days	7 days	✓
MW104	003	2495124	E532A	10-Mar-2026	----	----	----		16-Mar-2026	28 days	6 days	✓
MW103D	004	2495629	E532A	10-Mar-2026	----	----	----		17-Mar-2026	28 days	7 days	✓
MW106D	005	2495629	E532A	10-Mar-2026	----	----	----		17-Mar-2026	28 days	7 days	✓
MW105D	006	2495629	E532A	12-Mar-2026	----	----	----		17-Mar-2026	28 days	5 days	✓
MW103	007	2495629	E532A	12-Mar-2026	----	----	----		17-Mar-2026	28 days	5 days	✓
MW101	008	2495629	E532A	12-Mar-2026	----	----	----		17-Mar-2026	28 days	5 days	✓
MW104D	009	2495629	E532A	12-Mar-2026	----	----	----		17-Mar-2026	28 days	5 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS												
Glass vial (sodium bisulfate)												
MW102	001	2496090	E611D	09-Mar-2026	17-Mar-2026	14 days	7 days	✓	17-Mar-2026	14 days	7 days	✓
MW107	002	2496090	E611D	09-Mar-2026	17-Mar-2026	14 days	7 days	✓	17-Mar-2026	14 days	7 days	✓
MW104	003	2496090	E611D	10-Mar-2026	17-Mar-2026	14 days	6 days	✓	17-Mar-2026	14 days	7 days	✓
MW103D	004	2495491	E611D	10-Mar-2026	16-Mar-2026	14 days	6 days	✓	16-Mar-2026	14 days	6 days	✓
MW106D	005	2495491	E611D	10-Mar-2026	16-Mar-2026	14 days	6 days	✓	16-Mar-2026	14 days	6 days	✓
MW105D	006	2495491	E611D	12-Mar-2026	16-Mar-2026	14 days	4 days	✓	16-Mar-2026	14 days	4 days	✓
MW103	007	2496090	E611D	12-Mar-2026	17-Mar-2026	14 days	4 days	✓	17-Mar-2026	14 days	4 days	✓

Matrix: Water

Evaluation: × = Holding time exceedance; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS												
Glass vial (sodium bisulfate)												
MW101	008	2496090	E611D	12-Mar-2026	17-Mar-2026	14 days	4 days	✓	17-Mar-2026	14 days	4 days	✓
MW101	008	2496090	E611D	12-Mar-2026	17-Mar-2026	14 days	4 days	✓	17-Mar-2026	14 days	4 days	✓
MW104D	009	2495491	E611D	12-Mar-2026	16-Mar-2026	14 days	4 days	✓	16-Mar-2026	14 days	4 days	✓
TRIP BLANK	010	2496090	E611D	12-Mar-2026	17-Mar-2026	14 days	5 days	✓	17-Mar-2026	14 days	5 days	✓

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: Water

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Conductivity in Water	E100	2501460	1	14	7.1	5.0	✓
pH by Meter	E108	2501461	1	15	6.7	5.0	✓
Chloride in Water by IC	E235.Cl	2501455	1	20	5.0	5.0	✓
WAD Cyanide	E336	2495029	1	10	10.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	2495287	1	10	10.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2495052	1	10	10.0	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	2495124	2	27	7.4	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L	2496091	1	6	16.7	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	2496090	2	31	6.5	5.0	✓
Laboratory Control Samples (LCS)							
Conductivity in Water	E100	2501460	1	14	7.1	5.0	✓
pH by Meter	E108	2501461	1	15	6.7	5.0	✓
Chloride in Water by IC	E235.Cl	2501455	1	20	5.0	5.0	✓
WAD Cyanide	E336	2495029	1	10	10.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	2495287	1	10	10.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2495052	1	10	10.0	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	2495124	2	27	7.4	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L	2496091	1	6	16.7	5.0	✓
Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID	E601.SG	2502642	1	16	6.2	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	2496090	2	31	6.5	5.0	✓
BNA (Routine List) by GC-MS-MS	E625A	2500907	1	4	25.0	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	2502640	1	8	12.5	5.0	✓
Method Blanks (MB)							
Conductivity in Water	E100	2501460	1	14	7.1	5.0	✓
Chloride in Water by IC	E235.Cl	2501455	1	20	5.0	5.0	✓
WAD Cyanide	E336	2495029	1	10	10.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	2495287	1	10	10.0	5.0	✓

Matrix: Water

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Method Blanks (MB)							
Dissolved Mercury in Water by CVAAS	E509	2495052	1	10	10.0	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	2495124	2	27	7.4	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L	2496091	1	6	16.7	5.0	✓
Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID	E601.SG	2502642	1	16	6.2	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	2496090	2	31	6.5	5.0	✓
BNA (Routine List) by GC-MS-MS	E625A	2500907	1	4	25.0	5.0	✓
PAHs in Water by Hexane LVI GC-MS	E641A	2502640	1	8	12.5	5.0	✓
Matrix Spikes (MS)							
Chloride in Water by IC	E235.Cl	2501455	1	20	5.0	5.0	✓
WAD Cyanide	E336	2495029	1	10	10.0	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	2495287	1	10	10.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2495052	1	10	10.0	5.0	✓
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A	2495124	2	27	7.4	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L	2496091	1	6	16.7	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	2496090	2	31	6.5	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
BNA (Routine List) by GC-MS-MS	E625A ALS Environmental - Waterloo	Water	EPA 8270E (mod)	BNA are analyzed by GC-MS-MS.
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1 (mod)	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. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
Chloride in Water by IC	E235.Cl ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Conductivity in Water	E100 ALS Environmental - Waterloo	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
Conductivity Screen (Internal Use Only)	ES100 ALS Environmental - Waterloo	Water	APHA 2510 (mod)	Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.
Dissolved Hexavalent Chromium (Cr VI) by IC	E532A ALS Environmental - Waterloo	Water	APHA 3500-Cr C (Ion Chromatography)	Hexavalent Chromium is measured by Ion chromatography-Post column reaction and UV detection. sample pretreatment involved field or lab filtration following by sample preservation.
Dissolved Mercury in Water by CVAAS	E509 ALS Environmental - Waterloo	Water	APHA 3030B/EPA 1631E (mod)	Water samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Waterloo	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
F1-BTEX	EC580 ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
F2-F4 (sg) minus PAH	EC600SG ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1	F2-F4 (sg) minus PAH is calculated as follows: F2-F4 minus PAH = Sum of CCME Fraction 2 (C10-C16), CCME Fraction 3 (C16-C34), and CCME Fraction 4 (C34-C50), minus select Polycyclic Aromatic Hydrocarbons (PAH).
PAHs in Water by Hexane LVI GC-MS	E641A ALS Environmental - Waterloo	Water	EPA 8270E (mod)	Polycyclic Aromatic Hydrocarbons (PAHs) are analyzed by large-volume injection (LVI) GC-MS. Totals and sub-totals (e.g., ΣPAH, low and high MW PAHs) are reported as the sum of the individual target compounds detected; the detection limit for any sum is calculated by the root-sum-of-squares (RSS) of the individual analyte limits (per CCME Vol. 4 Analytical Methods). Benzo[a]pyrene total potency equivalents (B[a]P-TEQ/TPEQ) are calculated in accordance with CCME using the published potency-equivalency factors; non-detects are assigned one-half of the limit of reporting (LOR) in the TEQ calculation.

pH by Meter	E108 ALS Environmental - Waterloo	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally 20 ± 5°C). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Silica Gel Treated CCME PHCs - F2-F4sg by GC-FID	E601.SG ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1 (mod)	Sample extracts are subjected to in-situ silica gel treatment prior to analysis by GC-FID for CCME hydrocarbon fractions (F2-F4). Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
SUM F1 to F4 where F2-F4 is SG treated	EC581SG ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1	Hydrocarbons, total (C6-C50) is the sum of CCME Fraction F1(C6-C10), F2(C10-C16), F3(C16-C34), and F4 (C34-C50), where F2-F4 have been treated with silica gel. F4G-sg is not used within this calculation due to overlap with other fractions.
VOCs (Eastern Canada List) by Headspace GC-MS	E611D ALS Environmental - Waterloo	Water	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.
WAD Cyanide	E336 ALS Environmental - Waterloo	Water	APHA 4500-CN I (mod)	Weak Acid Dissociable (WAD) cyanide is determined by Continuous Flow Analyzer (CFA) with in-line distillation followed by colourmetric analysis.
Preparation Methods	***Method / Lab***	***Matrix***	***Method Reference***	***Method Descriptions***
BNA Extraction	EP625 ALS Environmental - Waterloo	Water	EPA 3510C (mod)	SVOCs are extracted from aqueous sample using DCM liquid-liquid extraction.
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Waterloo	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Waterloo	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
PHCs and PAHs Hexane Extraction	EP601 ALS Environmental - Waterloo	Water	EPA 3511 (mod)	Petroleum Hydrocarbons (PHCs) and Polycyclic Aromatic Hydrocarbons (PAHs) are extracted using a hexane liquid-liquid extraction.
Preparation for Autotitrator	EP108-TITR ALS Environmental - Waterloo	Water		Sample preparation for parameters analysed by Autotitrator
Preparation for Cyanide analysis	EP333 ALS Environmental - Waterloo	Water		Preparation for Cyanide in water
Preparation for Ion Chromatography	EP235-IC ALS Environmental - Waterloo	Water		Sample preparation for ion chromatography
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Waterloo	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into a GC-MS-FID.

QUALITY CONTROL REPORT

Work Order	: **WT2605588**		
Client	: Jacobs Consultancy Canada Inc.	Laboratory	: ALS Environmental - Waterloo
Contact	: Lindsay Shaw	Account Manager	: Mathy Mahadeva
Address	: 201-165 King St. W. Kitchener ON Canada N2G 1A7	Address	: 60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	: ----	Telephone	: +1 519 886 6910
Project	: COG14EDN.K.CS.TPE.05	Date Samples Received	: 13-Mar-2026 11:45
PO	: ----	Date Analysis Commenced	: 16-Mar-2026
C-O-C number	: ----	Issue Date	: 21-Mar-2026 01:53
Sampler	: JG		
Site	: ----		
Quote number	: Ontario Jacobs Standing Offer 2026		
No. of samples received	: 10		
No. of samples analysed	: 10		

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.

Signatories	*Position*	*Laboratory Department*
Andrea Armstrong	Department Manager - Air Quality and Volatiles	Waterloo VOC, Waterloo, Ontario
Danielle Gravel	Supervisor - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
Jeremy Gingras	Supervisor - Semi-Volatile Instrumentation	Waterloo Organics, Waterloo, Ontario
Walt Kippenhuck	Supervisor - Inorganic	Waterloo Metals, Waterloo, Ontario
Walt Kippenhuck	Supervisor - Inorganic	Waterloo Inorganics, Waterloo, Ontario

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 (QCI) 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).

Sub-Matrix: Drinking Water

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: 2501460)											
HA2601078-001	Anonymous	Conductivity	----	E100	2.0	µS/cm	740	732	1.09 %	10%	---
Physical Tests(QC Lot: 2501461)											
HA2601078-001	Anonymous	pH	----	E108	0.10	pH units	7.55	7.78	3.00 %	4%	---

Sub-Matrix: Groundwater

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Cyanides(QC Lot: 2495029)											
WT2605588-001	MW102	Cyanide, weak acid dissociable	----	E336	0.0020	mg/L	<2.0 µg/L	<0.0020	0	Diff <2x LOR	---
Dissolved Metals(QC Lot: 2495052)											
WT2605588-001	MW102	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	---
Speciated Metals(QC Lot: 2495124)											
HA2601045-001	Anonymous	Chromium, hexavalent [Cr VI],	18540-29-9	E532A	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	---
Speciated Metals(QC Lot: 2495629)											
WT2605588-004	MW103D	Chromium, hexavalent [Cr VI],	18540-29-9	E532A	0.00050	mg/L	0.77 µg/L	0.00065	0.00012	Diff <2x LOR	---
Volatile Organic Compounds(QC Lot: 2496090)											
WT2605588-001	MW102	Acetone	67-64-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	---
		Benzene	71-43-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Bromodichloromethane	75-27-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Bromoform	75-25-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Bromomethane	74-83-9	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Carbon tetrachloride	56-23-5	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	---
		Chlorobenzene	108-90-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Chloroform	67-66-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dibromochloromethane	124-48-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dibromoethane, 1,2-	106-93-4	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	---
		Dichlorobenzene, 1,2-	95-50-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichlorobenzene, 1,3-	541-73-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichlorobenzene, 1,4-	106-46-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichlorodifluoromethane	75-71-8	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethane, 1,1-	75-34-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethane, 1,2-	107-06-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---

Sub-Matrix: **Groundwater**

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: 2496090)											
		Dichloroethylene, 1,1-	75-35-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethylene, cis-1,2-	156-59-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethylene, trans-1,2-	156-60-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloromethane	75-09-2	E611D	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	---
		Dichloropropane, 1,2-	78-87-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	---
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	---
		Ethylbenzene	100-41-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Hexane, n-	110-54-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	---
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	---
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Styrene	100-42-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Tetrachloroethylene	127-18-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Toluene	108-88-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Trichloroethane, 1,1,1-	71-55-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Trichloroethane, 1,1,2-	79-00-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Trichloroethylene	79-01-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Trichlorofluoromethane	75-69-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Vinyl chloride	75-01-4	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	---
		Xylene, m+p-	179601-23-1	E611D	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	---
		Xylene, o-	95-47-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	---
Hydrocarbons(QC Lot: 2496091)											
WT2605588-001	MW102	F1 (C6-C10)	----	E581.F1-L	25	µg/L	<25	<25	0	Diff <2x LOR	---

Sub-Matrix: Surface Water

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
Dissolved Metals(QC Lot: 2495287)											
WT2605622-001	Anonymous	Antimony, dissolved	7440-36-0	E421	0.00100	mg/L	<1.00 µg/L	<0.00100	0	Diff <2x LOR	---
		Arsenic, dissolved	7440-38-2	E421	0.00100	mg/L	9.28 µg/L	0.00960	0.00032	Diff <2x LOR	---
		Barium, dissolved	7440-39-3	E421	0.00100	mg/L	149 µg/L	0.151	1.32 %	20%	---
		Beryllium, dissolved	7440-41-7	E421	0.000200	mg/L	<0.200 µg/L	<0.000200	0	Diff <2x LOR	---
		Boron, dissolved	7440-42-8	E421	0.100	mg/L	282 µg/L	0.281	0.001	Diff <2x LOR	---
		Cadmium, dissolved	7440-43-9	E421	0.0000500	mg/L	<0.0500 µg/L	<0.0000500	0	Diff <2x LOR	---
		Chromium, dissolved	7440-47-3	E421	0.00500	mg/L	<5.00 µg/L	<0.00500	0	Diff <2x LOR	---
		Cobalt, dissolved	7440-48-4	E421	0.00100	mg/L	<1.00 µg/L	<0.00100	0	Diff <2x LOR	---
		Copper, dissolved	7440-50-8	E421	0.00200	mg/L	<2.00 µg/L	<0.00200	0	Diff <2x LOR	---
		Lead, dissolved	7439-92-1	E421	0.000500	mg/L	<0.500 µg/L	<0.000500	0	Diff <2x LOR	---
		Molybdenum, dissolved	7439-98-7	E421	0.000500	mg/L	16.5 µg/L	0.0166	1.09 %	20%	---
		Nickel, dissolved	7440-02-0	E421	0.00500	mg/L	<5.00 µg/L	<0.00500	0	Diff <2x LOR	---
		Selenium, dissolved	7782-49-2	E421	0.000500	mg/L	<0.500 µg/L	<0.000500	0	Diff <2x LOR	---
		Silver, dissolved	7440-22-4	E421	0.000100	mg/L	<0.100 µg/L	<0.000100	0	Diff <2x LOR	---
		Sodium, dissolved	7440-23-5	E421	0.500	mg/L	2010000 µg/L	2040	1.36 %	20%	---
		Thallium, dissolved	7440-28-0	E421	0.000100	mg/L	<0.100 µg/L	<0.000100	0	Diff <2x LOR	---
		Uranium, dissolved	7440-61-1	E421	0.000100	mg/L	1.87 µg/L	0.00187	0.321 %	20%	---
		Vanadium, dissolved	7440-62-2	E421	0.00500	mg/L	<5.00 µg/L	<0.00500	0	Diff <2x LOR	---
		Zinc, dissolved	7440-66-6	E421	0.0100	mg/L	<10.0 µg/L	<0.0100	0	Diff <2x LOR	---

Sub-Matrix: Water

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
Anions and Nutrients(QC Lot: 2501455)											
WT2605717-001	Anonymous	Chloride	16887-00-6	E235.Cl	2.50	mg/L	58.9	58.9	0.0157 %	20%	---
Volatile Organic Compounds(QC Lot: 2495491)											
WT2604594-001	Anonymous	Acetone	67-64-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	---
		Benzene	71-43-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Bromodichloromethane	75-27-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Bromoform	75-25-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Bromomethane	74-83-9	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Carbon tetrachloride	56-23-5	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	---
		Chlorobenzene	108-90-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Chloroform	67-66-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---

Sub-Matrix: Water

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: 2495491)											
		Dibromochloromethane	124-48-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dibromoethane, 1,2-	106-93-4	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	---
		Dichlorobenzene, 1,2-	95-50-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichlorobenzene, 1,3-	541-73-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichlorobenzene, 1,4-	106-46-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichlorodifluoromethane	75-71-8	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethane, 1,1-	75-34-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethane, 1,2-	107-06-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethylene, 1,1-	75-35-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethylene, cis-1,2-	156-59-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethylene, trans-1,2-	156-60-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloromethane	75-09-2	E611D	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	---
		Dichloropropane, 1,2-	78-87-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	---
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	---
		Ethylbenzene	100-41-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Hexane, n-	110-54-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	---
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	---
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Styrene	100-42-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Tetrachloroethylene	127-18-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Toluene	108-88-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Trichloroethane, 1,1,1-	71-55-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Trichloroethane, 1,1,2-	79-00-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Trichloroethylene	79-01-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Trichlorofluoromethane	75-69-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Vinyl chloride	75-01-4	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	---
		Xylene, m+p-	179601-23-1	E611D	0.40	µg/L	<0.40	<0.40	0	Diff <2x LOR	---
		Xylene, o-	95-47-6	E611D	0.30	µg/L	<0.30	<0.30	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: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests(QC Lot: 2501460)						
Conductivity	----	E100	1	µS/cm	1.1	----
Physical Tests(QC Lot: 2501461)						
pH	----	E108	----	pH units	----	----
Anions and Nutrients(QC Lot: 2501455)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Cyanides(QC Lot: 2495029)						
Cyanide, weak acid dissociable	----	E336	0.002	mg/L	<0.0020	----
Dissolved Metals(QC Lot: 2495052)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals(QC Lot: 2495287)						
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Speciated Metals(QC Lot: 2495124)						
Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0005	mg/L	<0.00050	----
Speciated Metals(QC Lot: 2495629)						
Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0005	mg/L	<0.00050	----

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds(QC Lot: 2495491)						
Acetone	67-64-1	E611D	20	µg/L	<20	----
Benzene	71-43-2	E611D	0.5	µg/L	<0.50	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611D	0.5	µg/L	<0.50	----
Bromomethane	74-83-9	E611D	0.5	µg/L	<0.50	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	<0.20	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611D	0.5	µg/L	<0.50	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	<0.50	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	<0.20	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	<0.50	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611D	1	µg/L	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	<0.30	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	<0.30	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	<0.50	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	<0.50	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	<0.50	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	<0.50	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	<0.50	----
Vinyl chloride	75-01-4	E611D	0.2	µg/L	<0.20	----

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds(QC Lot: 2495491)						
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	<0.30	----
Volatile Organic Compounds(QC Lot: 2496090)						
Acetone	67-64-1	E611D	20	µg/L	<20	----
Benzene	71-43-2	E611D	0.5	µg/L	<0.50	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611D	0.5	µg/L	<0.50	----
Bromomethane	74-83-9	E611D	0.5	µg/L	<0.50	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	<0.20	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611D	0.5	µg/L	<0.50	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	<0.50	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	<0.20	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	<0.50	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611D	1	µg/L	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	<0.30	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	<0.30	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	<0.50	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	<0.50	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	<0.50	----

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds(QC Lot: 2496090)						
Trichloroethylene	79-01-6	E611D	0.5	µg/L	<0.50	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	<0.50	----
Vinyl chloride	75-01-4	E611D	0.2	µg/L	<0.20	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	<0.30	----
Hydrocarbons(QC Lot: 2502642)						
F2 (C10-C16)	----	E601.SG	100	µg/L	<100	----
F3 (C16-C34)	----	E601.SG	250	µg/L	<250	----
F4 (C34-C50)	----	E601.SG	250	µg/L	<250	----
Polycyclic Aromatic Hydrocarbons(QC Lot: 2502640)						
Acenaphthene	83-32-9	E641A	0.01	µg/L	<0.010	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	<0.010	----
Anthracene	120-12-7	E641A	0.01	µg/L	<0.010	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	<0.010	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	<0.0050	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	<0.010	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	<0.010	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	<0.010	----
Chrysene	218-01-9	E641A	0.01	µg/L	<0.010	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	<0.0050	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	<0.010	----
Fluorene	86-73-7	E641A	0.01	µg/L	<0.010	----
Indeno(1,2,3-cd)pyrene	193-39-5	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	<0.010	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	<0.010	----
Naphthalene	91-20-3	E641A	0.05	µg/L	<0.050	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	<0.020	----
Pyrene	129-00-0	E641A	0.01	µg/L	<0.010	----
Phthalate Esters(QC Lot: 2500907)						
bis(2-Ethylhexyl) phthalate [DEHP]	117-81-7	E625A	0.6	µg/L	<0.60	----
Diethyl phthalate	84-66-2	E625A	0.2	µg/L	<0.20	----
Dimethyl phthalate	131-11-3	E625A	0.2	µg/L	<0.20	----
Semi-Volatile Organics(QC Lot: 2500907)						
Biphenyl	92-52-4	E625A	0.2	µg/L	<0.20	----
bis(2-Chloro-1-methylethyl) ether	108-60-1	E625A	0.4	µg/L	<0.40	----
bis(2-Chloroethyl) ether	111-44-4	E625A	0.4	µg/L	<0.40	----
Chloroaniline, 4-	106-47-8	E625A	0.4	µg/L	<0.40	----

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Semi-Volatile Organics(QC Lot: 2500907)						
Dichlorobenzidine, 3,3'-	91-94-1	E625A	0.4	µg/L	<0.40	----
Dinitrotoluene, 2,4-	121-14-2	E625A	0.4	µg/L	<0.40	----
Dinitrotoluene, 2,6-	606-20-2	E625A	0.4	µg/L	<0.40	----
Trichlorobenzene, 1,2,4-	120-82-1	E625A	0.4	µg/L	<0.40	----
Chlorinated Phenolics(QC Lot: 2500907)						
Chlorophenol, 2-	95-57-8	E625A	0.3	µg/L	<0.30	----
Dichlorophenol, 2,4-	120-83-2	E625A	0.2	µg/L	<0.20	----
Pentachlorophenol [PCP]	87-86-5	E625A	0.5	µg/L	<0.50	----
Trichlorophenol, 2,4,5-	95-95-4	E625A	0.2	µg/L	<0.20	----
Trichlorophenol, 2,4,6-	88-06-2	E625A	0.2	µg/L	<0.20	----
Non-Chlorinated Phenolics(QC Lot: 2500907)						
Dimethylphenol, 2,4-	105-67-9	E625A	0.5	µg/L	<0.50	----
Dinitrophenol, 2,4-	51-28-5	E625A	1	µg/L	<1.0	----
Phenol	108-95-2	E625A	0.5	µg/L	<0.50	----

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: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests(QC Lot: 2501460)									
Conductivity	----	E100	1	µS/cm	1409 µS/cm	102	90.0	110	----
Physical Tests(QC Lot: 2501461)									
pH	----	E108	----	pH units	7 pH units	101	98.0	102	----
Anions and Nutrients(QC Lot: 2501455)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	103	90.0	110	----
Cyanides(QC Lot: 2495029)									
Cyanide, weak acid dissociable	----	E336	0.002	mg/L	0.125 mg/L	91.7	80.0	120	----
Dissolved Metals(QC Lot: 2495052)									
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0.0001 mg/L	102	80.0	120	----
Dissolved Metals(QC Lot: 2495287)									
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	0.05 mg/L	101	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	0.05 mg/L	106	80.0	120	----

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals(QC Lot: 2495287)									
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.0125 mg/L	100	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.005 mg/L	100	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	0.05 mg/L	98.0	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.005 mg/L	100	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.0125 mg/L	104	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.0125 mg/L	102	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.0125 mg/L	102	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.025 mg/L	102	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.0125 mg/L	100	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.025 mg/L	101	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	0.05 mg/L	100	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.005 mg/L	103	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	2.5 mg/L	107	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	0.05 mg/L	102	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.0002 mg/L	99.8	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.025 mg/L	103	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.025 mg/L	102	80.0	120	----
Speciated Metals(QC Lot: 2495124)									
Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0005	mg/L	0.025 mg/L	92.6	80.0	120	----
Speciated Metals(QC Lot: 2495629)									
Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0005	mg/L	0.025 mg/L	96.8	80.0	120	----
Volatile Organic Compounds(QC Lot: 2495491)									
Acetone	67-64-1	E611D	20	µg/L	100 µg/L	123	70.0	130	----
Benzene	71-43-2	E611D	0.5	µg/L	100 µg/L	101	70.0	130	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	100 µg/L	107	70.0	130	----
Bromoform	75-25-2	E611D	0.5	µg/L	100 µg/L	96.8	70.0	130	----
Bromomethane	74-83-9	E611D	0.5	µg/L	100 µg/L	73.5	60.0	140	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	100 µg/L	104	70.0	130	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	100 µg/L	101	70.0	130	----
Chloroform	67-66-3	E611D	0.5	µg/L	100 µg/L	106	70.0	130	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	100 µg/L	100.0	70.0	130	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	100 µg/L	89.8	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	100 µg/L	99.4	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	100 µg/L	101	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	100 µg/L	101	70.0	130	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	100 µg/L	87.2	60.0	140	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	100 µg/L	99.9	70.0	130	----

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds(QC Lot: 2495491)									
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	100 µg/L	103	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	100 µg/L	96.9	70.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	100 µg/L	104	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	100 µg/L	105	70.0	130	----
Dichloromethane	75-09-2	E611D	1	µg/L	100 µg/L	103	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	100 µg/L	103	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	100 µg/L	95.9	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	100 µg/L	88.9	70.0	130	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	100 µg/L	91.8	70.0	130	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	100 µg/L	95.9	70.0	130	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	100 µg/L	111	70.0	130	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	100 µg/L	95.2	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	100 µg/L	98.7	70.0	130	----
Styrene	100-42-5	E611D	0.5	µg/L	100 µg/L	96.1	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	100 µg/L	95.3	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	100 µg/L	96.4	70.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	100 µg/L	101	70.0	130	----
Toluene	108-88-3	E611D	0.5	µg/L	100 µg/L	93.2	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	100 µg/L	104	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	100 µg/L	92.4	70.0	130	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	100 µg/L	96.2	60.0	140	----
Vinyl chloride	75-01-4	E611D	0.2	µg/L	100 µg/L	90.4	60.0	140	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	200 µg/L	95.2	70.0	130	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	100 µg/L	92.6	70.0	130	----
Volatile Organic Compounds(QC Lot: 2496090)									
Acetone	67-64-1	E611D	20	µg/L	100 µg/L	118	70.0	130	----
Benzene	71-43-2	E611D	0.5	µg/L	100 µg/L	109	70.0	130	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Bromoform	75-25-2	E611D	0.5	µg/L	100 µg/L	98.2	70.0	130	----
Bromomethane	74-83-9	E611D	0.5	µg/L	100 µg/L	83.5	60.0	140	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	100 µg/L	106	70.0	130	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	100 µg/L	110	70.0	130	----
Chloroform	67-66-3	E611D	0.5	µg/L	100 µg/L	110	70.0	130	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	100 µg/L	101	70.0	130	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	100 µg/L	99.0	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	100 µg/L	117	70.0	130	----

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds(QC Lot: 2496090)									
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	100 µg/L	117	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	100 µg/L	116	70.0	130	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	100 µg/L	105	60.0	140	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	100 µg/L	114	70.0	130	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	100 µg/L	118	70.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	100 µg/L	114	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	100 µg/L	111	70.0	130	----
Dichloromethane	75-09-2	E611D	1	µg/L	100 µg/L	103	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	100 µg/L	111	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	100 µg/L	104	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	100 µg/L	109	70.0	130	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	100 µg/L	118	70.0	130	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	100 µg/L	116	70.0	130	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	100 µg/L	95.3	70.0	130	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	100 µg/L	102	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Styrene	100-42-5	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	100 µg/L	101	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	100 µg/L	112	70.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	100 µg/L	106	70.0	130	----
Toluene	108-88-3	E611D	0.5	µg/L	100 µg/L	117	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	100 µg/L	109	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	100 µg/L	103	70.0	130	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	100 µg/L	108	60.0	140	----
Vinyl chloride	75-01-4	E611D	0.2	µg/L	100 µg/L	108	60.0	140	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	200 µg/L	112	70.0	130	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	100 µg/L	116	70.0	130	----
Hydrocarbons(QC Lot: 2502642)									
F2 (C10-C16)	----	E601.SG	100	µg/L	3766 µg/L	103	70.0	130	----
F3 (C16-C34)	----	E601.SG	250	µg/L	7761 µg/L	112	70.0	130	----
F4 (C34-C50)	----	E601.SG	250	µg/L	4200 µg/L	108	70.0	130	----
Hydrocarbons Surrogates(QC Lot: 2502642)									
Bromobenzotrifluoride, 2- (F2-F4 surrogate)	392-83-6	E601.SG	1	µg/L	6316 µg/L	96.5	60	140	----
Volatile Organic Compounds Surrogates(QC Lot: 2495491)									
Bromofluorobenzene, 4-	460-00-4	E611D	1	µg/L	10 µg/L	106	70	130	----

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds Surrogates(QC Lot: 2495491)									
Difluorobenzene, 1,4-	540-36-3	E611D	1	µg/L	10 µg/L	107	70	130	----
Volatile Organic Compounds Surrogates(QC Lot: 2496090)									
Bromofluorobenzene, 4-	460-00-4	E611D	1	µg/L	10 µg/L	103	70	130	----
Difluorobenzene, 1,4-	540-36-3	E611D	1	µg/L	10 µg/L	91.8	70	130	----
Polycyclic Aromatic Hydrocarbons(QC Lot: 2502640)									
Acenaphthene	83-32-9	E641A	0.01	µg/L	0.5263 µg/L	89.9	50.0	140	----
Acenaphthylene	208-96-8	E641A	0.01	µg/L	0.5263 µg/L	91.3	50.0	140	----
Anthracene	120-12-7	E641A	0.01	µg/L	0.5263 µg/L	90.8	50.0	140	----
Benz(a)anthracene	56-55-3	E641A	0.01	µg/L	0.5263 µg/L	113	50.0	140	----
Benzo(a)pyrene	50-32-8	E641A	0.005	µg/L	0.5263 µg/L	113	50.0	140	----
Benzo(b+j)fluoranthene	n/a	E641A	0.01	µg/L	0.5263 µg/L	103	50.0	140	----
Benzo(g,h,i)perylene	191-24-2	E641A	0.01	µg/L	0.5263 µg/L	107	50.0	140	----
Benzo(k)fluoranthene	207-08-9	E641A	0.01	µg/L	0.5263 µg/L	103	50.0	140	----
Chrysene	218-01-9	E641A	0.01	µg/L	0.5263 µg/L	113	50.0	140	----
Dibenz(a,h)anthracene	53-70-3	E641A	0.005	µg/L	0.5263 µg/L	98.0	50.0	140	----
Fluoranthene	206-44-0	E641A	0.01	µg/L	0.5263 µg/L	106	50.0	140	----
Fluorene	86-73-7	E641A	0.01	µg/L	0.5263 µg/L	103	50.0	140	----
Indeno(1,2,3-cd)pyrene	193-39-5	E641A	0.01	µg/L	0.5263 µg/L	107	50.0	140	----
Methylnaphthalene, 1-	90-12-0	E641A	0.01	µg/L	0.5263 µg/L	96.0	50.0	140	----
Methylnaphthalene, 2-	91-57-6	E641A	0.01	µg/L	0.5263 µg/L	93.6	50.0	140	----
Naphthalene	91-20-3	E641A	0.05	µg/L	0.5263 µg/L	97.6	50.0	140	----
Phenanthrene	85-01-8	E641A	0.02	µg/L	0.5263 µg/L	104	50.0	140	----
Pyrene	129-00-0	E641A	0.01	µg/L	0.5263 µg/L	107	50.0	140	----
Polycyclic Aromatic Hydrocarbons Surrogates(QC Lot: 2502640)									
Chrysene-d12	1719-03-5	E641A	0.1	µg/L	0.8421 µg/L	100	50	150	----
Naphthalene-d8	1146-65-2	E641A	0.1	µg/L	0.8421 µg/L	97.8	60	140	----
Phenanthrene-d10	1517-22-2	E641A	0.1	µg/L	0.8421 µg/L	106	60	140	----
Phthalate Esters(QC Lot: 2500907)									
bis(2-Ethylhexyl) phthalate [DEHP]	117-81-7	E625A	0.6	µg/L	33.68 µg/L	126	50.0	140	----
Diethyl phthalate	84-66-2	E625A	0.2	µg/L	33.68 µg/L	109	50.0	140	----
Dimethyl phthalate	131-11-3	E625A	0.2	µg/L	33.68 µg/L	90.9	50.0	140	----
Semi-Volatile Organics(QC Lot: 2500907)									
Biphenyl	92-52-4	E625A	0.2	µg/L	8.421 µg/L	77.6	50.0	140	----
bis(2-Chloro-1-methylethyl) ether	108-60-1	E625A	0.4	µg/L	8.421 µg/L	85.5	50.0	140	----
bis(2-Chloroethyl) ether	111-44-4	E625A	0.4	µg/L	8.421 µg/L	91.8	50.0	140	----
Chloroaniline, 4-	106-47-8	E625A	0.4	µg/L	8.421 µg/L	71.8	30.0	140	----
Dichlorobenzidine, 3,3'-	91-94-1	E625A	0.4	µg/L	8.421 µg/L	# 47.6	50.0	140	LCS-ND

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Semi-Volatile Organics(QC Lot: 2500907)									
Dinitrotoluene, 2,4-	121-14-2	E625A	0.4	µg/L	8.421 µg/L	95.7	50.0	140	----
Dinitrotoluene, 2,6-	606-20-2	E625A	0.4	µg/L	8.421 µg/L	93.4	50.0	140	----
Trichlorobenzene, 1,2,4-	120-82-1	E625A	0.4	µg/L	8.421 µg/L	64.8	50.0	130	----
Semi-Volatile Organics Surrogates(QC Lot: 2500907)									
Fluorobiphenyl, 2-	321-60-8	E625A	1	µg/L	21.05 µg/L	79.7	50	140	----
Nitrobenzene-d5	4165-60-0	E625A	1	µg/L	21.05 µg/L	87.8	50	140	----
Terphenyl-d14, p-	1718-51-0	E625A	1	µg/L	21.05 µg/L	96.6	60	140	----
Chlorinated Phenolics(QC Lot: 2500907)									
Chlorophenol, 2-	95-57-8	E625A	0.3	µg/L	25.26 µg/L	71.3	50.0	140	----
Dichlorophenol, 2,4-	120-83-2	E625A	0.2	µg/L	25.26 µg/L	68.3	50.0	140	----
Pentachlorophenol [PCP]	87-86-5	E625A	0.5	µg/L	25.26 µg/L	96.9	50.0	140	----
Trichlorophenol, 2,4,5-	95-95-4	E625A	0.2	µg/L	25.26 µg/L	73.1	50.0	140	----
Trichlorophenol, 2,4,6-	88-06-2	E625A	0.2	µg/L	25.26 µg/L	74.3	50.0	140	----
Non-Chlorinated Phenolics(QC Lot: 2500907)									
Dimethylphenol, 2,4-	105-67-9	E625A	0.5	µg/L	25.26 µg/L	51.9	50.0	140	----
Dinitrophenol, 2,4-	51-28-5	E625A	1	µg/L	25.26 µg/L	114	50.0	140	----
Phenol	108-95-2	E625A	0.5	µg/L	25.26 µg/L	94.2	50.0	140	----
Phenolics Surrogates(QC Lot: 2500907)									
Tribromophenol, 2,4,6-	118-79-6	E625A	0.5	µg/L	21.05 µg/L	115	50	140	----

Qualifiers

Qualifier	Description
LCS-ND	Lab Control Sample recovery was slightly outside ALS DQO. Reported non-detect results for associated samples were unaffected.

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

Sub-Matrix: Groundwater

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery (%)		Qualifier
					Concentration	Target	MS	Low	High	
Anions and Nutrients(QC Lot: 2501455)										
WT2605717-001	Anonymous	Chloride	16887-00-6	E235.Cl	514 mg/L	500 mg/L	103	75.0	125	---

Sub-Matrix: Groundwater

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Cyanides(QC Lot: 2495029)										
WT2605588-001	MW102	Cyanide, weak acid dissociable	----	E336	0.122 mg/L	0.125 mg/L	97.4	75.0	125	---
Dissolved Metals(QC Lot: 2495052)										
WT2605588-002	MW107	Mercury, dissolved	7439-97-6	E509	0.0000875 mg/L	0.0001 mg/L	87.5	70.0	130	---
Dissolved Metals(QC Lot: 2495287)										
WT2605588-001	MW102	Antimony, dissolved	7440-36-0	E421	0.0515 mg/L	0.05 mg/L	103	70.0	130	---
		Arsenic, dissolved	7440-38-2	E421	0.0549 mg/L	0.05 mg/L	110	70.0	130	---
		Barium, dissolved	7440-39-3	E421	ND	----	ND	70.0	130	---
		Beryllium, dissolved	7440-41-7	E421	0.00537 mg/L	0.005 mg/L	107	70.0	130	---
		Boron, dissolved	7440-42-8	E421	0.049 mg/L	0.05 mg/L	97.1	70.0	130	---
		Cadmium, dissolved	7440-43-9	E421	0.00484 mg/L	0.005 mg/L	96.8	70.0	130	---
		Chromium, dissolved	7440-47-3	E421	0.0129 mg/L	0.0125 mg/L	103	70.0	130	---
		Cobalt, dissolved	7440-48-4	E421	0.0122 mg/L	0.0125 mg/L	97.3	70.0	130	---
		Copper, dissolved	7440-50-8	E421	0.0113 mg/L	0.0125 mg/L	90.6	70.0	130	---
		Lead, dissolved	7439-92-1	E421	0.0236 mg/L	0.025 mg/L	94.4	70.0	130	---
		Molybdenum, dissolved	7439-98-7	E421	0.0130 mg/L	0.0125 mg/L	104	70.0	130	---
		Nickel, dissolved	7440-02-0	E421	0.0236 mg/L	0.025 mg/L	94.4	70.0	130	---
		Selenium, dissolved	7782-49-2	E421	0.0533 mg/L	0.05 mg/L	107	70.0	130	---
		Silver, dissolved	7440-22-4	E421	0.00483 mg/L	0.005 mg/L	96.7	70.0	130	---
		Sodium, dissolved	7440-23-5	E421	ND	----	ND	70.0	130	---
		Thallium, dissolved	7440-28-0	E421	0.0480 mg/L	0.05 mg/L	95.9	70.0	130	---
		Uranium, dissolved	7440-61-1	E421	ND	----	ND	70.0	130	---
		Vanadium, dissolved	7440-62-2	E421	0.0266 mg/L	0.025 mg/L	106	70.0	130	---
		Zinc, dissolved	7440-66-6	E421	0.0236 mg/L	0.025 mg/L	94.3	70.0	130	---
Speciated Metals(QC Lot: 2495124)										
HA2601045-001	Anonymous	Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0375 mg/L	0.04 mg/L	93.7	70.0	130	---
Speciated Metals(QC Lot: 2495629)										
WT2605588-004	MW103D	Chromium, hexavalent [Cr VI], dissolved	18540-29-9	E532A	0.0386 mg/L	0.04 mg/L	96.4	70.0	130	---
Volatile Organic Compounds(QC Lot: 2495491)										
WT2604594-001	Anonymous	Acetone	67-64-1	E611D	132 µg/L	100 µg/L	132	60.0	140	---
		Benzene	71-43-2	E611D	101 µg/L	100 µg/L	101	60.0	140	---
		Bromodichloromethane	75-27-4	E611D	107 µg/L	100 µg/L	107	60.0	140	---
		Bromoform	75-25-2	E611D	95.5 µg/L	100 µg/L	95.5	60.0	140	---
		Bromomethane	74-83-9	E611D	73.2 µg/L	100 µg/L	73.2	60.0	140	---
		Carbon tetrachloride	56-23-5	E611D	99.5 µg/L	100 µg/L	99.5	60.0	140	---
		Chlorobenzene	108-90-7	E611D	102 µg/L	100 µg/L	102	60.0	140	---
		Chloroform	67-66-3	E611D	106 µg/L	100 µg/L	106	60.0	140	---
		Dibromochloromethane	124-48-1	E611D	99.9 µg/L	100 µg/L	99.9	60.0	140	---

Sub-Matrix: Groundwater

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Volatile Organic Compounds(QC Lot: 2495491)										
		Dibromoethane, 1,2-	106-93-4	E611D	92.5 µg/L	100 µg/L	92.5	60.0	140	---
		Dichlorobenzene, 1,2-	95-50-1	E611D	98.8 µg/L	100 µg/L	98.8	60.0	140	---
		Dichlorobenzene, 1,3-	541-73-1	E611D	100 µg/L	100 µg/L	100	60.0	140	---
		Dichlorobenzene, 1,4-	106-46-7	E611D	101 µg/L	100 µg/L	101	60.0	140	---
		Dichlorodifluoromethane	75-71-8	E611D	86.1 µg/L	100 µg/L	86.1	60.0	140	---
		Dichloroethane, 1,1-	75-34-3	E611D	99.6 µg/L	100 µg/L	99.6	60.0	140	---
		Dichloroethane, 1,2-	107-06-2	E611D	105 µg/L	100 µg/L	105	60.0	140	---
		Dichloroethylene, 1,1-	75-35-4	E611D	95.7 µg/L	100 µg/L	95.7	60.0	140	---
		Dichloroethylene, cis-1,2-	156-59-2	E611D	106 µg/L	100 µg/L	106	60.0	140	---
		Dichloroethylene, trans-1,2-	156-60-5	E611D	107 µg/L	100 µg/L	107	60.0	140	---
		Dichloromethane	75-09-2	E611D	104 µg/L	100 µg/L	104	60.0	140	---
		Dichloropropane, 1,2-	78-87-5	E611D	104 µg/L	100 µg/L	104	60.0	140	---
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	98.1 µg/L	100 µg/L	98.1	60.0	140	---
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	92.2 µg/L	100 µg/L	92.2	60.0	140	---
		Ethylbenzene	100-41-4	E611D	91.9 µg/L	100 µg/L	91.9	60.0	140	---
		Hexane, n-	110-54-3	E611D	93.7 µg/L	100 µg/L	93.7	60.0	140	---
		Methyl ethyl ketone [MEK]	78-93-3	E611D	121 µg/L	100 µg/L	121	60.0	140	---
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	101 µg/L	100 µg/L	101	60.0	140	---
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	97.7 µg/L	100 µg/L	97.7	60.0	140	---
		Styrene	100-42-5	E611D	95.8 µg/L	100 µg/L	95.8	60.0	140	---
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	94.8 µg/L	100 µg/L	94.8	60.0	140	---
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	99.2 µg/L	100 µg/L	99.2	60.0	140	---
		Tetrachloroethylene	127-18-4	E611D	97.1 µg/L	100 µg/L	97.1	60.0	140	---
		Toluene	108-88-3	E611D	93.8 µg/L	100 µg/L	93.8	60.0	140	---
		Trichloroethane, 1,1,1-	71-55-6	E611D	101 µg/L	100 µg/L	101	60.0	140	---
		Trichloroethane, 1,1,2-	79-00-5	E611D	94.8 µg/L	100 µg/L	94.8	60.0	140	---
		Trichloroethylene	79-01-6	E611D	106 µg/L	100 µg/L	106	60.0	140	---
		Trichlorofluoromethane	75-69-4	E611D	92.4 µg/L	100 µg/L	92.4	60.0	140	---
		Vinyl chloride	75-01-4	E611D	90.9 µg/L	100 µg/L	90.9	60.0	140	---
		Xylene, m+p-	179601-23-1	E611D	191 µg/L	200 µg/L	95.3	60.0	140	---
		Xylene, o-	95-47-6	E611D	93.0 µg/L	100 µg/L	93.0	60.0	140	---
Volatile Organic Compounds(QC Lot: 2496090)										
WT2605588-001	MW102	Acetone	67-64-1	E611D	112 µg/L	100 µg/L	112	60.0	140	---
		Benzene	71-43-2	E611D	106 µg/L	100 µg/L	106	60.0	140	---
		Bromodichloromethane	75-27-4	E611D	105 µg/L	100 µg/L	105	60.0	140	---
		Bromoform	75-25-2	E611D	92.8 µg/L	100 µg/L	92.8	60.0	140	---
		Bromomethane	74-83-9	E611D	78.4 µg/L	100 µg/L	78.4	60.0	140	---

Sub-Matrix: Groundwater

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Volatile Organic Compounds(QC Lot: 2496090)										
		Carbon tetrachloride	56-23-5	E611D	104 µg/L	100 µg/L	104	60.0	140	---
		Chlorobenzene	108-90-7	E611D	107 µg/L	100 µg/L	107	60.0	140	---
		Chloroform	67-66-3	E611D	107 µg/L	100 µg/L	107	60.0	140	---
		Dibromochloromethane	124-48-1	E611D	96.3 µg/L	100 µg/L	96.3	60.0	140	---
		Dibromoethane, 1,2-	106-93-4	E611D	93.1 µg/L	100 µg/L	93.1	60.0	140	---
		Dichlorobenzene, 1,2-	95-50-1	E611D	114 µg/L	100 µg/L	114	60.0	140	---
		Dichlorobenzene, 1,3-	541-73-1	E611D	114 µg/L	100 µg/L	114	60.0	140	---
		Dichlorobenzene, 1,4-	106-46-7	E611D	112 µg/L	100 µg/L	112	60.0	140	---
		Dichlorodifluoromethane	75-71-8	E611D	94.3 µg/L	100 µg/L	94.3	60.0	140	---
		Dichloroethane, 1,1-	75-34-3	E611D	110 µg/L	100 µg/L	110	60.0	140	---
		Dichloroethane, 1,2-	107-06-2	E611D	103 µg/L	100 µg/L	103	60.0	140	---
		Dichloroethylene, 1,1-	75-35-4	E611D	115 µg/L	100 µg/L	115	60.0	140	---
		Dichloroethylene, cis-1,2-	156-59-2	E611D	112 µg/L	100 µg/L	112	60.0	140	---
		Dichloroethylene, trans-1,2-	156-60-5	E611D	111 µg/L	100 µg/L	111	60.0	140	---
		Dichloromethane	75-09-2	E611D	99.5 µg/L	100 µg/L	99.5	60.0	140	---
		Dichloropropane, 1,2-	78-87-5	E611D	107 µg/L	100 µg/L	107	60.0	140	---
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	98.5 µg/L	100 µg/L	98.5	60.0	140	---
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	101 µg/L	100 µg/L	101	60.0	140	---
		Ethylbenzene	100-41-4	E611D	116 µg/L	100 µg/L	116	60.0	140	---
		Hexane, n-	110-54-3	E611D	112 µg/L	100 µg/L	112	60.0	140	---
		Methyl ethyl ketone [MEK]	78-93-3	E611D	88 µg/L	100 µg/L	88.1	60.0	140	---
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	97 µg/L	100 µg/L	96.8	60.0	140	---
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	111 µg/L	100 µg/L	111	60.0	140	---
		Styrene	100-42-5	E611D	97.9 µg/L	100 µg/L	97.9	60.0	140	---
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	99.9 µg/L	100 µg/L	99.9	60.0	140	---
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	108 µg/L	100 µg/L	108	60.0	140	---
		Tetrachloroethylene	127-18-4	E611D	101 µg/L	100 µg/L	101	60.0	140	---
		Toluene	108-88-3	E611D	113 µg/L	100 µg/L	113	60.0	140	---
		Trichloroethane, 1,1,1-	71-55-6	E611D	108 µg/L	100 µg/L	108	60.0	140	---
		Trichloroethane, 1,1,2-	79-00-5	E611D	98.2 µg/L	100 µg/L	98.2	60.0	140	---
		Trichloroethylene	79-01-6	E611D	100 µg/L	100 µg/L	100	60.0	140	---
		Trichlorofluoromethane	75-69-4	E611D	106 µg/L	100 µg/L	106	60.0	140	---
		Vinyl chloride	75-01-4	E611D	101 µg/L	100 µg/L	101	60.0	140	---
		Xylene, m+p-	179601-23-1	E611D	222 µg/L	200 µg/L	111	60.0	140	---
		Xylene, o-	95-47-6	E611D	114 µg/L	100 µg/L	114	60.0	140	---
Hydrocarbons(QC Lot: 2496091)										
WT2605588-001	MW102	F1 (C6-C10)	----	E581.F1-L	1790 µg/L	2000 µg/L	89.3	60.0	140	---

Sub-Matrix: **Groundwater**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Hydrocarbons Surrogates(QC Lot: 2496091)										
		Dichlorotoluene, 3,4-	95-75-0	E581.F1-L	901 µg/L	1001 µg/L	90.1	60.0	140	---
Volatile Organic Compounds Surrogates(QC Lot: 2495491)										
		Bromofluorobenzene, 4-	460-00-4	E611D	10.6 µg/L	10 µg/L	106	70.0	130	---
		Difluorobenzene, 1,4-	540-36-3	E611D	10.6 µg/L	10 µg/L	106	70.0	130	---
Volatile Organic Compounds Surrogates(QC Lot: 2496090)										
		Bromofluorobenzene, 4-	460-00-4	E611D	9.3 µg/L	10 µg/L	92.6	70.0	130	---
		Difluorobenzene, 1,4-	540-36-3	E611D	9.2 µg/L	10 µg/L	92.0	70.0	130	---

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).

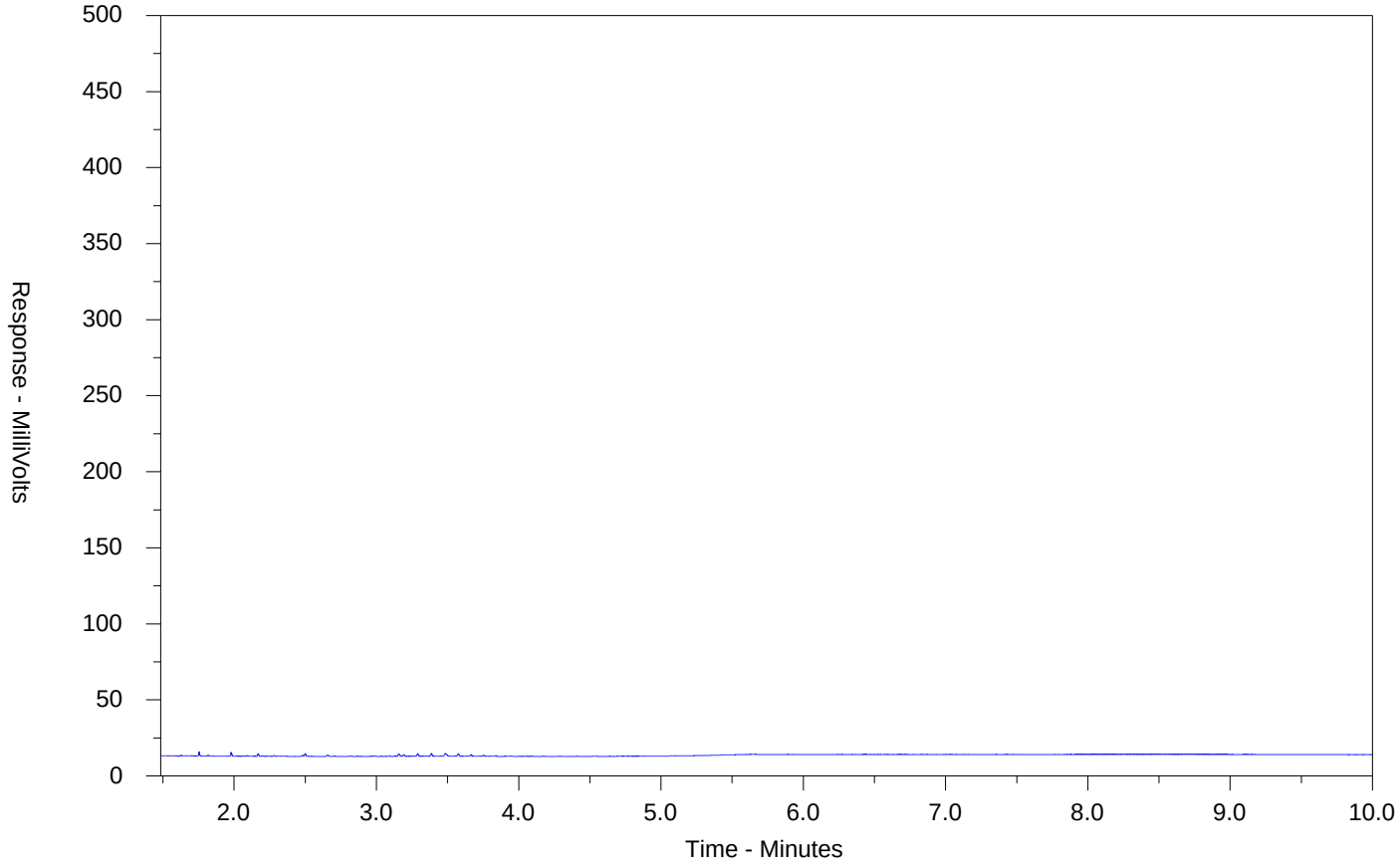
Sub-Matrix: **Water**

					Reference Material (RM) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Target Concentration	Original Result	LCS	Low	High	Qualifier
Hydrocarbons(QC Lot: 2496091)										
QC-MRG2-2496090001		F1 (C6-C10)	----	E581.F1-L	2000 µg/L	2000 µg/L		80.0	120	----

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CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2605588-001-E601.SG
Client Sample ID: MW102



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

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

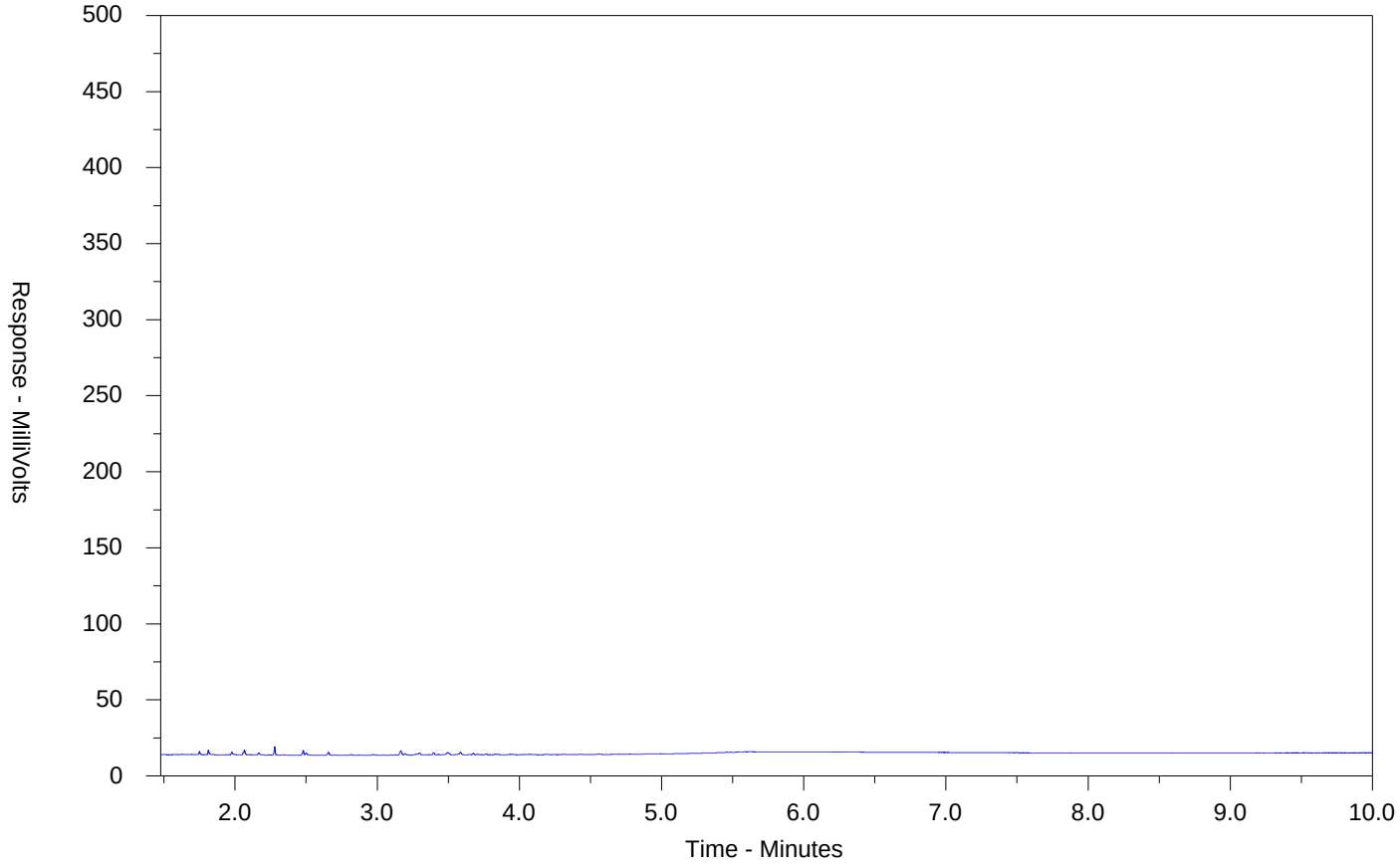
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2605588-002-E601.SG
Client Sample ID: MW107



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

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

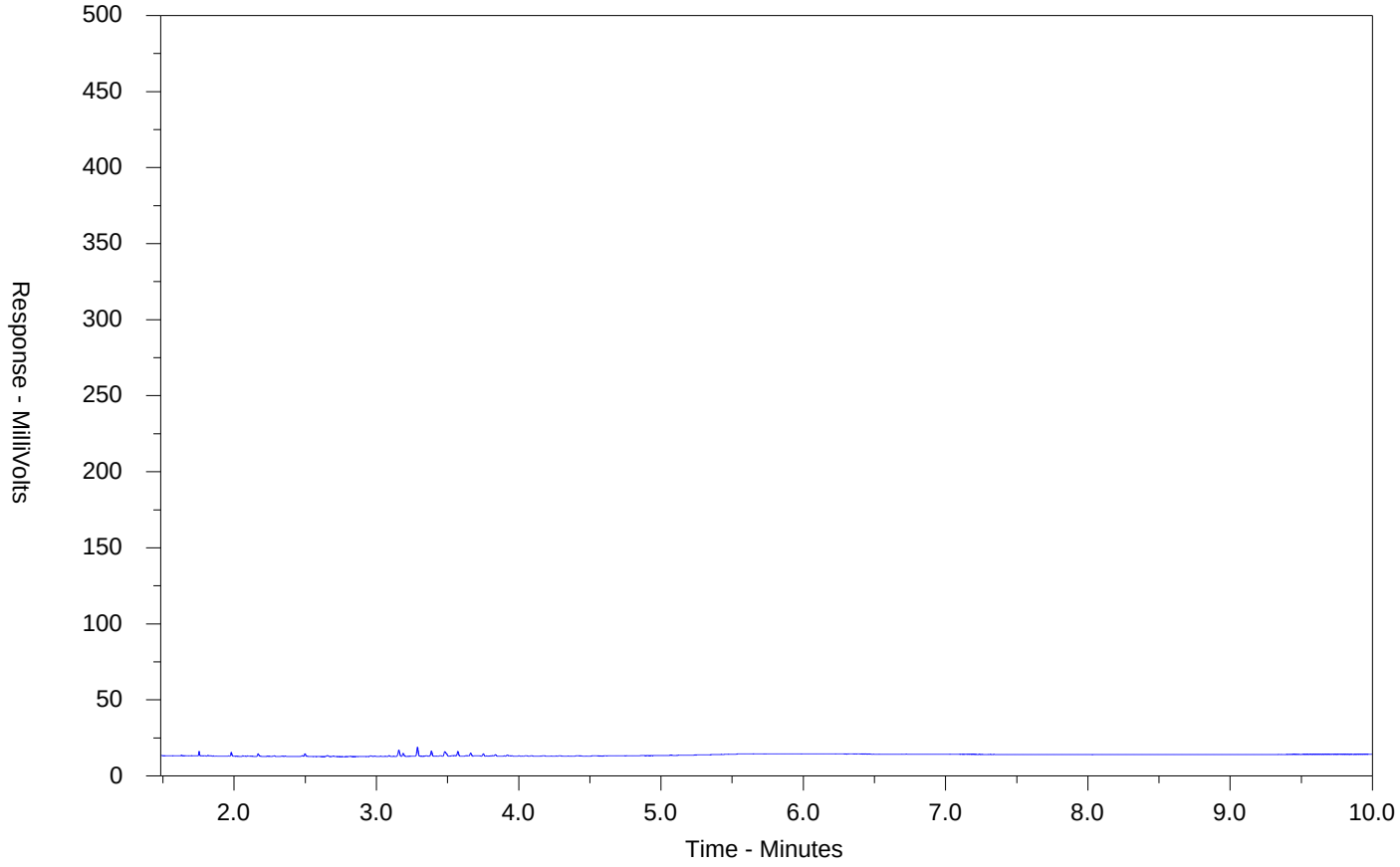
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2605588-003-E601.SG
Client Sample ID: MW104



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

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

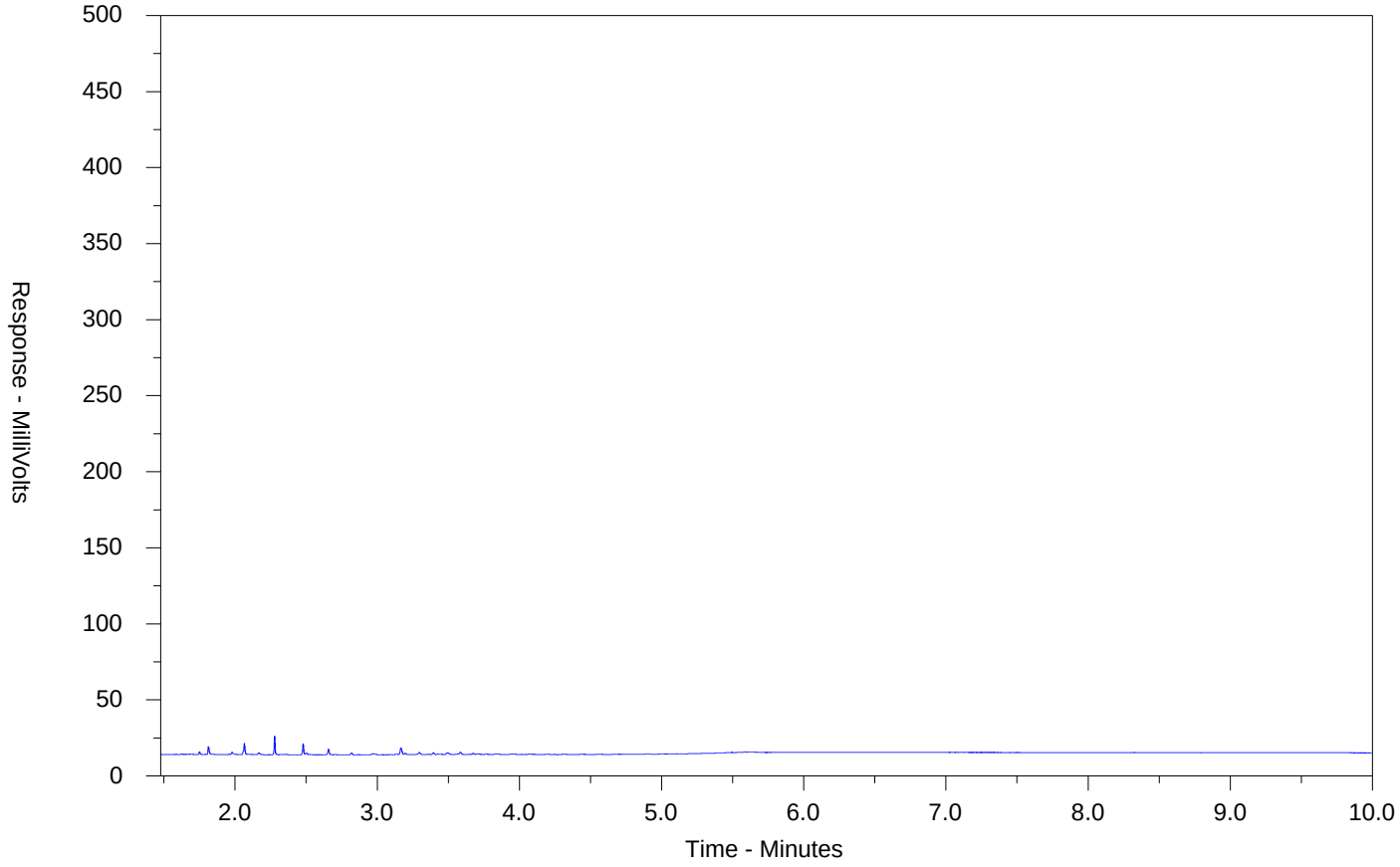
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2605588-007-E601.SG
Client Sample ID: MW103



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

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

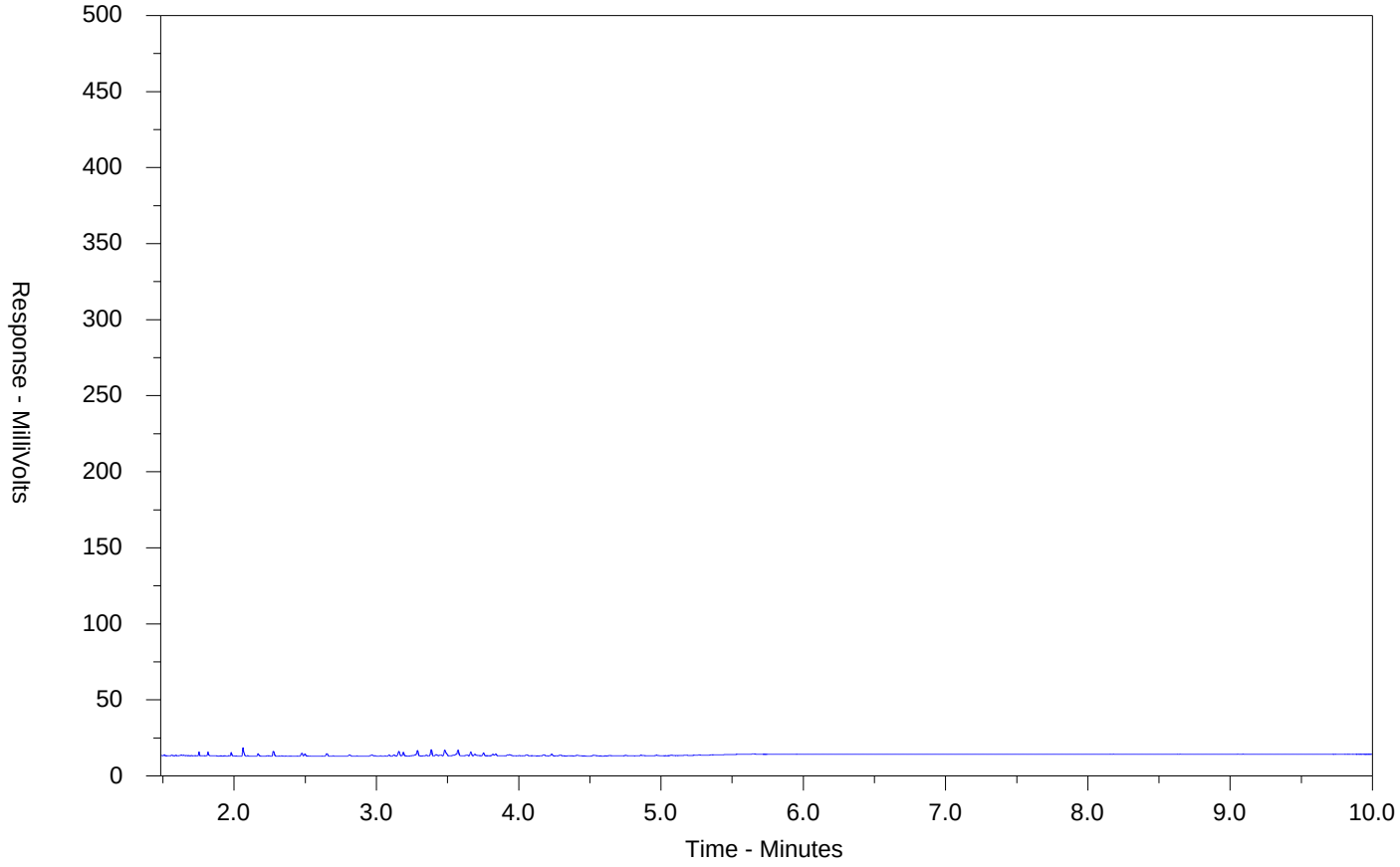
The scale at the bottom of the chromatogram indicates the approximate retention times of common petroleum products and four n-alkane hydrocarbon marker compounds. Retention times may vary between samples, but general patterns and distributions will remain similar.

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

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

CCME F2-F4 HYDROCARBON DISTRIBUTION REPORT

ALS Sample ID: WT2605588-008-E601.SG
Client Sample ID: MW101



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

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

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

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

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

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GC-710
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800
MW-209
MW-80
SC-205
VW-896

Chain of Custody (COC) / Analytical Request Form

Canada Toll Free: 1 800 668 9878

COC Number: 25 -

Page 1 of 1

Environmental Division
Waterloo
Work Order Reference
WT2605588

Telephone : +1 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	Jacobs Consultancy
Contact:	Lindsay Shaw
Phone:	519-579-3500
	Company address below will appear on the final report
Street:	165 King Street West
City/Province:	Kitchener, Ontario
Postal Code:	N2G 1A7
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☑ YES ☐ NO
Company:	Jacobs Consultancy
Contact:	Accounts Payable

Project Information

ALS Client Code / QUOTE #:	Standing Offer
Job / Project #:	COG14EDN.K.CS.TPE.05
PO / AFE:	
LSD:	

ALS Lab Work Order # (ALS use only):

Reports / Recipients

Select Report Format: ☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)
Merge QC/QCI Reports with COA ☑ YES ☐ NO ☐ N/A
☐ Compare Results to Criteria on Report - provide details below if box checked
Select Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax: Lindsay Shaw
Email 2: Jon Gowing, Canada EDMA
Email 3:

Invoice Recipients

Select Invoice Distribution: ☑ EMAIL ☐ MAIL ☐ FAX
Email 1 or Fax: caapinvoices@jacobs.com
Email 2:

Oil and Gas Required Fields (client use)

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

ALS Contact: Mathy **Sampler:** J. Gowing

Turnaround Time (TAT) Requested

☒ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
☐ Same day [E2] if received by 10am M-S - 200% rush surcharge.
Additional fees may apply to rush requests on weekends,
Date and Time Required for all E&P TATs:
For all tests with rush TATs requested, please cor

Analysis Request

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

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	VOC, F1-F4	PAH	Metals (Field Filter) (M&I)	Hg (Field Filter) (M&I)	Cr6+ (Field Filter) (M&I)	Cyanide (M&I)	Cl, EC, pH (M&I)	SVOC	VOC, F1 (Trip Blank)	VOC / BTEX	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MW 102	09-03-26	1550	GW	15	X	X	X	X	X	X	X	X					
	MW 107	09-03-26	1555		15	X	X	X	X	X	X	X	X					
	MW 104	10-03-26	0955		11	X	X	X	X	X	X	X						
	MW 103D	10-03-26	1230		7			X	X	X	X	X			X			
	MW 106D	10-03-26	1420		7			X	X	X	X	X			X			
	MW 105D	12-03-26	1135		7			X	X	X	X	X			X			
	MW 103	12-03-26	1405		15	X	X	X	X	X	X	X	X					
	MW 101	12-03-26	1500		11	X	X	X	X	X	X	X						
	MW 104D	12-03-26	1725	↓	7			X	X	X	X	X			X			
	TRIP BLANK	—	—	Water	2									X				

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

Are samples taken from a Regulated DW System? ☐ YES ☑ NO
Are samples for human consumption/ use? ☐ YES ☑ NO

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

Critiera required:

SAMPLE RECEIPT DETAILS (ALS use only)

Cooling Method: ☐ NONE ☐ ICE ☑ ICE PACKS ☐ FROZEN ☐ COOLING INITIATED
Cooler Custody Seals Intact: ☐ YES ☐ N/A Sample Custody Seals Intact: ☐ YES ☐ N/A

INITIAL COOLER TEMPERATURES °C			FINAL COOLER TEMPERATURES °C		
			3.0	4.1	4.6

SHIPMENT RELEASE (client use)

Released by:	Date:	Time:
	3/13/26	1145

INITIAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:

FINAL SHIPMENT RECEPTION (ALS use only)

Received by:	Date:	Time:
	3/13/26	1145

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

OCT 2025 FRONT

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

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

ALS Canada Ltd.

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CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	:	**WT2615982**			
Client	:	**Jacobs Consultancy Canada Inc.**	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Jennifer Caron	Account Manager	:	Mathy Mahadeva
Address	:	201-165 King St. W. Kitchener Ontario Canada N2G 1A7	Address	:	60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	519 579 3500	Telephone	:	+1 519 886 6910
Project	:	COG14EDN	Date Samples Received	:	24-Jun-2026 11:15
PO	:	145005520	Date Analysis Commenced	:	26-Jun-2026
C-O-C number	:	CA202600003963_P-CA202600017528	Issue Date	:	29-Jun-2026 17:55
Sampler	:	----			
Site	:	----			
Quote number	:	Ontario Jacobs Standing Offer 2026			
No. of samples received	:	6			
No. of samples analysed	:	6			

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*
Andrea Armstrong	Department Manager - Air Quality and Volatiles	VOC, Waterloo, Ontario
Nik Perkio	Senior Analyst	Metals, Waterloo, Ontario

Summary of Guideline Breaches by Sample

SampleID/Client ID	Matrix	Analyte	Analyte Summary	Guideline	Category	Result	Limit
MW-103D-20260622 ----	Water	Sodium, dissolved		ON153/04	T2-GW-C-All	536000 µg/L	490000 µg/L
	Water	Dichloroethylene, cis-1,2-		ON153/04	T2-GW-C-All	1.96 µg/L	1.6 µg/L
	Water	Trichloroethylene		ON153/04	T2-GW-C-All	42.9 µg/L	1.6 µg/L
MW-104D-20260622 ----	Water	Dichloroethylene, cis-1,2-		ON153/04	T2-GW-C-All	11.4 µg/L	1.6 µg/L
	Water	Trichloroethylene		ON153/04	T2-GW-C-All	143 µg/L	1.6 µg/L
MW-105D-20260622 ----	Water	Trichloroethylene		ON153/04	T2-GW-C-All	8.07 µg/L	1.6 µg/L
MW-106D-20260622 ----	Water	Sodium, dissolved		ON153/04	T2-GW-C-All	882000 µg/L	490000 µg/L
	Water	Trichloroethylene		ON153/04	T2-GW-C-All	43.2 µg/L	1.6 µg/L
FD1-20260622 ----	Water	Sodium, dissolved		ON153/04	T2-GW-C-All	606000 µg/L	490000 µg/L
	Water	Dichloroethylene, cis-1,2-		ON153/04	T2-GW-C-All	1.85 µg/L	1.6 µg/L
	Water	Trichloroethylene		ON153/04	T2-GW-C-All	39.3 µg/L	1.6 µg/L

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.

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 units
µg/L	micrograms per litre

>: greater than.
<: less than.

Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
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
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).

Analytical Results Evaluation

Matrix: Water

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	MW-103D-20260622 ----	MW-104D-20260622 ----	MW-105D-20260622 ----	MW-106D-20260622 ----	FD1-20260622 ----	TB-20260623 ----	----
				Client sampling date / time	22-Jun-2026 17:20	22-Jun-2026 19:15	22-Jun-2026 13:25	22-Jun-2026 16:00	22-Jun-2026 00:00	22-Jun-2026 00:00	----
				Sub-Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	----
					WT2615982-001	WT2615982-002	WT2615982-003	WT2615982-004	WT2615982-005	WT2615982-006	----
					Result	Result	Result	Result	Result	Result	----
Dissolved Metals											
Antimony, dissolved	7440-36-0	E421/WT	µg/L		<1.00 DLHC	0.68	<1.00 DLHC	<1.00 DLHC	<1.00 DLHC	----	----
Arsenic, dissolved	7440-38-2	E421/WT	µg/L		<1.00 DLHC	0.90	<1.00 DLHC	<1.00 DLHC	<1.00 DLHC	----	----
Barium, dissolved	7440-39-3	E421/WT	µg/L		108 DLHC	72.0	96.2 DLHC	147 DLHC	110 DLHC	----	----
Beryllium, dissolved	7440-41-7	E421/WT	µg/L		<0.200 DLHC	<0.020	<0.200 DLHC	<0.200 DLHC	<0.200 DLHC	----	----
Boron, dissolved	7440-42-8	E421/WT	µg/L		<100 DLHC	69	<100 DLHC	<100 DLHC	<100 DLHC	----	----
Cadmium, dissolved	7440-43-9	E421/WT	µg/L		<0.0500 DLHC	0.0478	<0.0500 DLHC	<0.0500 DLHC	<0.0500 DLHC	----	----
Chromium, dissolved	7440-47-3	E421/WT	µg/L		<5.00 DLHC	<0.50	<5.00 DLHC	<5.00 DLHC	<5.00 DLHC	----	----
Cobalt, dissolved	7440-48-4	E421/WT	µg/L		<1.00 DLHC	1.83	<1.00 DLHC	<1.00 DLHC	<1.00 DLHC	----	----
Copper, dissolved	7440-50-8	E421/WT	µg/L		<2.00 DLHC	0.31	<2.00 DLHC	<2.00 DLHC	<2.00 DLHC	----	----
Lead, dissolved	7439-92-1	E421/WT	µg/L		<0.500 DLHC	0.479	<0.500 DLHC	<0.500 DLHC	<0.500 DLHC	----	----
Molybdenum, dissolved	7439-98-7	E421/WT	µg/L		<0.500 DLHC	0.825	<0.500 DLHC	<0.500 DLHC	0.550 DLHC	----	----
Nickel, dissolved	7440-02-0	E421/WT	µg/L		<5.00 DLHC	5.68	<5.00 DLHC	<5.00 DLHC	<5.00 DLHC	----	----
Selenium, dissolved	7782-49-2	E421/WT	µg/L		1.13 DLHC	10.0	0.767 DLHC	1.80 DLHC	1.35 DLHC	----	----
Silver, dissolved	7440-22-4	E421/WT	µg/L		<0.100 DLHC	<0.010	<0.100 DLHC	<0.100 DLHC	<0.100 DLHC	----	----
Sodium, dissolved	7440-23-5	E421/WT	µg/L		536000 DLHC	208000	466000 DLHC	882000 DLHC	606000 DLHC	----	----
Thallium, dissolved	7440-28-0	E421/WT	µg/L		<0.100 DLHC	0.338	<0.100 DLHC	<0.100 DLHC	<0.100 DLHC	----	----
Uranium, dissolved	7440-61-1	E421/WT	µg/L		1.96 DLHC	7.42	0.549 DLHC	1.75 DLHC	1.87 DLHC	----	----
Vanadium, dissolved	7440-62-2	E421/WT	µg/L		<5.00 DLHC	<0.50	<5.00 DLHC	<5.00 DLHC	<5.00 DLHC	----	----
Zinc, dissolved	7440-66-6	E421/WT	µg/L		<10.0 DLHC	90.3	11.8 DLHC	16.7 DLHC	10.8 DLHC	----	----

Matrix: Water

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	MW-103D-20260622 ----	MW-104D-20260622 ----	MW-105D-20260622 ----	MW-106D-20260622 ----	FD1-20260622 ----	TB-20260623 ----	----
				Client sampling date / time	22-Jun-2026 17:20	22-Jun-2026 19:15	22-Jun-2026 13:25	22-Jun-2026 16:00	22-Jun-2026 00:00	22-Jun-2026 00:00	----
				Sub-Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	----
					WT2615982-001	WT2615982-002	WT2615982-003	WT2615982-004	WT2615982-005	WT2615982-006	----
					Result	Result	Result	Result	Result	Result	----
Dissolved Metals											
Dissolved metals filtration location	----	EP421/WT	-		Field	Field	Field	Field	Field	----	----
Volatile Organic Compounds											
Acetone	67-64-1	E611D/WT	µg/L		<20	<20	<20	<20	<20	<20	----
Benzene	71-43-2	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Bromodichloromethane	75-27-4	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Bromoform	75-25-2	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Bromomethane	74-83-9	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Carbon tetrachloride	56-23-5	E611D/WT	µg/L		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	----
Chlorobenzene	108-90-7	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Chloroform	67-66-3	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Dibromochloromethane	124-48-1	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Dibromoethane, 1,2-	106-93-4	E611D/WT	µg/L		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	----
Dichlorobenzene, 1,2-	95-50-1	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Dichlorodifluoromethane	75-71-8	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611D/WT	µg/L		<0.50	1.10	<0.50	<0.50	<0.50	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611D/WT	µg/L		<0.50	0.58	<0.50	<0.50	<0.50	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611D/WT	µg/L		1.96	11.4	<0.50	0.94	1.85	<0.50	----

Matrix: Water

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	MW-103D-20260622 ----	MW-104D-20260622 ----	MW-105D-20260622 ----	MW-106D-20260622 ----	FD1-20260622 ----	TB-20260623 ----	----
				Client sampling date / time	22-Jun-2026 17:20	22-Jun-2026 19:15	22-Jun-2026 13:25	22-Jun-2026 16:00	22-Jun-2026 00:00	22-Jun-2026 00:00	----
				Sub-Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	----
					WT2615982-001	WT2615982-002	WT2615982-003	WT2615982-004	WT2615982-005	WT2615982-006	----
					Result	Result	Result	Result	Result	Result	----
Volatile Organic Compounds											
Dichloroethylene, trans-1,2-	156-60-5	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Dichloromethane	75-09-2	E611D/WT	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D/WT	µg/L		<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D/WT	µg/L		<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	----
Ethylbenzene	100-41-4	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Hexane, n-	110-54-3	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Methyl ethyl ketone [MEK]	78-93-3	E611D/WT	µg/L		<20	<20	<20	<20	<20	<20	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D/WT	µg/L		<20	<20	<20	<20	<20	<20	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Styrene	100-42-5	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Tetrachloroethylene	127-18-4	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Toluene	108-88-3	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Trichloroethane, 1,1,1-	71-55-6	E611D/WT	µg/L		1.17	1.26	0.67	1.70	1.06	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Trichloroethylene	79-01-6	E611D/WT	µg/L		42.9	143	8.07	43.2	39.3	<0.50	----

Matrix: Water

Analyte	CAS Number	Method/Lab	Unit	Client sample ID	MW-103D-20260622 ----	MW-104D-20260622 ----	MW-105D-20260622 ----	MW-106D-20260622 ----	FD1-20260622 ----	TB-20260623 ----	----
				Client sampling date / time	22-Jun-2026 17:20	22-Jun-2026 19:15	22-Jun-2026 13:25	22-Jun-2026 16:00	22-Jun-2026 00:00	22-Jun-2026 00:00	----
				Sub-Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	----
					WT2615982-001	WT2615982-002	WT2615982-003	WT2615982-004	WT2615982-005	WT2615982-006	----
					Result	Result	Result	Result	Result	Result	----
Volatile Organic Compounds											
Trichlorofluoromethane	75-69-4	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
Vinyl chloride	75-01-4	E611D/WT	µg/L		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	----
Xylene, m+p-	179601-23-1	E611D/WT	µg/L		<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	----
Xylene, o-	95-47-6	E611D/WT	µg/L		<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	----
Xylenes, total	1330-20-7	E611D/WT	µg/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	----
BTEX, total	----	E611D/WT	µg/L		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	----
Hydrocarbons											
F1 (C6-C10)	----	E581.F1-L/WT	µg/L		----	----	----	----	----	<25	----
F1-BTEX	----	EC580/WT	µg/L		----	----	----	----	----	<25	----
Hydrocarbons Surrogates											
Dichlorotoluene, 3,4-	95-75-0	E581.F1-L/WT	%		----	----	----	----	----	109	----
Volatile Organic Compounds Surrogates											
Bromofluorobenzene, 4-	460-00-4	E611D/WT	%		91.2	94.7	94.8	93.8	91.9	93.4	----
Difluorobenzene, 1,4-	540-36-3	E611D/WT	%		98.9	98.6	98.9	98.5	98.5	98.5	----

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

Summary of Guideline Limits

Analyte	CAS Number	Unit	ON153/04 T2-GW-C-All						
Dissolved Metals									
Antimony, dissolved	7440-36-0	µg/L	**6 µg/L**	----	----	----	----	----	----
Arsenic, dissolved	7440-38-2	µg/L	**25 µg/L**	----	----	----	----	----	----
Barium, dissolved	7440-39-3	µg/L	**1000 µg/L**	----	----	----	----	----	----
Beryllium, dissolved	7440-41-7	µg/L	**4 µg/L**	----	----	----	----	----	----
Boron, dissolved	7440-42-8	µg/L	**5000 µg/L**	----	----	----	----	----	----
Cadmium, dissolved	7440-43-9	µg/L	**2.7 µg/L**	----	----	----	----	----	----
Chromium, dissolved	7440-47-3	µg/L	**50 µg/L**	----	----	----	----	----	----
Cobalt, dissolved	7440-48-4	µg/L	**3.8 µg/L**	----	----	----	----	----	----
Copper, dissolved	7440-50-8	µg/L	**87 µg/L**	----	----	----	----	----	----
Lead, dissolved	7439-92-1	µg/L	**10 µg/L**	----	----	----	----	----	----
Molybdenum, dissolved	7439-98-7	µg/L	**70 µg/L**	----	----	----	----	----	----
Nickel, dissolved	7440-02-0	µg/L	**100 µg/L**	----	----	----	----	----	----
Selenium, dissolved	7782-49-2	µg/L	**10 µg/L**	----	----	----	----	----	----
Silver, dissolved	7440-22-4	µg/L	**1.5 µg/L**	----	----	----	----	----	----
Sodium, dissolved	7440-23-5	µg/L	**490000 µg/L**	----	----	----	----	----	----
Thallium, dissolved	7440-28-0	µg/L	**2 µg/L**	----	----	----	----	----	----
Uranium, dissolved	7440-61-1	µg/L	**20 µg/L**	----	----	----	----	----	----
Vanadium, dissolved	7440-62-2	µg/L	**6.2 µg/L**	----	----	----	----	----	----
Zinc, dissolved	7440-66-6	µg/L	**1100 µg/L**	----	----	----	----	----	----
Dissolved metals filtration location	----	-	**----**	----	----	----	----	----	----
Volatile Organic Compounds									
Acetone	67-64-1	µg/L	**2700 µg/L**	----	----	----	----	----	----
Benzene	71-43-2	µg/L	**5 µg/L**	----	----	----	----	----	----

Bromodichloromethane	75-27-4	µg/L	**16 µg/L**	----	----	----	----	----	----
Bromoform	75-25-2	µg/L	**25 µg/L**	----	----	----	----	----	----
Bromomethane	74-83-9	µg/L	**0.89 µg/L**	----	----	----	----	----	----
Carbon tetrachloride	56-23-5	µg/L	**0.79 µg/L**	----	----	----	----	----	----
Chlorobenzene	108-90-7	µg/L	**30 µg/L**	----	----	----	----	----	----
Chloroform	67-66-3	µg/L	**2.4 µg/L**	----	----	----	----	----	----
Dibromochloromethane	124-48-1	µg/L	**25 µg/L**	----	----	----	----	----	----
Dibromoethane, 1,2-	106-93-4	µg/L	**0.2 µg/L**	----	----	----	----	----	----
Dichlorobenzene, 1,2-	95-50-1	µg/L	**3 µg/L**	----	----	----	----	----	----
Dichlorobenzene, 1,3-	541-73-1	µg/L	**59 µg/L**	----	----	----	----	----	----
Dichlorobenzene, 1,4-	106-46-7	µg/L	**1 µg/L**	----	----	----	----	----	----
Dichlorodifluoromethane	75-71-8	µg/L	**590 µg/L**	----	----	----	----	----	----
Dichloroethane, 1,1-	75-34-3	µg/L	**5 µg/L**	----	----	----	----	----	----
Dichloroethane, 1,2-	107-06-2	µg/L	**1.6 µg/L**	----	----	----	----	----	----
Dichloroethylene, 1,1-	75-35-4	µg/L	**1.6 µg/L**	----	----	----	----	----	----
Dichloroethylene, cis-1,2-	156-59-2	µg/L	**1.6 µg/L**	----	----	----	----	----	----
Dichloroethylene, trans-1,2-	156-60-5	µg/L	**1.6 µg/L**	----	----	----	----	----	----
Dichloromethane	75-09-2	µg/L	**50 µg/L**	----	----	----	----	----	----
Dichloropropane, 1,2-	78-87-5	µg/L	**5 µg/L**	----	----	----	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	µg/L	----	----	----	----	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	µg/L	**0.5 µg/L**	----	----	----	----	----	----
Dichloropropylene, trans-1,3-	10061-02-6	µg/L	----	----	----	----	----	----	----
Ethylbenzene	100-41-4	µg/L	**2.4 µg/L**	----	----	----	----	----	----
Hexane, n-	110-54-3	µg/L	**51 µg/L**	----	----	----	----	----	----
Methyl ethyl ketone [MEK]	78-93-3	µg/L	**1800 µg/L**	----	----	----	----	----	----
Methyl isobutyl ketone [MIBK]	108-10-1	µg/L	**640 µg/L**	----	----	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	µg/L	**15 µg/L**	----	----	----	----	----	----

Styrene	100-42-5	µg/L	**5.4 µg/L**	----	----	----	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	µg/L	**1.1 µg/L**	----	----	----	----	----	----
Tetrachloroethane, 1,1,2,2-	79-34-5	µg/L	**1 µg/L**	----	----	----	----	----	----
Tetrachloroethylene	127-18-4	µg/L	**1.6 µg/L**	----	----	----	----	----	----
Toluene	108-88-3	µg/L	**24 µg/L**	----	----	----	----	----	----
Trichloroethane, 1,1,1-	71-55-6	µg/L	**200 µg/L**	----	----	----	----	----	----
Trichloroethane, 1,1,2-	79-00-5	µg/L	**4.7 µg/L**	----	----	----	----	----	----
Trichloroethylene	79-01-6	µg/L	**1.6 µg/L**	----	----	----	----	----	----
Trichlorofluoromethane	75-69-4	µg/L	**150 µg/L**	----	----	----	----	----	----
Vinyl chloride	75-01-4	µg/L	**0.5 µg/L**	----	----	----	----	----	----
Xylene, m+p-	179601-23-1	µg/L	**----**	----	----	----	----	----	----
Xylene, o-	95-47-6	µg/L	**----**	----	----	----	----	----	----
Xylenes, total	1330-20-7	µg/L	**300 µg/L**	----	----	----	----	----	----
BTEX, total		µg/L	**----**	----	----	----	----	----	----
Hydrocarbons									
F1 (C6-C10)		µg/L	**750 µg/L**	----	----	----	----	----	----
F1-BTEX		µg/L	**750 µg/L**	----	----	----	----	----	----
Bromofluorobenzene, 4-	460-00-4	%	**----**	----	----	----	----	----	----
Dichlorotoluene, 3,4-	95-75-0	%	**----**	----	----	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	%	**----**	----	----	----	----	----	----

Key:

ON153/04 — Ontario Regulation 153/04 - April 15, 2011 Standards (JUL, 2011)

T2-GW-C-All — 153 T2-Ground Water (Coarse Soil)-All Types of Property Use

ALS Canada Ltd.

Quality Control Interpretive Report

Work Order	:	**WT2615982**			
Client	:	Jacobs Consultancy Canada Inc.	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Jennifer Caron	Account Manager	:	Mathy Mahadeva
Address	:	201-165 King St. W. Kitchener ON Canada N2G 1A7	Address	:	60 Northland Road, Unit 1 Waterloo Ontario Canada N2V 2B8
Telephone	:	519 579 3500	Telephone	:	+1 519 886 6910
Project	:	COG14EDN	Date Samples Received	:	24-Jun-2026 11:15
PO	:	145005520	Issue Date	:	29-Jun-2026 17:55
C-O-C number	:	CA202600003963_P-CA202600017528			
Sampler	:	----			
Site	:	----			
Quote number	:	Ontario Jacobs Standing Offer 2026			
No. of samples received	:	6			
No. of samples analysed	:	6			

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 Services 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 Laboratory Control Sample (LCS) outliers occur
- No Laboratory Control Sample Duplicate (LCSD) outliers occur
- Matrix Spike outliers occur - please see following pages for full details.
- No Matrix Spike Duplicate (MSD) outliers occur.
- 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

- No Quality Control Sample Frequency Outliers occur.

Outliers : Quality Control Samples

Duplicates, Method Blanks, Laboratory Control Samples and Matrix Spikes

Matrix :**Water**

Analyte Group	Laboratory sample ID	Client/Ref Sample ID	Analyte	CAS Number	Method	Result		Limits	Comment
Matrix Spike (MS) Recoveries									
Dissolved Metals	HA2603800--004	Anonymous	Silver, dissolved	7440-22-4	E421	62.3 %	MES	70.0-130%	Recovery less than lower data quality objective

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: Water

Evaluation: × = Holding time exceedance; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times Rec	Holding Times Actual	Eval	Analysis Date	Holding Times Rec	Holding Times Actual	Eval
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS												
HDPE dissolved (nitric acid)												
MW-103D-20260622	001	2676220	E421	22-Jun-2026	26-Jun-2026	180 days	4 days	✓	28-Jun-2026	180 days	6 days	✓
MW-104D-20260622	002	2676220	E421	22-Jun-2026	26-Jun-2026	180 days	4 days	✓	28-Jun-2026	180 days	6 days	✓
MW-105D-20260622	003	2676220	E421	22-Jun-2026	26-Jun-2026	180 days	4 days	✓	28-Jun-2026	180 days	6 days	✓
MW-106D-20260622	004	2676220	E421	22-Jun-2026	26-Jun-2026	180 days	4 days	✓	28-Jun-2026	180 days	6 days	✓
FD1-20260622	005	2676220	E421	22-Jun-2026	26-Jun-2026	180 days	5 days	✓	28-Jun-2026	180 days	6 days	✓
Hydrocarbons : CCME PHC - F1 by Headspace GC-FID (Low Level)												
Glass vial (sodium bisulfate)												
TB-20260623	006	2676815	E581.F1-L	22-Jun-2026	26-Jun-2026	14 days	5 days	✓	26-Jun-2026	14 days	5 days	✓
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS												
Glass vial (sodium bisulfate)												
MW-103D-20260622	001	2676814	E611D	22-Jun-2026	26-Jun-2026	14 days	4 days	✓	26-Jun-2026	14 days	4 days	✓
MW-104D-20260622	002	2676814	E611D	22-Jun-2026	26-Jun-2026	14 days	4 days	✓	26-Jun-2026	14 days	4 days	✓
MW-105D-20260622	003	2676814	E611D	22-Jun-2026	26-Jun-2026	14 days	4 days	✓	26-Jun-2026	14 days	4 days	✓
MW-106D-20260622	004	2676814	E611D	22-Jun-2026	26-Jun-2026	14 days	4 days	✓	26-Jun-2026	14 days	4 days	✓

Matrix: Water

Evaluation: × = Holding time exceedance; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS												
Glass vial (sodium bisulfate)												
FD1-20260622	005	2676814	E611D	22-Jun-2026	26-Jun-2026	14 days	5 days	✓	26-Jun-2026	14 days	5 days	✓
TB-20260623	006	2676814	E611D	22-Jun-2026	26-Jun-2026	14 days	5 days	✓	26-Jun-2026	14 days	5 days	✓

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: Water

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method / Lab	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Dissolved Metals in Water by CRC ICPMS	E421 / WT	2676220	1	16	6.2	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L / WT	2676815	1	10	10.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D / WT	2676814	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Dissolved Metals in Water by CRC ICPMS	E421 / WT	2676220	1	16	6.2	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L / WT	2676815	1	10	10.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D / WT	2676814	1	20	5.0	5.0	✓
Method Blanks (MB)							
Dissolved Metals in Water by CRC ICPMS	E421 / WT	2676220	1	16	6.2	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L / WT	2676815	1	10	10.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D / WT	2676814	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Dissolved Metals in Water by CRC ICPMS	E421 / WT	2676220	1	16	6.2	5.0	✓
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L / WT	2676815	1	10	10.0	5.0	✓
VOCs (Eastern Canada List) by Headspace GC-MS	E611D / WT	2676814	1	20	5.0	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
CCME PHC - F1 by Headspace GC-FID (Low Level)	E581.F1-L ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1 (mod)	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. Analytical methods for CCME Petroleum Hydrocarbons (PHCs) are validated to comply fully with the Reference Method for the Canada-Wide Standard for PHC. Unless qualified, all required quality control criteria of the CCME PHC method have been met, including response factor and linearity requirements.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Waterloo	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
F1-BTEX	EC580 ALS Environmental - Waterloo	Water	CCME PHC in Soil - Tier 1	F1-BTEX is calculated as follows: F1-BTEX = F1 (C6-C10) minus benzene, toluene, ethylbenzene and xylenes (BTEX).
VOCs (Eastern Canada List) by Headspace GC-MS	E611D ALS Environmental - Waterloo	Water	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.
Preparation Methods	**Method / Lab**	**Matrix**	**Method Reference**	**Method Descriptions**
Dissolved Metals Water Filtration	EP421 ALS Environmental - Waterloo	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO3.
VOCs Preparation for Headspace Analysis	EP581 ALS Environmental - Waterloo	Water	EPA 5021A (mod)	Samples are prepared in headspace vials and are heated and agitated on the headspace autosampler. An aliquot of the headspace is then injected into a GC-MS-FID.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	:	**WT2615982**			
Client	:	Jacobs Consultancy Canada Inc.	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Jennifer Caron	Account Manager	:	Mathy Mahadeva
Address	:	201-165 King St. W. Kitchener ON Canada N2G 1A7	Address	:	60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	519 579 3500	Telephone	:	+1 519 886 6910
Project	:	COG14EDN	Date Samples Received	:	24-Jun-2026 11:15
PO	:	145005520	Date Analysis Commenced	:	26-Jun-2026
C-O-C number	:	CA202600003963_P-CA202600017528	Issue Date	:	29-Jun-2026 17:55
Sampler	:	----			
Site	:	----			
Quote number	:	Ontario Jacobs Standing Offer 2026			
No. of samples received	:	6			
No. of samples analysed	:	6			

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
- 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.

Signatories	*Position*	*Laboratory Department*
Andrea Armstrong	Department Manager - Air Quality and Volatiles	Waterloo VOC, Waterloo, Ontario
Nik Perkio	Senior Analyst	Waterloo Metals, Waterloo, Ontario

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 (QCI) 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).

Sub-Matrix: Groundwater

Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals(QC Lot: 2676220)											
HA2603800-002	Anonymous	Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	0.00011	0.00011	0.0000007	Diff <2x LOR	---
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00084	0.00082	0.00002	Diff <2x LOR	---
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0204	0.0202	0.956 %	20%	---
		Beryllium, dissolved	7440-41-7	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	---
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.089	0.088	0.001	Diff <2x LOR	---
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	---
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	---
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	---
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00027	0.00025	0.00002	Diff <2x LOR	---
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	---
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.00749	0.00750	0.132 %	20%	---
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	---
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000093	0.000089	0.000005	Diff <2x LOR	---
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	---
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	20.3	19.5	4.14 %	20%	---
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	---
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.00659	0.00659	0.0152 %	20%	---
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	---
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	---

Sub-Matrix: Water

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: 2676814)											
WT2617267-001	Anonymous	Acetone	67-64-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	---
		Benzene	71-43-2	E611D	0.50	µg/L	2.40	2.36	0.04	Diff <2x LOR	---
		Bromodichloromethane	75-27-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Bromoform	75-25-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Bromomethane	74-83-9	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Carbon tetrachloride	56-23-5	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	---
		Chlorobenzene	108-90-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---

Sub-Matrix: Water

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: 2676814)											
		Chloroform	67-66-3	E611D	0.50	µg/L	0.80	0.78	0.02	Diff <2x LOR	---
		Dibromochloromethane	124-48-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dibromoethane, 1,2-	106-93-4	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	---
		Dichlorobenzene, 1,2-	95-50-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichlorobenzene, 1,3-	541-73-1	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichlorobenzene, 1,4-	106-46-7	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichlorodifluoromethane	75-71-8	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethane, 1,1-	75-34-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethane, 1,2-	107-06-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethylene, 1,1-	75-35-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethylene, cis-1,2-	156-59-2	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloroethylene, trans-1,2-	156-60-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloromethane	75-09-2	E611D	1.0	µg/L	<1.0	<1.0	0	Diff <2x LOR	---
		Dichloropropane, 1,2-	78-87-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	---
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	---
		Ethylbenzene	100-41-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Hexane, n-	110-54-3	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	---
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	---
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Styrene	100-42-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Tetrachloroethylene	127-18-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Toluene	108-88-3	E611D	0.50	µg/L	23.3	22.6	3.14 %	30%	---
		Trichloroethane, 1,1,1-	71-55-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Trichloroethane, 1,1,2-	79-00-5	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Trichloroethylene	79-01-6	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Trichlorofluoromethane	75-69-4	E611D	0.50	µg/L	<0.50	<0.50	0	Diff <2x LOR	---
		Vinyl chloride	75-01-4	E611D	0.20	µg/L	<0.20	<0.20	0	Diff <2x LOR	---
		Xylene, m+p-	179601-23-1	E611D	0.40	µg/L	0.49	0.48	0.01	Diff <2x LOR	---
		Xylene, o-	95-47-6	E611D	0.30	µg/L	<0.30	<0.30	0	Diff <2x LOR	---
Hydrocarbons(QC Lot: 2676815)											
WT2617267-001	Anonymous	F1 (C6-C10)	----	E581.F1-L	25	µg/L	<25	<25	0	Diff <2x LOR	---

Volatile Organic Compounds Surrogates(QC Lot: 2676814)											
							Duplicate Result	Target	%Rec.	Surr. Limits	
		Bromofluorobenzene, 4-	460-00-4	E611D	1.0	µg/L	9.3	10.000 µg/L	93.4	70-130 %	---
		Difluorobenzene, 1,4-	540-36-3	E611D	1.0	µg/L	9.8	10.000 µg/L	98.5	70-130 %	---

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: Water

Analyte	*CAS Number*	*Method*	*LOR*	*Unit*	*Result*	*Qualifier*
Dissolved Metals(QC Lot: 2676220)						
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Volatile Organic Compounds(QC Lot: 2676814)						
Acetone	67-64-1	E611D	20	µg/L	<20	----
Benzene	71-43-2	E611D	0.5	µg/L	<0.50	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	<0.50	----
Bromoform	75-25-2	E611D	0.5	µg/L	<0.50	----
Bromomethane	74-83-9	E611D	0.5	µg/L	<0.50	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	<0.20	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611D	0.5	µg/L	<0.50	----

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds(QC Lot: 2676814)						
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	<0.50	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	<0.20	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	<0.50	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	<0.50	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	<0.50	----
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	<0.50	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	<0.50	----
Dichloromethane	75-09-2	E611D	1	µg/L	<1.0	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	<0.50	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	<0.30	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	<0.30	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	<0.50	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	<0.50	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	<20	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	<20	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	<0.50	----
Styrene	100-42-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	<0.50	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	<0.50	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	<0.50	----
Toluene	108-88-3	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	<0.50	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	<0.50	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	<0.50	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	<0.50	----
Vinyl chloride	75-01-4	E611D	0.2	µg/L	<0.20	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	<0.40	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	<0.30	----
Hydrocarbons(QC Lot: 2676815)						
F1 (C6-C10)	----	E581.F1-L	25	µg/L	<25	----

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: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Dissolved Metals(QC Lot: 2676220)									
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	0.05 mg/L	107	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	0.05 mg/L	95.7	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.0125 mg/L	106	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.005 mg/L	103	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	0.05 mg/L	102	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.005 mg/L	99.4	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.0125 mg/L	88.3	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.0125 mg/L	88.1	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.0125 mg/L	84.7	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.025 mg/L	109	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.0125 mg/L	104	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.025 mg/L	85.7	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	0.05 mg/L	87.7	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.005 mg/L	104	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	2.5 mg/L	89.4	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	0.05 mg/L	109	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0.0002 mg/L	108	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.025 mg/L	89.5	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.025 mg/L	90.9	80.0	120	----
Volatile Organic Compounds(QC Lot: 2676814)									
Acetone	67-64-1	E611D	20	µg/L	100 µg/L	91.2	70.0	130	----
Benzene	71-43-2	E611D	0.5	µg/L	100 µg/L	100	70.0	130	----
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	100 µg/L	94.3	70.0	130	----
Bromoform	75-25-2	E611D	0.5	µg/L	100 µg/L	89.6	70.0	130	----
Bromomethane	74-83-9	E611D	0.5	µg/L	100 µg/L	82.6	60.0	140	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	100 µg/L	96.7	70.0	130	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	100 µg/L	101	70.0	130	----
Chloroform	67-66-3	E611D	0.5	µg/L	100 µg/L	98.2	70.0	130	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	100 µg/L	89.8	70.0	130	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	100 µg/L	90.0	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	100 µg/L	103	70.0	130	----
Dichlorobenzene, 1,3-	541-73-1	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Dichlorobenzene, 1,4-	106-46-7	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	100 µg/L	121	60.0	140	----
Dichloroethane, 1,1-	75-34-3	E611D	0.5	µg/L	100 µg/L	90.0	70.0	130	----

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
					Target Concentration	LCS	Low	High	Qualifier
Volatile Organic Compounds(QC Lot: 2676814)									
Dichloroethane, 1,2-	107-06-2	E611D	0.5	µg/L	100 µg/L	91.1	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	100 µg/L	106	70.0	130	----
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	100 µg/L	98.4	70.0	130	----
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----
Dichloromethane	75-09-2	E611D	1	µg/L	100 µg/L	94.0	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	100 µg/L	93.6	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	100 µg/L	95.0	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	100 µg/L	94.1	70.0	130	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	100 µg/L	104	70.0	130	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	100 µg/L	97.6	70.0	130	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	100 µg/L	82.5	70.0	130	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	100 µg/L	84.6	70.0	130	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	0.5	µg/L	100 µg/L	100	70.0	130	----
Styrene	100-42-5	E611D	0.5	µg/L	100 µg/L	91.6	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	100 µg/L	89.4	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	100 µg/L	92.4	70.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	100 µg/L	100	70.0	130	----
Toluene	108-88-3	E611D	0.5	µg/L	100 µg/L	103	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	100 µg/L	98.1	70.0	130	----
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	100 µg/L	86.4	70.0	130	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	100 µg/L	101	70.0	130	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	100 µg/L	105	60.0	140	----
Vinyl chloride	75-01-4	E611D	0.2	µg/L	100 µg/L	110	60.0	140	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	200 µg/L	101	70.0	130	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	100 µg/L	102	70.0	130	----
Hydrocarbons(QC Lot: 2676815)									
F1 (C6-C10)	----	E581.F1-L	25	µg/L	2000 µg/L	99.2	80.0	120	----
Hydrocarbons Surrogates(QC Lot: 2676815)									
Dichlorotoluene, 3,4-	95-75-0	E581.F1-L	1	µg/L	1001 µg/L	105	60	140	----
Volatile Organic Compounds Surrogates(QC Lot: 2676814)									
Bromofluorobenzene, 4-	460-00-4	E611D	1	µg/L	10 µg/L	98.5	70	130	----
Difluorobenzene, 1,4-	540-36-3	E611D	1	µg/L	10 µg/L	101	70	130	----

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

Sub-Matrix: Groundwater

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Dissolved Metals(QC Lot: 2676220)										
HA2603800-004	Anonymous	Antimony, dissolved	7440-36-0	E421	0.0537 mg/L	0.05 mg/L	107	70.0	130	---
		Arsenic, dissolved	7440-38-2	E421	0.0525 mg/L	0.05 mg/L	105	70.0	130	---
		Barium, dissolved	7440-39-3	E421	ND	----	ND	70.0	130	---
		Beryllium, dissolved	7440-41-7	E421	0.00509 mg/L	0.005 mg/L	102	70.0	130	---
		Boron, dissolved	7440-42-8	E421	0.046 mg/L	0.05 mg/L	92.8	70.0	130	---
		Cadmium, dissolved	7440-43-9	E421	0.00516 mg/L	0.005 mg/L	103	70.0	130	---
		Chromium, dissolved	7440-47-3	E421	0.0115 mg/L	0.0125 mg/L	92.3	70.0	130	---
		Cobalt, dissolved	7440-48-4	E421	0.0115 mg/L	0.0125 mg/L	92.0	70.0	130	---
		Copper, dissolved	7440-50-8	E421	0.0110 mg/L	0.0125 mg/L	87.9	70.0	130	---
		Lead, dissolved	7439-92-1	E421	0.0263 mg/L	0.025 mg/L	105	70.0	130	---
		Molybdenum, dissolved	7439-98-7	E421	0.0127 mg/L	0.0125 mg/L	102	70.0	130	---
		Nickel, dissolved	7440-02-0	E421	0.0221 mg/L	0.025 mg/L	88.4	70.0	130	---
		Selenium, dissolved	7782-49-2	E421	0.0502 mg/L	0.05 mg/L	100	70.0	130	---
		Silver, dissolved	7440-22-4	E421	0.00312 mg/L	0.005 mg/L	62.3	70.0	130	MES
		Sodium, dissolved	7440-23-5	E421	ND	----	ND	70.0	130	---
		Thallium, dissolved	7440-28-0	E421	0.0534 mg/L	0.05 mg/L	107	70.0	130	---
		Uranium, dissolved	7440-61-1	E421	ND	----	ND	70.0	130	---
		Vanadium, dissolved	7440-62-2	E421	0.0239 mg/L	0.025 mg/L	95.7	70.0	130	---
		Zinc, dissolved	7440-66-6	E421	0.0246 mg/L	0.025 mg/L	98.5	70.0	130	---
Volatile Organic Compounds(QC Lot: 2676814)										
WT2617267-001	Anonymous	Acetone	67-64-1	E611D	106 µg/L	100 µg/L	106	60.0	140	---
		Benzene	71-43-2	E611D	102 µg/L	100 µg/L	102	60.0	140	---
		Bromodichloromethane	75-27-4	E611D	102 µg/L	100 µg/L	102	60.0	140	---
		Bromoform	75-25-2	E611D	96.1 µg/L	100 µg/L	96.1	60.0	140	---
		Bromomethane	74-83-9	E611D	78.1 µg/L	100 µg/L	78.1	60.0	140	---
		Carbon tetrachloride	56-23-5	E611D	92.8 µg/L	100 µg/L	92.8	60.0	140	---
		Chlorobenzene	108-90-7	E611D	102 µg/L	100 µg/L	102	60.0	140	---
		Chloroform	67-66-3	E611D	101 µg/L	100 µg/L	101	60.0	140	---
		Dibromochloromethane	124-48-1	E611D	98.4 µg/L	100 µg/L	98.4	60.0	140	---
		Dibromoethane, 1,2-	106-93-4	E611D	101 µg/L	100 µg/L	101	60.0	140	---
		Dichlorobenzene, 1,2-	95-50-1	E611D	105 µg/L	100 µg/L	105	60.0	140	---
		Dichlorobenzene, 1,3-	541-73-1	E611D	103 µg/L	100 µg/L	103	60.0	140	---
		Dichlorobenzene, 1,4-	106-46-7	E611D	99.0 µg/L	100 µg/L	99.0	60.0	140	---
		Dichlorodifluoromethane	75-71-8	E611D	104 µg/L	100 µg/L	104	60.0	140	---

Sub-Matrix: Groundwater

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Volatile Organic Compounds(QC Lot: 2676814)										
		Dichloroethane, 1,1-	75-34-3	E611D	107 µg/L	100 µg/L	107	60.0	140	---
		Dichloroethane, 1,2-	107-06-2	E611D	102 µg/L	100 µg/L	102	60.0	140	---
		Dichloroethylene, 1,1-	75-35-4	E611D	102 µg/L	100 µg/L	102	60.0	140	---
		Dichloroethylene, cis-1,2-	156-59-2	E611D	102 µg/L	100 µg/L	102	60.0	140	---
		Dichloroethylene, trans-1,2-	156-60-5	E611D	99.7 µg/L	100 µg/L	99.7	60.0	140	---
		Dichloromethane	75-09-2	E611D	99.6 µg/L	100 µg/L	99.6	60.0	140	---
		Dichloropropane, 1,2-	78-87-5	E611D	99.6 µg/L	100 µg/L	99.6	60.0	140	---
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	107 µg/L	100 µg/L	107	60.0	140	---
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	107 µg/L	100 µg/L	107	60.0	140	---
		Ethylbenzene	100-41-4	E611D	101 µg/L	100 µg/L	101	60.0	140	---
		Hexane, n-	110-54-3	E611D	105 µg/L	100 µg/L	105	60.0	140	---
		Methyl ethyl ketone [MEK]	78-93-3	E611D	100 µg/L	100 µg/L	100	60.0	140	---
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	103 µg/L	100 µg/L	103	60.0	140	---
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	102 µg/L	100 µg/L	102	60.0	140	---
		Styrene	100-42-5	E611D	99.8 µg/L	100 µg/L	99.8	60.0	140	---
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	92.4 µg/L	100 µg/L	92.4	60.0	140	---
		Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	105 µg/L	100 µg/L	105	60.0	140	---
		Tetrachloroethylene	127-18-4	E611D	91.9 µg/L	100 µg/L	91.9	60.0	140	---
		Toluene	108-88-3	E611D	98.5 µg/L	100 µg/L	98.5	60.0	140	---
		Trichloroethane, 1,1,1-	71-55-6	E611D	95.1 µg/L	100 µg/L	95.1	60.0	140	---
		Trichloroethane, 1,1,2-	79-00-5	E611D	95.5 µg/L	100 µg/L	95.5	60.0	140	---
		Trichloroethylene	79-01-6	E611D	98.9 µg/L	100 µg/L	98.9	60.0	140	---
		Trichlorofluoromethane	75-69-4	E611D	97.3 µg/L	100 µg/L	97.3	60.0	140	---
		Vinyl chloride	75-01-4	E611D	102 µg/L	100 µg/L	102	60.0	140	---
		Xylene, m+p-	179601-23-1	E611D	195 µg/L	200 µg/L	97.5	60.0	140	---
		Xylene, o-	95-47-6	E611D	101 µg/L	100 µg/L	101	60.0	140	---
Hydrocarbons(QC Lot: 2676815)										
WT2617267-001	Anonymous	F1 (C6-C10)	----	E581.F1-L	1900 µg/L	2000 µg/L	95.1	60.0	140	---
Hydrocarbons Surrogates(QC Lot: 2676815)										
		Dichlorotoluene, 3,4-	95-75-0	E581.F1-L	1120 µg/L	1001 µg/L	111	60.0	140	---
Volatile Organic Compounds Surrogates(QC Lot: 2676814)										
		Bromofluorobenzene, 4-	460-00-4	E611D	10.1 µg/L	10 µg/L	101	70.0	130	---
		Difluorobenzene, 1,4-	540-36-3	E611D	10.1 µg/L	10 µg/L	101	70.0	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 & CCME).

June 2026 Deep Wells, Low Flow — Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com MW-280 VW-131

Canada Toll Free: 1 800 668 9878

COC Number: 22-

Page 1 of 1

Environmental Division
Waterloo
Work Order Reference
WT2615982

Telephone : +1 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	Jacobs Consultancy Canada Inc.
Contact:	Lindsay Shaw
Phone:	(416) 499-9000
	Company address below will appear on the final report
Street:	121 King Street West
City/Province:	Toronto, Ontario

Invoice To	
	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	Jacobs Consultancy Canada Inc.
Contact:	Accounts Payable

Project Information	
ALS Client Code / QUOTE #:	Standing Offer
Job / Project #:	COG14EDN
PO / AFE:	PO 145005520
LSD:	

ALS Lab Work Order # (ALS use only): 15982.

Reports / Recipients	
Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☑ YES ☐ NO ☐ N/A
☑ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☑ MAIL ☐ FAX
Email 1	Alanna.Mills@jacobs.com ; Tania.McCarthy@jacobs.com
Email 2	Lindsay.Shaw@jacobs.com ; CanadaEDMA@jacobs.com
Email 5	Jennifer.Caron@jacobs.com

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☑ FAX
Email 1 or Fax	CAAPInvoices@jacobs.com
Email 2	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#:
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Contact: Mathy Mahadeva Sampler: AM

Turnaround Time (TAT) Requested
☑ Routine [R] if received by 3pm M-F - no surcharges apply
☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge m
☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge e
☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge a
☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge n
☐ Same day [E2] if received by 10am M-F - 200% rush surch
Additional fees may apply to rush requests on wee
Date and Time Required for all E&P TATs:
For all tests with rush TATs requested, please contact your AM to confirm availability.

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	O.Reg 153 Metals (F/P)	VOCs, BTEX (P)	VOCs/F1 (P)	Sodium (dissolved) (F/P)	Chloride (--)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MW103D-202606 22	22-Jun-26	1740	Groundwater	3	1	1		1				
	MW104D-202606 22	22-Jun-26	1915	Groundwater		1	1		1				
	MW105D-202606 22	22-Jun-26	1325	Groundwater		1	1		1				
	MW106D-202606 22	22-Jun-26	1600	Groundwater		1	1		1				
	FD1-202606 22	22-Jun-26	—	Groundwater	3	1	1		1				
	TB-202606 23	23-Jun-26	—	Labwater	2			1					

Drinking Water (DW) Samples[1] (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)
Are samples taken from a Regulated DW System? ☐ YES ☑ NO	O. Reg 153 Table 2 SCS RPI Coarse
Are samples for human consumption/ use? ☐ YES ☑ NO	

SAMPLE RECEIPT DETAILS (ALS use only)

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

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

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				3.1			

SHIPMENT RELEASE (client use)		
Released by: Alanna Mills	Date: 2026/06/23	Time: 1440

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

FINAL SHIPMENT RECEPTION (ALS use only)		
Received by:	Date: 24JUN26	Time: 1115

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

MAY 2023 FRONT

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

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

ALS Canada Ltd.

CERTIFICATE OF ANALYSIS (GUIDELINE EVALUATION)

Work Order	:	**WT2617951**		
Client	:	**Jacobs Consultancy Canada Inc.**	Laboratory	: ALS Environmental - Waterloo
Contact	:	Lindsay Shaw	Account Manager	: Mathy Mahadeva
Address	:	2100-121 King St. W. Toronto Ontario Canada M5H 3T9	Address	: 60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	:	----	Telephone	: +1 519 886 6910
Project	:	COG14EDN	Date Samples Received	: 24-Jun-2026 11:15
PO	:	----	Date Analysis Commenced	: 26-Jun-2026
C-O-C number	:	----	Issue Date	: 02-Jul-2026 15:25
Sampler	:	----		
Site	:	----		
Quote number	:	Ontario Jacobs Standing Offer 2026		
No. of samples received	:	5		
No. of samples analysed	:	5		

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*
Walt Kippenhuck	Supervisor - Inorganic	Inorganics, Waterloo, Ontario

Summary of Guideline Breaches by Sample

SampleID/Client ID	Matrix	Analyte	Analyte Summary	Guideline	Category	Result	Limit
MW103D-20260623 ----	Water	Chloride		ON153/04	T2-GW-C-All	919 mg/L	790 mg/L
MW105D-20260623 ----	Water	Chloride		ON153/04	T2-GW-C-All	819 mg/L	790 mg/L
MW106D-20260623 ----	Water	Chloride		ON153/04	T2-GW-C-All	1520 mg/L	790 mg/L
FD2-20260623 ----	Water	Chloride		ON153/04	T2-GW-C-All	847 mg/L	790 mg/L

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.

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*
mg/L	milligrams per litre

>: greater than.

<: less than.

Red shading is applied where the result or the LOR is greater than the Guideline Upper Limit (or lower than the Guideline Lower Limit, if applicable).
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
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.

Analytical Results Evaluation

Matrix: Water			Client sample ID	MW103D-20260623 ----	MW104D-20260623 ----	MW105D-20260623 ----	MW106D-20260623 ----	FD2-20260623 ----	----	----
			Client sampling date / time	23-Jun-2026 14:50	23-Jun-2026 15:30	23-Jun-2026 15:00	23-Jun-2026 14:35	23-Jun-2026 00:00	----	----
			Sub-Matrix	Water	Water	Water	Water	Water	----	----
Analyte	CAS Number	Method/Lab	Unit	WT2617951-001	WT2617951-002	WT2617951-003	WT2617951-004	WT2617951-005	----	----
				Result	Result	Result	Result	Result	----	----
Anions and Nutrients										
Chloride	16887-00-6	E235.Cl/WT	mg/L	919 DLDS	395 DLDS	819 DLDS	1520 DLDS	847 DLDS	----	----

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

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Summary of Guideline Limits

Analyte	CAS Number	Unit	ON153/04 T2-GW-C-All						
Anions and Nutrients									
Chloride	16887-00-6	mg/L	**790 mg/L**	----	----	----	----	----	----

Key:

ON153/04 Ontario Regulation 153/04 - April 15, 2011 Standards (JUL, 2011)

T2-GW-C-All 153 T2-Ground Water (Coarse Soil)-All Types of Property Use

ALS Canada Ltd.

Quality Control Interpretive Report

Work Order	:	**WT2617951**			
Client	:	Jacobs Consultancy Canada Inc.	Laboratory	:	ALS Environmental - Waterloo
Contact	:	Lindsay Shaw	Account Manager	:	Mathy Mahadeva
Address	:	2100-121 King St. W. Toronto ON Canada M5H 3T9	Address	:	60 Northland Road, Unit 1 Waterloo Ontario Canada N2V 2B8
Telephone	:	----	Telephone	:	+1 519 886 6910
Project	:	COG14EDN	Date Samples Received	:	24-Jun-2026 11:15
PO	:	----	Issue Date	:	02-Jul-2026 15:25
C-O-C number	:	----			
Sampler	:	----			
Site	:	----			
Quote number	:	Ontario Jacobs Standing Offer 2026			
No. of samples received	:	5			
No. of samples analysed	:	5			

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 Services 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 Laboratory Control Sample (LCS) outliers occur
- No Laboratory Control Sample Duplicate (LCSD) outliers occur
- No Matrix Spike outliers occur.
- No Matrix Spike Duplicate (MSD) outliers occur.
- 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

- No Quality Control Sample Frequency Outliers occur.

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: Water

Evaluation: × = Holding time exceedance; ✓ = Within Holding Time

Analyte Group : Analytical Method / Container / Client sample ID	ALS Sample ID	QC Lot	Method	Sampling Date	Extraction / Preparation				Analysis			
					Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
						Rec	Actual			Rec	Actual	
Anions and Nutrients : Chloride in Water by IC												
Non compliant container												
MW103D-20260623	001	2677070	E235.Cl	23-Jun-2026	26-Jun-2026	28 days	3 days	✓	30-Jun-2026	28 days	7 days	✓
MW104D-20260623	002	2677070	E235.Cl	23-Jun-2026	26-Jun-2026	28 days	3 days	✓	30-Jun-2026	28 days	7 days	✓
MW105D-20260623	003	2677070	E235.Cl	23-Jun-2026	26-Jun-2026	28 days	3 days	✓	30-Jun-2026	28 days	7 days	✓
MW106D-20260623	004	2677070	E235.Cl	23-Jun-2026	26-Jun-2026	28 days	3 days	✓	30-Jun-2026	28 days	7 days	✓
FD2-20260623	005	2677070	E235.Cl	23-Jun-2026	26-Jun-2026	28 days	3 days	✓	30-Jun-2026	28 days	7 days	✓

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: Water

Evaluation: × = QC frequency outside specification; ✓ = QC frequency within specification

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method / Lab	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Chloride in Water by IC	E235.Cl / WT	2677070	1	20	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Chloride in Water by IC	E235.Cl / WT	2677070	1	20	5.0	5.0	✓
Method Blanks (MB)							
Chloride in Water by IC	E235.Cl / WT	2677070	1	20	5.0	5.0	✓
Matrix Spikes (MS)							
Chloride in Water by IC	E235.Cl / WT	2677070	1	20	5.0	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”).

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ion Chromatography	EP235-IC ALS Environmental - Waterloo	Water		Sample preparation for ion chromatography
Analytical Methods	**Method / Lab**	**Matrix**	**Method Reference**	**Method Descriptions**
Chloride in Water by IC	E235.Cl ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Conductivity Screen (Internal Use Only)	ES100 ALS Environmental - Waterloo	Water	APHA 2510 (mod)	Qualitative analysis of conductivity where required during preparation of other tests - e.g. TDS, metals, etc.

ALS Canada Ltd.

QUALITY CONTROL REPORT

Work Order	: **WT2617951**		
Client	: Jacobs Consultancy Canada Inc.	Laboratory	: ALS Environmental - Waterloo
Contact	: Lindsay Shaw	Account Manager	: Mathy Mahadeva
Address	: 2100-121 King St. W. Toronto ON Canada M5H 3T9	Address	: 60 Northland Road, Unit 1 Waterloo ON Canada N2V 2B8
Telephone	: ----	Telephone	: +1 519 886 6910
Project	: COG14EDN	Date Samples Received	: 24-Jun-2026 11:15
PO	: ----	Date Analysis Commenced	: 30-Jun-2026
C-O-C number	: ----	Issue Date	: 02-Jul-2026 15:25
Sampler	: ----		
Site	: ----		
Quote number	: Ontario Jacobs Standing Offer 2026		
No. of samples received	: 5		
No. of samples analysed	: 5		

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
- 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.

Signatories	*Position*	*Laboratory Department*
Walt Kippenhuck	Supervisor - Inorganic	Waterloo Inorganics, Waterloo, Ontario

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 (QCI) 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).

Sub-Matrix: Drinking Water

					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
Anions and Nutrients(QC Lot: 2677070)											
HA2603481-005	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	7.87	7.73	1.79 %	20%	---

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: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients(QC Lot: 2677070)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----

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: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Anions and Nutrients(QC Lot: 2677070)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	105	90.0	110	---

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

Sub-Matrix: **Drinking Water**

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery (%)		Qualifier
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	
Anions and Nutrients(QC Lot: 2677070)										
HA2603481-005	Anonymous	Chloride	16887-00-6	E235.Cl	109 mg/L	100 mg/L	109	75.0	125	---

SL GC468

Environmental Division Waterloo
Work Order Reference
WT2617951

June 2026 Deep Wells, Chloride, Hand Purge

Chain of Custody (COC) / Analytical Request Form

www.alsglobal.com

Canada Toll Free: 1 800 668 9878

COC Number: 22-

Page 1 of 1

Telephone : +1 519 886 6910

Report To	Contact and company name below will appear on the final report
Company:	Jacobs Consultancy Canada Inc.
Contact:	Lindsay Shaw
Phone:	(416) 499-9000
	Company address below will appear on the final report
Street:	121 King Street West
City/Province:	Toronto, Ontario
Invoice To	Same as Report To ☑ YES ☐ NO
	Copy of Invoice with Report ☐ YES ☑ NO
Company:	Jacobs Consultancy Canada Inc.
Contact:	Accounts Payable

Project Information	
ALS Client Code / QUOTE #:	Standing Offer
Job / Project #:	COG14EDN
PO / AFE:	PO 145005520
LSD:	
ALS Lab Work Order # (ALS use only):	WT2617951 NTN.

Reports / Recipients	
Select Report Format:	☑ PDF ☑ EXCEL ☑ EDD (DIGITAL)
Merge QC/QCI Reports with COA	☑ YES ☐ NO ☐ N/A
☑ Compare Results to Criteria on Report - provide details below if box checked	
Select Distribution:	☑ EMAIL ☑ MAIL ☐ FAX
Email 1	Alanna.Mills@jacobs.com ; Tania.McCarthy@jacobs.com
Email 2	Lindsay.Shaw@jacobs.com ; CanadaEDMA@jacobs.com
Email 5	Jennifer.Caron@jacobs.com

Invoice Recipients	
Select Invoice Distribution:	☑ EMAIL ☐ MAIL ☑ FAX
Email 1 or Fax	CAAPInvoices@jacobs.com
Email 2	

Oil and Gas Required Fields (client use)	
AFE/Cost Center:	PO#
Major/Minor Code:	Routing Code:
Requisitioner:	
Location:	

ALS Contact: Mathy Mahadeva Sampler: AM

Turnaround Time (TAT) Requested

- ☑ Routine [R] if received by 3pm M-F - no surcharges apply
- ☐ 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum
- ☐ 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum
- ☐ 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum
- ☐ 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum
- ☐ Same day [E2] if received by 10am M-S - 200% rush surcharge minimum

Additional fees may apply to rush requests on weekends, statutory holidays and non-standard operating hours.

Date and Time Required for all E&P TATs: dd-mmm-yy hh:mm or per quote

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

Analysis Request

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

ALS Sample # (ALS use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mmm-yy)	Time (hh:mm)	Sample Type	NUMBER OF CONTAINERS	O.Reg 153 Metals (F/P)	VOCs, BTEX (P)	VOCs/F1 (P)	Sodium (dissolved) (F/P)	Chloride (--)	SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
	MW103D-202606 23	23-Jun-26	1430	Groundwater	1					1			
	MW104D-202606 23	23-Jun-26	1530	Groundwater	1					1			
	MW105D-202606 23	23-Jun-26	1500	Groundwater	1					1			
	MW106D-202606 23	23-Jun-26	1435	Groundwater	1					1			
	FD2-202606 23	23-Jun-26		Groundwater	1					1			

Drinking Water (DW) Samples[1] (client use)	Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)
Are samples taken from a Regulated DW System? ☐ YES ☑ NO	O. Reg 153 Table 2 SCS RPI Coarse
Are samples for human consumption/ use? ☐ YES ☑ NO	

SAMPLE RECEIPT DETAILS (ALS use only)

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

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

INITIAL COOLER TEMPERATURES °C				FINAL COOLER TEMPERATURES °C			
				9.1			

SHIPMENT RELEASE (client use)			INITIAL SHIPMENT RECEPTION (ALS use only)			FINAL SHIPMENT RECEPTION (ALS use only)		
Released by: Alanna Mills	Date: 2026/06/23	Time: 1940	Received by:	Date:	Time:	Received by:	Date: 24 JUN 26	Time: 1115

REFER TO BACK PAGE FOR ALS LOCATIONS AND SAMPLING INFORMATION

WHITE - LABORATORY COPY YELLOW - CLIENT COPY

MAY 2025 FRONT

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

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

Appendix G
Data Quality and Evaluation Report

Jacobs

Data Quality Evaluation – City of Guelph Edinburgh Phase 2

Date: July 24, 2026
Project Name: City of Guelph Edinburgh Phase 2
Project No: COG14EDN
Prepared For: City of Guelph
Prepared By: Jacobs Consultancy Canada, Inc.
Document No: 260727113016_fb55df48

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1. Introduction

The objective of this Data Quality Evaluation (DQE) report is to assess the quality of analytical results for groundwater and soil samples collected at the 14 Edinburgh site, located in City of Guelph, Ontario. Groundwater and soil samples were collected between May 2025 and June 2026.

The DQE followed individual method requirements and guidelines from the United States Environmental Protection Agency (EPA) *National Functional Guidelines for Inorganic Superfund Methods Data Review* (EPA 2020a) and *National Functional Guidelines for Organic Superfund Methods Data Review* (EPA 2020b).

The analytical results were evaluated using the criteria of precision, accuracy, representativeness, comparability, and completeness, as presented by the EPA (2020a, 2020b). This report summarizes data issues as a general DQE. Guidance for this DQE report also comes from *Ontario Regulation 153/ 04, Protocols Under the Environmental Protection Act* (MECP 2011).

2. Analytical Data

This DQE report covers the following samples:

- 20 normal groundwater samples
- 5 field duplicate (FD) groundwater samples
- 4 trip blank (TB) water samples
- 10 normal soil samples
- 1 FD soil samples
- The associated laboratory quality control (QC) samples

Samples were reported in eight Certificates of Analysis listed as follows:

- WT2510976
- WT2511335
- WT2511404
- WT2511458
- WT2513613
- WT2605588
- WT2615982
- WT2617951

Samples were collected and shipped for analysis to ALS Global in three different locations: ALS Saskatoon, ALS Waterloo, and ALS Vancouver. Selected samples were analyzed for one or more of the methods noted in Table 1.

Table 1. Analytical Methods

Analytical Method	Analysis
ASTM D422	Particle Size Analysis
CCME TIER 1	Petroleum hydrocarbons by GC-FID
EPA 1631E	Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry
EPA 300.1	Inorganic Anions by IC
EPA 2510B	Conductivity
SM3500-CR-C	Hexavalent Chromium (Cr VI) by IC
SM4500-CN-I	Cyanide
SM4500-H+, CSSS 16.3	pH
SM6020	Trace metals by ICP-MS
EPA 8260	Volatile Organic Compounds by GC-MS
SW8270	Semi-volatile Organic Compounds by GC-MS
D2216	Percent solids
Dewild 2004	Methods for the Preparation and Analysis of Solids and Suspended Solids for Methylmercury
EPA 6010	Trace metals by ICP-AES

Notes:

ASTM = American Society for Testing and Materials
CCME = Canadian Council of Ministers of the Environment
GC-FID = Gas Chromatography – Flame Ionization Detection
GC-MS = Gas Chromatography-Mass Spectrometry
IC = Ion chromatography
ICP-AES = Inductively Coupled Plasma–Atomic Emission Spectrometry
ICP-MS = Inductively Coupled Plasma–Mass Spectrometry
SM = Standard Methods for the Examination of Water and Wastewater

The data assessment includes a review of the following:

- Chain-of-custody documentation
- Field QC samples
- Holding-time compliance
- Laboratory control samples (LCS)
- Laboratory duplicate (LD) samples
- Laboratory general comments
- Matrix spike (MS) samples
- Method blank (MB) samples
- Sample surrogate recoveries

Data qualifiers are assigned according to EPA's *National Functional Guidelines* (EPA 2020a, 2020b). Multiple qualifiers are routinely applied to specific sample methods, matrices, and analyte combinations, but there will be only one final qualifier. A final qualifier is applied to the data and is the most conservative of the applied validation qualifiers. The final qualifier also includes blank sample impacts.

The data qualifiers are defined as follows:

- J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- R = The sample result was rejected because of deficiencies in the ability to analyze the sample and meet the QC criteria. The presence or absence of the analyte could not be verified. Data qualified as "R" were not used in the decision-making process.
- U = The analyte was analyzed for but was not detected exceeding the reported sample quantitation limit.
- UB = A detection in the samples was changed to a nondetect result and qualified as "UB" as a result of blank contamination or other QC issues.
- UJ = The analyte was not detected exceeding the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

3. Findings

This section provides the overall data validation summaries. Qualified data are summarized in the attached Table 2.

3.1 Chain of Custody

No discrepancies were noted. The required information was present.

3.2 Holding Times

Method-prescribed holding-time criteria were met, with the following exceptions:

- In SDG WT2511335, semi-volatile organic compound analysis exceeded the holding-time criteria. In total, 50 nondetect results were flagged UJ and should be considered estimated.
- In SDG WT2513613 and WT2511458, pH analysis exceeded the holding-time criteria by a factor of two. Three detected results were flagged J and should be considered estimated.

3.3 Method Blank Samples

Method blank samples were analyzed at the required frequency, and the results were reported within acceptable limits.

3.4 Laboratory Duplicate Samples

Laboratory duplicate samples were analyzed as required and did not exceed the applicable control limits. Precision was acceptable.

3.5 Laboratory Control Samples

LCS samples were performed as required by the analytical methods and instruments used. The recoveries were within laboratory-established QC limits, and accuracy was acceptable with the following exceptions:

- In SDG WT2510976, the LCS recovery for silver was less than the lower control limit. In total, nine nondetect results were flagged UJ and should be considered estimated.
- In SDG WT2605588, the LCS recovery for 3,3'-Dichlorobenzidine was less than the lower control limit. In total, three nondetect results were flagged UJ and should be considered estimated.

3.6 Matrix Spike Samples

Matrix spike samples were performed as required by the analytical methods and instruments used. The recoveries were within laboratory-established QC limits, and accuracy was acceptable.

3.7 Surrogates

Surrogates were used as required by the analytical methods. Recoveries were within laboratory-established QC limits.

3.8 Trip Blank Samples

Four trip blank samples were analyzed at the required frequency, and the results were reported within acceptable limits.

3.9 Field Duplicate Samples

FD samples are replicate samples collected in the field and submitted to the laboratory for the same analyses as the parent sample. The results from these samples help to check the reproducibility of laboratory and field procedures. They may also indicate nonhomogeneity of the sampled materials. For each analyte in each FD and parent sample pair, a relative percent difference (RPD) was calculated by using the following equation:

$$RPD = |S-D| / [(S+D)/2] \times 100$$

Where:

D = FD result
S = parent sample result

The closer the analytical results are to the reported detection limit, the more inflated and less reliable the result becomes. Therefore, RPDs are not calculated when one or more of the FD or parent sample results is less than or equal to 5 times the reported detection limit (RDL).

Each RPD is compared with a control limit based on the sample matrix, the standard being a maximum of 30% for water or soil vapour samples and 50% for soil samples. However, select analyte groups are subject to Ontario-specific RPD limits specified in MECP 2021; these limits are lower than the standard 30% for water or soil vapour samples and 50% for soil samples. Where a specific limit set by the Ministry of the Environment, Conservation and Parks does not exist, then the standard mentioned previously is used.

If one or more results are less than 5 times the RDL, then a second check is performed. The difference between the results is calculated and compared with a control limit: 2 times the RDL for water or vapour samples and 4 times the RDL for soil samples. If this control limit is exceeded, the results are considered significantly different.

Five groundwater and one soil FD samples were collected and analyzed, as required. The results were reviewed and did not exceed the applicable control limits for groundwater and soil.

4. Overall Assessment

The final activity in the DQE is an assessment of whether the data meet the data quality objectives. The goal of this assessment is to demonstrate that enough representative samples have been collected and that the resulting analytical data can be used to support the decision-making process. The following summary highlights the data evaluation findings for the events defined in this DQE report:

Data precision was verified by reviewing the laboratory data quality indicators that include FD and laboratory duplicate samples. Results met the applicable limits, and overall precision was acceptable.

Data accuracy was verified by reviewing the LCS, matrix spike, and surrogate recoveries, and by evaluating method blank and trip blank sample data. Results met the applicable limits, with the exception of 12 results that were qualified for low LCS recovery. However, overall accuracy was acceptable.

Data representativeness was verified through sample collection and storage, and by verifying holding-time compliance. Results met the applicable acceptance criteria, with the exception of 53 results that were flagged for holding-time exceedances. However, overall representativeness was acceptable.

Data comparability was verified by using standard EPA analytical procedures and standard units for reporting. Results obtained are comparable to industry standards, in that the collection and analytical techniques followed approved, documented procedures. No results were qualified, and overall comparability was acceptable.

Completeness is a measure of the number of valid measurements obtained in relation to the total number of measurements planned. Completeness is expressed as the percentage of valid or usable measurements compared with planned measurements. Valid data are defined as data that are not rejected for project use. Therefore, the dataset was 100% complete.

5. References

Ontario Ministry of the Environment, Conservation and Parks (MECP). 2011. *Ontario Regulation 153/ 04 Protocols Under the Environmental Protection Act*. July.

Ontario Ministry of the Environment, Conservation and Parks (MECP). 2021. Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act and Excess Soil Quality. Version 3.1. Laboratory Services Branch. February 19.

United States Environmental Protection Agency (EPA). 2020a. Contract Laboratory National Functional Guidelines for Inorganic Data Review. November.

United States Environmental Protection Agency (EPA). 2020b. Contract Laboratory National Functional Guidelines for Organic Data Review. November.

Table 2. Applicable Data Qualifiers

City of Guelph, 14 Edinburgh, Ontario

CoA	Sample Name	Matrix	Analyte	Result	Unit	Validator Qualifier	Validator Remark
WT2511335	DUP01-05122025	Groundwater	4-Chloroaniline	<0.40	µg/L	UJ	HT
WT2511335	DUP01-05122025	Groundwater	Bis (2-chloroethyl) ether	<0.40	µg/L	UJ	HT
WT2511335	DUP01-05122025	Groundwater	Bis (2-ethylhexyl) phthalate	<0.60	µg/L	UJ	HT
WT2511335	DUP01-05122025	Groundwater	1,2,4-Trichlorobenzene	<0.40	µg/L	UJ	HT
WT2511335	DUP01-05122025	Groundwater	2,4-Dichlorophenol	<0.20	µg/L	UJ	HT
WT2511335	DUP01-05122025	Groundwater	2,4-Dinitrotoluene	<0.40	µg/L	UJ	HT
WT2511335	DUP01-05122025	Groundwater	Dimethylphthalate	<0.20	µg/L	UJ	HT
WT2511335	DUP01-05122025	Groundwater	bis (2-Chloroisopropyl) ether	<0.40	µg/L	UJ	HT
WT2511335	DUP01-05122025	Groundwater	2,6-Dinitrotoluene	<0.40	µg/L	UJ	HT
WT2511335	DUP01-05122025	Groundwater	Diethylphthalate	<0.20	µg/L	UJ	HT
WT2511335	DUP01-05122025	Groundwater	Pentachlorophenol	<0.50	µg/L	UJ	HT
WT2511335	DUP01-05122025	Groundwater	2,4,6-Trichlorophenol	<0.20	µg/L	UJ	HT
WT2511335	DUP01-05122025	Groundwater	3,3'-Dichlorobenzidine	<0.40	µg/L	UJ	HT
WT2511335	DUP01-05122025	Groundwater	2-Chlorophenol	<0.30	µg/L	UJ	HT
WT2511335	DUP01-05122025	Groundwater	2,4,5-Trichlorophenol	<0.20	µg/L	UJ	HT
WT2511335	DUP01-05122025	Groundwater	2,4 & 2,6-Dinitrotoluene	<0.60	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	4-Chloroaniline	<0.40	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	Bis (2-chloroethyl) ether	<0.40	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	Bis (2-ethylhexyl) phthalate	<0.60	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	1,2,4-Trichlorobenzene	<0.40	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	2,4-Dichlorophenol	<0.20	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	2,4-Dinitrotoluene	<0.40	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	Dimethylphthalate	<0.20	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	bis (2-Chloroisopropyl) ether	<0.40	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	2,6-Dinitrotoluene	<0.40	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	Diethylphthalate	<0.20	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	Pentachlorophenol	<0.50	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	2,4,6-Trichlorophenol	<0.20	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	3,3'-Dichlorobenzidine	<0.40	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	1,1'-Biphenyl	<0.20	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	2-Chlorophenol	<0.30	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	2,4,5-Trichlorophenol	<0.20	µg/L	UJ	HT
WT2511335	MW102-05122025	Groundwater	2,4 & 2,6-Dinitrotoluene	<0.60	µg/L	UJ	HT
WT2511335	MW103-05122025	Groundwater	4-Chloroaniline	<0.40	µg/L	UJ	HT
WT2511335	MW103-05122025	Groundwater	Bis (2-chloroethyl) ether	<0.40	µg/L	UJ	HT
WT2511335	MW103-05122025	Groundwater	Bis (2-ethylhexyl) phthalate	<0.60	µg/L	UJ	HT
WT2511335	MW103-05122025	Groundwater	1,2,4-Trichlorobenzene	<0.40	µg/L	UJ	HT

Table 2. Applicable Data Qualifiers

City of Guelph, 14 Edinburgh, Ontario

CoA	Sample Name	Matrix	Analyte	Result	Unit	Validator Qualifier	Validator Remark
WT2511335	MW103-05122025	Groundwater	2,4-Dichlorophenol	<0.20	µg/L	UJ	HT
WT2511335	MW103-05122025	Groundwater	2,4-Dinitrotoluene	<0.40	µg/L	UJ	HT
WT2511335	MW103-05122025	Groundwater	Dimethylphthalate	<0.20	µg/L	UJ	HT
WT2511335	MW103-05122025	Groundwater	bis (2-Chloroisopropyl) ether	<0.40	µg/L	UJ	HT
WT2511335	MW103-05122025	Groundwater	2,6-Dinitrotoluene	<0.40	µg/L	UJ	HT
WT2511335	MW103-05122025	Groundwater	Diethylphthalate	<0.20	µg/L	UJ	HT
WT2511335	MW103-05122025	Groundwater	Pentachlorophenol	<0.50	µg/L	UJ	HT
WT2511335	MW103-05122025	Groundwater	2,4,6-Trichlorophenol	<0.20	µg/L	UJ	HT
WT2511335	MW103-05122025	Groundwater	3,3'-Dichlorobenzidine	<0.40	µg/L	UJ	HT
WT2511335	MW103-05122025	Groundwater	1,1'-Biphenyl	<0.20	µg/L	UJ	HT
WT2511335	MW103-05122025	Groundwater	2-Chlorophenol	<0.30	µg/L	UJ	HT
WT2511335	MW103-05122025	Groundwater	2,4,5-Trichlorophenol	<0.20	µg/L	UJ	HT
WT2511335	MW103-05122025	Groundwater	2,4 & 2,6-Dinitrotoluene	<0.60	µg/L	UJ	HT
WT2513613	FD-20250530	Groundwater	pH	7.92	pH Units	J	HTX2
WT2511458	MW101-05132025	Groundwater	pH	8.00	pH Units	J	HTX2
WT2513613	MW104-20250530	Groundwater	pH	7.38	pH Units	J	HTX2
WT2510976	MW101-15-17	Soil	Silver	<0.10	mg/kg	UJ	LCS<LCL
WT2510976	MW101-23-25	Soil	Silver	<0.10	mg/kg	UJ	LCS<LCL
WT2510976	MW101-5-7	Soil	Silver	<0.10	mg/kg	UJ	LCS<LCL
WT2605588	MW102-03092026	Groundwater	3,3'-Dichlorobenzidine	<0.40	µg/L	UJ	LCS<LCL
WT2510976	MW102-2-4	Soil	Silver	<0.10	mg/kg	UJ	LCS<LCL
WT2510976	MW102-8-10	Soil	Silver	<0.10	mg/kg	UJ	LCS<LCL
WT2605588	MW103-03122026	Groundwater	3,3'-Dichlorobenzidine	<0.40	µg/L	UJ	LCS<LCL
WT2510976	MW103-1-2	Soil	Silver	<0.10	mg/kg	UJ	LCS<LCL
WT2510976	MW103-15-17	Soil	Silver	<0.10	mg/kg	UJ	LCS<LCL
WT2510976	MW104-2-4	Soil	Silver	<0.10	mg/kg	UJ	LCS<LCL
WT2510976	MW105-15-17	Soil	Silver	<0.10	mg/kg	UJ	LCS<LCL
WT2605588	MW107-03092026	Groundwater	3,3'-Dichlorobenzidine	<0.40	µg/L	UJ	LCS<LCL

Notes:

µg/L = microgram(s) per litre

HT = The analysis was completed past the recommended holding time.

HTX2 = The analysis was completed past the recommended holding time by a factor of two.

LCS<LCL = Laboratory control sample recovery was less than the lower control limit.

mg/kg = milligram(s) per kilogram

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected at a concentration greater than the reportable detection limit. However, the reportable detection limit is approximate.