



2025 Annual Monitoring Report

Kitchener Park Landfill, City of Orillia, Ontario

Submitted to:

City of Orillia

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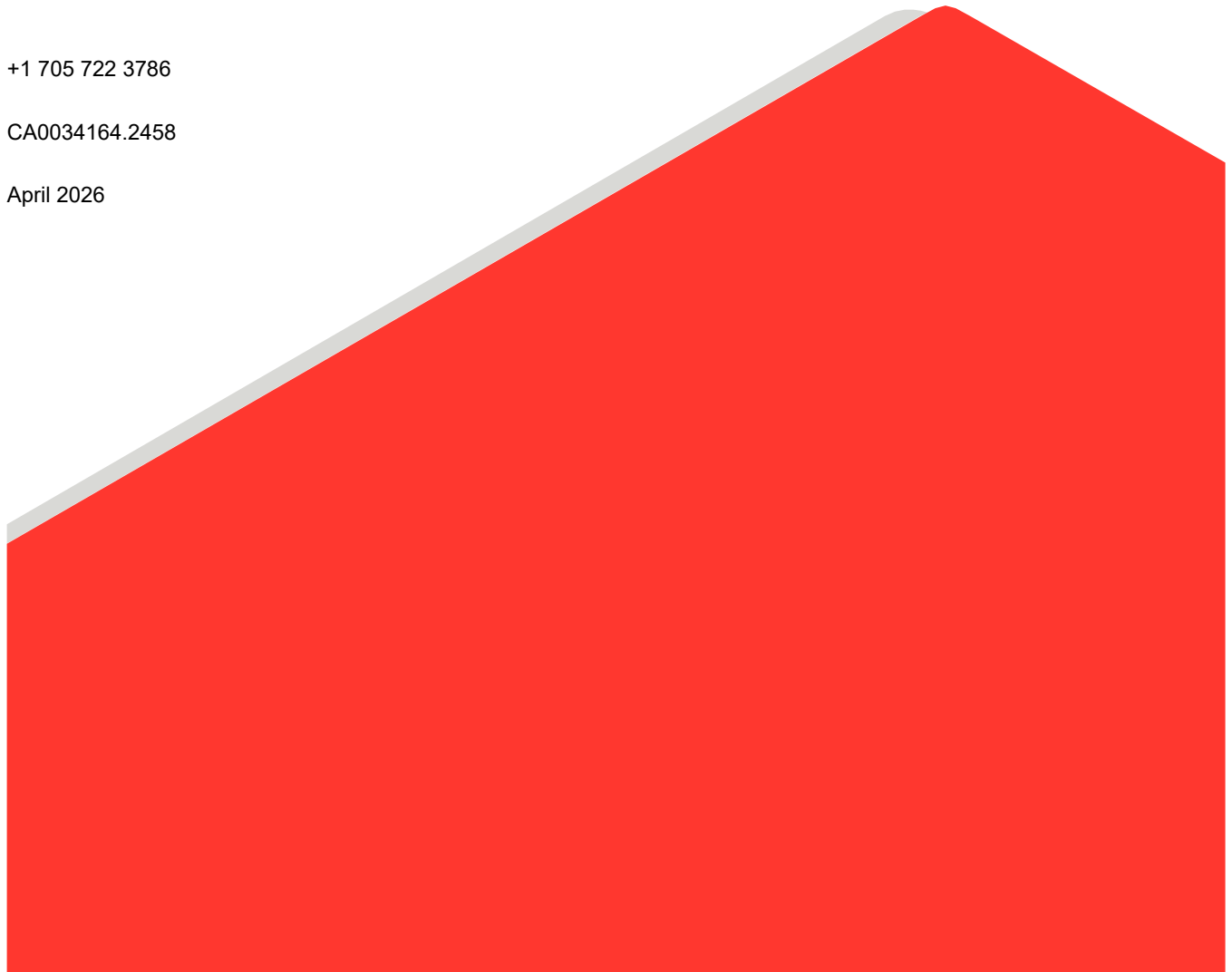
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Table of Contents

1.0 INTRODUCTION	1
1.1 Background and Scope	1
2.0 PHYSICAL SETTING	1
2.1 Landfill, Control Systems and Sewage Lagoon	1
2.2 Land Use	2
2.3 Physiography and Drainage	3
2.4 Geology	3
2.5 Hydrogeology	3
2.6 Water Use	4
3.0 MONITORING PROGRAM	4
3.1 Monitoring Locations	5
3.2 2025 Environmental Monitoring Program	5
3.3 Quality Assurance / Quality Control Program (QA/QC)	6
4.0 WATER LEVELS AND GROUNDWATER FLOW	6
5.0 GROUNDWATER QUALITY	7
5.1 Background Water Quality	7
5.2 Leachate Quality	7
5.3 Unconfined Aquifer (Nearshore) Groundwater Quality	8
5.4 Sand Aquifer Water Quality	9
5.5 Groundwater Quality in Fill Area West of KPL	11
5.6 Water Quality Summary	12
5.7 Results of Quality Assurance/Quality Control	12
6.0 ENVIRONMENTAL CONDITION EVALUATION	13
7.0 LANDFILL GAS ASSESSMENT	15
7.1 Landfill Gas Action Plan	15
7.2 Landfill Gas Barrier/Venting System Design	15

7.3	2025 Landfill Gas Concentrations	15
8.0	PASSIVE VENTING SYSTEM MONITORING	16
8.1	Summary of Gas Monitoring Well Results	17
8.2	Summary of Passive Gas Vent System Monitoring Results	17
8.3	Landfill Gas Passive Vent Sampling Results	17
8.4	Summary of Wind Speed and Direction	18
8.5	Concentrations of Contaminants Discharging to Air	18
8.5.1	Gas Venting Poles	18
8.5.2	Landfill Mound Venting	19
8.5.3	Identification of Significant Contaminants Using an Emission Threshold	19
8.6	Dispersion Modelling	20
8.6.1	Dispersion Modelling Input Summary Table	20
8.6.2	Meteorology, Surrounding Land Use and Terrain	20
8.6.3	Receptors	20
8.6.4	Averaging Periods and Conversions	20
8.6.5	Dispersion Modelling Options	21
8.7	Maximum Predicted Concentrations	21
9.0	CONCLUSIONS	21
10.0	RECOMMENDATIONS	23
11.0	BIBLIOGRAPHY	25
12.0	SITE CONTACT INFORMATION	26

TABLES

Table 5.1:	Cobalt and Phosphorous Exceedances in Sand Aquifer	10
Table 6.1:	Downgradient Ammonia Standard Target Concentrations	14
Table 8.1:	Summary of 2024 Gas Venting Pole Monitoring	17
Table 8.2:	Summary of 2024 Weather Conditions during Gas Venting Pole Monitoring	18

TABLES (APPENDED)

Table 1: Summary of Aquifer Testing

Table 2: Monitoring Location Details

Table 3: 2025 KPL Groundwater and Surface Water Monitoring Program

Table 4: Proposed 2025 Monitoring Program

Table 5: Groundwater and Leachate Level Elevation Monitoring

Table 6: 2025 Background Water Quality – Key Indicator Parameters

Table 7: 2025 Leachate Quality – Key Indicator Parameters

Table 8: 2025 Fill Water Quality – Key Indicator Parameters

Table 9: 2025 Sand Aquifer Water Quality – Key Indicator Parameters

Table 10: 2025 Unconfined Aquifer Water Quality – Key Indicator Parameters

Table 11: 2025 Duplicate Water Quality Data

Table 12: Landfill Gas Monitoring Results

FIGURES

Figure 1: Regional Location Map

Figure 2: Site Location Map

Figure 3: Site Section A-A'

Figure 4: Site Section B-B'

Figure 5: Site Section C-C'

Figure 6: Hydrogeological Symbols

Figure 7: Upper Aquifer, Potentiometric Surface, Fall 2025

APPENDICES**APPENDIX A**

Water Level Hydrographs

APPENDIX B

Water Quality Data

APPENDIX C

Laboratory Certificates of Analysis

APPENDIX D

2025 Field Notes and Monitoring Procedures

APPENDIX E

Documentation

APPENDIX F

Passive Venting

1.0 INTRODUCTION

1.1 Background and Scope

WSP Canada Inc. (WSP) was retained by the City of Orillia (the City) to undertake a groundwater and surface water sampling program at the Kitchener Park Landfill (hereafter referred to as KPL or “the Site”) for the 2025 monitoring period. Groundwater flow, groundwater and surface water quality and landfill gas (LFG) monitoring are discussed relative to the impacts of the KPL on the local water resources and adjacent properties. This monitoring program is completed by the City as part of their overall environmental monitoring objectives.

The KPL is a closed landfill located in the south part of the City and presently the site of a recreational park, located at 25 Kitchener Street (Figure 1). The KPL is accessed off Kitchener Street, on the south end of West Street. The landfill is bound by Kitchener Street to the north, West Street South to the east, Lake Simcoe to the south and wetlands and Ben’s Ditch to the west (Figure 2).

The KPL is located on lands reportedly acquired by the City in 1909 and covers an area of approximately 26.6 acres. The landfill was closed in 1967 and is referred to in the Ontario Ministry of the Environment, Conservation and Parks (Ministry, or MECP and precursors) Waste Site Inventory as Site No. X 4110. As the landfill was closed prior to 1973, it is not regulated under the Waste Certificate of Approval / Environmental Compliance Approval process. Construction of a LFG control system was completed north of the landfill in 2020; monitoring of the system began in 2021. The system is permitted and operated under an Air & Noise Environmental Compliance Approval (No. 5412-BE7KES, amended September 8, 2025, Appendix E).

City records indicate that the landfill was active between 1943 and 1967. The waste is reported to have consisted of:

- **60% domestic waste** - including cinders, clinkers, house offal, broken crockery, old tins and metals, weeds, clothing, boots, straw, etc.;
- **15% commercial waste** - including similar materials as in domestic waste but sourced from commercial properties;
- **18% industrial waste** - including, but not limited to, foundry sand, catch basin waste, metal waste, crating and associated materials, building materials and demolition waste, and brush and tree waste; and,
- **7% other waste** - includes tree brush and debris.

This annual monitoring report provides a review of the performance of the KPL relative to the City’s objectives regarding environmental management. City of Orillia staff conducted the surface and groundwater sampling. WSP staff conducted the LFG monitoring.

The Ministry’s *Monitoring and Screening Checklist (Appendix D)* is included as Appendix E.

2.0 PHYSICAL SETTING

2.1 Landfill, Control Systems and Sewage Lagoon

The inferred limit of waste shown on Figure 2 was estimated based on the surface geophysical survey and geoprobe borehole transects as reported in Golder (2011). A 30 m setback was reported to have been maintained between the waste placement (waste fill) area and the shorelines of Lake Simcoe and Ben’s Ditch. Cover material was reported to consist of sandy loam and fill materials from various municipal projects. In 2025, there were no reported indications of visible seepage from the landfilling area reaching either Lake Simcoe or Ben’s Ditch.

The waste/cover fill at the KPL ranges in thickness from approximately 1 m to 4 m. The interpreted thickness of the final cover ranges from approximately 1 m at OW7 in the north, to 1.4 m at OW6 in the central landfill area. Waste materials were reported by the City to have been observed at shallow depths (less than 20 cm) during historic construction activities along the shoreline. The waste materials consist largely of wood, metal, plastic, glass, construction materials and newspaper, as identified through borehole and linear transect investigations completed in earlier studies (Golder, 2011). Newspaper fragments dating to 1959 were identified in the central part of the waste fill. No hazardous materials or materials inconsistent with historical records of accepted waste types were identified.

An LFG barrier and venting system was constructed at the north side of the Site in 2020. The design and operation of this system is outlined in Section 7.2.

The area to the west of the KPL includes the Orillia Wastewater Treatment Centre (WWTC) and lagoons. The area in the vicinity of the WWTC is known to contain fill materials, including some waste fill, as identified in the log at BH28-II, and also during recent (2015) excavations completed in the area of the WWTC lagoons as part of liner installation. The fill is described as sand and gravel with some silt with the presence of glass, metal plastic, cloth and newspaper. According to City staff the wastewater storage lagoons were not lined prior to 1992. In 1992 the lagoons were drained and the pond bases were lined with 8 inches of a clayey soils; the sideslopes of the ponds were not lined. It is expected that seepage from the lagoons has affected groundwater quality downgradient. The City reconstructed the storage lagoons in 2015, which included the installation of a geosynthetic liner consisting of ethylene propylene diene monomer (EPDM). The installation of the liner was expected to limit further contribution from the lagoons to the groundwater however, in the short-term, some ongoing contribution to groundwater quality impact is expected from material present within the underlying soils. Additionally, in 2021, major repairs at the WWTC of the north lagoon liner were undertaken to repair significant liner damage, which occurred during biosolids removal operations. Sludge found under the liner during the repairs was removed and the remedial work was completed by November 2021. In 2025, the south lagoon was cleaned and relined with a 1.5 mm (60-mil) thick, high-density polyethylene (HDPE) geomembrane.

2.2 Land Use

Residential development is present to the east of the KPL, whereas commercial, industrial and institutional lands are located immediately north of Kitchener Street. Ben's Ditch and the Kitchener Street Waste Diversion Site (WDS) are located to the west. Ben's Ditch is located west of the Site and Lake Simcoe (Shingle Bay) is located to the south.

Kitchener Park has been converted to a multi-purpose outdoor recreation facility. There are two buildings at the park, a storage building and a utility building. The storage building, located in the southeastern portion, is used by the local Horseshoe Club. The original storage building was torn down in 2017 and replaced with a pre-cast concrete Newmarket Model 50 utility/storage vault. The new storage building was constructed with a sub-slab venting system. Power is provided by Hydro One via underground lines; no buried conduits enter the buildings. The utility building contains a snack bar, a kitchen, maintenance rooms and public washroom, was constructed in 2011 and is located in the central portion of the Site. The building has a footprint of approximately 200 m² and is constructed with slab-on-grade foundations built of block and a mixed metal with concrete exterior. The building is serviced by municipal water and sewer from Kitchener Street.

The remainder of the park is developed with sports fields and a 2.4-acre leash-free dog park. Sports fields include: two full sized football / soccer fields; two baseball diamonds; four mini soccer fields; four tennis courts; playground equipment; a horseshoe pit; and a basketball court. A large gravel parking lot is located south of

Kitchener Street; two driveways lead into the Site from Kitchener Street. An additional gravel parking lot is located on the eastern boundary of the site adjacent to West Street South.

2.3 Physiography and Drainage

The topography is relatively flat, with an overall gentle slope towards Lake Simcoe; the elevation is approximately 223 metres above sea level (masl) at its highest point to the northwest along Kitchener Street (at the main parking lot) and lowest along the lake shoreline at an approximate elevation of 219 masl (Figure 2).

A discontinuous drainage ditch runs along portions of the northern and eastern park boundaries (Figures 3 and 4). These ditches are typically 1 m to 2 m wide and 0.5 m to 1 m deep. Surface water runoff is interpreted to flow towards the ditches on the northern and eastern boundaries towards Lake Simcoe to the south. A component flows to Ben's Ditch and the intervening wetlands to the west. To the west, Ben's Ditch widens as it approaches Lake Simcoe. It is noted that the WWTC discharges to Ben's Ditch upstream of the KPL.

2.4 Geology

The overburden consists of Quaternary age materials, presumably deposited during the Wisconsin Glaciation, overlying Palaeozoic carbonate bedrock. The bedrock lies more than 10 metres below ground surface (mbgs) and does not outcrop in the vicinity. Three geologic cross-sections of overburden materials at the Site are provided (Figures 3, 4 and 5). Cross-section locations are shown on Figure 2. Hydrogeological symbols used on the cross-sections are provided on Figure 6.

The surficial material on lands surrounding the wetlands at the Site are comprised primarily of glaciolacustrine silt and clay to the east and glaciolacustrine sands to the west, between the till ridges (Finnemore and Bajc, 1984).

The bedrock surface in the area consists of fine to coarse-grained fossiliferous limestone. This bedrock forms the upper member of the Bobcaygeon Formation, which is of Ordovician age. A local bedrock high is present near Kitchener Park; however, this was not intersected at any of the KPL monitoring wells.

2.5 Hydrogeology

Figures 3, 4 and 5 illustrate the hydrostratigraphy in the area of the park, including Ben's Ditch and the WDS to the west. The stratigraphy consists of an upper unconfined peat/Sand Aquifer underlain by a discontinuous lacustrine clay and silt confining layer, which is further underlain by a lower Sand Aquifer and a lower confining till layer.

The upper aquifer is characterized by (i) a peat unit found predominantly in the western part of the park at monitoring well OW1, near OW6 in the centre of the KPL and along the eastern boundary at OW5, (ii) a sand deposit found in the vicinity of Lake Simcoe (OW2, OW4) and (iii) silty sand at GP-KP4. Where present, the thickness of the peat ranges from approximately 0.75 m (OW5) to 2 m (OW1). The sandy units also range in thickness from approximately 0.75 m to 2 m. The discontinuity in the peat unit distribution to the north (e.g., GP-KP2, GP-KP7 and GP-KP8) is likely due to removal of this material prior to waste placement and subsequent construction activities. The upper aquifer and the hydraulically connected materials above the upper confining layer (i.e., waste and fill) pinch out to the northeast at GP-KP3.

Fill and waste overlie the peat unit in some areas or in some cases (i.e., at OW7, OW3, OW8, BH28, GP-KP7, GP-KP8 and GP-KP2) comprise the entire thickness above the underlying confining unit (or where absent (e.g., OW7) the Sand Aquifer. The thickness of the overburden, fill and waste materials comprising the upper aquifer is highly variable across the surrounding area.

The upper confining layer consists of moist, grey, silty clay to clayey silt and has a thickness ranging from a low of less than 1 m at OW2 to a high of approximately 3 m at the most easterly well, OW5. The upper confining layer pinches out towards the north and is not observed at OW7, GP-KP7, GP-KP8, GP-KP2 or GP-KP3. It is possible that the confining layer material to the north was removed during landfilling and road construction activities. The upper confining layer is interpreted to exist under the location of Ben's Ditch, which would limit hydraulic interaction of this water body with the confined Sand Aquifer.

The Sand Aquifer is comprised primarily of very fine to fine brown to grey sand, typically becoming finer with depth; however, coarser sand and gravel were observed at several locations (i.e., OW1, OW2, OW7 and OW9). The thickness of the Sand Aquifer ranges from approximately 2 m at OW5 to approximately 9 m at OW1 and OW2. The Sand Aquifer pinches out to the east and becomes siltier; it is not present in the northeast (i.e., at OW4 and OW5). This unit is unconfined in the area of OW7 and OW9 (i.e., near Kitchener Street) where the upper confining layer is absent and it is expected that this "window" where the upper unconfined and Sand Aquifer are directly connected extends towards the lagoons east of the WWTP.

The lower confining layer consists of a silty sand to sandy silt and gravel till, interpreted to extend to bedrock (Golder, 2005b). The top of this unit rises to the northeast where the Sand Aquifer thins out, and as a result, directly underlies the waste fill at GP-KP2 and GP-KP3.

The hydraulic conductivity estimates for each unit are summarized in Table 1. The highest hydraulic conductivity (2.1×10^{-3} cm/s) is associated with the sand in the unconfined upper aquifer (i.e., OW4-II and GP-KP4). Slightly lower hydraulic conductivities are observed within the peat (OW1-III, 1.0×10^{-4} cm/s).

The hydraulic conductivity of the confined Sand Aquifer ranges from 1.2×10^{-3} cm/s to 8.2×10^{-5} cm/s. The variation of two orders of magnitude represent two screened intervals, (i) the upper portion of the aquifer screened at OW2-II (hydraulic conductivity of 1.2×10^{-3} cm/s) consisting of medium sand and (ii) the base of the aquifer consisting of fine, poorly sorted sand and silt (OW1-1, 8.2×10^{-5} cm/s; OW2-II, 2.3×10^{-4} cm/s; and OW6-I, 2.2×10^{-4} cm/s).

The estimated hydraulic conductivity of the waste (1.5×10^{-4} cm/s to 8.0×10^{-5} cm/s) is similar to that of very fine sand or silty sand, reflecting the daily cover materials observed in the waste and the low degree of compaction typical of a small, thin landfill.

2.6 Water Use

As discussed in Dixon Hydrogeology (1995), a total of 11 private water supply wells are reported to be located within a one km radius of the KPL. The majority of these wells are installed in the bedrock underlying the till unit, including four wells reported to be constructed at or near Kitchener Park. Based on a 1996 survey by City staff, it was concluded that none of these recorded private water supply wells are currently in use. The City obtains its water supply from surface water (Lake Couchiching), two municipal groundwater supply wells located approximately 2.5 km north of the park and a third well (the West Orillia Well), located approximately 2.1 km to the northwest.

3.0 MONITORING PROGRAM

The objectives of the annual water monitoring program are:

- i) To assess the direction and rate of groundwater movement, as well as to monitor the height of the leachate mound within the landfill;

- ii) To monitor leachate and groundwater quality in order to determine the impact of the landfill on the adjacent water bodies;
- iii) To monitor the subsurface landfill gas concentrations and evaluate the migration of methane, notably to off-site receptors;
- iv) To monitor the performance of the LFG management system; and,
- v) To provide recommendations for changes in the monitoring program, as required.

The 2025 monitoring and reporting scope is based on the program outlined in WSP (2024) and included the following:

- Annual water quality sampling from a total of 14 groundwater/leachate observation wells at eight locations. In 2025, only a groundwater sample was able to be collected from BH28-II in the fall due to a fallen tree hindering access in earlier monitoring events in 2025. BH28-I and OW8 were also dry during the fall monitoring event;
- Semi-annual water level monitoring from 18 groundwater/leachate observation wells and seven LFG monitoring wells; and,
- Semi-annual LFG monitoring at twelve LFG monitoring wells and three observation wells (OW3, OW6-II and OW8).

3.1 Monitoring Locations

The monitoring locations are shown on Figure 2. Construction details for groundwater monitoring locations at the KPL are provided in Table 2 and on Figures 3 through 5.

3.2 2025 Environmental Monitoring Program

The 2025 monitoring program consisted of one round of groundwater monitoring in September 2025. The schedule and parameter list are outlined in Table 3 and Table 4; water levels were measured semi-annually. All groundwater sampling and water level monitoring was carried out by City staff. Standard procedures for monitoring activities provided by the City of Orillia are included in Appendix D. The Procedures Document outlines methods of sample collection. The attached Procedures Document was developed for the Kitchener Street Waste Diversion Site (KWDS); however, methods are consistent with those used at the KPL.

Groundwater samples were collected by City personnel and analyzed for water quality parameter by ALS Canada Ltd. (ALS) of Waterloo, Ontario. ALS is compliant with ISO/IEC 17025 – “General Requirement for the Competence of Testing and Calibration Laboratories” and ISO 9001 – “Quality Management Systems”. The results are discussed in Section 5 and displayed in tabular format in Appendix B. Detection limits for the analyses were accordingly established to meet or exceed the Provincial Water Quality Objectives (PWQO).

Monitoring of soil-gas at all locations was carried out by WSP staff on February 18 and November 12, 2025. The monitoring program is shown in Table 4. A portable, high-volume pump (5 L/min) is used to purge three times the volume of each gas well prior to sampling. Readings including the relative concentrations of carbon dioxide (CO₂), methane (CH₄), and oxygen (O₂) are recorded using a calibrated Landtec Gas Analyzer and Extraction Monitor (GEM 2000). The soil-gas probes are screened across the water table. Water levels are measured during each sampling round to confirm that the water level is below the top of the screen. The results of the soil-gas sampling are discussed in Section 7.0.

3.3 Quality Assurance / Quality Control Program (QA/QC)

The sampling program included collection of two sets of duplicate water samples (groundwater) that were submitted to ALS. The duplicates were collected at monitoring wells OW4-I and OW9-II. All duplicate water samples were analyzed for major ions, indicator parameters, metals, nutrients and Volatile Organic Compounds (VOC). Results of the QA/QC program are discussed in Section 5.8.

4.0 WATER LEVELS AND GROUNDWATER FLOW

Water levels were collected by the City prior to water quality sampling. Water level measurements and groundwater elevations are shown in Table 5. Water levels were collected by WSP at wells monitored during LFG monitoring to confirm water levels relative to the screened interval. Water levels collected during LFG monitoring are not summarized on Table 5 but are discussed as appropriate in Section 7.0.

Hydrographs of current and historical water level monitoring are contained in Appendix A. At all monitoring locations, water levels were typically highest during the spring (April 2025) and lowest during the fall (September 2025). In September 2025, the depth to water from surface ranged from approximately 0.59 mbgs near the shore of Lake Simcoe at OW1, to about 4.34 mbgs at OW7. The depth to water in September 2025 was approximately 1.96 mbgs (at OW6-II), where the central part of a mound is interpreted to be located.

In September 2025, vertical hydraulic gradients observed at monitoring wells with screens installed within the Sand Aquifer are slightly upward at OW2 (0.086 m/m). The hydraulic gradient observed at OW5, between the Sand Aquifer and the upper confining layer is also slightly upward (0.03 m/m). Similarly, the vertical gradient observed between the upper (unconfined) and lower Sand Aquifer at OW1 was slightly upward in 2025 (0.023 m/m); however, a slight downward gradient was observed at OW4 (-0.008 m/m). A downward gradient was also observed at OW6 between the waste and the Sand Aquifer (-0.17 m/m) and at OW9 between the Sand Aquifer and the lower confining layer (-0.22 m/m). A vertical hydraulic gradient could not be calculated for BH28 as BH28-I was dry; however, this location has historically exhibited a slightly upward gradient.

The configuration of the water table is shown on Figure 7. The surface is based upon interpolation of September 2025 water levels at the shallowest screen at wells installed in the uppermost stratigraphic units and waste.

Groundwater flow within the upper hydrostratigraphic units roughly reflects topography, wherein a slightly elevated mound is located within the central landfill area where ground elevations are highest and decline toward the lake and the adjacent drainage swales. The shallow groundwater flow to the northeast and east is limited by the elevation of the till confining unit, which rises to the east (see Figures 3 and 5). A portion of the local radial groundwater flow also flows eastward towards West Street. The shallow groundwater water levels at OW5 indicate at the potentiometric surface of the shallow aquifer is below the invert of the ditch and therefore point-source leachate impacts in the ditches are not expected. City staff reported they have not observed evidence of leachate discharge (i.e., staining within the ditches, sheen, etc.) to the local ditches adjacent to Kitchener Park. Based on the topography east of the park it is inferred that groundwater flow east of the KPL will be largely southward towards Lake Simcoe.

Other wells in this area exhibited similar water levels to those observed in 2024 (see hydrographs in Appendix A) with the exception of BH1 and BH28-I, which either reached a historical low and/or was noted as dry. At BH28-I, groundwater was measured at 1.02 mbmp. Given the total well depth is 6.02 mbmp the reported 2025 elevation is considered to be incorrect. The estimated horizontal hydraulic gradient from OW6 to Lake Simcoe is estimated to be -0.0006 m/m in 2025.

Groundwater flow direction within the underlying Sand Aquifer is interpreted to be generally towards the south, discharging to Lake Simcoe; as noted in Section 2, the confining layer under the area of Ben's Ditch is expected to limit direct interaction with the underlying aquifer. The estimated horizontal hydraulic gradient between OW6 and OW2 is 0.002 m/m based on groundwater levels in the aquifer at these locations in 2025. As noted in Section 2, it is interpreted that this aquifer is unconfined in the area of Kitchener Street and therefore recharge from surface is expected to influence flow in this area.

5.0 GROUNDWATER QUALITY

Lake Simcoe and Ben's Ditch are the receptors of flow from the KPL. As a result, water quality results are evaluated with respect to the PWQO rather than the ODWS, similar to the approach used for the WDS.

Water quality data for all analyses (major ions and indicators, nutrients, metals and VOC) are presented in Appendix B.

5.1 Background Water Quality

As waste or waste fill was detected in all wells north of the landfill, there is no "true" background well at this Site. As a proxy for a "true" background water quality location, monitoring locations BH1-III (peat) and BH1-I (Sand Aquifer) located north of Highway 12 and east of Ben's Ditch are included for comparison. These wells are considered to reflect background water quality north (upgradient) of the landfills to the south. The groundwater flow direction in the Sand Aquifer is generally southward towards Lake Simcoe. A summary of average background water quality for selected parameters is displayed in Table 6 (average from the WDS spring, summer and fall sampling events).

Background water quality in the peat (as determined by BH1-III) exhibits elevated concentrations of chloride, sodium, iron, manganese, dissolved organic carbon (DOC), chemical oxygen demand (COD) and phosphorous. The average 2025 concentrations of these parameters at BH1-III are: chloride (448 mg/L), sodium (243 mg/L), iron (1.24 mg/L), manganese (0.374 mg/L), DOC (55.9 mg/L), COD (267 mg/L) and phosphorous (1.17 mg/L). Elevated concentrations of sodium and chloride at BH1-III are most likely due to road salting activities. In 2025, chloride (109 mg/L) and sodium (71.6 mg/L) concentrations monitored in background water quality in the Sand Aquifer at BH1-IR remain elevated but are lower than those reported in 2024 (198 mg/L and 107 mg/L, respectively). Low chloride and sodium concentrations were observed at this location prior to 2018 (3 mg/L and 28 mg/L, respectively in 2017), suggesting an increased source of road salt impacts to this area.

Ammonia concentrations monitored in background water quality in the peat at BH1-III were observed to be low, averaging of 0.16 mg/L. Total phosphorus concentrations decreased significantly in 2025 averaging 1.17 mg/L, down from 2.54 mg/L in 2024. Ammonia monitored in background water quality in the Sand Aquifer at BH1-IR was also observed to be low, averaging 0.146 mg/L which is higher than observed in 2024 (0.06 mg/L in 2024) but still well within background concentrations.

Exceedances of the PWQO are typically observed at these locations for iron, phenols and phosphorous. Anthropogenic sources (e.g., road salting) or natural sources of these parameters at these upgradient locations limits their usefulness as indicators of landfill impact.

5.2 Leachate Quality

Leachate quality at the KPL is assessed at OW3 and OW6-II. Table 7 presents the measured concentrations of selected leachate indicator parameters determined during the annual Fall 2025 sampling event; full analytical results are summarized in Appendix B and on Certificates of Analysis in Appendix C.

The concentrations of chloride (7.08 mg/L to 33.6 mg/L), sodium (17.1 mg/L to 49.7 mg/L) and DOC (16.2 mg/L to 18.0 mg/L) were relatively low in OW3 and OW6-II in comparison to “typical” landfill leachate, which is considered to reflect the age and possibly the composition of the waste. The concentrations of ammonia (22.0 mg/L to 30.1 mg/L) are low compared to typical leachate from younger and larger landfills, but is sufficiently elevated to potentially result in an exceedance of the regulated standards for unionized ammonia (see Section 6) within groundwater discharging to the adjacent surface water body.

Phosphorous concentrations at OW3 (0.656 mg/L) and OW6-II (1.41 mg/L) are elevated relative to the PWQO of 0.02 mg/L. Phosphorous increased slightly at OW3 in 2025 (up from 0.49 mg/L in 2024) well below the peak concentration of 8.71 mg/L in 2019. Phosphorous at OW6-II significantly decreased in comparison to the concentration reported in 2024 (2.23 mg/L). The iron concentrations at OW3 (44.0 mg/L) and at OW6-II (33.3 mg/L) are significantly elevated relative to the PWQO of 0.3 mg/L. Iron at OW3 significantly was essentially unchanged compared to 2024 (44.7 mg/L). Low concentrations of phenols were reported at both OW3 and OW6-II in 2025 (<0.005 mg/L and 0.008 mg/L, respectively).

Based on detections in samples collected in 2010, selected VOC were selected to act as indicator parameters for leachate from this landfill: monochlorobenzene and 1,4 dichlorobenzene. In 2025, monochlorobenzene (5.0 µg/L at OW3 and 6.42 µg/L at OW6-II) and 1,4-dichlorobenzene (1.24 µg/L at OW3 and 0.76 µg/L at OW6-II) were detected. These concentrations were less than the PWQO of 15 µg/L and 4 µg/L, respectively. Notably, the concentration of m,p-xylene (1,620 µg/L) at OW6-II in 2025 exceeded the PWQO of 32 µg/L; the concentration was similar to or higher than earlier results (1,600 in 2024 and ranging from 1,000 µg/L to 1,350 µg/L since 2010). Xylenes (0.55 µg/L) were detected at OW3 in 2025. Benzene was also detected at OW6-II (0.89 µg/L, respectively); benzene at OW3 and OW6-II remains below the PWQO of 100 µg/L. Based on the VOC results, VOC should be considered to confirm leachate impacts downgradient.

5.3 Unconfined Aquifer (Nearshore) Groundwater Quality

Shallow ground water quality in the unconfined aquifer is monitored at two locations: (i) at OW1-III along the southwestern park boundary adjacent to Ben’s Ditch and Lake Simcoe and (ii) at OW4-II adjacent to the Lake Simcoe shoreline. Water quality results for key indicator parameters are contained in Table 10.

Comparison of the results for OW1-III and OW4-II to background and leachate water quality indicates that these wells are influenced by landfill leachate; it is noted that indicator parameter concentrations in the shallow unit are less than those in the underlying Sand Aquifer. The reported concentration of ammonia at OW1-III is 5.06 mg/L; a concentration of 0.767 mg/L is reported for OW4-II. Ammonia concentrations in these wells remain below the historical high concentration reported in 2019 (12.7 mg/L at OW1-III). Iron is elevated, exceeding the PWQO of 0.3 mg/L (10.2 mg/L at OW1-III and 1.09 mg/L at OW4-II) and are similar to those reported in recent years. Total phosphorous concentrations at OW1-III (0.411 mg/L) and OW4-II (0.191 mg/L) are elevated relative to the PWQO of 0.02 mg/L; concentrations at OW1-III decreased from the new historical maximum reached in 2024 (previous maximum 1.29 in 2024 mg/L); concentrations at OW4-II remained below the historical maximum of 0.81 mg/L in 2011. Phenols (less than 0.005 mg/L) were not present at OW1-III; a low but detectable concentration of 0.003 was reported at OW4-II (0.003 mg/L). Low concentrations of phenols are not considered to reflect impact from KPL.

VOC parameters detected at OW1-III in 2025 include benzene (2.26 µg/L), 1,4-dichlorobenzene (0.80 µg/L) monochlorobenzene (2.50 µg/L). No exceedances of the PWQO for VOC parameters were observed in the unconfined aquifer next to the lake. No VOC parameters were detected at OW4-II in 2025.

5.4 Sand Aquifer Water Quality

The groundwater quality within the Sand Aquifer is monitored at ten locations: OW1-I, OW1-II, OW2-I, OW2-II, OW4-I, OW5-I, OW6-I, OW7 and OW9-II. Observation well nests OW1, OW2 and OW4-I are downgradient of the landfill and adjacent to Lake Simcoe. OW5-I, OW7 and OW9-II are located on the north and east margins of the central groundwater mound, whereas OW6-I is screened below the waste in the central part of the Site. BH28-I is located west of the central groundwater mound. The water quality results at these locations are summarized in Table 9 for selected landfill leachate indicator parameters. In 2021, major repairs at the WWTC of the north lagoon liner were undertaken to repair significant liner damage, which occurred during biosolids removal operations. Sludge found under the liner during the repairs was removed and the remedial work was completed by November 2021. As noted below, it is considered possible that elevated ammonia at various locations downgradient of the WWTC could be in part associated with the liner damage.

Elevated chloride (74.5 mg/L to 96.1 mg/L) and sodium (33.7 mg/L to 149 mg/L) concentrations are observed in monitoring wells OW1-I, OW1-II, OW2-I and OW7. These ranges of concentration are similar to those observed in 2024 and are higher than those observed in the leachate. Elevated chloride and sodium were also detected at OW9-II where concentrations of 426 and 136 mg/L, respectively, were reported. These concentrations are higher than those observed in leachate and indicate influence from activities north of the Site (i.e., road salting, former snow storage and/or the WWTC). Decreasing trends in chloride concentrations were observed downgradient of the landfill at OW2-I and OW2-II and have stabilized in recent years. Decreasing trends in chloride concentrations at OW1-I and OW1-II have remained stable since 2018.

Ammonia concentrations are elevated at most locations in the Sand Aquifer, ranging up to 72 mg/L at OW9-I, where concentrations have declined since the well was installed in 2022. Elevated ammonia is observed both south of OW9 at OW1 where relatively stable concentrations are observed and at OW2-II, where an increasing trend observed since 2017 at OW2-II continues (36.4 mg/L). In the central part of the KPL, at OW6-I (30.5 mg/L), a decreasing trend of ammonia continues. Lower concentrations are observed at locations to the east (OW4 and OW5) and the deeper OW2-I, all less than 4 mg/L. Overall, it is concluded that ammonia in the Sand Aquifer originates from both the KPL leachate and contribution from the WWTC.

Elevated potassium accompanies elevated ammonia (up to a maximum concentration of 27.9 mg/L at OW6-I). It is noted that relatively elevated chloride (96 and 426 mg/L) and sodium (149 and 136 mg/L) concentrations are reported at OW2-I and OW9-II, respectively, but are not accompanied by elevated ammonia or potassium at OW2-I or elevated ammonia at OW9-II. This suggests that these wells may be more impacted by road salt than by the wastewater lagoons.

Iron concentrations are notably elevated in the Sand Aquifer, ranging from 10.6 mg/L at OW2-I to 51.7 mg/L at OW2-II. The concentrations at most locations were consistent with those observed in 2024. Significant increases of iron reported at some locations in 2023 (135 mg/L at OW4-I, and 29.5 mg/L at OW9-II) returned to earlier ranges, indicating that the 2023 results were anomalous.

The highest concentrations of iron are similar to or exceeded those measured in the leachate monitoring wells in 2025 (33.3 at OW6-II mg/L to 44.0 mg/L at OW3). Concentrations of iron downgradient of the landfill and adjacent to Lake Simcoe are highest at OW1-II and OW2-II (40.8 and 51.7 mg/L, respectively); the iron concentration at OW2-II decreased from the historical maximum reported in 2023 (58.5 mg/L), however the overall increasing trend observed since 2016 continues.

The elevated ammonia, potassium and iron concentrations at wells located in the Sand Aquifer are indicative of leachate; however, impacts are also observed northwest of the KPL due to the operation of the WWTC lagoons.

The presence of these parameters is consistent with the key leachate indicators, as well as of the parameters expected to be in the WWTC lagoons to the northwest. However, reported concentrations of ammonia, potassium, chloride, and various other parameters continue to increase at the downgradient location of OW2-II (36.4 mg/L ammonia compared to 30.1 mg/L at OW6-I and 22.0 mg/L at OW3 in the KPL). The elevated ammonia concentrations reported at OW2-II suggest that the WWTC lagoons continue to influence the groundwater quality in this area; the City notes that one unlined lagoon remains in operation at the south-east corner of the WWTC on an as-needed basis; this lagoon is used for decanting sewage impacted material. The lower concentrations at OW4-1 (and relatively low concentrations at OW4-II) indicate that the leachate strength is less in the eastern part of the landfill.

The concentrations of most metals detected at wells screened in the Sand Aquifer were below the PWQO, with the exceptions of iron (discussed above), cobalt, copper and cadmium (OW2-II only). In 2025 the copper concentration at OW9-II (14.1 µg/L) decreased; concentrations exceeded the PWQO of 5 µg/L); the copper concentration at OW2-II in 2025 (425 µg/L) increased from 2024 (3.8 µg/L). This reported concentration is being interpreted with caution due to inconsistency with historical trends; based on the similarity of the elevated values, this result is being considered as probably anomalous. Cobalt, copper and phosphorous exceedances are summarized in Table 5.1.

Table 5.1: Cobalt, Copper and Phosphorous Exceedances in Sand Aquifer

Parameter	Cobalt (µg/L)	Copper (µg/L)	Phosphorus (mg/L)
PWQO	0.9	0.005	0.02
OW1-I	8.62	<2	0.110
OW1-II	16.5	<2	0.0325
OW2-I	1.54	<2	3.83
OW2-II	15	425	0.129
OW4-I	1.14	<2	1.56
OW5-I	6.06	<2	0.256
OW6-I	13.2	<2	0.942
OW7	<1.0	<2	0.220
OW9-II	4.16	14.1	0.936

The range of concentrations of cobalt (<1.0 µg/L to 16.5 µg/L) and copper (<2 to 425 µg/L) in the vicinity of the KPL are higher than the concentration reported at the upgradient background location (BH1-IR) in 2025 (0.49 and <2 µg/L, respectively). Similarly, the range of concentrations of phosphorus (0.110 mg/L to 3.83 mg/L) were greater than the concentration reported at BH1-IR (0.31 mg/L).

Phosphorus concentrations were elevated at OW2-I (3.83 mg/L) and OW4-I (1.56 mg/L), compared to 2024 (0.72 and 0.45 mg/L, respectively). At other locations in the Sand Aquifer, the concentrations of cobalt, copper and phosphorus were less than or similar compared to those reported in previous years, with the exception of the reported concentrations of copper at OW2-II and cobalt and phosphorous from 2023 that were interpreted with caution in the context of the 2023 monitoring report.

VOC results are included in Table B1, attached in Appendix B. A number of VOC parameters were identified in the Sand Aquifer including benzene, monochlorobenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, cis-1,2-dichloroethylene, toluene, vinyl chloride and m,p-xylene at concentrations less than or similar to those in previous years. Concentrations of these VOC were typically less than 10 µg/L, with the exception of two parameters that were detected within the waste footprint: monochlorobenzene at OW6-I (21.9 µg/L) and m,p-xylene detected at OW6-I (37.9 µg/L) and at OW6-II (1,620 µg/L).

Elevated parameters above their respective PWQO in 2025 included chlorobenzene (21.9 µg/L, PWQO 15 µg/L) at OW6-I, m,p-xylene (37.9 and 1,620 µg/L, PWQO 32 µg/L) at OW6-I and OW6-II respectively, and 1,4-dichlorobenzene (4.60 and 4.09 µg/L, PWQO 4 µg/L) at OW1-I and OW1-II, respectively. No VOC exceedances of the PWQO were observed in the Sand Aquifer at OW1-II, OW2-I, OW2-II, OW4-I, OW7 or OW9. Overall, at least one VOC was observed at all locations in 2025 with the exception of OW4 suggesting lower leachate influence on the east side of the landfill. It is further noted that vinyl chloride was only observed near the western portion of the landfill at OW1, OW2 and OW9. The reportable VOC detections identified near the western portion of the KPL may be representative of impacts from the WWTC, however it is unknown if VOC are typically present in the wastewater. The highest concentrations, notably chlorobenzene and xylenes were observed at OW6 within the landfill footprint.

The KPL is considered to be the source of some of the VOC (e.g., chlorobenzene and 1,4-dichlorobenzene) observed in the Sand Aquifer, whereas off-site sources (i.e., from industrial lands to the north of the Site) or spills may contribute to other VOC parameters.

5.5 Groundwater Quality in Fill Area West of KPL

Groundwater quality in the fill to the west of the KPL is monitored at two locations: OW8, BH28-I / BH28-II, located generally south of the WWTC. OW8 and BH28-II are screened within the fill, whereas BH28-I is screened in the Sand Aquifer. These locations are monitoring fill outside of the landfill limits. Water quality results for key indicator parameters are contained in Table 8.

The iron concentration at BH28-II in 2025 was 42.3 mg/L, which is well above the concentration observed in 2024 (1.87 mg/L at BH28-II) and higher than the previous peak concentration of 31.7 mg/L in 2009. It is noted that an earlier increasing iron trend was observed at BH28-I between 2003 and 2015 and BH28-II between 2003 and 2013.

Water quality within the WWTC lagoons is monitored monthly by City staff during the spring, summer and fall. Prior to the installation of the lagoon liner in 2015, concentrations of ammonia in 2012 reported for each of the six storage lagoons ranged from 23 mg/L to 870 mg/L (average 454 mg/L). Given the location of the storage lagoons and the absence of a confining layer overlying the Sand Aquifer in the area of the Lagoons, it is considered likely that elevated ammonia observed under the western portion of the KPL has been influenced by exfiltration from the lagoons prior to 2015. It is noted that a higher ammonia concentration was observed in the Sand Aquifer BH28-II (39.7 mg/L) south of the lagoons.

Water quality at BH28-II, located to the southwest of the lagoons, is depicted in graphs and tables as part of the 2025 Kitchener Street Waste Diversion Site monitoring report. As noted, this location exhibits elevated ammonia; the concentrations decreased in 2025 (39.7 mg/L, down from 40.3 mg/L in 2024). A similar decrease was observed for phosphorous (5.03 mg/L, down from 5.07 mg/L in 2024). The following discussion for OW8 and BH28-I with data up to 2024 has been included for comparison and continuity.

South of the lagoons, at OW8 (not sampled in 2025), ammonia concentrations have generally fluctuated since 2013 ranging from 7.74 mg/L in 2013 to 0.8 mg/L in 2019 and in 2024 remained within this range (3.78 mg/L). An increase in chloride in sodium concentrations has been observed since 2022 (26 and 32 mg/L, respectively) with chloride results increasing to 168 and 151 mg/L in 2023 and 2024, respectively, and sodium results increasing to 65 and 84 mg/L in 2023 and 2024, respectively. Increased chloride and sodium may reflect impact of road salting along Kitchener Street. As previously mentioned, major repairs of the north lagoon liner were undertaken in 2021. Sludge found under the liner during the repairs was removed and the remedial work was completed by November

2021. The elevated ammonia observed in the reported concentrations suggest the sludge found beneath the liner influenced water quality downgradient of the lagoons.

Ammonia concentrations increased slightly at BH28-I in 2024 (3.9 mg/L, up from 2.6 mg/L in 2023, and 1.4 in 2022 and 2.0 mg/L in 2021, respectively). A declining trend was noted from 2014 to 2019 (14.1 mg/L in September 2014), however current concentrations appeared to be fluctuating around 3 mg/L.

5.6 Water Quality Summary

The leachate from the KPL is characterized at OW3 and OW6-II by elevated concentrations of ammonia, COD, potassium and iron. The VOC parameters benzene, chlorobenzene, 1,4-dichlorobenzene and m,p-xylene have previously been observed in leachate from the KPL; these four VOC parameters were observed in 2025. Chloride and sodium concentrations within the waste materials are relatively low (33.6 mg/L and 49.7 mg/L at OW3, 7.1 mg/L and 17.1 mg/L at OW6-II), reflecting the age of the waste and the small size of the landfill. Higher chloride concentrations in the deeper wells monitored in the area of the KPL may reflect impact of road salting along Kitchener Street and West Street, in addition to historic snow storage to the north of the WWTC. In 2025, water quality from west of the landfill and the fill area west of the KPL is characterized by relatively elevated concentrations of phosphorous and ammonia at OW9 and BH28-II.

Samples collected from wells constructed within the lower Sand Aquifer reflect impact from the WWTC and landfill leachate. Iron, potassium, ammonia and total phosphorus concentrations in these wells are similar to those in the leachate. VOC are detected in the Sand Aquifer at concentrations similar to those in previous years. Stable or declining concentrations of most key indicator parameters are observed downgradient of the landfill, consistent with expected trends. An exception is noted for OW2-II, where increasing trends of ammonia, potassium, and iron concentrations have been observed since 2017). Concentrations of iron and ammonia downgradient of the landfill and adjacent to Lake Simcoe are also elevated at OW1-II; the iron and ammonia concentrations at this location remain relatively stable and below the historical maxima reported in 2013. Landfill leachate impact was observed downgradient of the landfill in the unconfined aquifer monitoring well locations near the shoreline of Lake Simcoe (i.e., OW1-III and OW4-II) based on elevated concentrations of iron and ammonia. Ammonia increased at OW1-III (5 mg/L in 2025, up from 2.5 mg/L in 2024).

The presence of road salt related impacts (albeit declining) at many locations and the presence of elevated ammonia in the lower Sand Aquifer are considered to reflect the absence of the overlying confining layer to the north, as observed at OW7 and OW9-II. This absence of overlying confining layer also provides a higher permeability “window” where the impacts from the WWTC lagoons (prior to lining in 2015) and snow storage location could potentially enter the Sand Aquifer and move southerly towards OW1 and OW2.

5.7 Results of Quality Assurance/Quality Control

The objective of the QA/QC assessment was to evaluate the quality and appropriateness of the analytical data, particularly at concentrations that may be at, or near, decision-making criteria for the water monitoring program. This assessment does not include a review of laboratory duplicate samples that are part of the laboratory’s internal QA/QC standard program. Duplicate samples were collected for OW4-I and OW9-II (labelled as DUP 1 and DUP 2 in Laboratory Analysis).

A comparison of the duplicate water quality data is outlined in Table 11. The relative percent difference (RPD) calculated for the duplicate samples, is included in this table. Ion balance error calculations are included in Appendix B.

Samples with RPD calculations over 25% are considered to be estimates only. As illustrated in Table 11, the alkalinity and total phosphorous concentrations at OW4-I and total phosphorous concentration at OW9-II should be considered approximate values. The highest RPD difference was noted for total phosphorous at OW9-II (90%) and results for this parameter, in addition to results for alkalinity (all with RPD above 25% for one or both duplicates) should therefore be interpreted with caution. The number of parameters with RPD calculations above 25% is similar to previous years and is considered to be higher than typically accepted. Acceptable RPD values were calculated for all other parameters detected in the duplicate samples. Overall, review and comparison of the analytical results for samples and their duplicates indicates strong agreement for most key indicator parameters. The data are considered acceptable on this basis.

In order to evaluate the reliability of the analytical results, ion balance error percentages were calculated on the basis of major ion analysis. Ion balance error calculations are a measure of the electrical balance of the cations and anions in solution and provide an indication of the chemical stability of the sample. Ion balance error calculations are presented in Appendix B. A total of nine samples (of the 16 analyzed) exhibited a calculated ion balance error of less than 5%; two samples (out of 16) exhibited a calculated ion balance error of greater than 10%. A review of the major ion results indicate that for some samples, alkalinity (notably OW4-I, 5-I, OW9-I and OW9-II) are notably outside of the expected trend for these parameters. Ion balance errors of 5% to 10% are considered acceptable for the purposes of this assessment. A total of 5 out of 16 analyzed samples met this criterion in 2025.

6.0 ENVIRONMENTAL CONDITION EVALUATION

Groundwater from the KPL discharges to Lake Simcoe within or adjacent to Kitchener Park; groundwater from the fill area west of the KPL discharges to Ben's Ditch and the area where it discharges to Lake Simcoe. There are no groundwater users within or downgradient, and as a result, the main concern is protection of aquatic life in the adjacent surface water bodies. The PWQO are the relevant criteria for consideration however, these criteria apply to water bodies, rather than the groundwater at the nearshore areas.

Phosphorous concentrations and loading were previously assessed in the Kitchener Street Waste Diversion Site Assessment Update (Golder, 2011). The phosphorus loading was similar to the loading calculated for the WDS and substantially less than that from the Orillia WWTC. Given that the waste in the KPL is over 50 years old, the mass loading of landfill related parameters discharging to the lake is expected to decrease.

As described in the assessment of the potential effects of the KPL and WDS on the surface water (Golder, 2012b), the shoreline of Shingle Bay is active and potential impacts to the aquatic environment are largely limited to the potential for ammonia to limit the health of benthic species within the nearshore substrate. Whereas the limiting concentration for groundwater discharge is typically assessed for the acute toxicity criteria for ammonia (0.2 mg/L) the most likely species of benthic organisms in this area (*C. tentans* and *L. variegatus*) have acute toxicity criteria above this concentration.

In order to assess toxicity, a "proxy" total ammonia concentration objective for groundwater discharge can be calculated based on the unionized ammonia acute toxicity criteria of 0.2 mg/L, a typical pH of the groundwater discharge (8.0) and a typical summer groundwater temperature of 11°C. A resultant concentration of 10 mg/L total ammonia is calculated. Given that discharge of groundwater from the KPL through the sediments of the adjacent Lake Simcoe would be significantly diluted once it reaches the lake, this is considered a conservative means of evaluating the potential impact of the landfill on the lake from groundwater discharge, since the PWQO applies to surface water and dilution of the groundwater in the surface water will be substantial at this Site.

As was recommended in Golder (2017) standardized target concentrations were developed in the 2017 Annual Report (Golder, 2018) for the Sand Aquifer monitoring wells located next to the lake to assist in comparison of key parameter trends, notably for ammonia. Average concentrations (baseline mean) and standard deviations (σ) were calculated for ammonia using the concentrations reported between 2010 and 2016 at OW1-I, OW1-II and OW-2. The 'Target Concentrations' are presented in Table 6.1 below:

Table 6.1: Downgradient Ammonia Standard Target Concentrations

Target Locations	Baseline Mean (mg/L)	Standard Deviation (σ) (mg/L)	Baseline Mean plus 3σ (mg/L) (Target Concentration)	2025 Concentration (mg/L)
OW1-I	15.1	4.2	27.6	18.0
OW1-II	21.6	2.1	28.0	21.9
OW2-II ¹	8.1	1.4	12.3	36.4

¹: baseline mean concentrations and standard deviation based on concentrations at OW1-II

The Target Concentrations are based on the “three-sigma rule of thumb”, wherein it is expected that nearly all values not influenced by changes in impact lie within three standard deviations of the arithmetic mean. When these target concentrations are exceeded, this indicates an increasing trend is likely present and further actions, commencing with close scrutiny of the concentrations and trends of other indicator parameters at this location should be undertaken.

The concentrations of ammonia at these locations in 2025 were compared to the Target Concentrations (Table 6.1). The 2025 ammonia concentrations at the OW1-I and OW1-II were below the respective standard target concentrations.

Ammonia concentrations increased in 2025 at OW2-II (36.4 mg/L, up slightly from 31.9 mg/L in 2024); an increasing trend has been observed since 2016 (7.6 mg/L). The concentration at this location continues to exceed the standard target concentration (12.3 mg/L). Overall, steady or declining trends are observed for other parameters (e.g., chloride, manganese, COD and VOC) at this location. The current ammonia concentrations are similar to those observed historically to the west at OW1-II (i.e., 24.2 mg/L in 2013).

Given that the waste within the landfill is over 50 years old and there has been no change to the waste footprint or conditions over this part of the landfill (e.g., increased runoff, changes to the cover), it is concluded that significant long-term increases in ammonia originating from the landfill are not anticipated. The water quality at OW2-II is also considered to be influenced by the wastewater storage lagoons located at the WWTC, located northwest of the Site, this facility is considered a source of elevated ammonia and other parameters associated with wastewater. The absence of overlying confining layer at OW7 also provides a window where the impacts from the storage lagoons may enter the Sand Aquifer and influence the concentrations of ammonia at OW2. The trigger concentrations at OW2-II and actions relative to possible WWTC lagoon influence should be re-assessed following collection of a statistically significant amount of data from location OW9 to confirm any apparent trends in water quality downgradient of the lagoon since they were lined. Actions relative to possible WWTC lagoon influence should be undertaken if it is determined that the lining and repairs to the lagoon are not sufficient to limit the impacts downgradient. Since 2022 (i.e., three years of monitoring), a decreasing trend of ammonia has been observed at both OW9-I and OW9-II (97.2 to 72.0 mg/L and 0.8 to 0.16 mg/L, respectively) which may reflect the influence of the lining and subsequent repair of the lagoons; however, additional data is needed to confirm this trend continues to decline or stabilize.

7.0 LANDFILL GAS ASSESSMENT

The historical soil-gas monitoring results (monitored locations and methane concentrations) are summarized in Table 12. The monitoring locations are shown on Figure 2.

Action levels for methane, a component of LFG, at a closed landfill are typically established at 1.0% (v/v) methane (CH₄) by volume (i.e., 20% of the Lower Explosive Limit “LEL” of 5% v/v). When concentrations at the Site boundary exceed the 1.0% action level, it is recommended that the City undertake further assessment including the need for controls and inform the potentially affected adjacent property owner(s) of the issue.

7.1 Landfill Gas Action Plan

A Landfill Gas Action Plan was completed for the KPL, outlined in a May 2017 submission to the Ministry. Based on the historical monitoring observations and known exceedances of the LEL at the northern boundary of the park (and KPL), including existing site conditions and discussions with City staff, a barrier and passive venting system located along the south side of Kitchener Street, in combination with continued monitoring, was identified as the most feasible solution.

Four additional shallow LFG wells were installed in 2018 along the eastern property boundary to supplement the existing data. Monthly groundwater levels on the east side of the KPL were monitored on a monthly basis for one year. It was also agreed that the proposed engineering measures would extend slightly farther east, to approximately the location of the easterly entrance to the parking lot (near GP-KP2).

7.2 Landfill Gas Barrier/Venting System Design

Construction of a barrier wall and passive venting system was completed in August 2020. The layout of the barrier wall and passive venting system is shown on Figure 2. The design for this system is outlined below.

Barrier Wall

A vertical barrier wall consisting of interlocking steel sheet piles (Waterloo Barrier™) was installed to limit lateral migration of LFG onto the adjacent private properties on the north side of Kitchener Street. Approximately 206 m length of barrier wall was installed on City lands on the south side of Kitchener Street. To fully cut off the unsaturated zone through which lateral migration of landfill gas occurs, the sheet piles were installed such that their tip (i.e., bottom) elevations corresponded to the minimum recorded groundwater levels as measured at historic gas probes near the proposed wall alignment. Relative to existing ground surface, the depth to the tip of the sheet piles is approximately 4.3 m.

Venting System

To collect and vent LFG that accumulates along the landfill side of the barrier wall, a shallow 1.2 m deep x 0.75 m wide trench was excavated and backfilled with sand and 150 mm nominal diameter perforated pipe along the full length of the barrier wall. The perforated pipe was connected to a vent stack at three locations adjacent the trench; the location of the vent stacks (GVP1, GVP2 and GVP3) are shown on Figure 2. The vent stacks consist of a 6.0 m high hollow/tapered galvanized steel pole fitted with a wind turbine at the top and founded on a concrete pier. A removable steel plate is installed at each vent pole to allow monitoring of landfill gas concentrations.

7.3 2025 Landfill Gas Concentrations

Starting in 2021, additional monitoring required under ECA No. 5412-BE7KES was undertaken to confirm the system is operating as expected and to assess the risk posed to properties north of Kitchener Park from elevated

methane in soil gas. This includes monitoring and sampling at the three vent stacks (GVP1, GVP2 and GVP3). This monitoring is discussed in Section 8.0.

In 2025, LFG monitoring was completed in February and November. The highest concentrations of methane are observed south of the barrier wall (i.e., on the landfill side) at GP-KP7 and GP-KP8, at concentrations ranging from 29.1 to 47.4% v/v and from 1.0 to 48.1% v/v, respectively. These concentrations at GP-KP7 are generally lower and at GP-KP8 are slightly higher (and increased to a new peak compared to the previous peak of 42.3% v/v in 2023) than those observed in 2024 but consistent with concentrations expected in this area.

Trace to low methane concentrations were measured north of the barrier wall and within the landfill footprint, concentrations remained elevated (7.5 to 9.6% v/v at OW3 in 2025, compared to 7.3 to 9.6% v/v in 2024). Methane concentrations were higher within the eastern portion of the landfill footprint (i.e., OW6-II), where concentrations ranged from of 13.4 to 30.7% v/v.

West of KPL and the barrier wall at OW8, methane concentrations in 2025 (21.8 to 30.7% v/v) decreased from concentrations observed in 2024 (9.5 to 40.1% v/v). This was also a reduction from the new peak of 40.1% v/v observed in 2024. OW8 is stationed approximately 100 m west of the LFG wall/vent system but within approximately 50 m of the westernmost landfill extent. This location is located more than 100 m from the nearest commercial building on Kitchener Street and the nearest potential receptor are the WWTC buildings; these WWTC buildings are equipped with methane detectors. Methane remained at trace concentrations to no methane detected at the remaining locations during the 2025 monitoring year.

The 2025 LFG monitoring indicates that there is no (or essentially no) methane present at the northeast and eastern boundaries of the KPL. The cover of the landfill consists largely of coarse-grained soils and, as a result, methane is expected to preferentially vent to the atmosphere. Under frozen ground conditions, or under pavement and building foundations, LFG may migrate preferentially within the coarser grained materials above the water table. To the east of the landfill, the migration of LFG is limited by the thinning of the unconfined peat/sand aquifer and the shallow water table, which limit the area through which LFG will migrate. Additionally, where the depth of the surrounding ditches reaches the water table, off-site migration is further limited.

Performance of the passive venting and cut-off wall is, in part, assessed through monitoring of the soil-gas probes located north of the cut-off wall (i.e., GP-KP9, GP-KP10 and GP-KP11). Low concentrations of methane have been detected at locations GP-KP9 and GP-KP10 since the installation of the barrier wall and remained low in 2025 (0.2 and 0.1% v/v, respectively). GP-KP11 was not found in 2025 and was not sampled, however no methane was detected at this location from November 2020 to the last monitoring event where GP-KP11 was monitored in 2022. Methane concentrations recorded at the three monitoring locations were largely similar to or slightly lower than in previous years, which suggests the cut-off wall is effectively limiting LFG gas migration to the commercial buildings north of the KPL.

As noted in Section 1, there are two buildings on the KPL Site, including a utility building located in the central portion of the landfill, and a storage building located in the southeast corner. The City indicates that the both the utility building and storage building are equipped with under-slab venting.

8.0 PASSIVE VENTING SYSTEM MONITORING

Section 8 of this annual report satisfies the requirements outlined in Condition 1.2 of the ECA No. 5412-BE7KES, which requires the annual report to include:

- the frequency of monitoring adopted

- the concentration of contaminants discharging in the air
- the wind speeds and wind directions recorded at the time of monitoring
- the results of dispersion calculations, using one of the approved dispersion models listed in Section 6 of O. Reg 419/05, indicating the maximum point of impingement concentrations of contaminants in the gas discharging to air

There were no complaints received by the City relating to the operation of this system in 2025. No repairs or maintenance of the system was undertaken. It should be noted that on September 8, 2025 approval was granted to decrease the passive venting system and modelling interval to a single annual event by the MECP Barrie District Manager. This change did not impact the frequency of the monitoring in the 2025 calendar year.

8.1 Summary of Gas Monitoring Well Results

Performance of the passive venting and cut-off wall LFG control measures installed at the KPL is, in part, assessed through monitoring of the soil-gas probes located north of Kitchener Street (i.e., GP-KP9, GP-KP10 and GP-KP11). Methane concentrations north of the barrier wall were detected only at GP-KP10, at concentrations well below the 2.5% v/v action level. GP KP11 was not found in 2025 and was not sampled. Methane concentrations recorded at GP-KP9 and GP-KP10 have decreased from those reported prior to construction of the barrier wall, which suggests the LFG control system is limiting LFG gas migration to the north of the KPL.

8.2 Summary of Passive Gas Vent System Monitoring Results

A semi-annual monitoring frequency is required at the three gas venting poles (GVP1 to GVP3); one of the monitoring rounds is completed under frozen ground conditions (February/March). As part of the gas vent monitoring completed at the Site in 2025, methane (%LEL and %CH₄), carbon dioxide (% volume) and oxygen (% volume) and flow rates were recorded.

A summary of the gas probe monitoring is provided in Table 8.1 below. The methane, carbon dioxide and oxygen readings were recorded using a calibrated GEM 2000. Flow rate of landfill gas venting upward within the vent system poles were measured using a VelociCalc ventilation meter. In 2025 the methane readings in the GVP were 0.0% by volume at all locations during both sampling events.

Table 8.1: Summary of 2025 Gas Venting Pole Monitoring

Location	Date	CH ₄ (% volume)	CO ₂ (% volume)	O ₂ (% volume)	Flow Rate (cfm)
GVP1	19-Feb-25	0.0	0.7	21.3	0.81
	12-Nov-25	0.0	0.4	22.8	11.17
GVP2	19-Feb-25	0.0	0.8	23.6	0.03
	12-Nov-25	0.0	0.9	22.7	28.50
GVP3	19-Feb-25	0.0	0.1	23.6	0.14
	12-Nov-25	0.0	0.5	22.8	14.03

8.3 Landfill Gas Passive Vent Sampling Results

Samples were collected semi-annually from all GVP (GVP1 through GVP3) on February 19 and November 12, 2025. Samples were analyzed for methane, hydrogen sulphide, oxygen, carbon monoxide, carbon dioxide and VOC. Gas samples were collected in Tedlar bags using a lung box apparatus with a Gilair™ pump and submitted to Bureau Veritas Laboratories for analysis. These sample results were used to update the emission rates and

maximum predicted off-site concentrations. Laboratory Certificates of Analysis for the gas venting pole samples are provided in Appendix C. A summary of the landfill gas chemistry results is provided in Table F-1 (Appendix F).

8.4 Summary of Wind Speed and Direction

Meteorological data was taken from Lake Simcoe Regional Conservation Authority for the Orillia WWTC weather station (Station Number LS0209, available:

<https://data.lsrca.on.ca/wiski/applications/public.html?publicuser=Public#waterdata/stationoverview>; accessed: March 19, 2026). This station is located in the immediate vicinity (approximately 0.5 km west) of the Site. This weather station is considered to accurately represent Site weather conditions during the sampling periods. A summary of the weather conditions (temperature, barometric pressure, wind direction and average wind speed) during the semi-annual sampling events is provided in Table 8.2 below.

Table 8.2: Summary of 2025 Weather Conditions during Gas Venting Pole Monitoring

Date	Time	Temperature (°C)	Barometric Pressure (kPa)	Wind Speed (km/h)	Wind Direction (°)
February 19, 2025	8:00	-17.7	100.0	6	343
	9:00	-16.3	100.0	10	11
	10:00	-15.3	100.1	5	318
	11:00	-13.9	100.1	7	310
November 12, 2025	9:00	1.0	97.2	6	230
	10:00	1.7	97.2	20	192
	11:00	2.5	97.2	11	257
	12:00	3.2	97.2	16	261

8.5 Concentrations of Contaminants Discharging to Air

An Emission Summary and Dispersion Modelling (ESDM) report (Golder, 2019a) was originally prepared in 2019 as part of an application for an Environmental Compliance Approval (ECA) for emissions to air under Section 9 of the Environmental Protection Act. Condition 2.2 of the ECA states that the emission calculations and dispersion modelling used to support this ESDM are to be updated annually using the results of the monitoring completed in the previous calendar year. A summary of the methodology and results used to update the emission calculations and modelling with 2025 sampling data are included in the following section.

8.5.1 Gas Venting Poles

Emission rates of landfill gas constituents released through the passive vent poles were calculated using the maximum measured concentration (ppb or µg/m³) of each contaminant in any of the vents during each sampling round (Table F-1) and the average volumetric flow rate (m³/s) to determine an emission rate (g/s). Average flow rate for each vent, is provided in Table 8.1.

The equations used to calculate the emission rates are provided below:

$$\text{Concentration} \left(\frac{\mu\text{g}}{\text{m}^3} \right) = \text{Concentration (ppb)} \times MW \left(\frac{\text{g}}{\text{mol}} \right) \times R \left(\frac{\text{m}^3 \text{ atm}}{\text{mol K}} \right) \times T \text{ (K)} \times \frac{1}{p \text{ (atm)}} \times \frac{1 \text{ ppm}}{1000 \text{ ppb}}$$

Where:

- MW = Molecular Weight at 25°C and 1 atmosphere

- R = Ideal gas constant
- P = atmospheric pressure (atm)
- T = Temperature (K)

$$\text{Emission Rate } \left(\frac{g}{s}\right) = \text{Concentration } \left(\frac{\mu g}{m^3}\right) \times \text{volumetric flow rate } \left(\frac{m^3}{s}\right) \times \frac{1g}{1000000\mu g}$$

The purpose of the passive vent sampling is to provide further understanding of the concentrations of the contaminants discharging to air and to confirm that the assessment completed as part of the 2019 ESDM Report (Golder, 2019a) does not underestimate the predicted off-site air quality impacts from the passive venting system.

Sampling was completed for the analytical laboratory standard suite of 68 Volatile Organic Compounds (VOC) during the frozen ground condition sampling event in February 2025. This list of VOC includes many contaminants common to landfill gas including for example, vinyl chloride. Of these 68 compounds, 18 compounds were sampled at concentrations greater than the detection limit for at least one vent during the February sampling round. In the November sampling event, 24 compounds were found to be sampled at concentrations greater than the detection limit for at least one vent. For contaminants that were not found at concentrations greater than the detection limit, emission rates were calculated using a concentration equal to the detectable limit for that compound. The detailed emission rate calculations are included in Appendix F.

8.5.2 Landfill Mound Venting

Emission rates of landfill gas constituents released fugitively through the landfill mound were calculated using the emissions from the passive vents. It was conservatively assumed that the total emissions from the landfill gas vents represent 80% of the emissions from the landfill and the remaining 20% are released from the landfill surface.

An updated Source Summary Table of all emissions from the venting poles is included in Table F-3.

8.5.3 Identification of Significant Contaminants Using an Emission Threshold

Negligible contaminants were identified using the Emission Threshold Calculation, as described in s.7.1.2 of the ESDM Procedure Document (MECP, 2018) and can be found in Appendix F. These contaminants were excluded from the dispersion modelling analysis.

As per the ESDM Procedure Document, contaminants that are emitted from a facility may be identified as negligible when they are below the emission thresholds that are developed using the following formula:

$$\text{Emission Threshold [g/s]} = \frac{0.5 \times \text{Ministry POI Limit } [\mu\text{g}/\text{m}^3]}{\text{Dispersion Factor } [\mu\text{g}/\text{m}^3 \text{ per g/s}]}$$

The dispersion factor selected for the Facility is the Ministry's urban dispersion factor of 8,700 ($\mu\text{g}/\text{m}^3$ per g/s emission) for a distance from source of 20 m and based on a 1-hour averaging period. This dispersion factor was developed by the Ministry using a series of conservative modelling factors for a short stack on a 6 m tall building and can be found in Table B-1 of the ESDM Procedure Document.

For contaminants that have Ministry POI Limits that are not based on 1-hour averaging periods, the conversion to the appropriate averaging periods was completed using the recommended conversion factors, as documented in Ministry Guidance (MECP, 2017).

Of the 68 contaminants assessed, all 68 were considered negligible using the Emission Threshold Calculation. Accordingly, no contaminants were carried forward into a dispersion modelling analysis. It should be noted that this assessment assumes that all contaminants recorded as below the detection limit by the laboratory assessment are assumed to be emitted in a concentration equal to the detection limit. As a result, the assessment is considered conservative, as documented in section 8.5.1.

8.6 Dispersion Modelling

Dispersion modelling for the facility ESDM report for the significant contaminant was conducted in accordance with the MECP publication “*Guideline A-11: Air Dispersion Modelling Guideline for Ontario, Version, 3.0*”, dated February 2017 (ADMGO) PIBS 5165e03.

Compliance was assessed using the AERMOD dispersion modelling system and s.20 standards guidelines.

The AERMOD modelling system is made up of the AERMOD dispersion model, the AERMET meteorological pre-processor, the AERMAP terrain pre-processor and the BPIP building downwash pre-processor. As all contaminants were found to be negligible as per the emission rates calculated as described in Section 8.5, additional dispersion modelling was not required for the 2025 sampling year. The emission rate calculations and negligibility assessment are provided in Appendix F.

8.6.1 Dispersion Modelling Input Summary Table

The passive venting system retains the source parametrization outlined in the 2019 ESDM report (Golder, 2019a), with the exception of the flow rates for the vent poles that were updated to reflect the 2025 measured data. This adjustment of flow rates and sampled concentrations alters the emission rates year over year. As all contaminants were found to be emitted in negligible amounts, air dispersion modelling is not required, as per section 7.1.2 of the MECP’s ESDM Procedure Document.

An updated Dispersion Modelling Source Summary Table is provided as Table F-2. The modelling files completed for the 2023 reporting year remain the most recent for the facility.

8.6.2 Meteorology, Surrounding Land Use and Terrain

The AERMOD model is required to be run using the site-specific pre-processed five-year dispersion meteorological dataset (i.e., surface and profile files), provided by the Ministry, in accordance with paragraph 3 of s.13(1) of O.Reg.419/05.

Terrain data used in this assessment can be obtained from the Ministry. The Canadian Digital Elevation Model (CDEM) data in GeoTIFF format that remains in use in this assessment is: ‘cdem_dem_031D.tif’. Both the meteorological dataset and terrain data remain consistent with the 2023 reporting year modelling files for the facility.

8.6.3 Receptors

Receptor locations are consistent with the 2019 ESDM report (Golder, 2019a).

8.6.4 Averaging Periods and Conversions

Section 20 of O. Reg. 419/05 applies to this Landfill. Many of these standards and guidelines are based on 1-hour and 24-hour averaging times, which are averaging times that are easily provided by AERMOD. In cases where a standard and/or guideline has an averaging period that AERMOD is not designed to predict (e.g., ½-hr or 30-day), a conversion to the appropriate averaging period was completed using the MECP recommended conversion factors, as documented in the ADMGO and the MECP *Technical Bulletin Methodology for Modelling Assessments*

with 10-Minute Average Standards and Guidelines under O. Reg. 419/05, dated April 2008. This same averaging period conversion is completed for the screening of contaminants for negligibility.

8.6.5 Dispersion Modelling Options

The options used in the most recent AERMOD dispersion model are summarized in the table below.

Modelling Parameter	Description	Used in the Assessment?
DFAULT	Specifies that regulatory default options will be used	Yes
CONC	Specifies that concentration values will be calculated	Yes
AVERTIME	Time averaging periods calculated	1-hr, 24-hr, Annual

8.7 Maximum Predicted Concentrations

The emission rates for all contaminants were compared against the applicable s.20 standards and guidelines listed as Benchmark 1 in the *Air Contaminants Benchmark (ACB) List*, dated April 2023 (List of Ministry POI Limits). The updated Emission Summary Table (F-5) outlines the negligibility of the facility emissions in the 2024 reporting year.

Contaminants released by the Facility that do not have Benchmark 1 standards or guidelines in the ACB List are considered to be 'Contaminants with No MECP POI Limits'. Where applicable, predicted POI concentrations of 'Contaminants with No MECP POI Limits' were screened against the Benchmark 2 screening levels in the ACB List or the *de minimus* limit. Predicted concentrations of all 'Contaminants with No MECP POI Limits' were found to be below the corresponding Benchmark 2 screening level or *de minimus* limit.

Based on the results of sampling of the 2025 monitored contaminants, the predicted concentrations of all monitored contaminants were deemed negligible and less than the predicted concentrations identified in the 2019 ESDM report (Golder, 2019a) thus illustrating that the assumptions used in the 2019 ESDM report (Golder, 2019a) do not underestimate emissions from the passive venting system and the Site is operating in compliance with Ontario Regulation 419/05. 2025 was the fourth year for which passive vent sampling and modelling was completed. The results of the 2025 assessment are consistent with those presented in the 2022 report. Given the similar low concentrations during the past four years of measurements, and as all contaminants assessed remain negligible under the procedure outlined above, it is recommended that if data remains consistent with the reduced annual sampling frequency that passive venting system sampling be ceased following review and consultation with the MECP and MECP District Manager.

9.0 CONCLUSIONS

- 1) The groundwater flow direction in the Unconfined aquifer under the KPL is radial with an overall southward component toward Lake Simcoe. The groundwater flow direction in the underlying Sand Aquifer is to the south towards Lake Simcoe. The shallow groundwater flow to the northeast and east is limited by the elevation of the till confining unit, which rises to the east. The shallow water levels towards the east of Site (e.g., at OW5) indicate that the potentiometric surface is below the invert of the ditch and therefore point-source leachate impacts in the ditches are not expected. Based on the topography east of the KPL, it is inferred that groundwater flow east of the landfill will be largely southward towards Lake Simcoe.
- 2) Groundwater impacts related to landfill leachate are observed in both the shallow (Unconfined Aquifer) and deep (Sand Aquifer). Impacts are largely identified by elevated ammonia, iron and low VOC. The highest concentrations of typical leachate parameters are present at OW6-I under the central portion of the landfill.

Lower concentrations at OW4-1 indicate that the leachate impacts are less in the eastern part of the landfill; relatively low concentrations are also present at OW4-II. Stable or declining concentrations of most key indicator parameter concentrations are observed in the groundwater downgradient of the landfill, adjacent to Lake Simcoe. Exceptions are noted at OW2-II where increasing trends of ammonia and iron concentrations have been observed in recent years.

- 3) Based on our understanding of the WWTC lagoon design and operation, groundwater elevations and quality trends, the elevated ammonia in the Sand Aquifer near the lakeshore (i.e., OW1 and OW2) is influenced by infiltration from the lagoons.
- 4) Elevated (but generally declining) concentrations of sodium and chloride within the Sand Aquifer are considered to reflect road salting activities along Kitchener Street and West Street, as well as areas further upgradient. This is evident by the elevated chloride in the background water quality at BH1. As road salt impacts are observed in the background water quality samples, ammonia is the primary indicator of groundwater quality influence by the landfill, and to an extent, the WWTC lagoons.
- 5) The KPL is considered to be the source of some of the VOC (e.g., chlorobenzene and 1,4-dichlorobenzene) observed in the Sand Aquifer, whereas off-site sources (i.e., from industrial lands to the north of the Site) or spills may contribute to other VOC parameters. There were no exceedances of the PWQO observed for VOC at wells located in the Sand Aquifer adjacent to the lake with the exception of 1,4-dichlorobenzene at OW1-I and OW1-II (4.60 and 4.09 µg/L, respectively).
- 6) Target ammonia concentrations were developed at OW1-I, OW1-II and OW2-II to provide a mechanism for initiating further detailed assessment. The 2025 ammonia concentrations at OW1-I and OW1-II were below the respective standard target concentrations, whereas the concentration at OW2-II (36.4 mg/L) continued to exceed the standard target concentration (12.3 mg/L). Whereas the water quality at OW2-II is influenced by the landfill as evident in the elevated leachate parameter concentrations, the Sand Aquifer is unconfined in the area of OW7 and water quality at OW2-II is influenced by the storage lagoons located at the WWTC, located northwest of the Site, prior to their lining in 2015. This effect may be observed for some time until the previously unlined lagoon impacts and impacts from the biosolids removal operation that were repaired in 2021 have migrated beyond OW2-II within the Sand Aquifer. It is noted that the effects may continue by use of the unlined lagoon on an as needed basis. A decreasing trend of ammonia has been observed at both OW9-I and OW9-II since monitoring initiated three years ago, which may reflect the influence of the lining of the lagoons; however, additional data is needed to confirm this trend continues to decline or stabilize. Actions relative to possible WWTC lagoon influence should be undertaken if it is determined that the lining and repairs to the lagoon are not sufficient to limit the impacts downgradient.
- 7) Methane north of Kitchener Street at GP-KP9 and GP-KP10 of the LFG control system is not present (0.0% to 0.1%) and is not considered to be a concern with respect to buildings located to the north. The results indicate that LFG control system is effectively preventing LFG gas migration to the north of the KPL. No methane was detected at any of the monitoring wells installed along the eastern property boundary in 2025.
- 8) The maximum conservative estimated gas concentrations assessed in the air dispersion assessment and ESDM report update remain negligible as per the MECP's ESDM Procedure Document section 7.1.2. The results for 2025 remain below the relevant air quality criteria and less than the maximum predicted concentrations identified in the 2019 ESDM report that supports the ECA. This illustrates that the assumptions used in the 2019 ESDM report provide a conservative assessment of emissions from the passive venting system, which is operating in compliance with the ECA.

10.0 RECOMMENDATIONS

- 1) The City should continue the ongoing water quality and landfill gas monitoring program as per Table 4.
- 2) Given that ammonia at OW2-II (36.4 mg/L) continues to be above the target concentration, the behaviour of ammonia at this location should continue to be assessed carefully relative to potential source and changes. Actions relative to possible WWTC lagoon influence should be undertaken if it is determined that the lining and repairs to the lagoon are not sufficient to limit the impacts downgradient.
- 3) The passive venting system sampling frequency has been adjusted to a singular event annually as per confirmation with the District Manager on September 8, 2025. It is recommended that sampling continue at this frequency for an additional three calendar years. In the event contaminant emission rates remain negligible or below MECP air standards, the cessation of passive venting system sampling may be worthwhile to discuss with the MECP. The removal of the passive venting system sampling conditions for the site may necessitate an ECA amendment application.
- 4) A replacement gas probe should be installed near GP-KP11 to continue monitoring the performance of the passive venting and cut-off wall in that area.

Signature Page

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Tables

Table 1
Summary of Aquifer Testing

Hydrostratigraphic Unit	Inferred Thickness Range (m)	Range of Hydraulic Conductivity (cm/s)	Tested Observation Wells
Unconfined Aquifer (Peat)	0 – 2.3	1.0×10^{-4}	OW1-III
Unconfined Aquifer (medium sand to silt)	0 – 2.5	2.1×10^{-3} to 9.5×10^{-4}	OW4-II
			GP-KP4
Waste	0 – 3	1.5×10^{-4} to 8.0×10^{-5}	OW3
			OW6-II
Upper Confining Layer	0 – 6	ND	None
Confined (Sand) Aquifer	0 – 8.4	1.2×10^{-3} to 8.2×10^{-5}	OW1-I
			OW2-I
			OW2-II
			OW6-I

NOTES:

ND: Not Determined

Source: Golder, 2005b

Table 2
Monitoring Location Details

Monitoring Well	Measuring Point Elevation (Top of Pipe) (masl)	Ground Surface Elevation (masl) ²	Easting (m) ²	Northing (m) ²	Stick Up (m)	Top of Screen (masl)	Base of Screen (masl)	Hydrostratigraphic Unit
OW1-I	220.00	219.11	626219	4938542	0.89	211.49	206.92	Sand Aquifer
OW1-II	220.22	219.35	626219	4938542	0.87	214.78	213.25	Sand Aquifer
OW1-III	220.17	219.35	626219	4938542	0.82	218.25	217.03	Unconfined Aquifer
OW2-I	220.84	219.90	626310	4938591	0.94	212.58	210.15	Sand Aquifer (base)
OW2-II	220.49	219.90	626310	4938591	0.59	217.77	213.19	Sand Aquifer (upper)
OW3	224.19	223.33	626243	4938663	0.86	221.5	219.06	Waste
OW4-I	220.51	219.64	626505	4938640	0.87	214.65	212.62	Sand Aquifer
OW4-II	220.44	219.64	626505	4938640	0.80	218.72	217.50	Unconfined Aquifer
OW5-I	221.36	220.42	626545	4938783	0.94	215.09	213.56	Sand Aquifer
OW5-II	221.27	220.42	626545	4938783	0.85	217.68	215.24	Upper Confining Layer
OW6-I	222.42	221.41	626441	4938712	1.01	217.14	214.00	Sand Aquifer
OW6-II	222.42	221.41	626441	4938712	1.01	219.89	217.45	Waste
OW7 ¹	224.09	223.20	626265	4938773	0.89	218.95	213.16	Sand Aquifer
OW8	223.17	222.16	626123	4938647	1.01	221.25	218.96	Fill
OW9-I	223.741	222.80	626176	4938718	0.94	215.7	213.96	Upper Confining Layer
OW9-II	223.873	222.80	626176	4938718	1.07	219.75	216.7	Sand Aquifer
BH28-I	222.07	221.38	626041	4938592	0.70	218.0	216.5	Sand Aquifer
BH28-II	221.85	221.31	626041	4938592	0.54	220.4	218.9	Fill
GP-KP2	223.45	222.59	626399	4938864	0.86	220.46	217.41	Lower Confining Layer
GP-KP3	222.11	221.06	626498	4938860	1.05	219.54	216.49	Lower Confining Layer
GP-KP4	220.93	219.63	626617	4938668	1.30	218.85	217.32	Unconfined Aquifer
GP-KP7	224.21	223.18	626266	4938774	1.03	221.96	219.52	Waste
GP-KP8	223.89	222.88	626327	4938812	1.01	221.36	218.31	Waste
GP-KP9	223.04	223.20	626221	4938774	-0.16	221.98	218.93	Upper Confining Layer
GP-KP10	222.52	222.63	626275	4938807	-0.11	221.87	218.82	Upper Confining Layer
GP-KP11	222.34	222.53	626329	4938839	-0.19	221.63	218.53	Upper Confining Layer
GP-KP12	223.03	222.00	626454	4938896	1.03	221.24	218.95	Unconfined Aquifer
GP-KP13	221.26	220.27	626521	4938821	0.99	219.51	217.22	Unconfined Aquifer
GP-KP14	221.28	220.16	626548	4938776	1.12	219.40	217.87	Unconfined Aquifer
GP-KP15	220.57	219.71	626579	4938727	0.86	219.10	217.58	Unconfined Aquifer

NOTES:

masl: metres above sea level

NA: data not available

1) Well originally referred to as GP-KP1

2) Coordinate provided georeferenced UTM NAD 83 Zone 7, accurate to within approximately 5 m. Data provided electronically by the City of Orillia. Coordinates provided for monitoring well nest represent centroid position between monitoring locations. Elevation data provided electronically by the City of Orillia, accurate to within 0.1 m.

2025 KPL Groundwater and Surface Water Monitoring Program

Locations	Parameters	Comments
OW1-I OW1-II OW1-III OW2-I OW2-II OW3 OW4-I OW4-II OW6-I OW6-II OW7 OW9-I OW9-II	<p>Major Ions and Indicators Ca, Mg, Cl, K, Na, SO₄</p> <p>Alkalinity, Hardness, Conductivity, pH, TSS, TDS</p> <p>Metals (extended): Al, Ba, Cd, Cr, Co, Cu, Fe, Pb, Mn, Ni, Se, Ag, Sr, Zn</p> <p>Nutrients NH₄, NO₃, NO₂, TKN, DOC, Phenols, Orthophosphate, Total P</p> <p>Volatile Organic Compounds (VOC)</p>	
BH28-I BH28-II OW5-I OW5-II OW8	<p>Major Ions and Indicators Ca, Mg, Cl, K, Na, SO₄</p> <p>Alkalinity, Hardness, Conductivity, pH, TSS, TDS</p> <p>Metals (standard): Fe, Mn, Ni, P, Zn</p> <p>Nutrients NH₄, NO₃, NO₂, TKN, DOC, Phenols, Orthophosphate, Total P</p>	VOC not analyzed at these locations. Metals not analyzed at BH28-I.

**Table 4
Proposed 2026 Monitoring Program**

Location	Unit	Water Level	Landfill Gas Monitoring	Major Ions and Indicators	Nutrients	Metals	VOCs	Hydrostratigraphic Unit Descriptions	
OW1-I	SA	S		A	A	A	A		
OW1-II	SA	S		A	A	A	A	P	Peat
OW1-III	P	S		A	A	A	A	UA	Unconfined Aquifer
OW2-I	SA	S		A	A	A	A	SA	Sand Aquifer
OW2-II	SA	S		A	A	A	A	UCL	Upper Confining Layer
OW3	LF	S	S	A	A	A	A	LCL	Lower Confining Layer
OW4-I	SA	S		A	A	A	A	LF	Landfill/Leachate
OW4-II	UA	S		A	A	A	A	F	Fill
OW5-I	SA	S		A	A	A		SW	Surface Water
OW5-II	UCL	S							
OW6-I	SA	S		A	A	A	A		
OW6-II	LF	S	S	A	A	A	A		
OW7	SA	S		A	A	A	A		
OW8	F	S	S	A	A	A			
OW9-I	LCL	S		A	A	A	A	UCL	Upper Confining Layer
OW9-II	SA	S		A	A	A	A	SA	Sand Aquifer
BH28-I	SA	S		A	A				
BH28-II	F	S		A	A	A			
GP-KP2	LCL	S	S						
GP-KP3	LCL	S	S						
GP-KP4	UA	S	S						
GP-KP7	LF	S	S						
GP-KP8	LF	S	S						
GP-KP9	UCL	S	S						
GP-KP10	UCL	S	S						
GP-KP11	UCL	S	S						
GP-KP12	UA	S	S						
GP-KP13	UA	S	S						
GP-KP14	UA	S	S						
GP-KP15	UA	S	S						

NOTES:

A - Annual Event (1 monitoring event)

S - Semi-Annual Event (2 monitoring events)

Detection levels for analyses must be set to meet PWQO or OWDS where criteria have been established

Table 5
Groundwater and Leachate Level Elevation Monitoring

Monitoring Location	Reference Elevation ¹ (masl)	Ground Surface Elevation (masl)	Stick Up (m)	April 2025			October 2025		
				Depth to Water (mbmp)	Depth to Water (mbgs)	Water Level Elevation (masl)	Depth to Water (mbmp)	Depth to Water (mbgs)	Water Level Elevation (masl)
OW1-IR	220.00	219.11	0.89	0.53	-0.36	219.47	1.48	0.59	218.52
OW1-II	220.22	219.35	0.87	0.71	-0.16	219.51	1.66	0.79	218.56
OW1-III	220.17	219.35	0.82	1.04	0.22	219.13	1.85	1.03	218.32
OW2-I	220.84	219.90	0.94	1.18	0.24	219.66	2.22	1.28	218.62
OW2-II	220.49	219.90	0.59	1.22	0.63	219.27	2.22	1.63	218.27
OW3	224.19	223.33	0.86	3.24	2.38	220.95	4.54	3.68	219.65
OW4-I	220.51	219.64	0.87	1.09	0.22	219.42	1.88	1.01	218.63
OW4-II	220.44	219.64	0.80	1.11	0.31	219.33	1.78	0.98	218.66
OW5-I	221.36	220.42	0.94	1.91	0.97	219.45	2.88	1.94	218.48
OW5-II	221.27	220.42	0.85	1.88	1.03	219.39	2.84	1.99	218.43
OW6-I	222.42	221.41	1.01	2.19	1.18	220.23	3.49	2.48	218.93
OW6-II	222.42	221.41	1.01	1.86	0.85	220.56	2.97	1.96	219.45
OW7	224.09	223.20	0.89	3.75	2.86	220.34	5.23	4.34	218.86
OW8	223.17	222.16	1.01	2.54	1.53	220.63	Dry	-	-
OW9-I	223.74	222.80	0.94	4.32	3.38	219.42	5.4	4.46	218.34
OW9-II	223.87	222.80	1.07	3.32	2.25	220.55	4.82	3.75	219.05
BH28-I	222.07	221.38	0.70	2.53	1.84	219.54	Dry	-	-
BH28-II	221.85	221.31	0.54	1.90	1.36	219.95	2.66	2.12	219.19
GP-KP2	223.45	222.59	0.86	2.86	2.00	220.59	5.04	4.18	218.41
GP-KP3	222.11	221.06	1.05	2.02	0.97	220.09	4.40	3.35	217.71
GP-KP4	220.93	219.63	1.30	1.65	0.35	219.28	2.42	1.12	218.51
GP-KP7	224.21	223.18	1.03	3.29	2.26	220.92	Dry	-	-
GP-KP8	223.89	222.88	1.01	2.43	1.42	221.46	4.24	3.23	219.65
GP-KP9	223.04	223.20	-0.16	N/A	N/A	N/A	N/A	N/A	N/A
GP-KP10	222.52	222.63	-0.11	N/A	N/A	N/A	N/A	N/A	N/A
GP-KP11	222.34	222.53	-0.19	N/A	N/A	N/A	N/A	N/A	N/A
GP-KP12	223.03	222.00	1.03	2.20	1.17	220.83	3.79	2.76	219.24
GP-KP13	221.26	220.27	0.99	1.80	0.81	219.46	2.96	1.97	218.30
GP-KP14	221.28	220.16	1.12	1.83	0.71	219.45	3.15	2.03	218.13
GP-KP15	220.57	219.71	0.86	1.40	0.54	219.17	2.09	1.23	218.48

NOTES:

1) Reference Elevation is the elevation at top of casing or measuring point.

masl - metres above mean sea level.

mbmp - metres below measuring point.

mbgs - metres below ground surface.

NA - data not available.

2025 Background Water Quality - Key Indicator Parameters

Parameter ¹	PWQO	BH1-IR	BH1-III ⁴
Alkalinity	-	222	300
Chloride	-	109	448
Sodium	-	71.6	243
Iron	0.3	1.38	1.24
Manganese	-	0.235	0.374
Potassium	-	2.01	0.60
Ammonia	0.02 ²	0.146	0.167
DOC	-	10.9	55.9
COD	-	44	267
Aluminum (µg/L)	75	8.2	31.7
Cadmium (µg/L)	0.5	<0.0050	0.01
Cobalt (µg/L)	0.9	0.49	0.34
Copper (µg/L)	0.005	<2	4.40
Lead (µg/L)	5	<0.050	0.08
Nickel (µg/L)	25	0.76	0.82
Phosphorous	0.02	0.31	1.17
Zinc (µg/L)	20	1.10	2.10

NOTES:

- 1) All concentrations reported as mg/L . Note: BH1-I and BHI-III are located at the WDS.
- 2) The PQWO of 0.02 mg/L is for un-ionized ammonia. The measured concentrations are for total ammonia.
- 3) Average of three sampling events.
- 4) Peat Unit

Table 7
2025 Leachate Quality - Key Indicator Parameters

Parameter ¹	PWQO	OW3	OW6-II	Ratio (maximum concentration / PWQO)
Alkalinity	-	616	804	-
Chloride	-	33.6	7.08	-
Sodium	-	49.7	17.1	-
Iron	0.3	44.0	33.3	147
Manganese	-	0.598	1.30	-
Potassium	-	10.9	21.3	-
Ammonia	0.02 ²	22.0	30.1	-
DOC	-	18.0	16.2	-
COD	-	234	454	-
Aluminum (µg/L)	75	<10	13.6	0.18
Cadmium (µg/L)	0.5	<0.05	<0.05	0
Chromium (µg/L)	8.9	<5	<5	0.00
Cobalt (µg/L)	0.9	1.76	1.97	2.19
Copper	0.005	<0.00200	<0.00200	0
Lead (µg/L)	5	<0.5	<0.5	0.00
Nickel	0.025	<0.00500	<0.00500	-
Phosphorous	0.02	0.656	1.41	70.50
Selenium	0.1	<0.000500	<0.000500	0
Silver	0.0001	<0.000100	<0.000100	-
Zinc (µg/L)	20	<10	5	0.25
Benzene (µg/L)	100	<0.50	0.89	0.01
Monochlorobenzene (µg/L)	15	5.00	6.42	0.43
1,4-Dichlorobenzene (µg/L)	4	1.24	0.76	0.31
Xylene, m-,p- (µg/L)	32	0.55	1620	51

NOTES:

- 1) All concentrations reported as mg/L.
- 2) The PWQO of 0.02 mg/L is for un-ionized ammonia. The measured concentrations are for total ammonia.
- 3) Exceedances of the PWQO are shown in Bold.

2025 Fill Water Quality - Key Indicator Parameters

Parameter¹	PWQO	OW8	BH28-I	BH28-II
Alkalinity	-	-	-	880
Chloride	-	-	-	36.8
Sodium	-	-	-	20.3
Iron	0.3	-	-	42.3
Manganese	-	-	-	0.726
Potassium	-	-	-	14.0
Ammonia ²	0.02 ²	-	-	39.7
DOC	-	-	-	19.5
COD	-	-	-	121
Aluminum (µg/L)	75	-	-	11.4
Antimony	0.02	-	-	-
Cadmium (µg/L)	0.5	-	-	<0.05
Cobalt (µg/L)	0.9	-	-	1.75
Lead (µg/L)	5	-	-	<0.5
Molybdenum	0.04	-	-	-
Nickel (µg/L)	25	-	-	6.1
Phosphorous	0.02	-	-	5.03
Zinc (µg/L)	20	-	-	<1

NOTES:

- 1) All concentrations reported as mg/L unless indicated otherwise.
- 2) The PQWO of 0.02 mg/L is for un-ionized ammonia. The measured concentrations are for total ammonia.

2025 Sand Aquifer Water Quality - Key Indicator Parameters

Parameter ¹	PWQO	OW1-I	OW1-II	OW2-I	OW2-II	OW4-I	OW5-I	OW6-I	OW7	OW9-II
Alkalinity	-	699	654	1310	744	1310	1020	769	462	998
Chloride	-	84.7	74.5	96.1	40.7	10.0	53.8	6.87	91.3	426
Sodium	-	77.0	61.2	149	42.6	18.2	86.4	12.9	33.7	136
Iron	0.3	26.3	40.8	10.6	51.7	24.3	16.1	51.3	34.3	<0.100
Manganese	-	0.156	0.220	0.115	0.326	0.450	0.452	0.431	0.760	1.23
Potassium	-	17.2	18.5	4.34	22.5	2.56	2.30	27.9	5.50	11.2
Ammonia	0.02 ²	18.0	21.9	0.142	36.4	3.42	0.21	30.5	11.7	0.156
DOC	-	16.1	15.8	14.7	19.0	17.4	23.7	18.4	9.41	12.1
COD	-	61	59	98	87	145	105	102	64	77
Aluminum (µg/L)	75	13	<10	<10	37.9	<10	<10	10.7	<10	<10
Cadmium (µg/L)	0.5	<0.05	<0.05	<0.05	0.859	<0.05	<0.05	<0.05	<0.05	0.057
Cobalt (µg/L)	0.9	8.62	16.5	1.54	15	1.14	6.06	13.2	<1.0	4.16
Copper (µg/L)	0.005	<2	<2	<2	425	<2	<2	<2	<2	14.1
Lead (µg/L)	5	<0.5	<0.5	<5	1.36	<0.5	<0.5	<0.5	<0.5	<0.5
Nickel (µg/L)	25	6.37	8.39	8.37	19.8	<5.0	6.52	11.4	<5.0	16.6
Phosphorous	0.02	0.110	0.0325	3.83	0.129	1.56	0.256	0.942	0.220	0.936
Zinc (µg/L)	20	<10	<10	<10	<10	<10	<10	<10	<10	<10
Benzene (µg/L)	100	3.84	3.87	0.72	1.51	<0.50	-	1.94	0.62	<0.50
Monochlorobenzene (µg/L)	15	7.63	8.07	<0.50	1.93	<0.50	-	21.9	4.04	<0.50
1,4-Dichlorobenzene (µg/L)	4	4.60	4.09	<0.50	0.92	<0.50	-	2.25	1.04	<0.50
Xylene, m-,p- (µg/L)	32	<0.40	<0.40	<0.40	<0.40	<0.40	-	37.9	3.46	<0.40

NOTES:

- 1) All concentrations reported as mg/L unless indicated otherwise.
- 2) The PQWO of 0.02 mg/L is for un-ionized ammonia. The measured concentrations are for total ammonia.
- 3) Exceedances of the PWQO are shown in Bold.

2025 Unconfined Aquifer Water Quality - Key Indicator Parameters

Parameter ¹	PWQO	OW1-III ³	OW4-II
Alkalinity	-	657	319
Chloride	-	77.4	16.9
Sodium	-	54.8	3.73
Iron	0.3	10.2	1.09
Manganese	-	1.32	0.351
Potassium	-	5.40	4.86
Ammonia ²	0.02 ²	5.06	0.767
DOC	-	11.7	9.33
COD	-	85	41
Aluminum (µg/L)	75	<10	16
Antimony	0.02	-	-
Cadmium (µg/L)	0.5	<0.05	<0.05
Cobalt (µg/L)	0.9	<1.0	<1.0
Lead (µg/L)	5	<0.5	<0.5
Molybdenum	0.04	-	-
Nickel (µg/L)	25	<5.0	<5.0
Phosphorous	0.02	0.411	0.191
Zinc (µg/L)	20	<10	<10
Benzene (µg/L)	100	2.26	<0.50
Monochlorobenzene (µg/L)	15	2.50	<0.50
1,4-Dichlorobenzene (µg/L)	4	0.80	<0.50
Xylene, m-,p- (µg/L)	32	<0.40	<0.40

NOTES:

- 1) All concentrations reported as mg/L unless indicated otherwise.
- 2) The PQWO of 0.02 mg/L is for un-ionized ammonia. The measured concentrations are for total ammonia.
- 3) Peat Unit
- 4) Exceedances of the PWQO are shown in Bold.

Table 11
2025 Duplicate Water Quality Data

Parameter	29-Sep-25			29-Sep-25		
	OW4-I	DUP 1 (Duplicate of OW4-I)	Relative Percent Difference (%)	OW9-II	DUP 2 (Duplicate of OW9-II)	Relative Percent Difference (%)
Hardness (as CaCO ₃)	465	505	8.2%	1100	1110	0.9%
Alkalinity (as CaCO ₃)	1310	802	48.1%	998	971	2.7%
Conductivity	1010	1000	1.0%	2500	2600	3.9%
pH	7.19	7.22	0.4%	7.26	7.21	0.7%
Chloride	10.0	10.6	5.8%	426	441	3.5%
Nitrite (N)	<0.050	<0.020	-	<0.050	<0.050	-
Nitrate (N)	<0.100	<0.040	-	7.47	7.71	3.2%
Sulphate	<1.50	<0.60	-	67.5	69.0	2.2%
Calcium	158	172	8.5%	384	388	1.0%
Magnesium	17.1	18.4	7.3%	33.7	34.2	1.5%
Sodium	18.2	19.6	7.4%	136	137	0.7%
Potassium	2.56	2.72	6.1%	11.2	11.3	0.9%
Aluminum (µg/L)	<10	<10	-	<10	<10	-
Barium (µg/L)	1660	1900	13.5%	74.4	75.2	1.1%
Cadmium (µg/L)	<0.05	<0.05	-	0.057	<0.05	-
Chromium (µg/L)	<0.5	<0.5	-	<0.5	<0.5	-
Cobalt (µg/L)	1.14	1.39	19.8%	4.16	4.19	0.7%
Copper (µg/L)	<2	<2	-	14.1	13.9	1.4%
Iron (µg/L)	24300	25600	5.2%	<100	<100	-
Lead (µg/L)	<0.5	<0.5	-	<0.5	<0.5	-
Manganese	450	473	5.0%	1230	1240	0.8%
Nickel (µg/L)	<5	<5	-	16.6	16.1	3.1%
Selenium (µg/L)	<0.5	<0.5	-	0.742	0.762	2.7%
Silver (µg/L)	<0.100	<0.100	-	<0.100	<0.100	-
Zinc (µg/L)	<10	<10	-	<10	<10	-
Ammonia (N)-Total	3.42	3.41	0.3%	0.156	0.160	2.5%
Total Kjeldahl Nitrogen	3.89	3.80	2.3%	1.61	1.58	1.9%
o-Phosphate (P)	<0.0020	<0.0010	-	0.0448	0.0451	0.7%
Phosphorus-Total	1.56	0.643	83.3%	0.936	0.355	90.0%
Phenols	0.0083	0.0071	15.6%	0.0084	0.0085	1.2%
Dissolved Organic Carbon	17.4	16.0	8.4%	12.1	12.4	2.4%
Dissolved Inorganic Carbon	109	106	2.8%	126	123	2.4%
Benzene	<0.50	<0.50	-	<0.50	<0.50	-
Monochlorobenzene	<0.50	<0.50	-	<0.50	<0.50	-
1,2 - Dichlorobenzene	<0.20	<0.20	-	<0.20	<0.20	-
1,4 - Dichlorobenzene	<0.50	<0.50	-	<0.50	<0.50	-
cis-1,2 - Dichloroethylene	<0.50	<0.50	-	<0.50	<0.50	-
Trichloroethylene	<0.50	<0.50	-	<0.50	<0.50	-
Vinyl Chloride	<0.20	<0.20	-	<0.20	<0.20	-
m,p - Xylene	<0.40	0.44	-	<0.40	<0.40	-

**Table 12
Landfill Gas Monitoring Results**

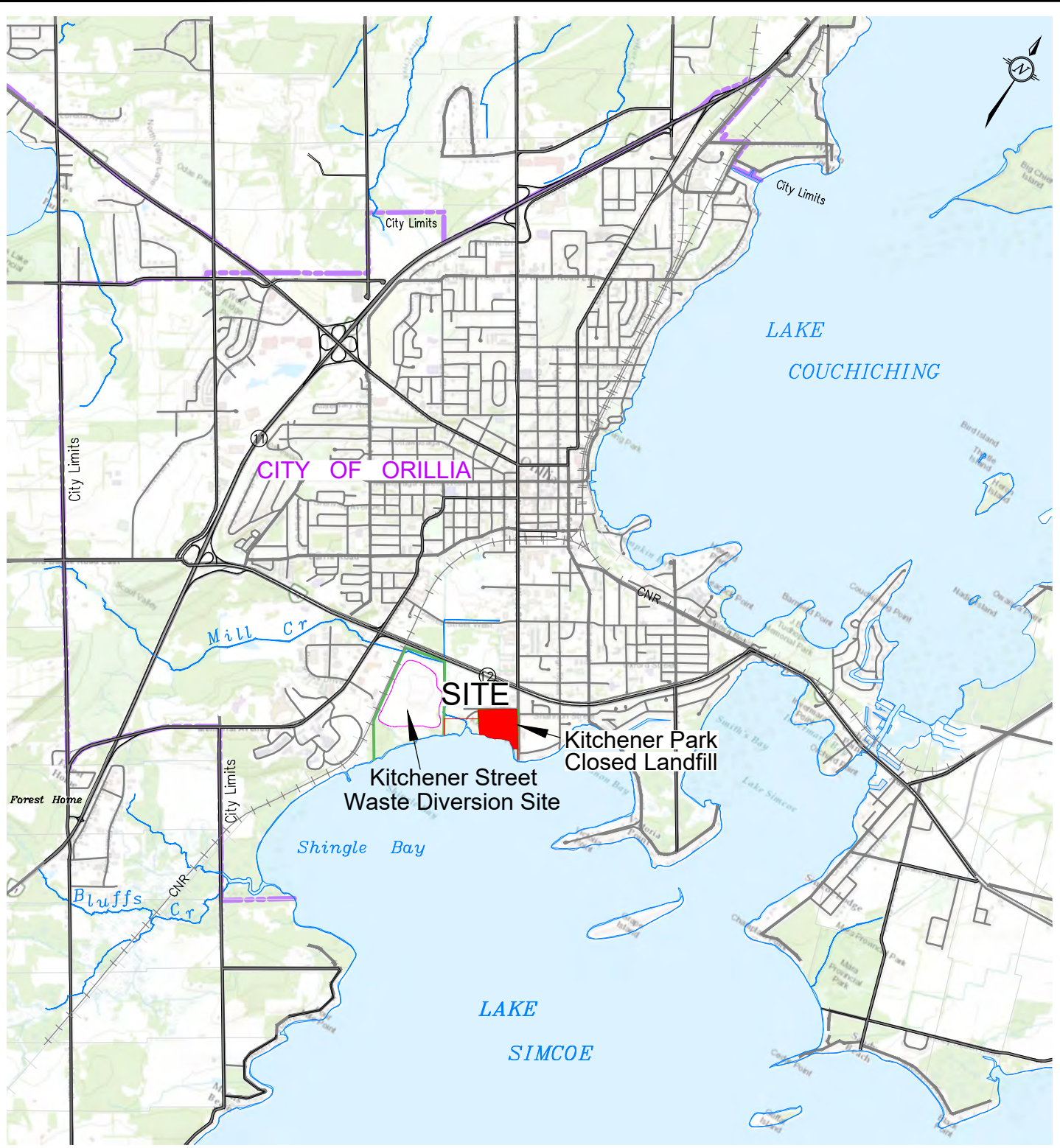
Monitoring Location	CH ₄ % (v/v) [LEL = 5% CH ₄ (v/v)]																						
	22-Feb-17	22-Mar-17	17-Apr-17	29-Oct-17	24-Feb-18	19-Mar-18	26-Mar-18	15-Nov-18	26-Feb-19	02-Mar-19	26-Nov-19	06-Mar-20	05-Nov-20	09-Mar-21	30-Nov-21	27-Feb-22	27-Nov-22	14-Mar-23	22-Nov-23	23-Feb-24	12-Nov-24	18-Feb-25	12-Nov-25
GP-KP2	0.0	-	-	0.0	0.0	-	-	0.0	-	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
GP-KP3	0.0	-	-	0.0	0.0	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GP-KP4	0.0	-	-	0.0	0.0	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
GP-KP7	46.7	-	-	65.3	61.4	-	-	56.6	-	48.4	21.1	28.9	60.5	28.4	44.6	12.6	39.1	17.8	78.0	57.7	30.8	29.1	47.4
GP-KP8	3.6	-	-	1.1	4.4	-	-	8.2	-	4.6	8.1	6.6	25.7	23.2	17.4	14.7	16.1	0.6	42.3	0.4	19.7	48.1	1.0
GP-KP9	0.9	-	-	1.3	0.5	-	-	0.5	-	0.4	0.6	0.6	0.2	0.1	0.1	0.1	0.1	0.1	0	0.2	0	0.0	0.0
GP-KP10	0.2	0.0	0.0	0.0	0.3	-	-	0.1	-	0.1	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0
GP-KP11	-	0.0	0.0	0.0	0.4	-	-	0.0	-	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	-	-	-	-	-	-
GP-KP12	-	-	-	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
GP-KP13	-	-	-	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GP-KP14	-	-	-	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GP-KP15	-	-	-	-	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OW3	0.0	-	-	0.1	0.0	-	-	0.1	-	0.1	0.0	5.1	16.9	15.8	6.1	7.1	7.4	0.8	17.2	7.3	1.4	7.5	9.6
OW6-II	0.0	-	-	6.5	4.8	-	-	6.1	-	4.4	2.5	3.1	2.6	3.9	2.9	0.9	4.9	3.1	0.6	6.4	29.5	13.4	30.7
OW8	1.2	-	-	13.9	27.7	-	-	25.3	-	18.1	6.3	6.1	9.3	4.8	4.7	4.2	2.8	0.2	0.3	9.5	40.1	21.8	30.7

NOTES:

1) The lower explosive limit (LEL) for methane is 5% CH₄ (v/v). Exceedances of the LEL are shown in bold.

Figures

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City of Orillia Limits



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CITY OF ORILLIA

PROJECT
KITCHENER PARK CLOSED LANDFILL SITE
2025 ANNUAL WATER MONITORING REPORT

CONSULTANT



YYYY-MM-DD 2026-03-16

DESIGNED

PREPARED JPR

REVIEWED JER/BG

APPROVED NGE (PJD)

TITLE

REGIONAL LOCATION MAP

PROJECT NO. CA0034164.2458 CONTROL 0002

REV. ---

FIGURE

1

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

25 mm

Path: \\wsp-jshwan\net\CA\CAMISS\01\CTX_Data\GIS\City_of_Orillia\Kitchener_Park_Landfill\09_PROJ\CA0034164_KSDS_KPL_AMRSHD_PROC\002\KPL_2025-AMR | File Name: CA0034164-002-CH-0002.dwg | Last Edited By: gld_jayler | Date: 2025-03-18 | Time: 2:06:38 PM
 Date: 2025-03-18 | Time: 2:06:38 PM



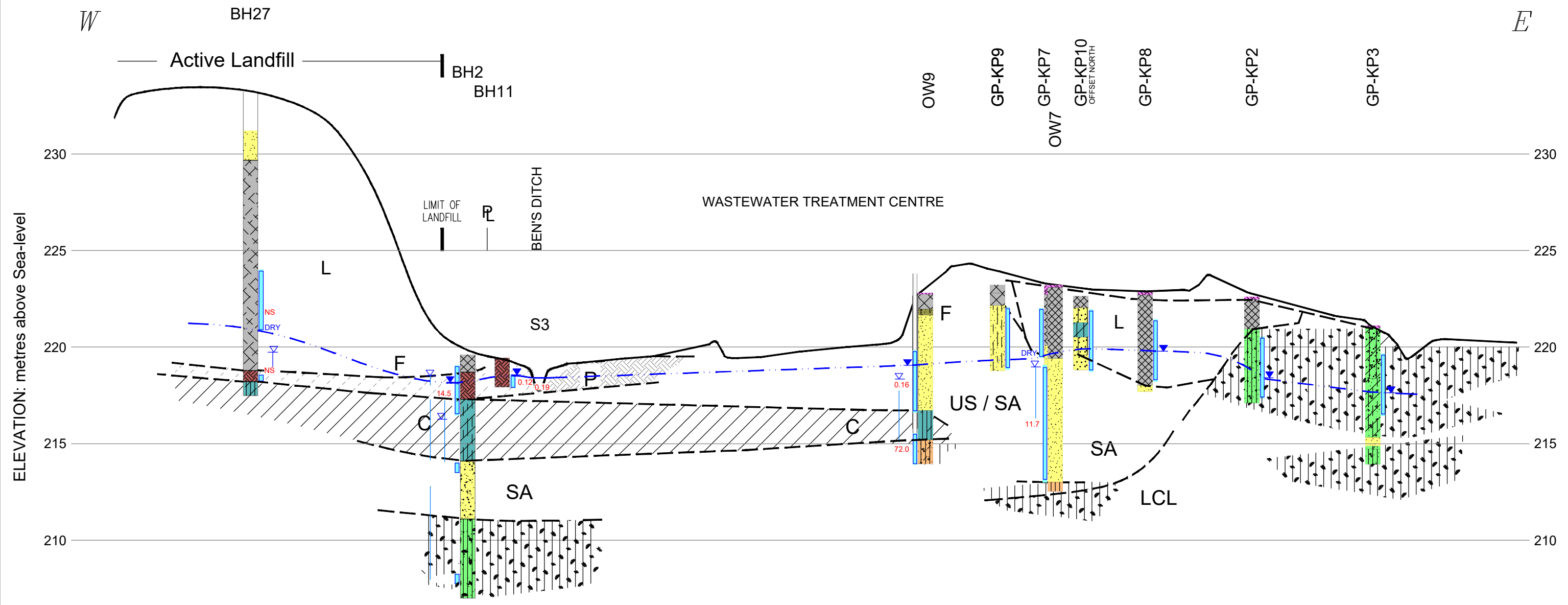
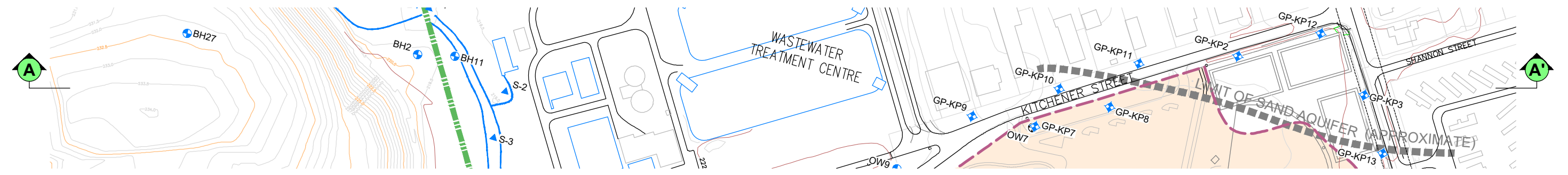
LEGEND			
	SHORELINE		SURFACE MONITORING LOCATION
	ESTIMATED EXTENT OF LANDFILL		OBSERVATION WELL
	SHEET PILE WALL LANDFILL GAS BARRIER ALIGNMENT		GAS PROBE
	VENTING TRENCH CENTERLINE ALIGNMENT		LINE OF SECTION
	WETLAND		
	GAS VENTING POLE CONNECTED TO VENTING TRENCH (3 TOTAL)		

CLIENT CITY OF ORILLIA											
CONSULTANT 	<table border="0"> <tr> <td>YYYY-MM-DD</td> <td>2026-03-16</td> </tr> <tr> <td>DESIGNED</td> <td></td> </tr> <tr> <td>PREPARED</td> <td>JPR</td> </tr> <tr> <td>REVIEWED</td> <td>JER/BG</td> </tr> <tr> <td>APPROVED</td> <td>NGE (PJD)</td> </tr> </table>	YYYY-MM-DD	2026-03-16	DESIGNED		PREPARED	JPR	REVIEWED	JER/BG	APPROVED	NGE (PJD)
YYYY-MM-DD	2026-03-16										
DESIGNED											
PREPARED	JPR										
REVIEWED	JER/BG										
APPROVED	NGE (PJD)										

PROJECT KITCHENER PARK CLOSED LANDFILL SITE 2025 ANNUAL WATER MONITORING REPORT	TITLE SITE LOCATION MAP		
PROJECT NO. CA0034164.2458	CONTROL 0002	REV. ---	FIGURE 2

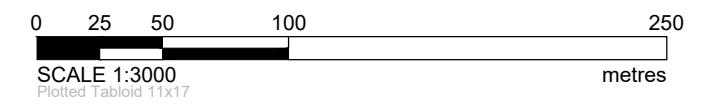
25 mm
 IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM A3/B3

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ELEVATION: metres above Sea-level

- ▼ Static Water Level Fall 2025
- ▽ Sand Aquifer Water Level Fall 2025
- 12 Ammonia Concentration Fall 2025 (mg/L)
- (12) Ammonia Concentration Prior to Fall 2025 (mg/L)



See Figure 2 for Section Line
See Figure 6 for Hydrogeological Symbols

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CITY OF ORILLIA

CONSULTANT



YYYY-MM-DD 2026-03-16
DESIGNED
PREPARED JPR
REVIEWED JER/BG
APPROVED NGE (PJD)

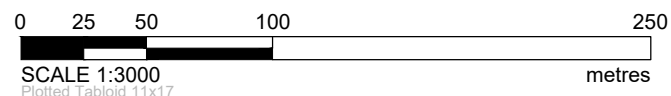
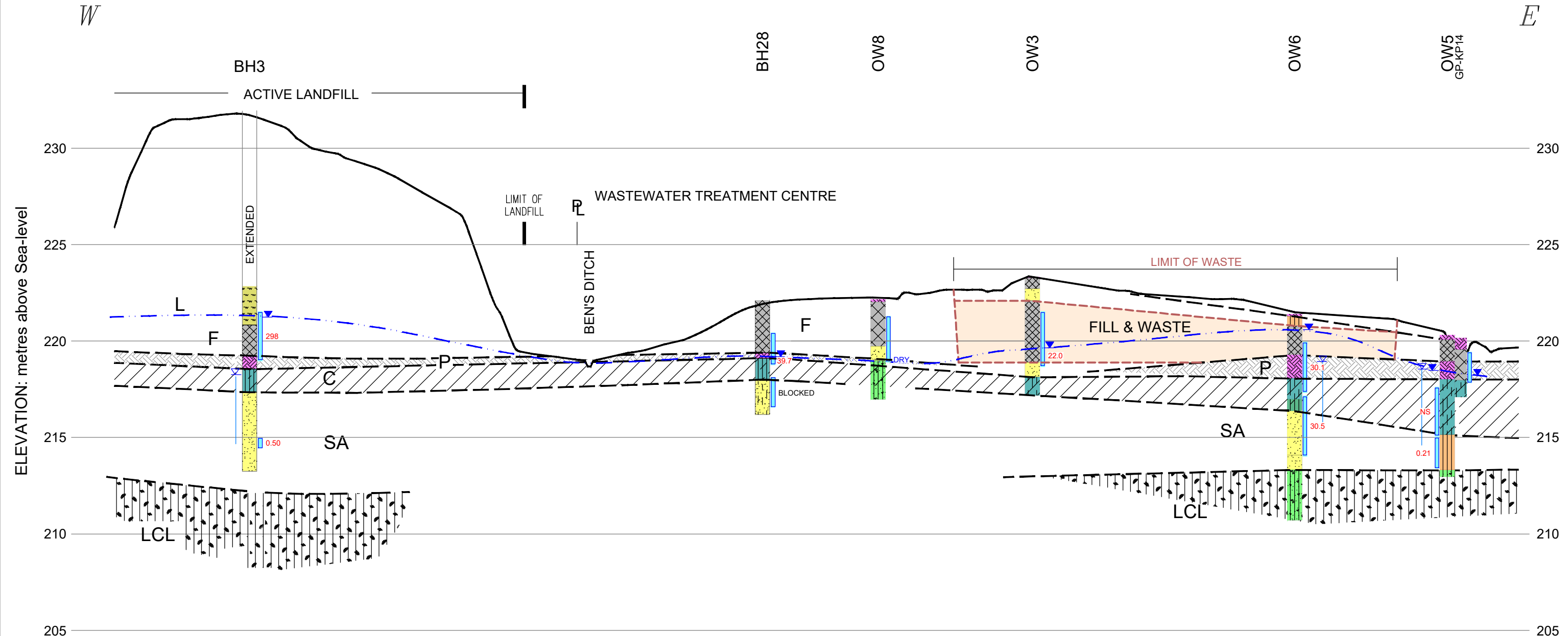
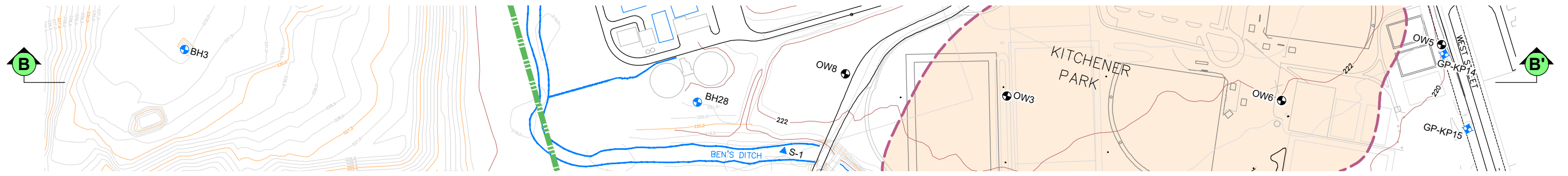
PROJECT
KITCHENER PARK CLOSED LANDFILL SITE
2025 ANNUAL WATER MONITORING REPORT

TITLE
SITE SECTION A - A'

PROJECT NO. CA0034164.2458 CONTROL 0002 REV. --- FIGURE 3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANS B 28 mm

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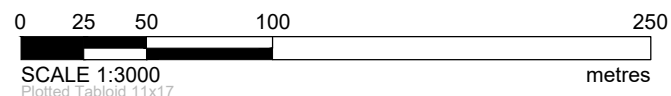
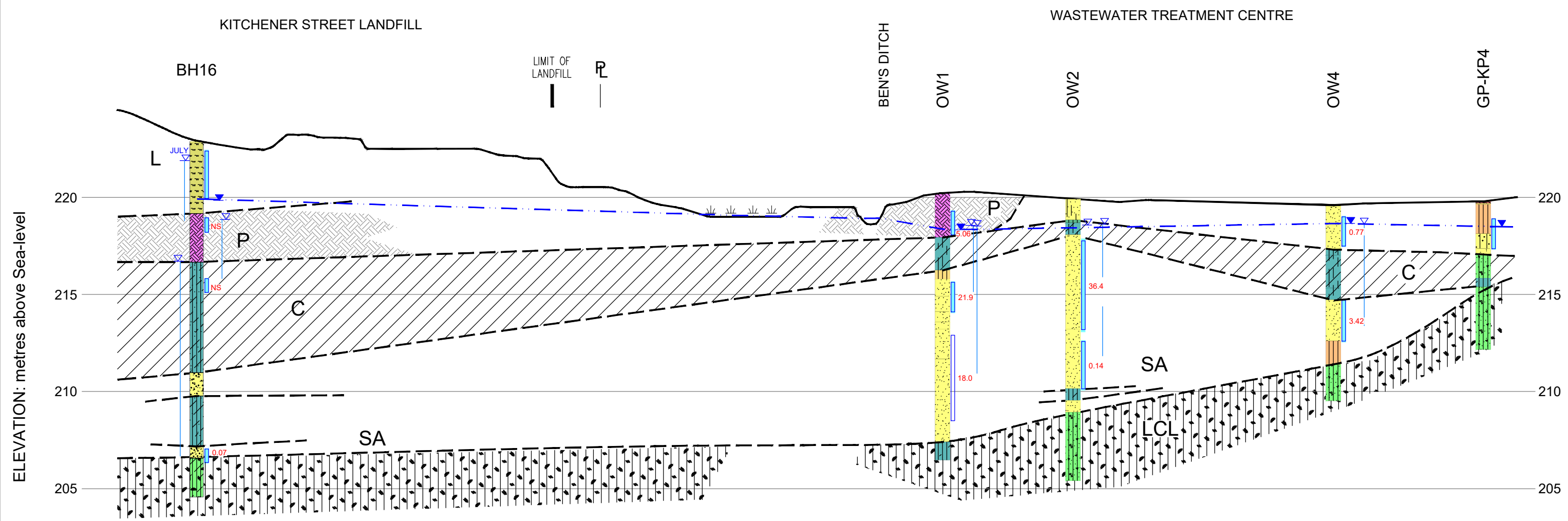
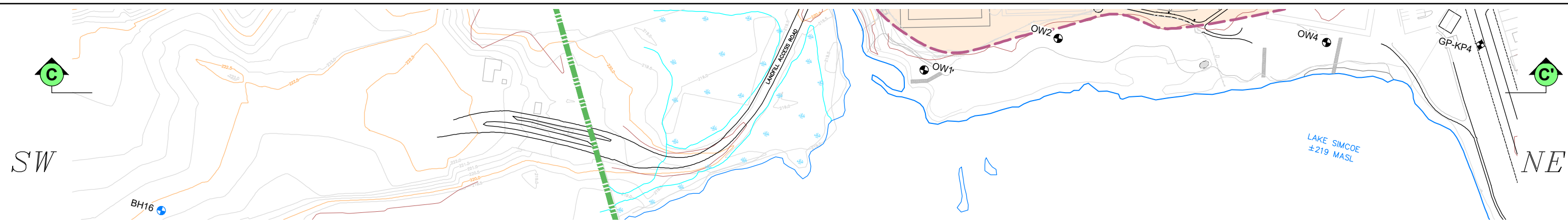
See Figure 2 for Section Line
See Figure 6 for Hydrogeological Symbols

- ▼ Static Water Level Fall 2025
- ▽ Sand Aquifer Water Level Fall 2025
- 12 Ammonia Concentration Fall 2025 (mg/L)

CLIENT CITY OF ORILLIA		PROJECT KITCHENER PARK CLOSED LANDFILL SITE 2025 ANNUAL WATER MONITORING REPORT	
CONSULTANT 		YYYY-MM-DD 2026-03-16	TITLE SITE SECTION B - B'
		DESIGNED	JPR
		PREPARED	JER/BG
		REVIEWED	JER/BG
		APPROVED	NGE (PJD)
PROJECT NO. CA0034164.2458	CONTROL 0002	REV. ---	FIGURE 4

28 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANS B

Path: \\wsp-pkshwin-net\CA\CAMISS\00\CTX_Data\GIS\MClients\City_of_Ontario\Orillia\Scheme_Street_Landfill\09_PROJ\CA0034164_KSDE_KFL_AMRSHD_PROC\002\KFL_2025-AMR | File Name: CA0034164-2025-CH-0002.dwg | Last Edited By: gfd_jaylar | Date: 2025-03-18 Time: 2:03:50 PM
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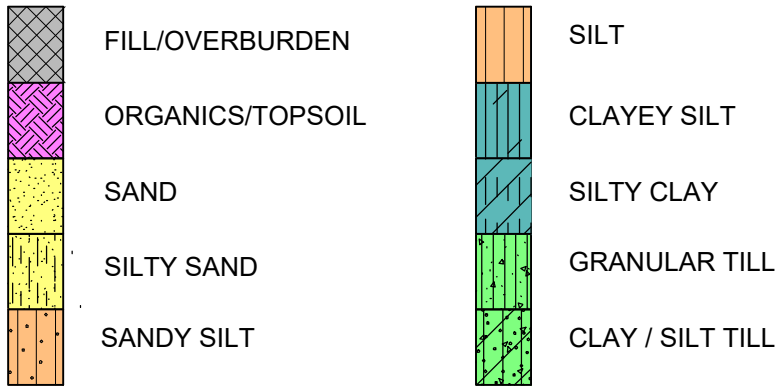
See Figure 2 for Section Line
See Figure 6 for Hydrogeological Symbols

- ▼ Static Water Level Fall 2025
- ▽ Sand Aquifer Water Level Fall 2025
- 12 Ammonia Concentration Fall 2025 (mg/L)

CLIENT CITY OF ORILLIA		PROJECT KITCHENER PARK CLOSED LANDFILL SITE 2025 ANNUAL WATER MONITORING REPORT	
CONSULTANT 		YYYY-MM-DD 2026-03-16	TITLE SITE SECTION C - C'
		DESIGNED JPR	PROJECT NO. CA0034164.2458
		PREPARED JER/BG	CONTROL 0002
		REVIEWED NGE (PJD)	REV. ---
		APPROVED	FIGURE 5

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

SYMBOLS

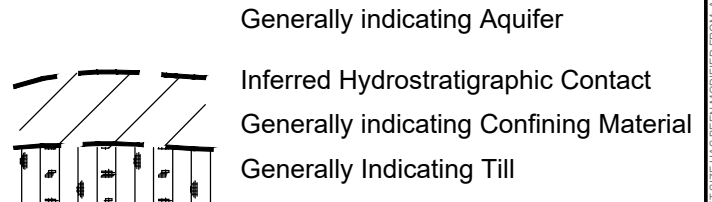


	Secondary/ Some	Trace	Minor	
Clayey				Clay
Silty				Silt
Sandy				Granular

- Screen
- Upper Peat and Landfill Water Level
- Sand Aquifer Static Water Level
- 12 Ammonia Concentration

LEGEND

UNIT	DESCRIPTION
L	Landfill (Refuse)
F	Fill
P	Peat
US	Upper Sand (Water Table)
C	Confining Layer
SA	Sand Aquifer (Lower Units Potential)
LCL	Lower Till Confining Layer



NOTE: On all sections, boundaries between soil strata have been determined only at well and test well locations. Between the wells and test wells, boundaries are not proven, but are inferred from geological evidence.

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YYYY-MM-DD	2026-03-16
DESIGNED	
PREPARED	JPR
REVIEWED	JER/BG
APPROVED	NGE (PJD)

TITLE

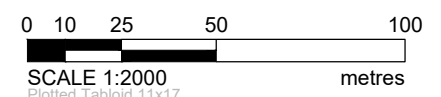
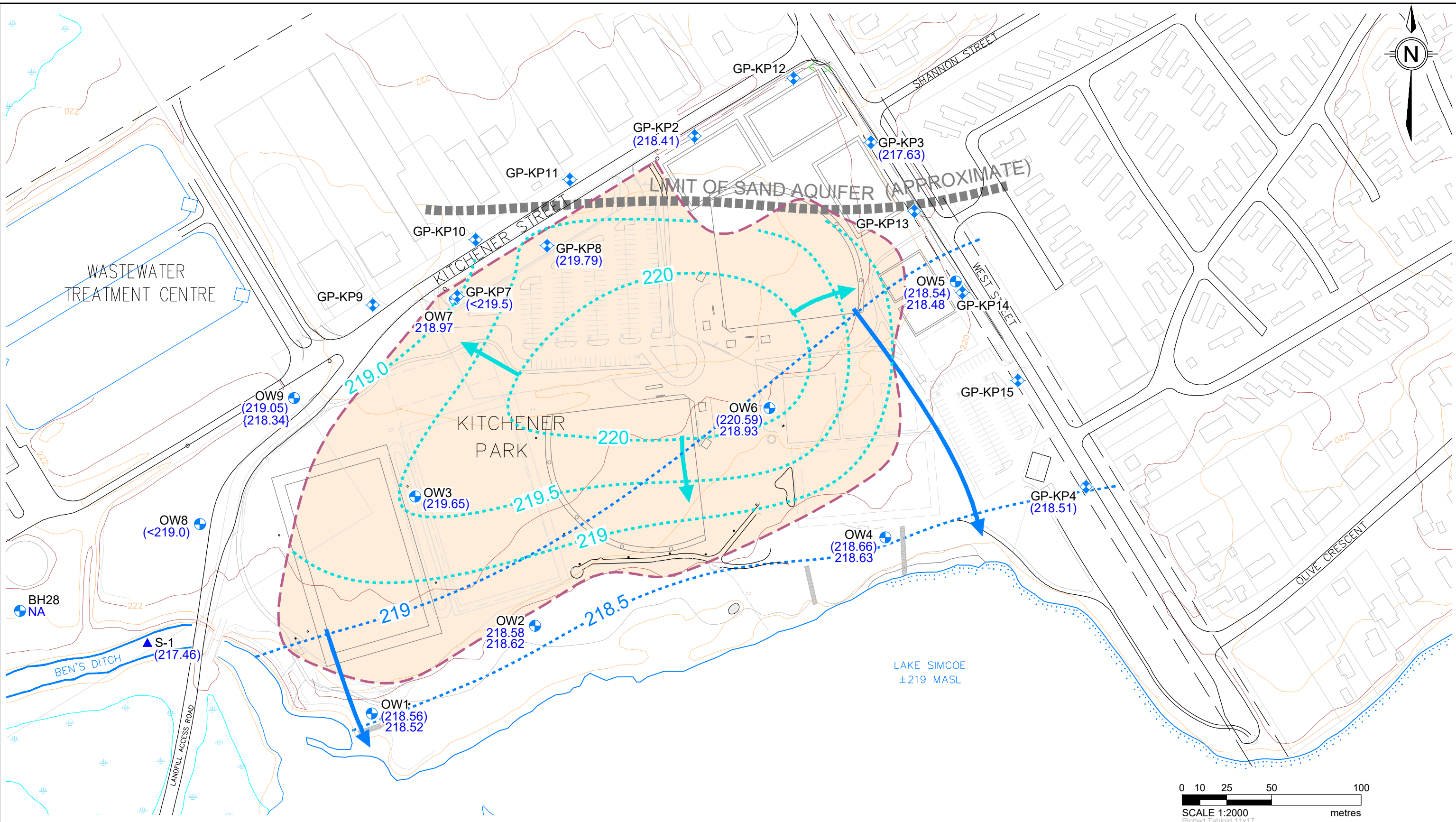
HYDROGEOLOGICAL SYMBOLS

PROJECT NO. CA0034164.2458 CONTROL 0002

REV. ----

FIGURE
6

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 File Name: CA0034164-2025-CH-0002.dwg | Plot Name: CA0034164-2025-CH-0002.dwg | Printed By: gld_jayler | Date: 2025-04-02 | Time: 9:48:57 AM



LEGEND		ESTIMATED EXTENT OF FORMER LANDFILL SURFACE MONITORING LOCATION OBSERVATION WELL GAS PROBE	
	SHORELINE		
	WETLAND		
	(219.03) SURFICIAL UNITS WATER LEVEL ELEVATION (masl)*		
	219.03 SAND AQUIFER WATER LEVEL ELEVATION (masl)		
	PERCHED WATER TABLE CONTOUR (masl)		
	SAND AQUIFER EQUIPOTENTIAL CONTOUR (masl)		

*NOTES: GROUNDWATER FLOW REFLECTS GRADIENTS MOUNDED IN UPPER SURFICIAL UNITS TO SAND AQUIFER POTENTIOMETRIC FLOW.
 {} OW9 LOWER SCREEN CONSTRUCTED IN LOWER TILL CONFINING LAYER

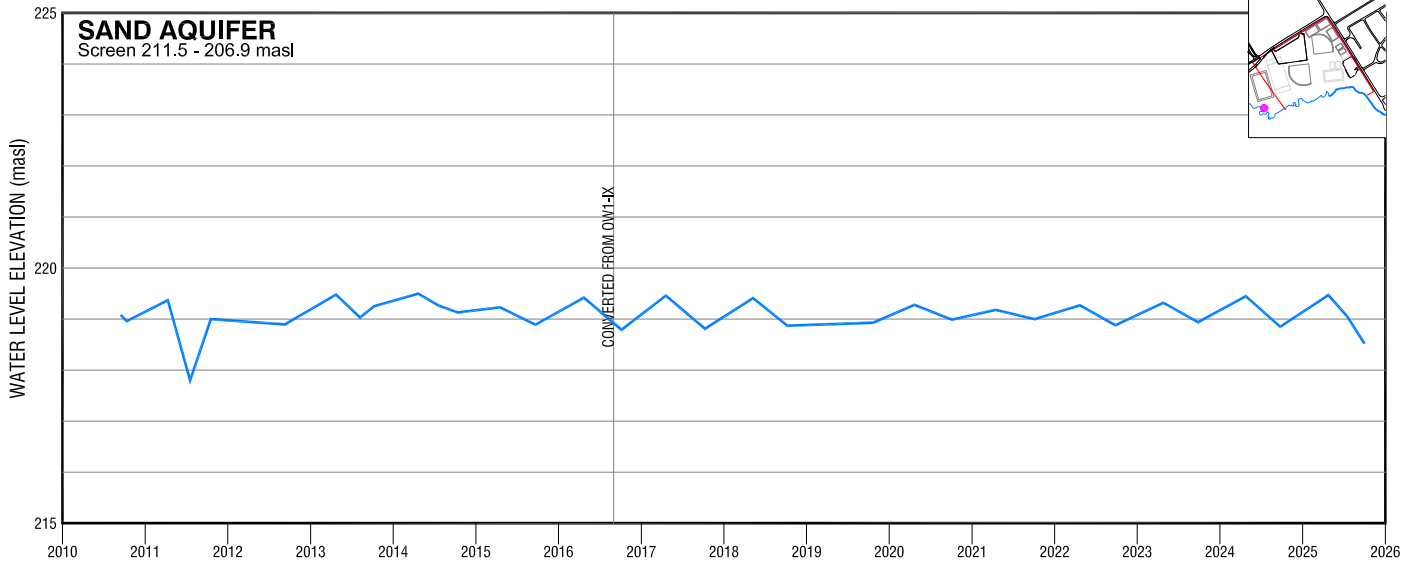
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		DESIGNED PREPARED REVIEWED APPROVED	TITLE UPPER AQUIFER GROUNDWATER SURFACE FALL 2025
		JPR JER/BG NGE (PJD)	PROJECT NO. CONTROL CA0034164.2458 0002
		REV. ---	FIGURE 7

25 mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM A3/B3

APPENDIX A

Water Level Hydrographs

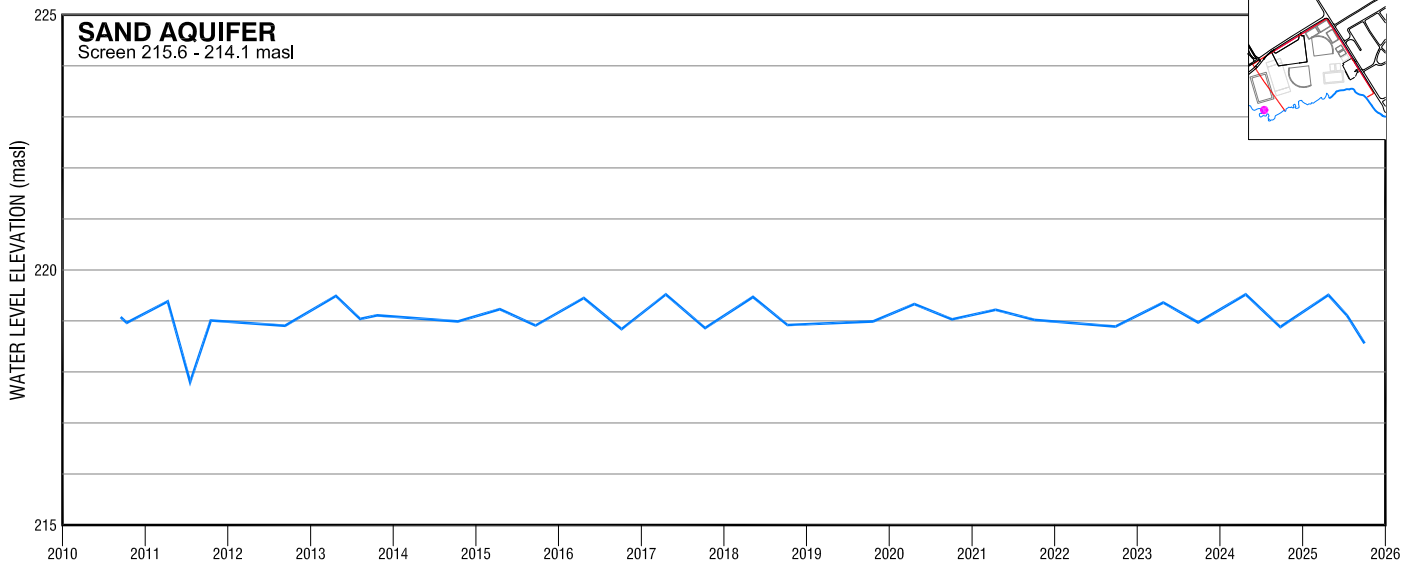
OW1-I



MP Elevation 220.00 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
15-Sep-10	219.08	24-Jul-14	219.26	23-Oct-19	218.93	24-Sep-24	218.85				
12-Oct-10	218.96	14-Oct-14	219.13	21-Apr-20	219.28	24-Apr-25	219.47				
11-Apr-11	219.37	17-Apr-15	219.23	05-Oct-20	218.99	15-Jul-25	219.06				
19-Jul-11	217.80	22-Sep-15	218.89	15-Apr-21	219.18	01-Oct-25	218.52				
18-Oct-11	219.00	22-Apr-16	219.42	05-Oct-21	219.00						
10-Sep-12	218.90	06-Oct-16	218.79	22-Apr-22	219.27						
23-Apr-13	219.48	19-Apr-17	219.46	27-Sep-22	218.88						
08-Aug-13	219.03	10-Oct-17	218.81	26-Apr-23	219.32						
07-Oct-13	219.25	09-May-18	219.41	27-Sep-23	218.94						
21-Apr-14	219.50	09-Oct-18	218.87	24-Apr-24	219.45						

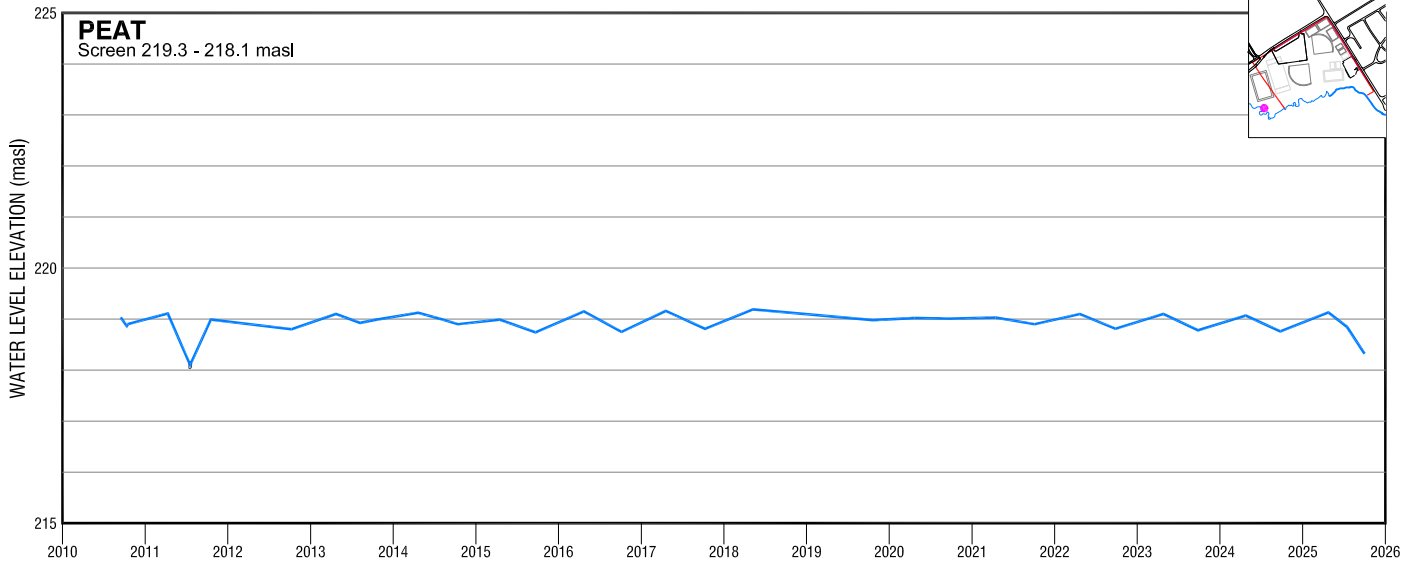
OW1-II



MP Elevation 220.22 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
15-Sep-10	219.07	17-Apr-15	219.23	05-Oct-20	219.03	01-Oct-25	218.56				
12-Oct-10	218.96	22-Sep-15	218.91	15-Apr-21	219.22						
11-Apr-11	219.38	22-Apr-16	219.45	05-Oct-21	219.02						
19-Jul-11	217.80	06-Oct-16	218.84	27-Sep-22	218.89						
18-Oct-11	219.01	19-Apr-17	219.52	26-Apr-23	219.36						
10-Sep-12	218.90	10-Oct-17	218.86	27-Sep-23	218.97						
23-Apr-13	219.49	09-May-18	219.47	24-Apr-24	219.52						
08-Aug-13	219.04	09-Oct-18	218.92	24-Sep-24	218.88						
21-Oct-13	219.11	22-Oct-19	218.99	24-Apr-25	219.51						
14-Oct-14	218.99	21-Apr-20	219.33	15-Jul-25	219.11						

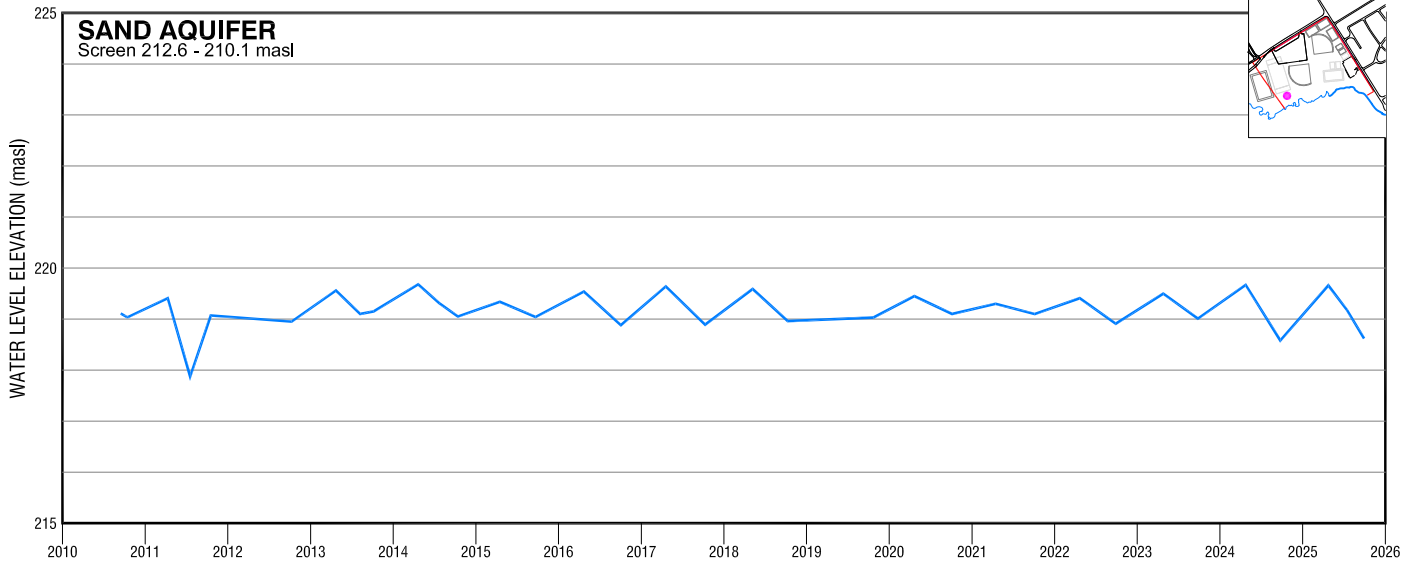
OW1-III



MP Elevation 220.17 masl

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15-Sep-10	219.03	21-Apr-14	219.13	22-Oct-19	218.98	24-Sep-24	218.76				
12-Oct-10	218.86	24-Jul-14	219.01	21-Apr-20	219.02	24-Apr-25	219.13				
18-Oct-10	218.90	14-Oct-14	218.90	05-Oct-20	219.01	15-Jul-25	218.85				
11-Apr-11	219.11	17-Apr-15	218.99	15-Apr-21	219.03	01-Oct-25	218.32				
19-Jul-11	DRY	22-Sep-15	218.74	05-Oct-21	218.90						
18-Oct-11	218.99	22-Apr-16	219.15	22-Apr-22	219.10						
09-Oct-12	218.80	06-Oct-16	218.75	27-Sep-22	218.81						
23-Apr-13	219.10	19-Apr-17	219.16	26-Apr-23	219.10						
08-Aug-13	218.93	10-Oct-17	218.81	27-Sep-23	218.78						
07-Oct-13	218.98	09-May-18	219.19	24-Apr-24	219.07						

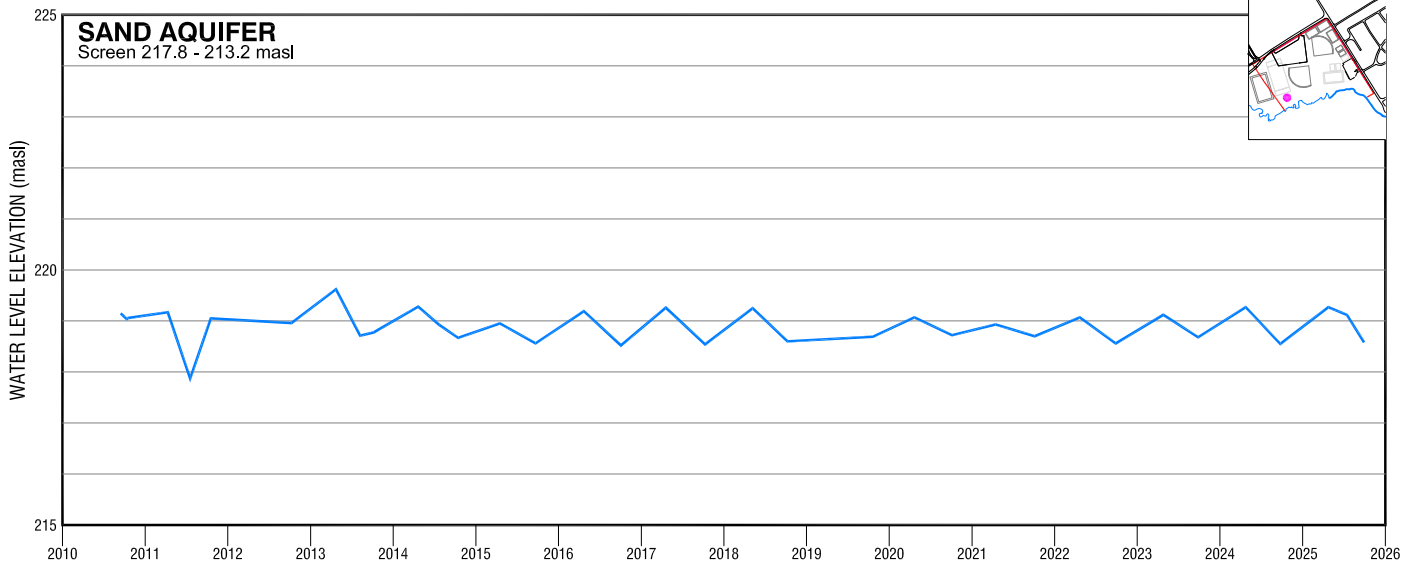
OW2-I



MP Elevation 220.84 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
15-Sep-10	219.11	21-Apr-14	219.68	10-Oct-18	218.96	26-Sep-23	219.01				
12-Oct-10	219.04	24-Jul-14	219.31	22-Oct-19	219.03	24-Apr-24	219.67				
18-Oct-10	219.04	14-Oct-14	219.05	23-Oct-19	219.03	24-Sep-24	218.58				
11-Apr-11	219.41	17-Apr-15	219.34	21-Apr-20	219.45	24-Apr-25	219.66				
19-Jul-11	217.88	22-Sep-15	219.04	05-Oct-20	219.10	15-Jul-25	219.18				
18-Oct-11	219.07	22-Apr-16	219.54	15-Apr-21	219.30	29-Sep-25	218.62				
09-Oct-12	218.95	03-Oct-16	218.88	05-Oct-21	219.10						
23-Apr-13	219.56	19-Apr-17	219.64	22-Apr-22	219.41						
08-Aug-13	219.10	10-Oct-17	218.89	28-Sep-22	218.91						
07-Oct-13	219.15	08-May-18	219.59	26-Apr-23	219.50						

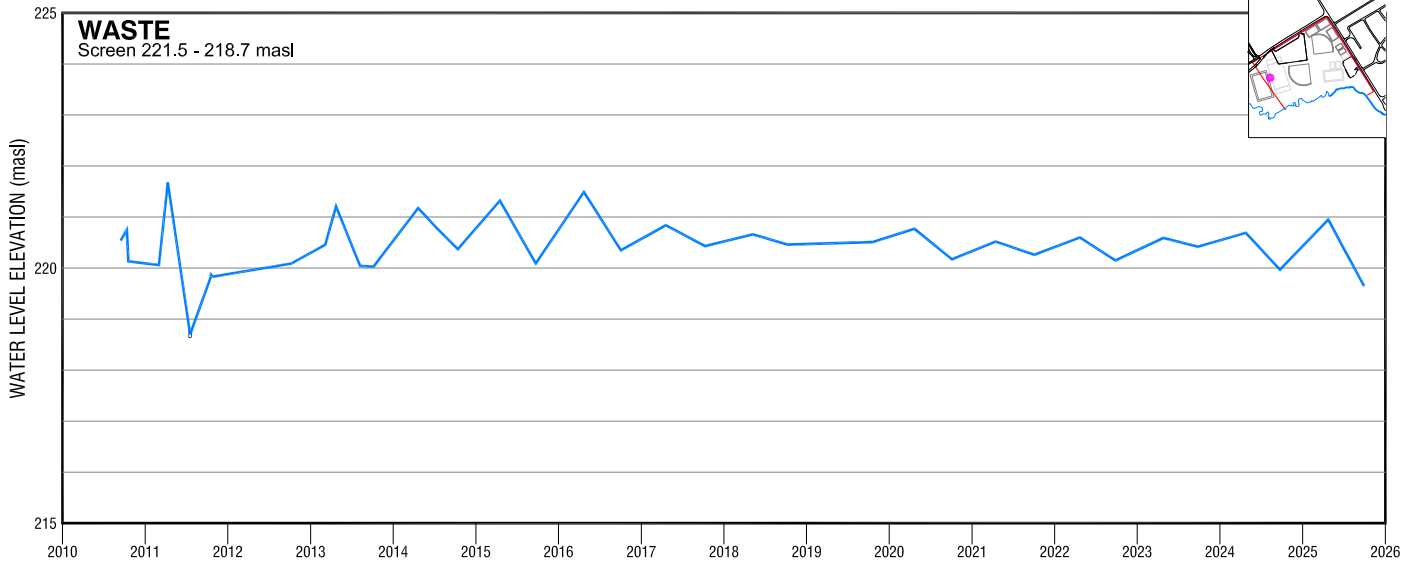
OW2-II



MP Elevation 220.80 masl

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15-Sep-10	219.15	21-Apr-14	219.28	09-Oct-18	218.60	24-Apr-24	219.27				
12-Oct-10	219.04	24-Jul-14	218.92	22-Oct-19	218.69	24-Sep-24	218.55				
18-Oct-10	219.06	15-Oct-14	218.67	21-Apr-20	219.07	24-Apr-25	219.27				
11-Apr-11	219.17	17-Apr-15	218.95	05-Oct-20	218.72	15-Jul-25	219.12				
19-Jul-11	217.87	22-Sep-15	218.56	15-Apr-21	218.93	29-Sep-25	218.58				
18-Oct-11	219.05	22-Apr-16	219.19	05-Oct-21	218.70						
09-Oct-12	218.96	03-Oct-16	218.52	22-Apr-22	219.07						
23-Apr-13	219.62	19-Apr-17	219.26	28-Sep-22	218.56						
08-Aug-13	218.71	10-Oct-17	218.54	26-Apr-23	219.12						
07-Oct-13	218.77	08-May-18	219.25	27-Sep-23	218.68						

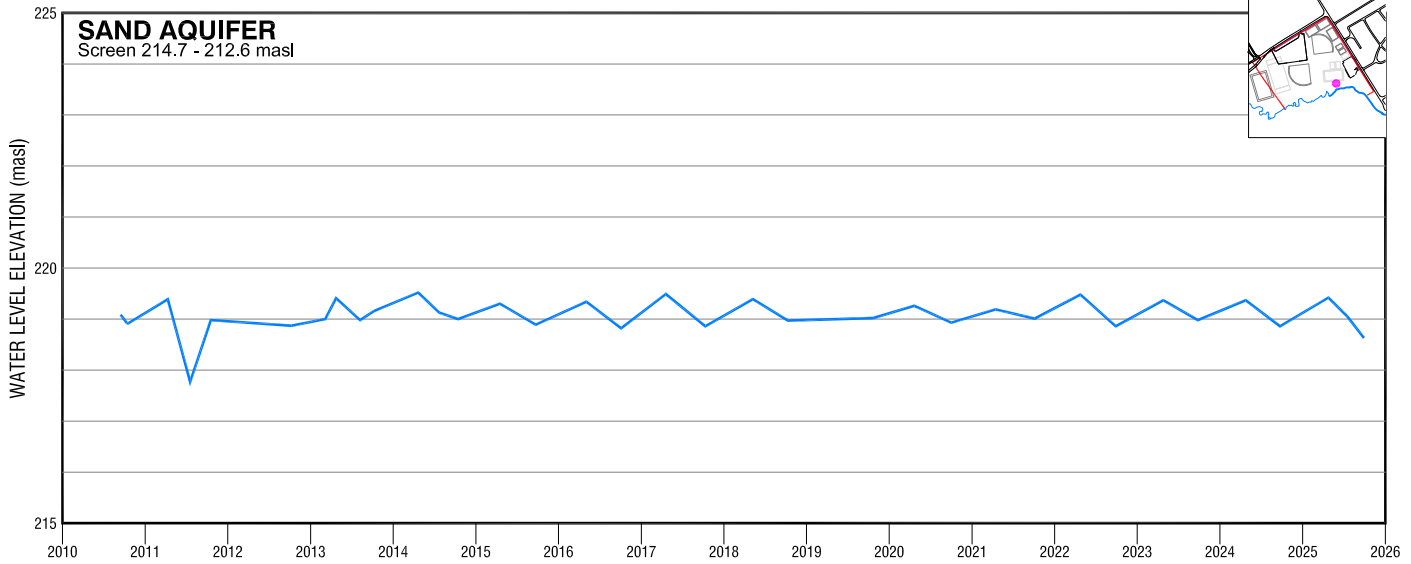
OW3



MP Elevation 224.19 masl

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12-Oct-10	220.75	23-Apr-13	221.21	19-Apr-17	220.84	27-Sep-22	220.15				
19-Oct-10	220.13	08-Aug-13	220.04	10-Oct-17	220.43	26-Apr-23	220.59				
03-Mar-11	220.06	07-Oct-13	220.03	08-May-18	220.66	27-Sep-23	220.42				
11-Apr-11	221.68	21-Apr-14	221.18	10-Oct-18	220.46	24-Apr-24	220.69				
19-Jul-11	DRY	24-Jul-14	220.73	21-Oct-19	220.51	23-Sep-24	219.97				
18-Oct-11	219.83	14-Oct-14	220.37	21-Apr-20	220.77	24-Apr-25	220.95				
19-Oct-11	219.87	17-Apr-15	221.32	05-Oct-20	220.17	15-Jul-25	220.27				
27-Oct-11	219.83	23-Sep-15	220.09	15-Apr-21	220.52	29-Sep-25	219.65				
09-Oct-12	220.09	22-Apr-16	221.49	04-Oct-21	220.26						

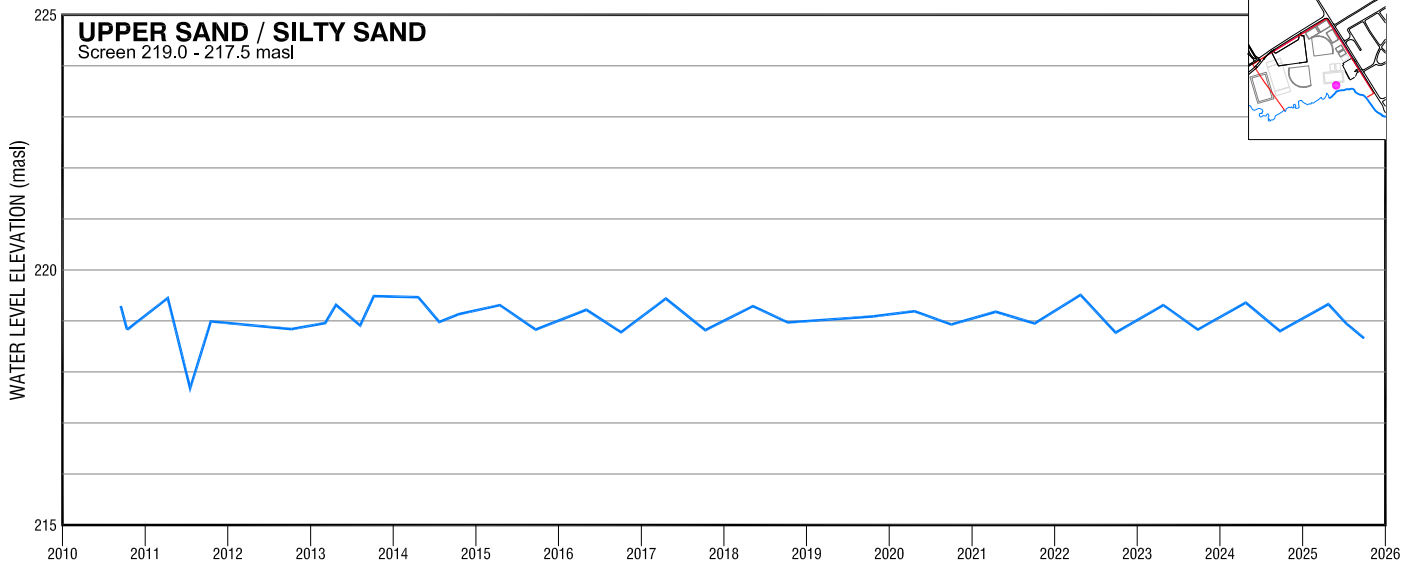
OW4-I



MP Elevation 220.51 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
15-Sep-10	219.09	07-Oct-13	219.15	09-May-18	219.39	26-Sep-23	218.98				
12-Oct-10	218.93	21-Apr-14	219.52	11-Oct-18	218.97	24-Apr-24	219.37				
18-Oct-10	218.91	24-Jul-14	219.13	23-Oct-19	219.02	23-Sep-24	218.86				
11-Apr-11	219.39	15-Oct-14	219.00	21-Apr-20	219.26	24-Apr-25	219.42				
19-Jul-11	217.77	17-Apr-15	219.30	02-Oct-20	218.93	15-Jul-25	219.06				
18-Oct-11	218.98	23-Sep-15	218.89	15-Apr-21	219.19	29-Sep-25	218.63				
09-Oct-12	218.87	03-May-16	219.34	05-Oct-21	219.01						
07-Mar-13	219.00	04-Oct-16	218.82	25-Apr-22	219.48						
23-Apr-13	219.41	19-Apr-17	219.49	28-Sep-22	218.86						
08-Aug-13	218.98	11-Oct-17	218.86	26-Apr-23	219.37						

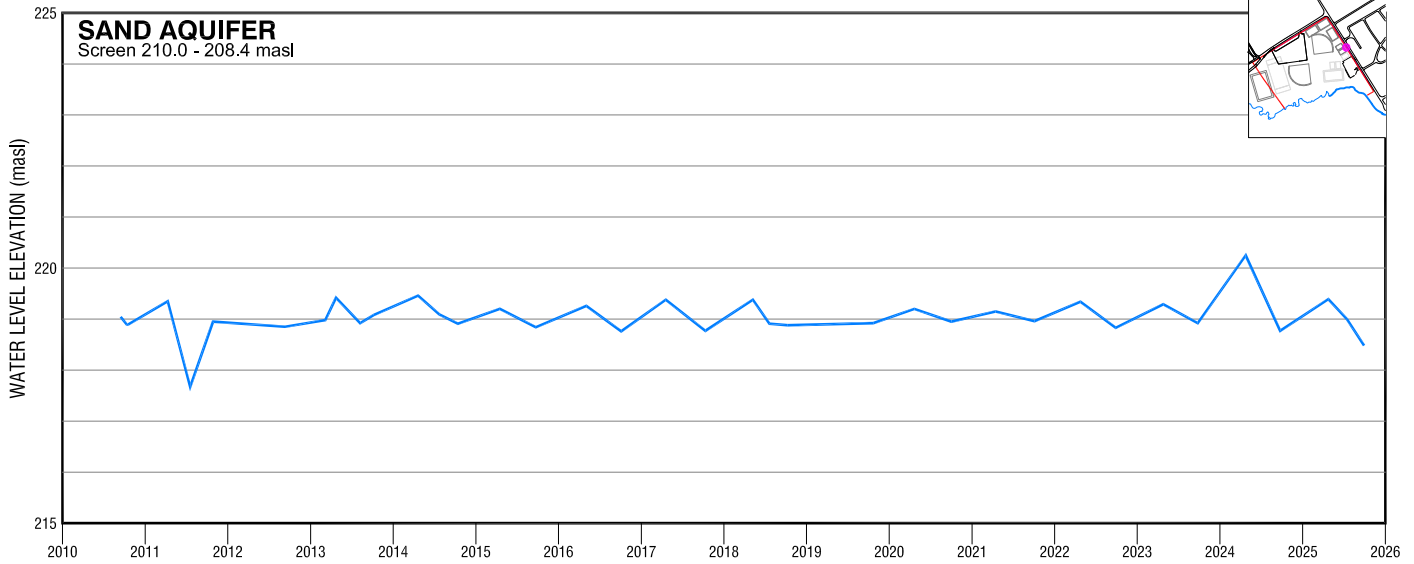
OW4-II



MP Elevation 220.44 masl

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15-Sep-10	219.29	07-Oct-13	219.49	09-May-18	219.29	26-Sep-23	218.83				
12-Oct-10	218.85	21-Apr-14	219.46	11-Oct-18	218.97	24-Apr-24	219.36				
18-Oct-10	218.84	24-Jul-14	218.98	23-Oct-19	219.09	23-Sep-24	218.80				
11-Apr-11	219.45	15-Oct-14	219.13	21-Apr-20	219.19	24-Apr-25	219.33				
19-Jul-11	217.68	17-Apr-15	219.31	02-Oct-20	218.93	15-Jul-25	218.94				
18-Oct-11	218.99	23-Sep-15	218.83	15-Apr-21	219.18	29-Sep-25	218.66				
09-Oct-12	218.84	03-May-16	219.22	05-Oct-21	218.95						
07-Mar-13	218.96	04-Oct-16	218.78	25-Apr-22	219.51						
23-Apr-13	219.32	19-Apr-17	219.44	28-Sep-22	218.77						
08-Aug-13	218.91	11-Oct-17	218.82	26-Apr-23	219.31						

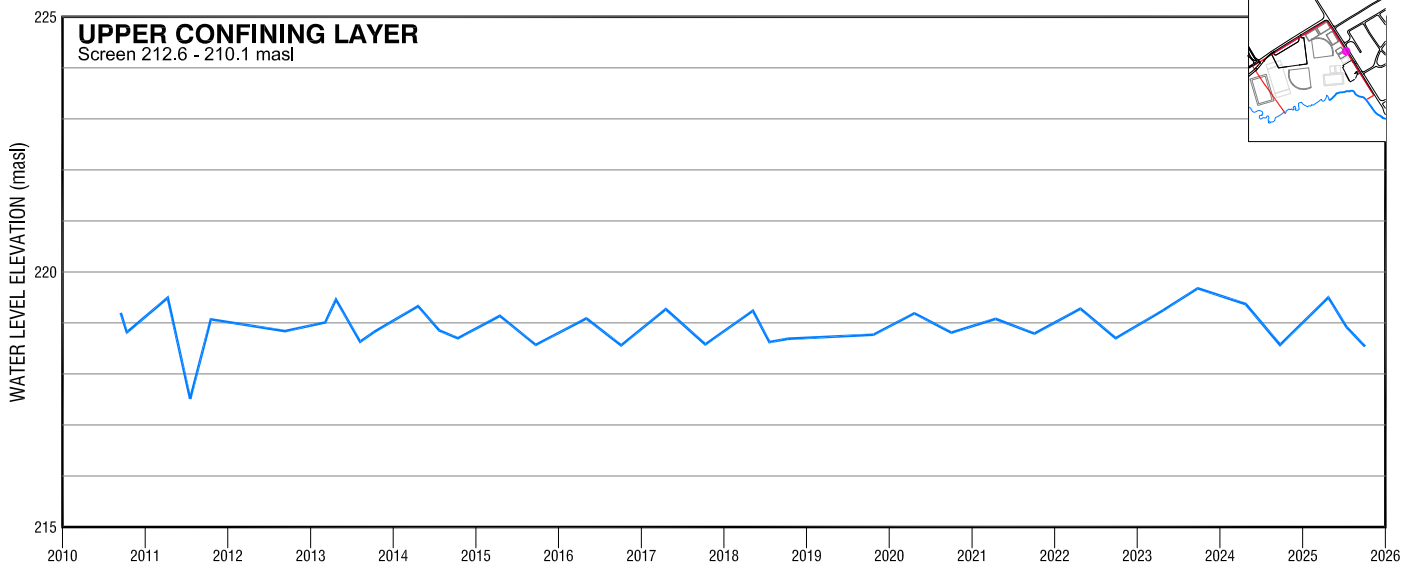
OW5-I



MP Elevation 221.36 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
15-Sep-10	219.04	07-Oct-13	219.08	09-May-18	219.38	26-Apr-23	219.29				
12-Oct-10	218.89	21-Apr-14	219.46	21-Jul-18	218.91	25-Sep-23	218.92				
18-Oct-10	218.89	24-Jul-14	219.09	10-Oct-18	218.88	24-Apr-24	220.25				
11-Apr-11	219.35	14-Oct-14	218.91	23-Oct-19	218.92	23-Sep-24	218.77				
19-Jul-11	217.67	17-Apr-15	219.20	21-Apr-20	219.20	24-Apr-25	219.39				
28-Oct-11	218.95	23-Sep-15	218.84	02-Oct-20	218.95	15-Jul-25	219.00				
10-Sep-12	218.85	03-May-16	219.26	15-Apr-21	219.15	29-Sep-25	218.48				
07-Mar-13	218.98	04-Oct-16	218.76	04-Oct-21	218.96						
23-Apr-13	219.42	19-Apr-17	219.38	25-Apr-22	219.34						
08-Aug-13	218.92	11-Oct-17	218.77	28-Sep-22	218.83						

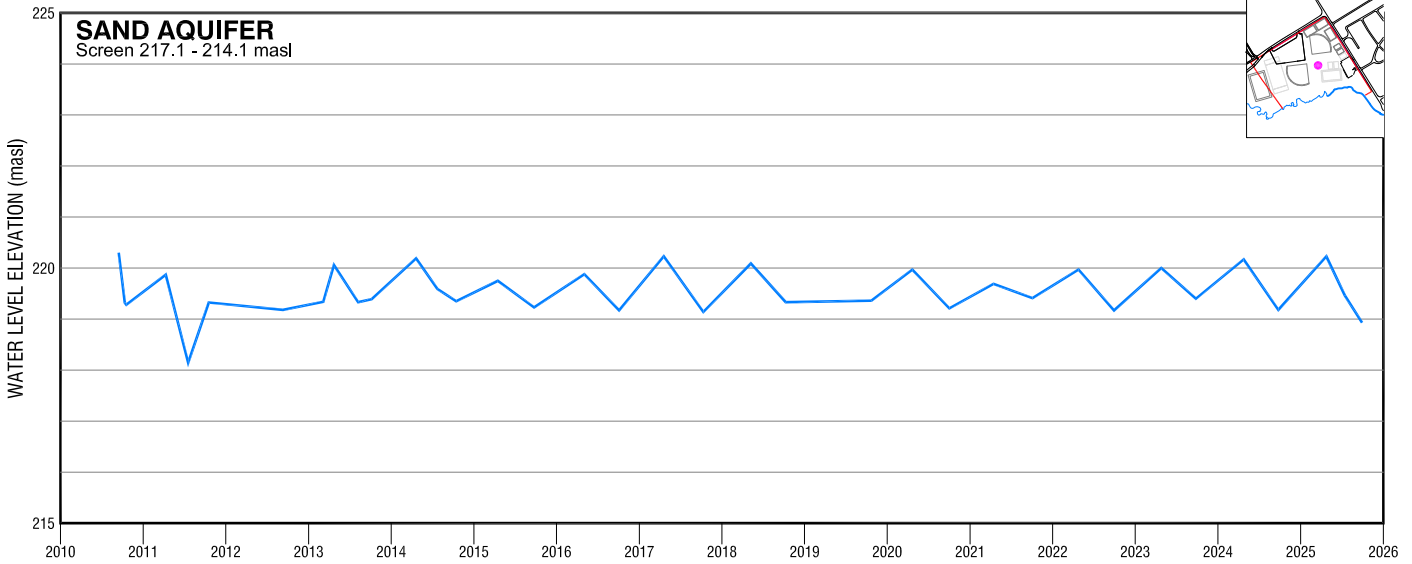
OW5-II



MP Elevation 221.38 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
15-Sep-10	219.20	07-Oct-13	218.82	09-May-18	219.24	26-Apr-23	219.25				
12-Oct-10	218.82	21-Apr-14	219.33	21-Jul-18	218.63	25-Sep-23	219.68				
18-Oct-10	218.84	24-Jul-14	218.85	10-Oct-18	218.69	24-Apr-24	219.37				
11-Apr-11	219.49	14-Oct-14	218.70	24-Oct-19	218.77	23-Sep-24	218.57				
19-Jul-11	217.51	17-Apr-15	219.14	21-Apr-20	219.19	24-Apr-25	219.50				
18-Oct-11	219.07	23-Sep-15	218.57	02-Oct-20	218.81	15-Jul-25	218.91				
10-Sep-12	218.84	03-May-16	219.09	15-Apr-21	219.08	03-Oct-25	218.54				
07-Mar-13	219.01	04-Oct-16	218.56	04-Oct-21	218.79						
23-Apr-13	219.46	19-Apr-17	219.27	25-Apr-22	219.28						
08-Aug-13	218.63	11-Oct-17	218.58	28-Sep-22	218.70						

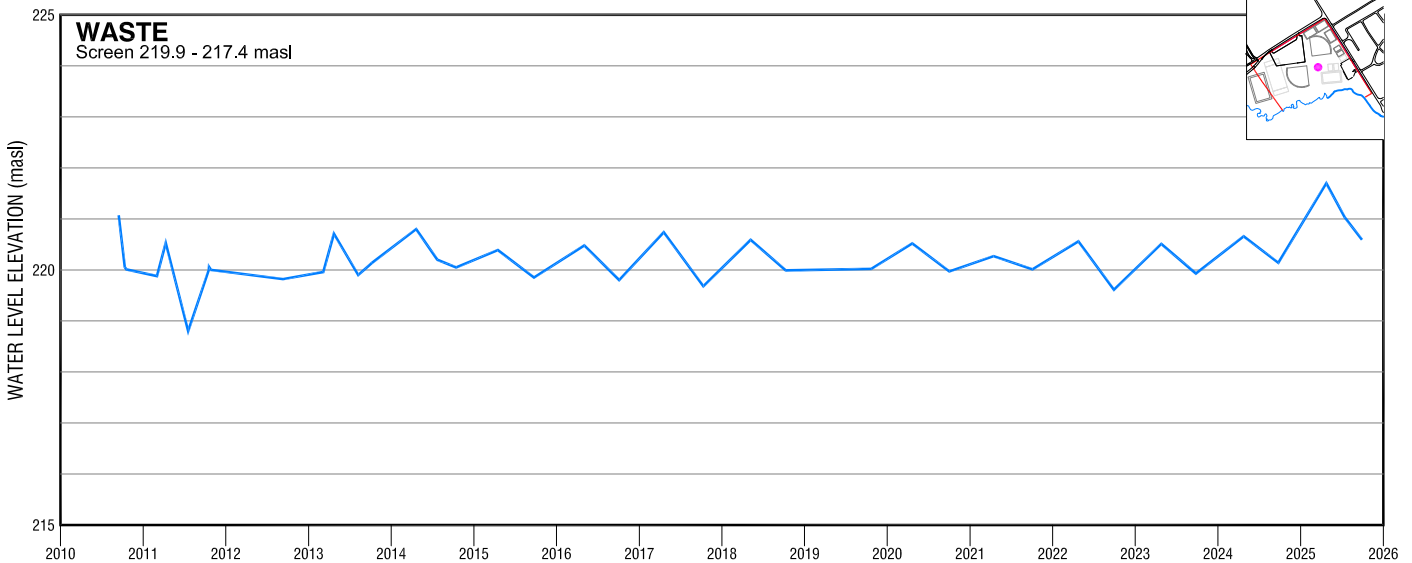
OW6-I



MP Elevation 222.42 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
15-Sep-10	220.30	07-Oct-13	219.39	09-May-18	220.09	26-Sep-23	219.40				
12-Oct-10	219.32	21-Apr-14	220.19	10-Oct-18	219.33	24-Apr-24	220.17				
19-Oct-10	219.28	24-Jul-14	219.59	23-Oct-19	219.36	24-Sep-24	219.18				
11-Apr-11	219.87	15-Oct-14	219.35	21-Apr-20	219.97	24-Apr-25	220.23				
19-Jul-11	218.15	17-Apr-15	219.75	02-Oct-20	219.21	15-Jul-25	219.46				
18-Oct-11	219.32	24-Sep-15	219.23	15-Apr-21	219.69	29-Sep-25	218.93				
10-Sep-12	219.18	03-May-16	219.88	04-Oct-21	219.41						
07-Mar-13	219.34	04-Oct-16	219.17	25-Apr-22	219.97						
23-Apr-13	220.06	19-Apr-17	220.23	29-Sep-22	219.17						
08-Aug-13	219.33	11-Oct-17	219.14	26-Apr-23	220.00						

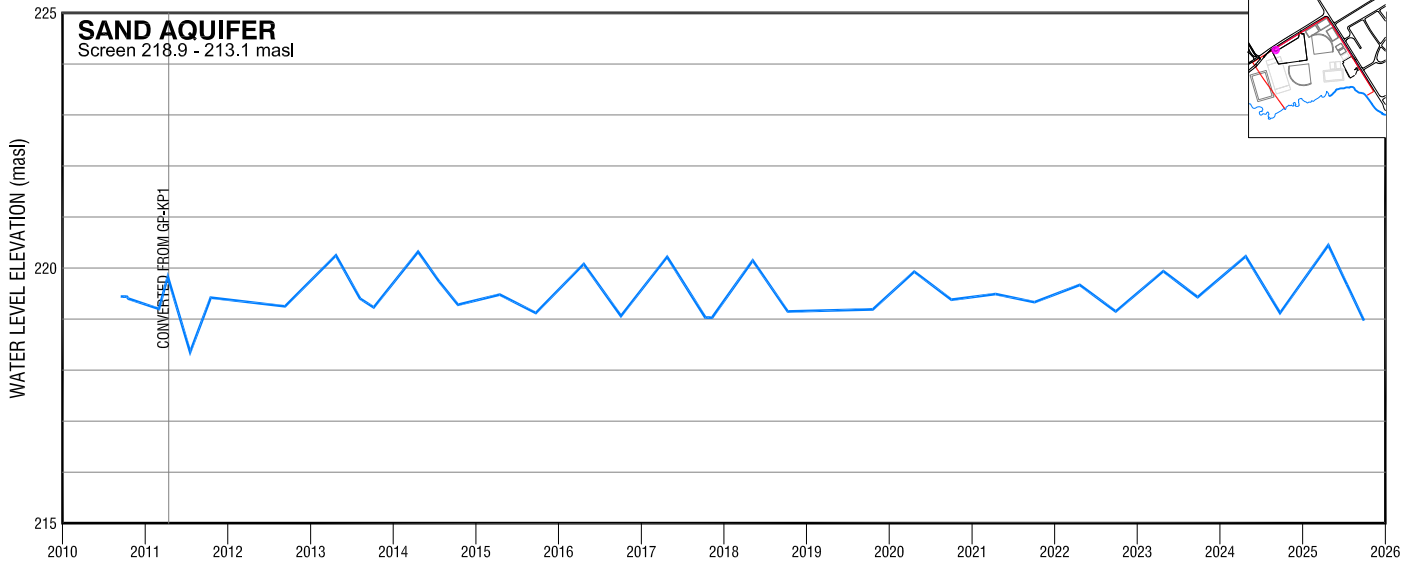
OW6-II



MP Elevation 223.56 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
15-Sep-10	221.07	07-Mar-13	219.96	04-Oct-16	219.80	25-Apr-22	220.56				
12-Oct-10	220.05	23-Apr-13	220.71	19-Apr-17	220.74	29-Sep-22	219.61				
19-Oct-10	220.01	08-Aug-13	219.90	11-Oct-17	219.68	26-Apr-23	220.51				
03-Mar-11	219.88	07-Oct-13	220.13	08-May-18	220.59	26-Sep-23	219.93				
11-Apr-11	220.53	21-Apr-14	220.80	10-Oct-18	219.99	24-Apr-24	220.66				
19-Jul-11	218.80	24-Jul-14	220.20	23-Oct-19	220.02	24-Sep-24	220.14				
18-Oct-11	220.00	15-Oct-14	220.05	21-Apr-20	220.52	24-Apr-25	221.70				
19-Oct-11	220.06	17-Apr-15	220.39	02-Oct-20	219.97	15-Jul-25	221.03				
28-Oct-11	220.00	24-Sep-15	219.85	15-Apr-21	220.27	29-Sep-25	220.59				
10-Sep-12	219.82	03-May-16	220.48	04-Oct-21	220.01						

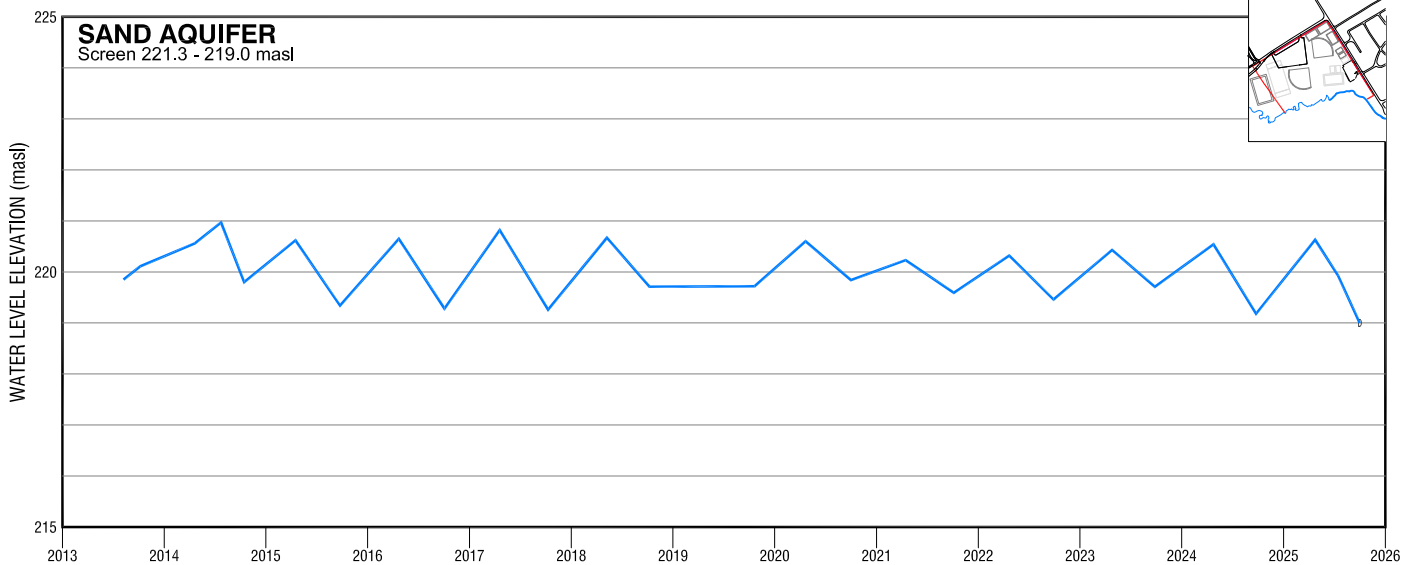
OW7



MP Elevation 224.20 masl

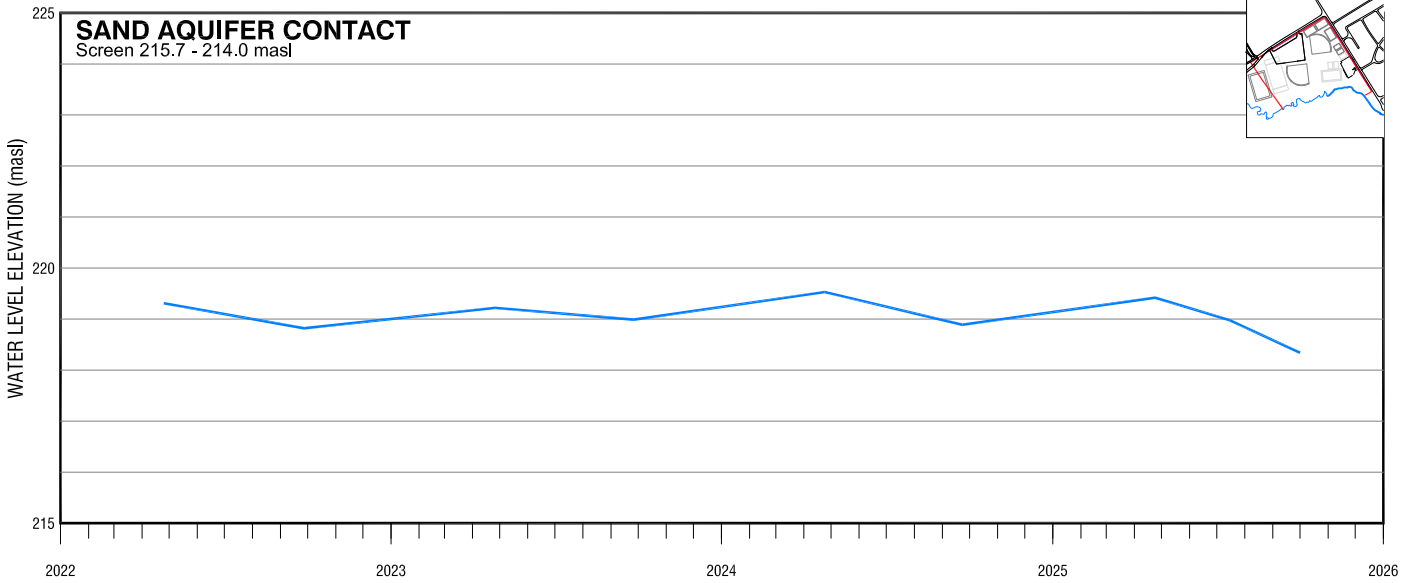
DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
15-Sep-10	219.44	07-Oct-13	219.23	10-Nov-17	219.03	26-Apr-23	219.94				
12-Oct-10	219.44	21-Apr-14	220.32	08-May-18	220.15	25-Sep-23	219.43				
19-Oct-10	219.40	24-Jul-14	219.73	10-Oct-18	219.15	24-Apr-24	220.23				
03-Mar-11	219.20	14-Oct-14	219.28	21-Oct-19	219.19	23-Sep-24	219.12				
11-Apr-11	219.83	17-Apr-15	219.48	21-Apr-20	219.93	24-Apr-25	220.45				
19-Jul-11	218.35	23-Sep-15	219.12	02-Oct-20	219.38	15-Jul-25	219.68				
18-Oct-11	219.42	22-Apr-16	220.08	15-Apr-21	219.49	29-Sep-25	218.97				
10-Sep-12	219.25	03-Oct-16	219.06	04-Oct-21	219.33						
23-Apr-13	220.25	25-Apr-17	220.22	22-Apr-22	219.67						
08-Aug-13	219.40	11-Oct-17	219.03	28-Sep-22	219.15						

OW8



DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
08-Aug-13	219.85	10-Oct-17	219.26	26-Apr-23	220.43						
07-Oct-13	220.11	09-May-18	220.67	27-Sep-23	219.71						
21-Apr-14	220.56	09-Oct-18	219.71	24-Apr-24	220.54						
24-Jul-14	220.97	21-Oct-19	219.72	24-Sep-24	219.18						
15-Oct-14	219.80	21-Apr-20	220.60	24-Apr-25	220.63						
17-Apr-15	220.62	01-Oct-20	219.84	15-Jul-25	219.93						
24-Sep-15	219.34	15-Apr-21	220.23	01-Oct-25	DRY						
22-Apr-16	220.65	05-Oct-21	219.59								
03-Oct-16	219.28	22-Apr-22	220.32								
19-Apr-17	220.82	28-Sep-22	219.46								

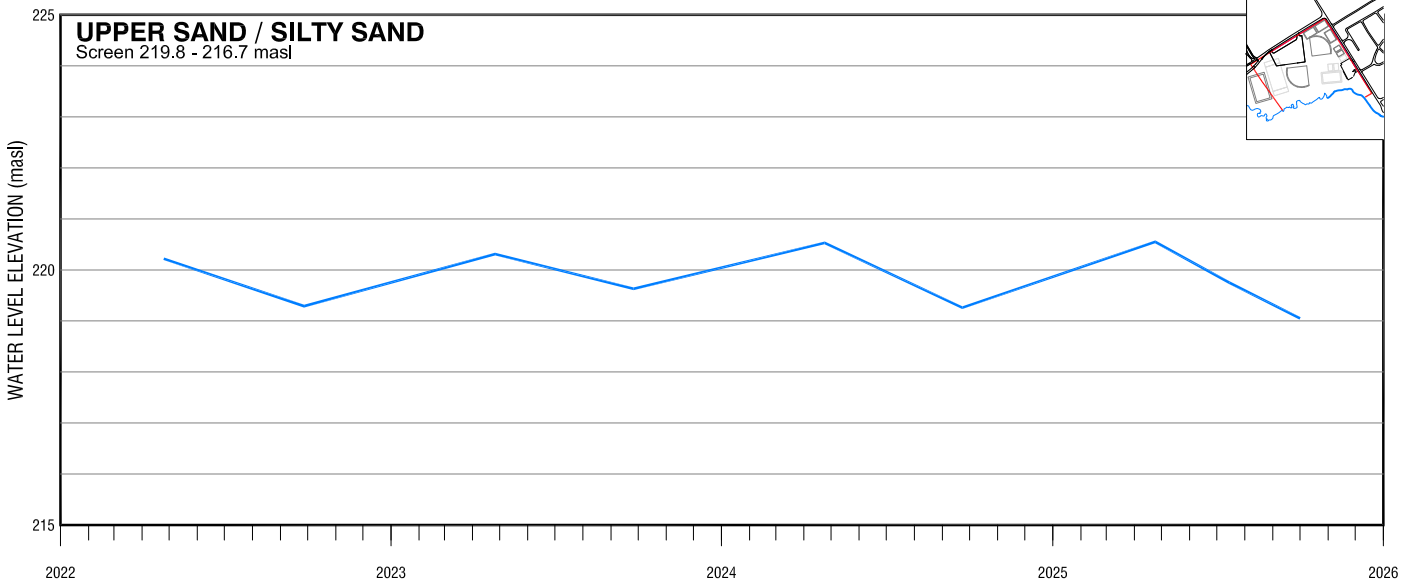
OW9-I



MP Elevation 223.74 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
25-Apr-22	219.31										
27-Sep-22	218.82										
26-Apr-23	219.22										
26-Sep-23	218.99										
24-Apr-24	219.53										
23-Sep-24	218.89										
24-Apr-25	219.42										
15-Jul-25	218.98										
01-Oct-25	218.34										

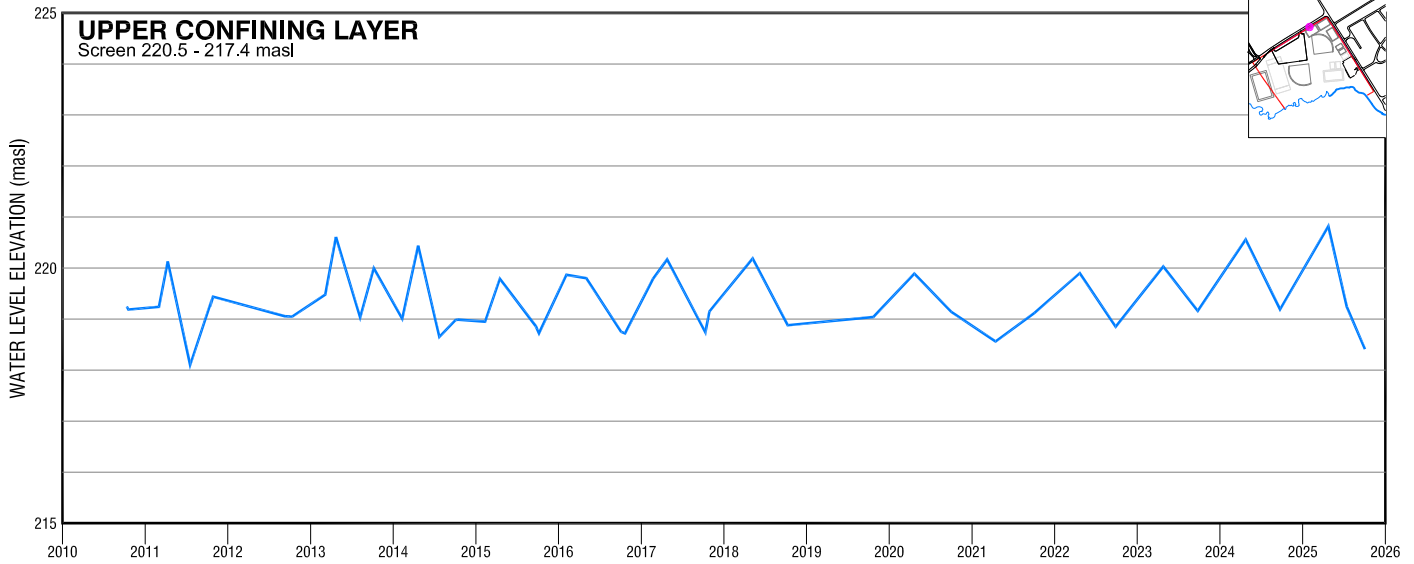
OW9-II



MP Elevation 223.87 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
25-Apr-22	220.22										
27-Sep-22	219.29										
26-Apr-23	220.31										
26-Sep-23	219.63										
24-Apr-24	220.53										
23-Sep-24	219.26										
24-Apr-25	220.55										
15-Jul-25	219.75										
01-Oct-25	219.05										

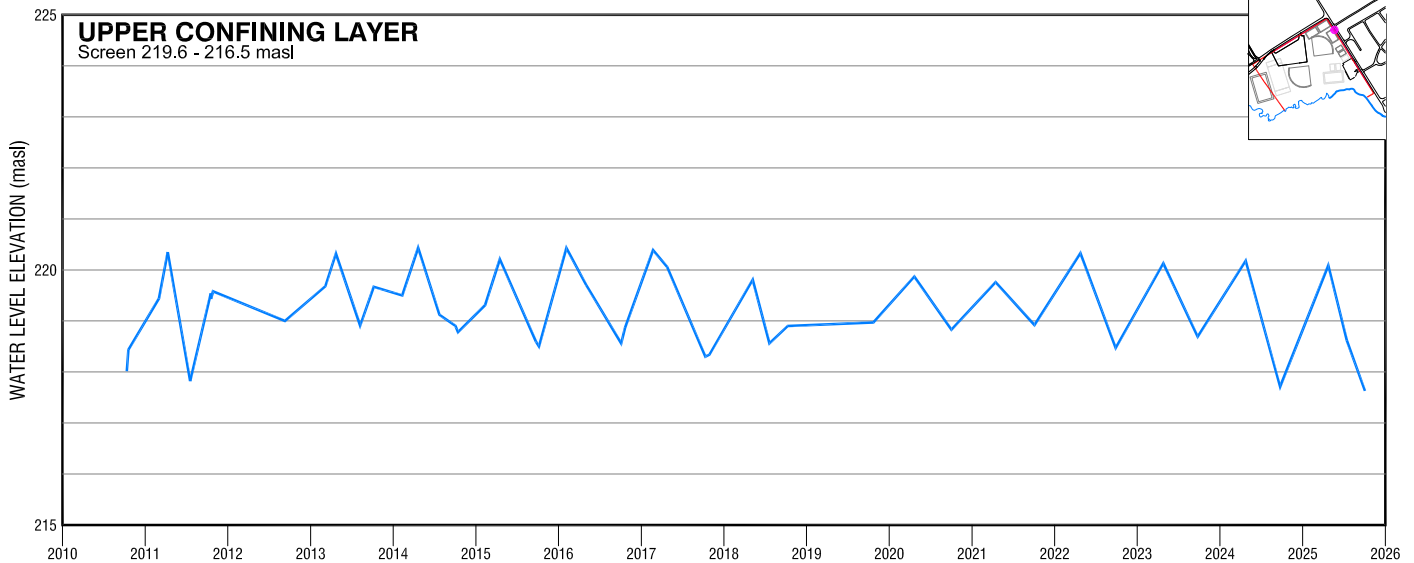
GP-KP2



MP Elevation 223.45 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
12-Oct-10	219.25	07-Mar-13	219.48	17-Apr-15	219.79	29-Oct-17	219.15	26-Apr-23	220.03		
19-Oct-10	219.19	23-Apr-13	220.61	23-Sep-15	218.86	08-May-18	220.19	25-Sep-23	219.16		
03-Mar-11	219.24	08-Aug-13	219.03	07-Oct-15	218.72	10-Oct-18	218.88	24-Apr-24	220.56		
11-Apr-11	220.13	07-Oct-13	220.00	05-Feb-16	219.87	23-Oct-19	219.04	23-Sep-24	219.19		
19-Jul-11	218.10	10-Feb-14	219.01	03-May-16	219.80	21-Apr-20	219.89	24-Apr-25	220.82		
18-Oct-11	219.32	21-Apr-14	220.44	04-Oct-16	218.75	02-Oct-20	219.14	15-Jul-25	219.24		
19-Oct-11	219.31	24-Jul-14	218.65	21-Oct-16	218.72	15-Apr-21	218.56	03-Oct-25	218.41		
28-Oct-11	219.44	03-Oct-14	218.98	22-Feb-17	219.79	04-Oct-21	219.12				
10-Sep-12	219.05	14-Oct-14	218.99	25-Apr-17	220.17	22-Apr-22	219.90				
12-Oct-12	219.05	11-Feb-15	218.95	11-Oct-17	218.74	28-Sep-22	218.85				

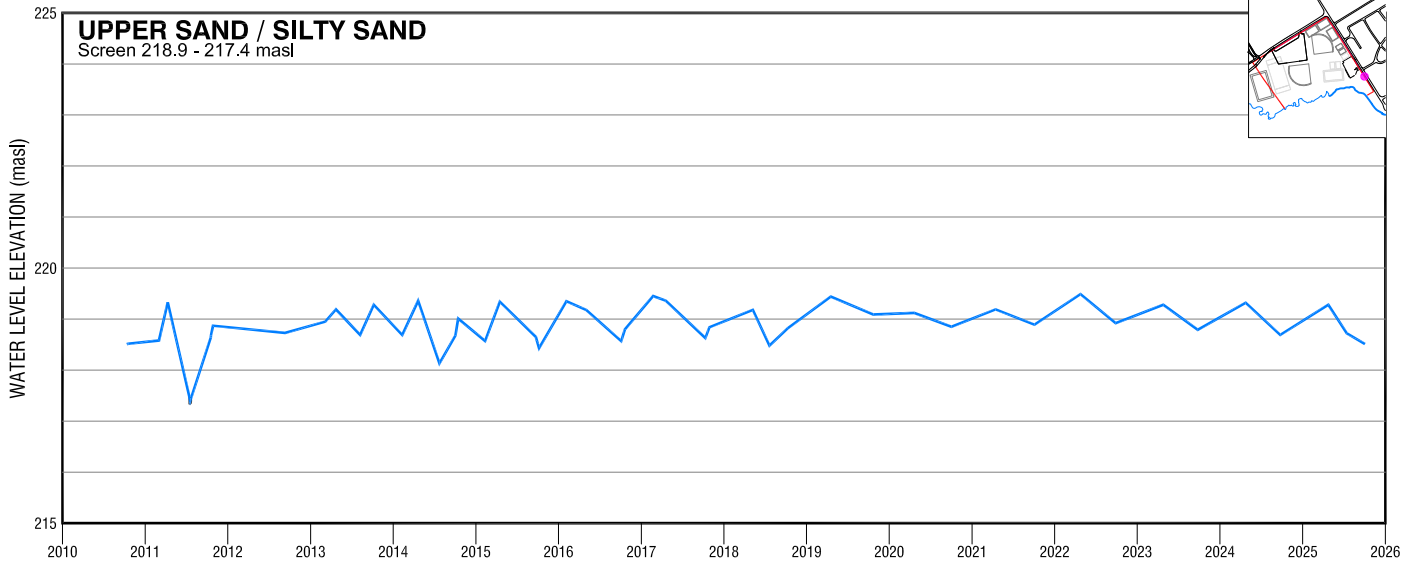
GP-KP3



MP Elevation 222.03 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
12-Oct-10	218.02	23-Apr-13	220.32	23-Sep-15	218.60	08-May-18	219.81	26-Apr-23	220.13		
19-Oct-10	218.44	08-Aug-13	218.91	07-Oct-15	218.50	21-Jul-18	218.56	25-Sep-23	218.69		
03-Mar-11	219.44	07-Oct-13	219.67	05-Feb-16	220.43	10-Oct-18	218.90	24-Apr-24	220.18		
11-Apr-11	220.35	10-Feb-14	219.50	03-May-16	219.70	23-Oct-19	218.97	23-Sep-24	217.71		
19-Jul-11	217.82	21-Apr-14	220.43	04-Oct-16	218.56	21-Apr-20	219.87	24-Apr-25	220.09		
18-Oct-11	219.54	24-Jul-14	219.12	21-Oct-16	218.87	02-Oct-20	218.83	15-Jul-25	218.62		
19-Oct-11	219.43	03-Oct-14	218.90	22-Feb-17	220.39	15-Apr-21	219.76	03-Oct-25	217.63		
28-Oct-11	219.58	14-Oct-14	218.78	25-Apr-17	220.06	04-Oct-21	218.92				
10-Sep-12	219.00	11-Feb-15	219.31	11-Oct-17	218.30	25-Apr-22	220.33				
07-Mar-13	219.68	17-Apr-15	220.21	29-Oct-17	218.34	28-Sep-22	218.47				

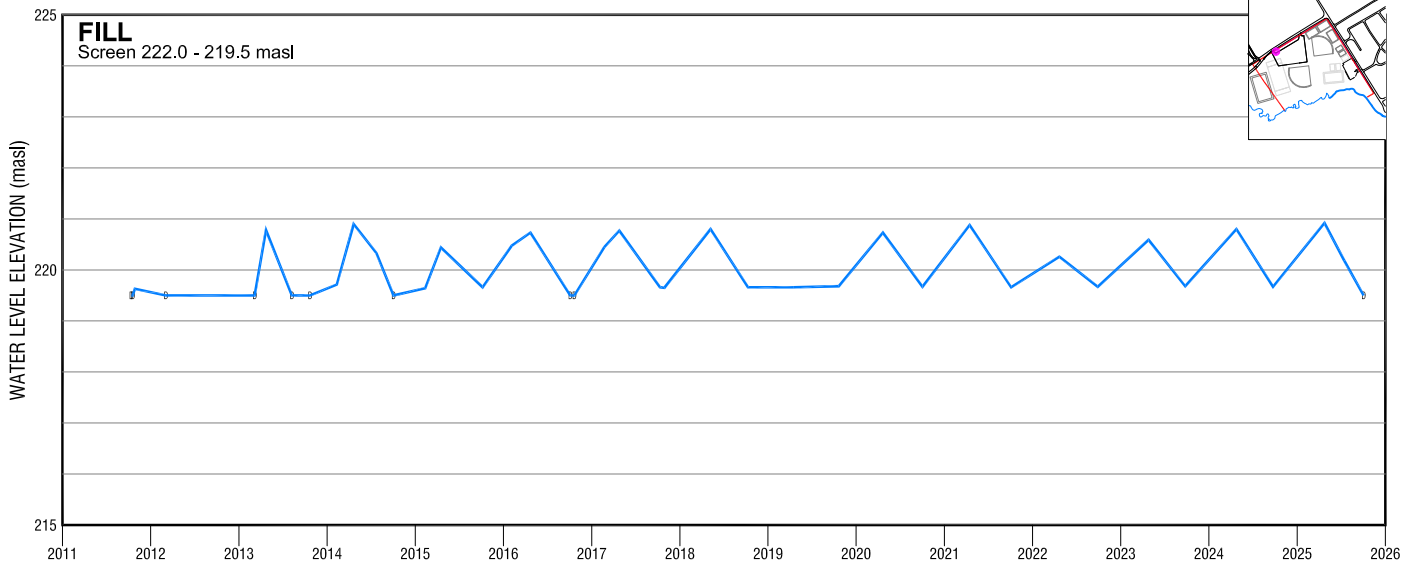
GP-KP4



MP Elevation 220.93 masl

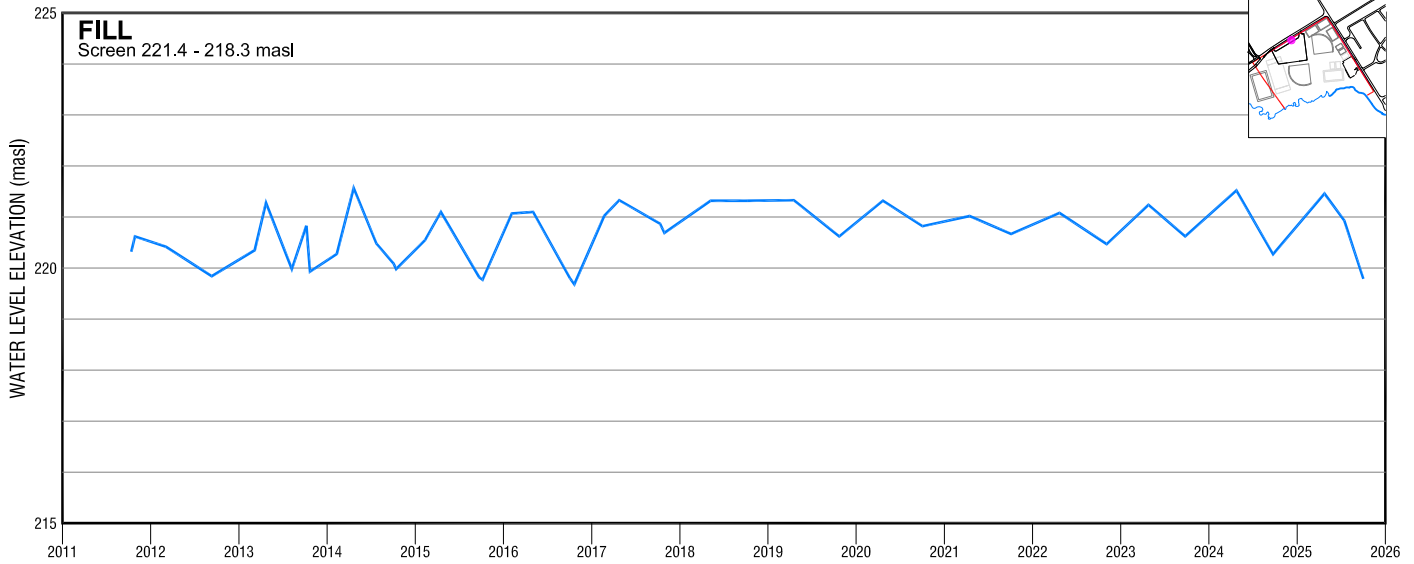
DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
12-Oct-10	218.51	23-Apr-13	219.19	23-Sep-15	218.65	09-May-18	219.18	28-Sep-22	218.92		
19-Oct-10	218.52	08-Aug-13	218.69	07-Oct-15	218.43	21-Jul-18	218.48	26-Apr-23	219.28		
03-Mar-11	218.58	07-Oct-13	219.28	05-Feb-16	219.35	10-Oct-18	218.82	25-Sep-23	218.79		
11-Apr-11	219.33	10-Feb-14	218.69	03-May-16	219.18	18-Apr-19	219.44	24-Apr-24	219.32		
19-Jul-11	DRY	21-Apr-14	219.36	04-Oct-16	218.57	23-Oct-19	219.09	24-Sep-24	218.69		
18-Oct-11	218.64	24-Jul-14	218.13	21-Oct-16	218.80	21-Apr-20	219.12	24-Apr-25	219.28		
19-Oct-11	218.68	03-Oct-14	218.68	22-Feb-17	219.45	02-Oct-20	218.85	15-Jul-25	218.72		
28-Oct-11	218.87	15-Oct-14	219.01	19-Apr-17	219.36	15-Apr-21	219.19	03-Oct-25	218.51		
10-Sep-12	218.73	11-Feb-15	218.57	11-Oct-17	218.63	04-Oct-21	218.89				
07-Mar-13	218.95	17-Apr-15	219.34	29-Oct-17	218.84	25-Apr-22	219.49				

GP-KP7



DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
13-Oct-11	DRY	24-Jul-14	220.33	25-Apr-17	220.77	04-Oct-21	219.66				
19-Oct-11	DRY	03-Oct-14	DRY	11-Oct-17	219.66	22-Apr-22	220.26				
28-Oct-11	219.63	11-Feb-15	219.64	29-Oct-17	219.65	28-Sep-22	219.67				
04-Mar-12	DRY	17-Apr-15	220.44	08-May-18	220.80	26-Apr-23	220.59				
07-Mar-13	DRY	07-Oct-15	219.66	10-Oct-18	219.66	25-Sep-23	219.68				
23-Apr-13	220.78	05-Feb-16	220.48	18-Apr-19	219.66	24-Apr-24	220.80				
08-Aug-13	DRY	22-Apr-16	220.73	21-Oct-19	219.68	23-Sep-24	219.67				
22-Oct-13	DRY	04-Oct-16	DRY	21-Apr-20	220.73	24-Apr-25	220.92				
10-Feb-14	219.71	21-Oct-16	DRY	02-Oct-20	219.67	15-Jul-25	220.18				
21-Apr-14	220.90	22-Feb-17	220.45	15-Apr-21	220.88	03-Oct-25	DRY				

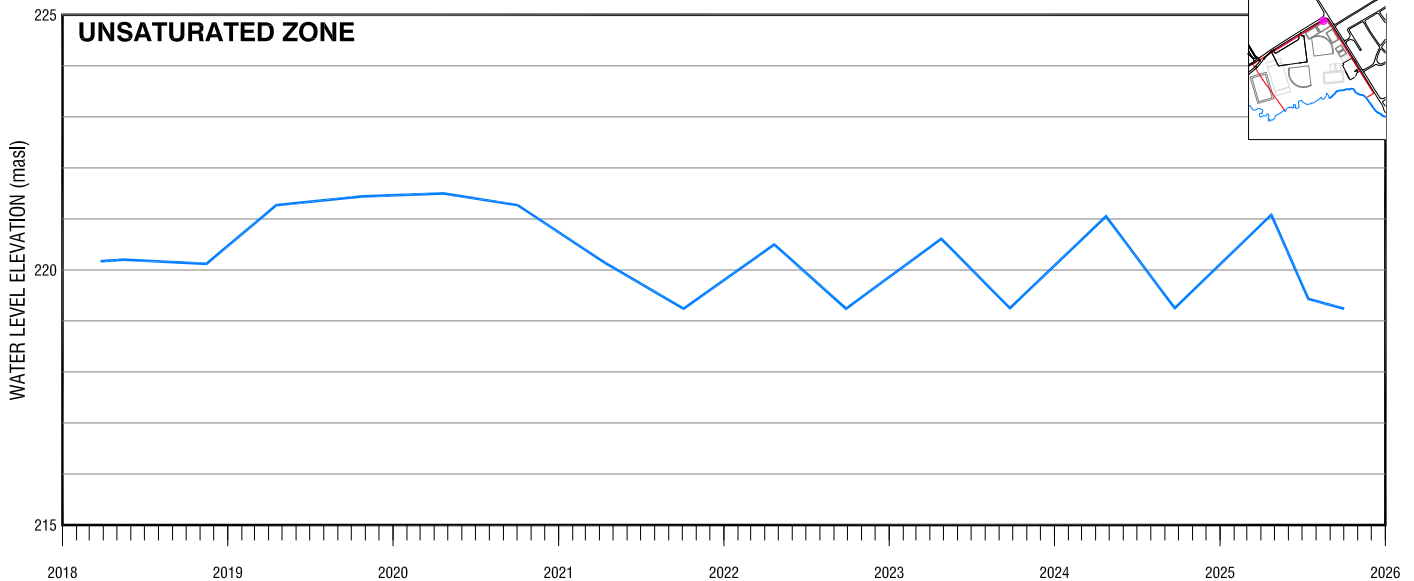
GP-KP8



MP Elevation 224.03 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
13-Oct-11	220.32	21-Apr-14	221.57	03-Oct-16	219.80	21-Apr-20	221.32	24-Apr-25	221.46		
28-Oct-11	220.62	24-Jul-14	220.48	21-Oct-16	219.68	02-Oct-20	220.82	15-Jul-25	220.93		
04-Mar-12	220.42	03-Oct-14	220.09	22-Feb-17	221.02	15-Apr-21	221.02	02-Oct-25	219.79		
10-Sep-12	219.84	14-Oct-14	219.98	25-Apr-17	221.33	04-Oct-21	220.67				
07-Mar-13	220.35	11-Feb-15	220.55	11-Oct-17	220.87	22-Apr-22	221.08				
23-Apr-13	221.28	17-Apr-15	221.10	29-Oct-17	220.69	04-Nov-22	220.47				
08-Aug-13	219.98	23-Sep-15	219.82	08-May-18	221.32	26-Apr-23	221.24				
07-Oct-13	220.83	07-Oct-15	219.77	10-Oct-18	221.32	25-Sep-23	220.62				
22-Oct-13	219.93	05-Feb-16	221.07	18-Apr-19	221.33	24-Apr-24	221.52				
10-Feb-14	220.28	03-May-16	221.10	23-Oct-19	220.62	23-Sep-24	220.27				

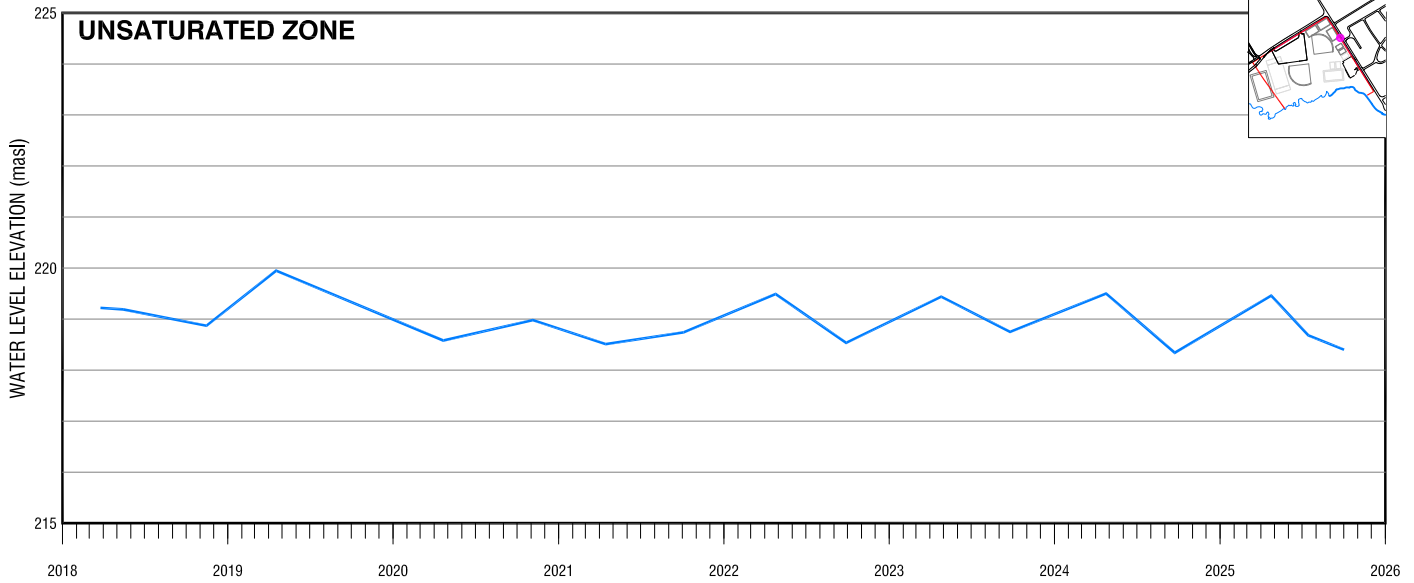
GP-KP12



MP Elevation 223.03 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
26-Mar-18	220.17	28-Sep-22	219.24								
15-May-18	220.20	26-Apr-23	220.61								
15-Nov-18	220.12	25-Sep-23	219.25								
18-Apr-19	221.27	24-Apr-24	221.05								
23-Oct-19	221.44	23-Sep-24	219.25								
21-Apr-20	221.50	24-Apr-25	221.08								
02-Oct-20	221.27	15-Jul-25	219.43								
15-Apr-21	220.13	02-Oct-25	219.24								
04-Oct-21	219.24										
22-Apr-22	220.50										

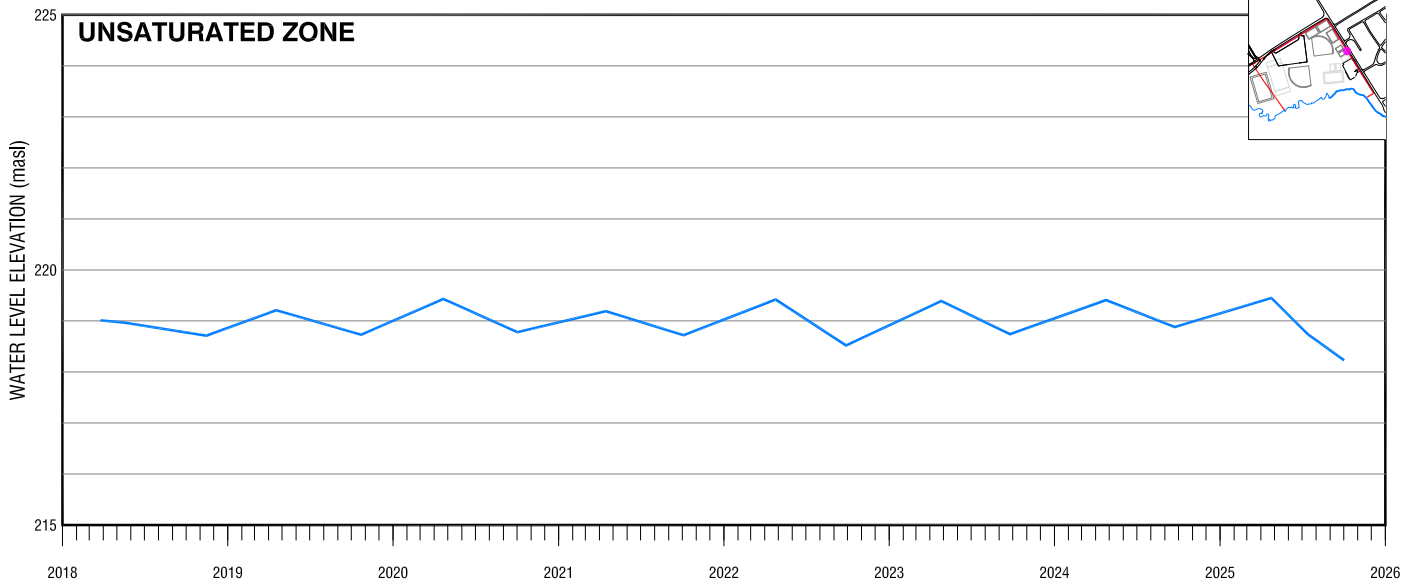
GP-KP13



MP Elevation 221.36 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
26-Mar-18	219.22	26-Apr-23	219.44						
15-May-18	219.19	25-Sep-23	218.75						
15-Nov-18	218.87	24-Apr-24	219.50						
18-Apr-19	219.95	23-Sep-24	218.34						
21-Apr-20	218.58	24-Apr-25	219.46						
05-Nov-20	218.98	15-Jul-25	218.68						
15-Apr-21	218.51	02-Oct-25	218.40						
04-Oct-21	218.74								
25-Apr-22	219.49								
28-Sep-22	218.54								

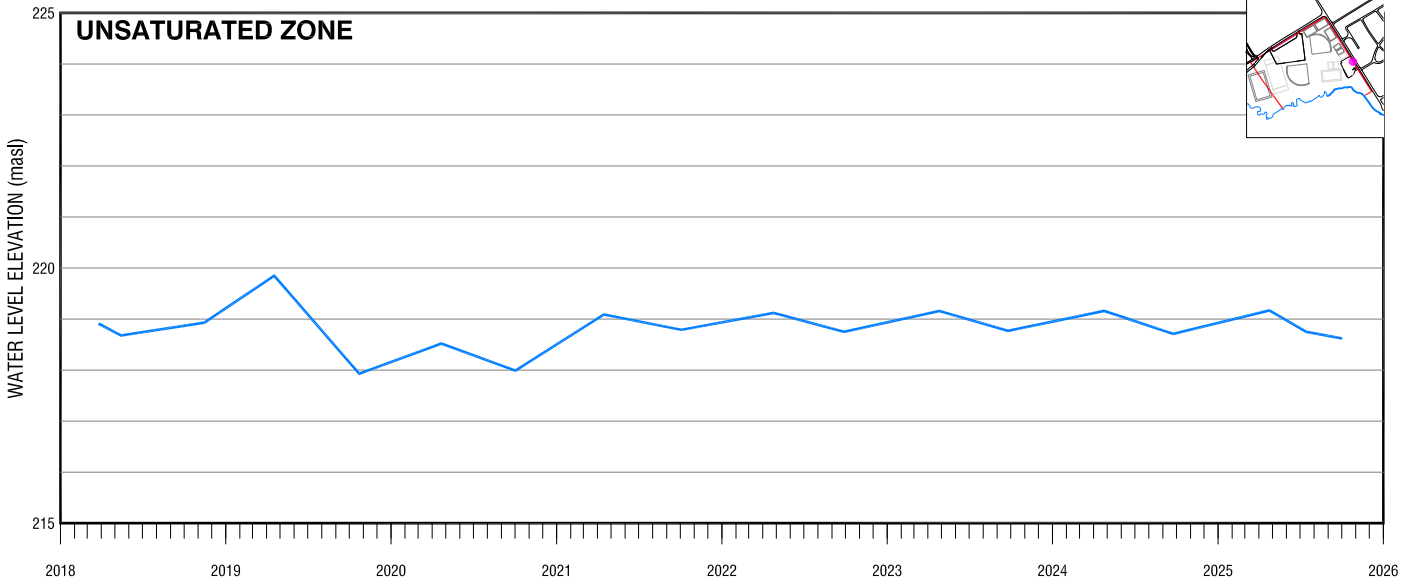
GP-KP14



MP Elevation 221.38 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
26-Mar-18	219.01	28-Sep-22	218.52						
15-May-18	218.97	26-Apr-23	219.39						
15-Nov-18	218.71	25-Sep-23	218.74						
18-Apr-19	219.21	24-Apr-24	219.41						
23-Oct-19	218.73	23-Sep-24	218.88						
21-Apr-20	219.43	24-Apr-25	219.45						
02-Oct-20	218.78	15-Jul-25	218.73						
15-Apr-21	219.19	02-Oct-25	218.23						
04-Oct-21	218.72								
25-Apr-22	219.42								

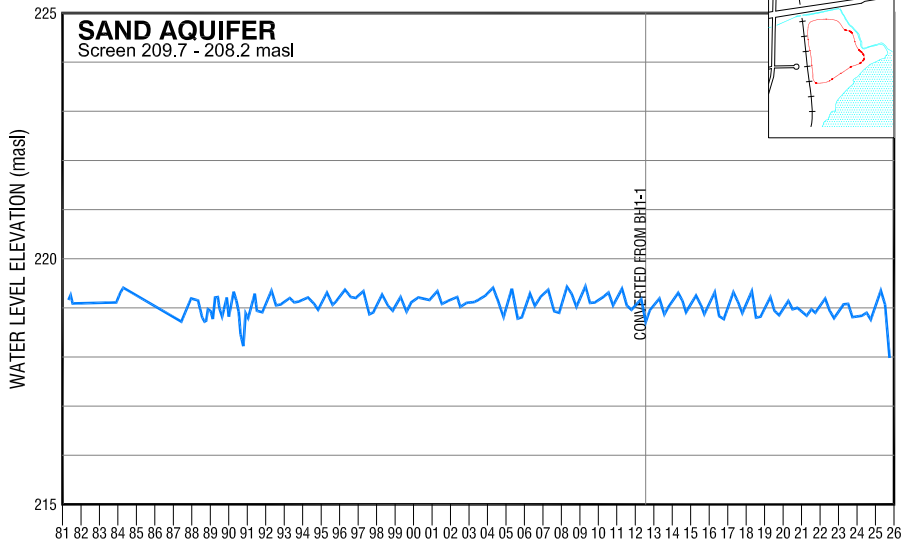
GP-KP15



MP Elevation 220.71 masl

DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION	DATE	ELEVATION
26-Mar-18	218.91	28-Sep-22	218.75						
15-May-18	218.68	26-Apr-23	219.16						
15-Nov-18	218.93	25-Sep-23	218.77						
18-Apr-19	219.85	24-Apr-24	219.16						
23-Oct-19	217.93	24-Sep-24	218.71						
21-Apr-20	218.52	24-Apr-25	219.17						
02-Oct-20	217.99	15-Jul-25	218.75						
15-Apr-21	219.09	02-Oct-25	218.62						
04-Oct-21	218.79								
25-Apr-22	219.12								

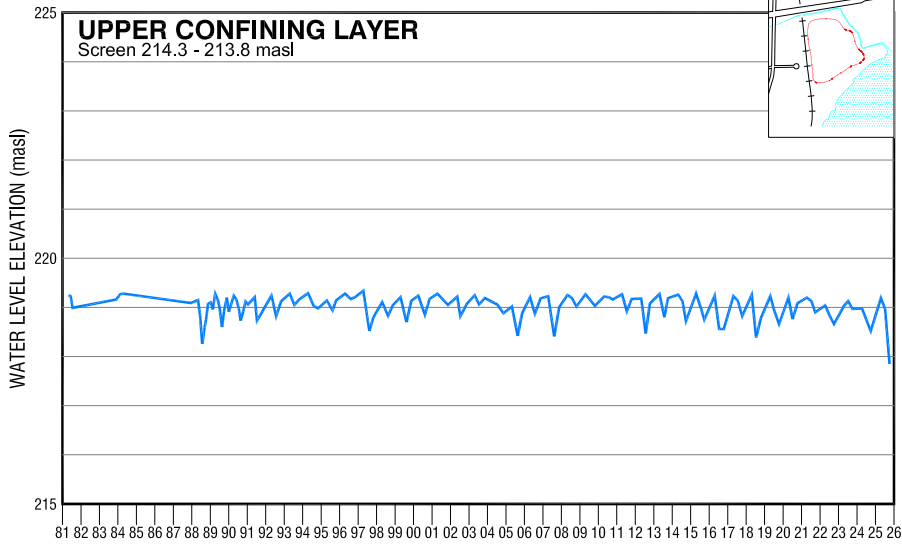
BH1-IR



MP Elevation 220.08 masl

DATE	ELEVATION	DATE	ELEVATION
21-Jul-09	219.10	17-Oct-17	218.89
27-Oct-09	219.11	23-Apr-18	219.34
22-Apr-10	219.23	16-Jul-18	218.80
21-Jul-10	219.31	15-Oct-18	218.82
19-Oct-10	219.05	23-Apr-19	219.22
14-Apr-11	219.39	15-Jul-19	218.94
19-Jul-11	219.04	15-Oct-19	218.85
20-Oct-11	218.96	14-Apr-20	219.14
27-Apr-12	219.18	08-Jul-20	218.97
26-Jul-12	218.71	08-Oct-20	219.00
15-Oct-12	218.95	13-Apr-21	218.84
22-Apr-13	219.19	12-Jul-21	218.97
29-Jul-13	218.87	29-Sep-21	218.90
08-Oct-13	219.00	11-Apr-22	218.19
28-Apr-14	219.30	11-Jul-22	218.94
21-Jul-14	219.15	04-Oct-22	218.79
30-Sep-14	218.91	11-Apr-23	219.07
15-Apr-15	219.25	10-Jul-23	219.08
20-Jul-15	219.06	04-Oct-23	218.81
28-Sep-15	218.87	08-Apr-24	218.84
19-Apr-16	219.32	08-Jul-24	218.90
17-Jul-16	218.83	01-Oct-24	218.76
17-Oct-16	218.77	16-Apr-25	219.35
24-Apr-17	219.32	08-Jul-25	219.07
18-Jul-17	219.13	06-Oct-25	217.98

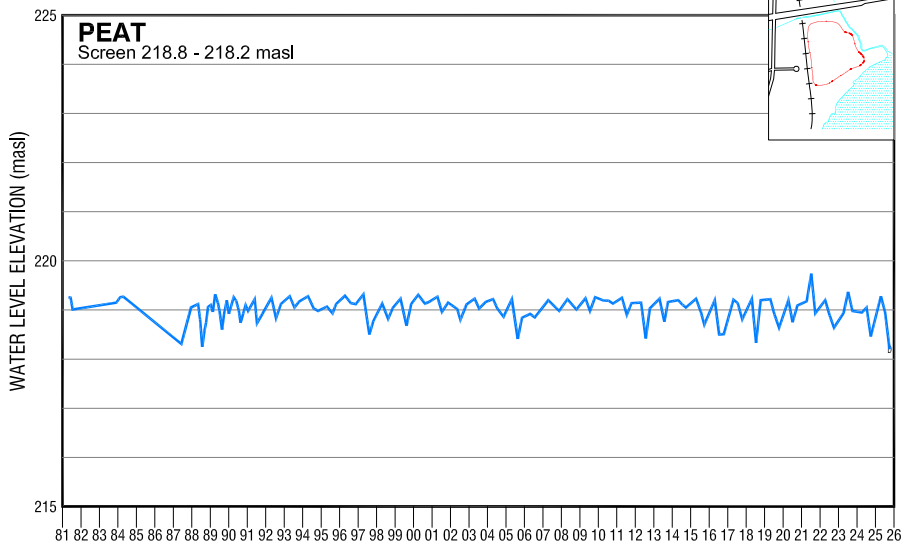
BH1-II



MP Elevation 220.12 masl

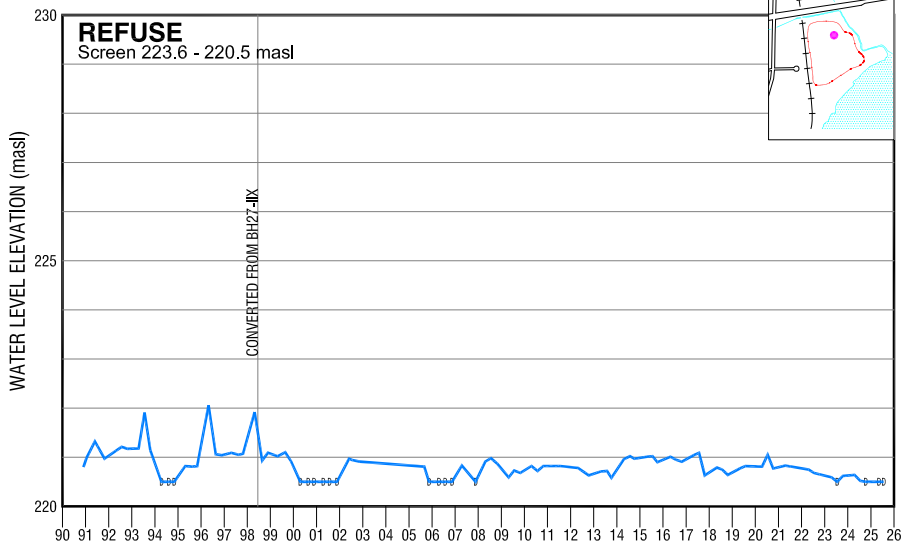
DATE	ELEVATION	DATE	ELEVATION
22-Apr-09	219.27	17-Oct-17	218.82
27-Oct-09	219.03	23-Apr-18	219.26
22-Apr-10	219.22	16-Jul-18	218.41
21-Jul-10	219.21	24-Jul-18	218.41
19-Oct-10	219.16	15-Oct-18	218.77
14-Apr-11	219.27	23-Apr-19	219.23
19-Jul-11	218.92	15-Jul-19	218.92
19-Oct-11	219.17	15-Oct-19	218.66
27-Apr-12	219.18	14-Apr-20	219.20
26-Jul-12	218.47	08-Jul-20	218.76
15-Oct-12	219.07	08-Oct-20	219.08
22-Apr-13	219.27	13-Apr-21	219.20
29-Jul-13	218.80	12-Jul-21	219.13
08-Oct-13	219.18	29-Sep-21	218.90
28-Apr-14	219.26	11-Apr-22	219.04
21-Jul-14	219.13	11-Jul-22	218.83
30-Sep-14	218.72	04-Oct-22	218.66
15-Apr-15	219.28	11-Apr-23	219.02
20-Jul-15	218.99	10-Jul-23	219.13
28-Sep-15	218.75	04-Oct-23	218.97
19-Apr-16	219.24	08-Apr-24	218.98
17-Jul-16	218.56	01-Oct-24	218.52
17-Oct-16	218.56	16-Apr-25	219.19
24-Apr-17	219.23	08-Jul-25	218.97
18-Jul-17	219.14	06-Oct-25	217.85

BH1-III



DATE	ELEVATION	DATE	ELEVATION
21-Jul-09	218.98	17-Oct-17	218.81
29-Oct-09	219.26	23-Apr-18	219.23
21-Apr-10	219.19	16-Jul-18	218.33
21-Jul-10	219.19	15-Oct-18	219.20
19-Oct-10	219.13	23-Apr-19	219.22
12-Apr-11	219.25	15-Jul-19	218.91
19-Jul-11	218.90	15-Oct-19	218.64
19-Oct-11	219.14	14-Apr-20	219.20
25-Apr-12	219.15	08-Jul-20	218.75
26-Jul-12	218.42	08-Oct-20	219.09
15-Oct-12	219.03	13-Apr-21	219.18
22-Apr-13	219.23	12-Jul-21	219.74
29-Jul-13	218.76	29-Sep-21	218.93
08-Oct-13	219.16	11-Apr-22	219.20
28-Apr-14	219.20	11-Jul-22	218.89
21-Jul-14	219.11	04-Oct-22	218.64
30-Sep-14	219.05	11-Apr-23	218.94
15-Apr-15	219.23	10-Jul-23	219.37
20-Jul-15	218.96	04-Oct-23	218.98
28-Sep-15	218.70	08-Apr-24	218.95
19-Apr-16	219.20	08-Jul-24	219.05
17-Jul-16	218.50	01-Oct-24	218.46
17-Oct-16	218.51	16-Apr-25	219.28
24-Apr-17	219.21	08-Jul-25	218.96
18-Jul-17	219.14	06-Oct-25	DRY

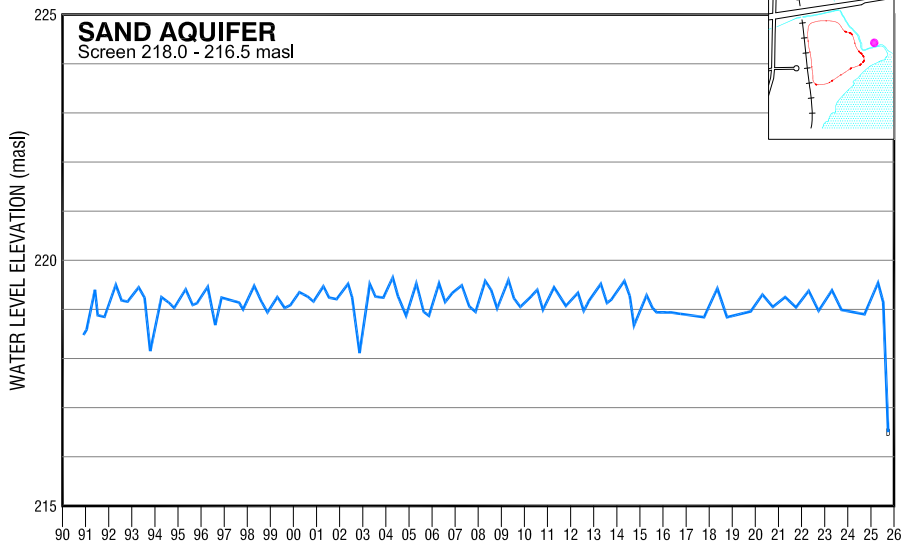
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MP Elevation 233.38 masl

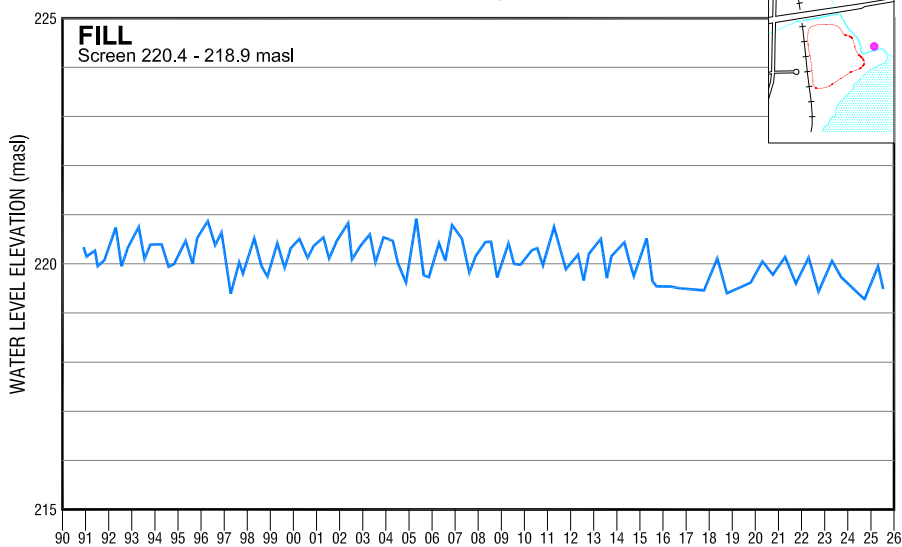
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20-Nov-07	DRY	25-Oct-16	220.91
21-Apr-08	220.91	01-May-17	221.04
21-Jul-08	220.98	25-Jul-17	221.09
27-Oct-08	220.87	23-Oct-17	220.63
28-Apr-09	220.59	02-May-18	220.79
22-Jul-09	220.73	23-Jul-18	220.75
30-Oct-09	220.68	22-Oct-18	220.64
22-Apr-10	220.82	29-Apr-19	220.77
28-Jul-10	220.72	26-Jul-19	220.82
26-Oct-10	220.82	16-Apr-20	220.81
13-Apr-11	220.82	13-Jul-20	221.05
19-Jul-11	220.82	08-Oct-20	220.77
27-Apr-12	220.78	16-Apr-21	220.83
15-Oct-12	220.63	15-Jul-21	220.81
23-Apr-13	220.71	21-Apr-22	220.75
30-Jul-13	220.72	19-Jul-22	220.68
08-Oct-13	220.58	13-Oct-22	220.65
23-Apr-14	220.96	19-Apr-23	220.59
28-Jul-14	221.02	19-Jul-23	DRY
06-Oct-14	220.97	16-Oct-23	220.62
22-Apr-15	221.01	17-Apr-24	220.64
20-Jul-15	221.02	18-Jul-24	220.52
05-Oct-15	220.90	10-Oct-24	DRY
27-Apr-16	221.01	08-May-25	DRY
25-Jul-16	220.95	22-Jul-25	DRY

BH28-I



DATE	ELEVATION	DATE	ELEVATION
27-Apr-05	219.53	07-Oct-13	219.20
23-Aug-05	218.95	30-Apr-14	219.58
14-Nov-05	218.87	23-Jul-14	219.28
21-Apr-06	219.53	29-Sep-14	218.67
27-Jul-06	219.15	17-Apr-15	219.29
13-Nov-06	219.33	20-Jul-15	219.03
16-Apr-07	219.49	24-Sep-15	218.94
14-Aug-07	219.06	22-Apr-16	218.94
20-Nov-07	218.95	05-Oct-16	218.91
21-Apr-08	219.58	12-Oct-17	218.84
21-Jul-08	219.40	09-May-18	219.43
27-Oct-08	219.02	10-Oct-18	218.84
23-Apr-09	219.60	21-Oct-19	218.96
22-Jul-09	219.22	21-Apr-20	219.30
30-Oct-09	219.05	05-Oct-20	219.05
23-Apr-10	219.27	15-Apr-21	219.25
23-Jul-10	219.40	05-Oct-21	219.04
21-Oct-10	218.99	22-Apr-22	219.38
13-Apr-11	219.45	27-Sep-22	218.97
19-Oct-11	219.07	26-Apr-23	219.39
27-Apr-12	219.34	26-Sep-23	218.99
27-Jul-12	218.97	23-Sep-24	218.90
15-Oct-12	219.17	24-Apr-25	219.54
23-Apr-13	219.52	15-Jul-25	219.15
29-Jul-13	219.13	01-Oct-25	DRY

BH28-II



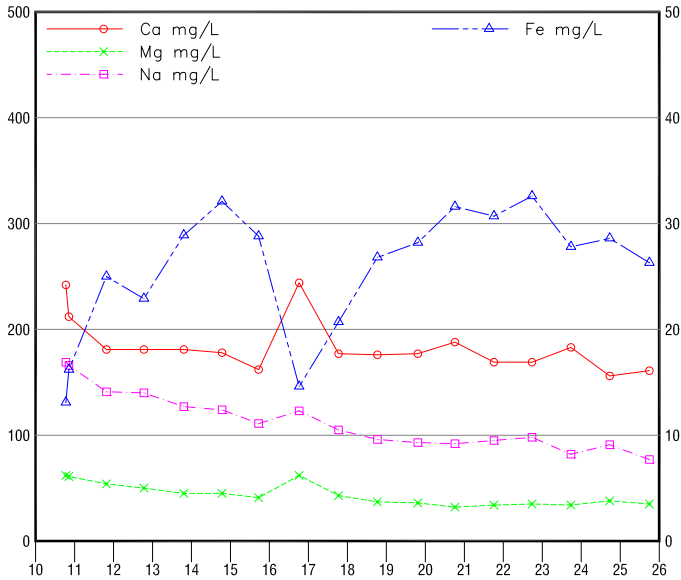
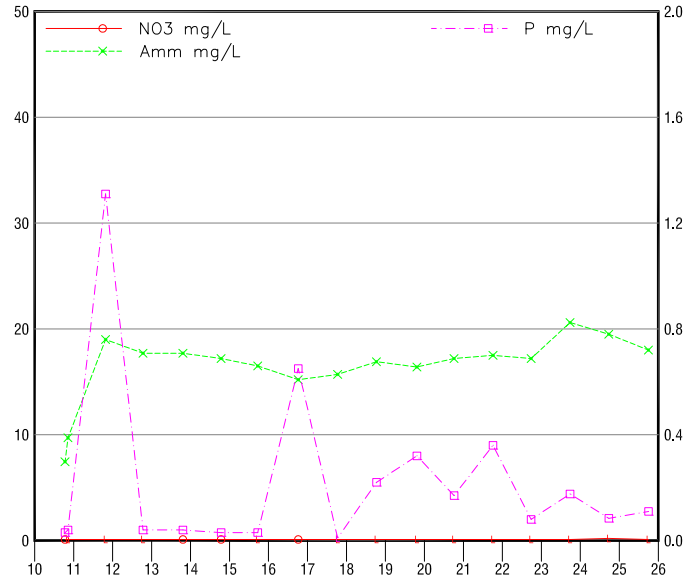
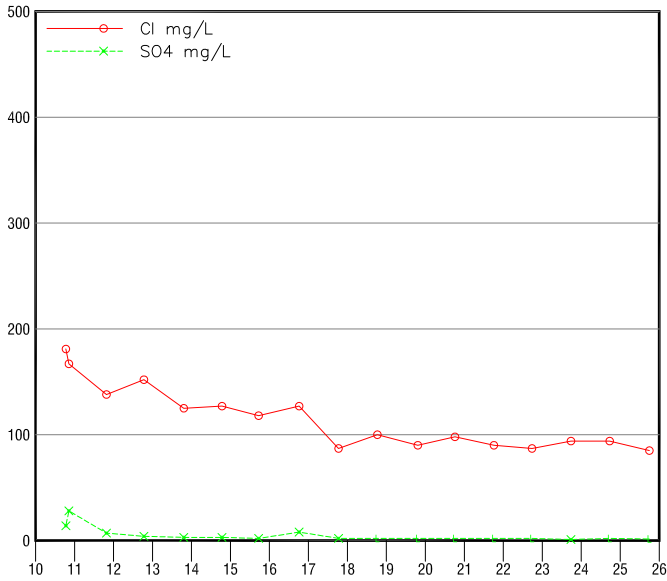
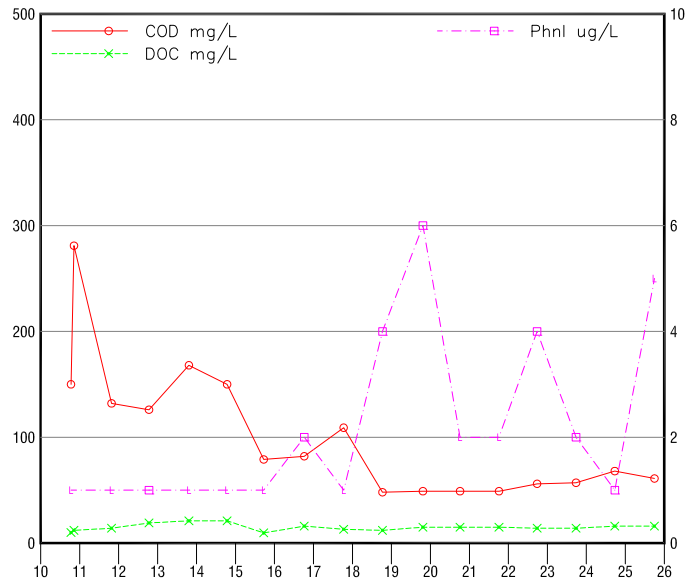
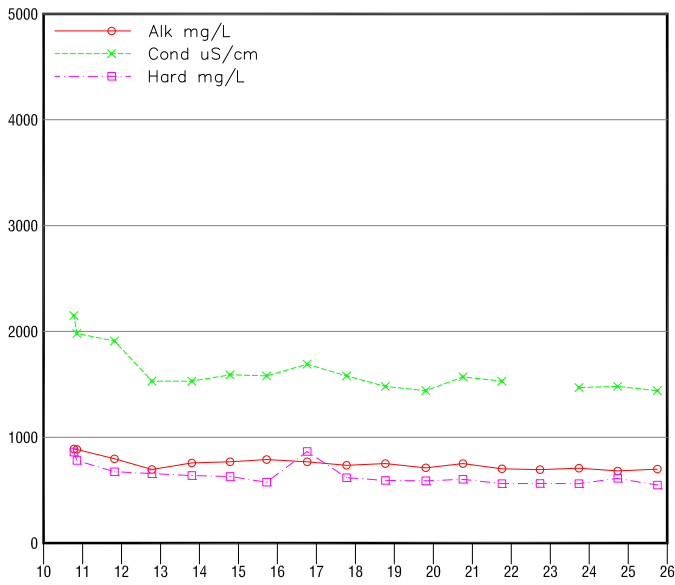
MP Elevation 221.85 masl

DATE	ELEVATION	DATE	ELEVATION
23-Aug-05	219.77	07-Oct-13	220.15
14-Nov-05	219.73	30-Apr-14	220.44
21-Apr-06	220.42	23-Jul-14	220.03
27-Jul-06	220.08	29-Sep-14	219.75
02-Aug-06	220.08	17-Apr-15	220.52
13-Nov-06	220.79	20-Jul-15	219.64
16-Apr-07	220.52	24-Sep-15	219.54
14-Aug-07	219.82	22-Apr-16	219.54
20-Nov-07	220.15	05-Oct-16	219.50
21-Apr-08	220.44	12-Oct-17	219.46
21-Jul-08	220.45	09-May-18	220.11
27-Oct-08	219.72	09-Oct-18	219.40
23-Apr-09	220.42	21-Oct-19	219.62
22-Jul-09	220.00	21-Apr-20	220.05
30-Oct-09	219.98	05-Oct-20	219.78
23-Apr-10	220.27	15-Apr-21	220.14
23-Jul-10	220.32	05-Oct-21	219.60
21-Oct-10	219.97	22-Apr-22	220.13
13-Apr-11	220.75	27-Sep-22	219.43
19-Oct-11	219.89	26-Apr-23	220.06
27-Apr-12	220.19	26-Sep-23	219.72
27-Jul-12	219.66	23-Sep-24	219.28
15-Oct-12	220.20	24-Sep-24	219.28
23-Apr-13	220.51	24-Apr-25	219.95
29-Jul-13	219.71	15-Jul-25	219.49

APPENDIX B

Water Quality Data

Water Quality Graphs and Data – Major Ions and Indicator Parameters



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
○	Anomaly Not Plotted	
○	Anomaly Not Plotted	

CITY OF ORILLIA KITCHENER PARK CLOSED LANDFILL		
OW1-1 FORMERLY 1-IX SAND AQUIFER CONVERTED Sep 16 Screen 211.5 - 206.9 masl		
CA0034164 1 Apr 26		25G001

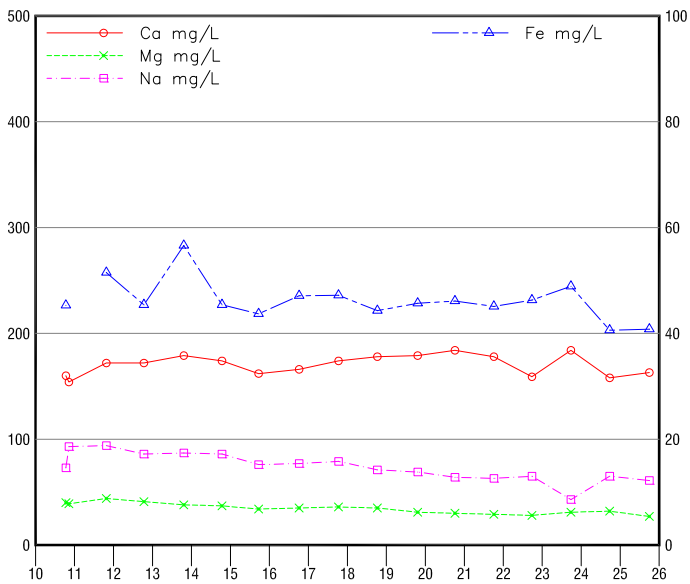
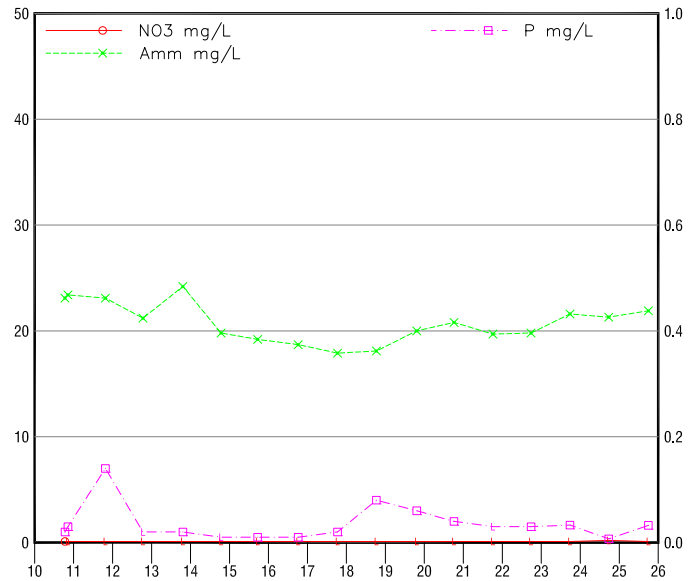
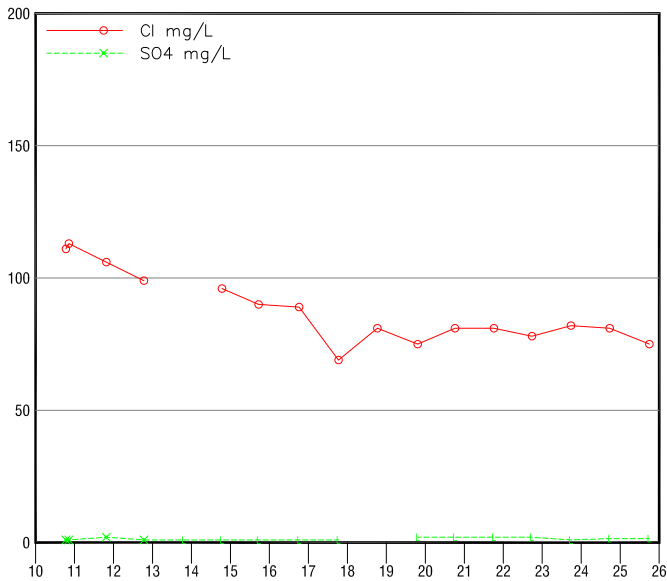
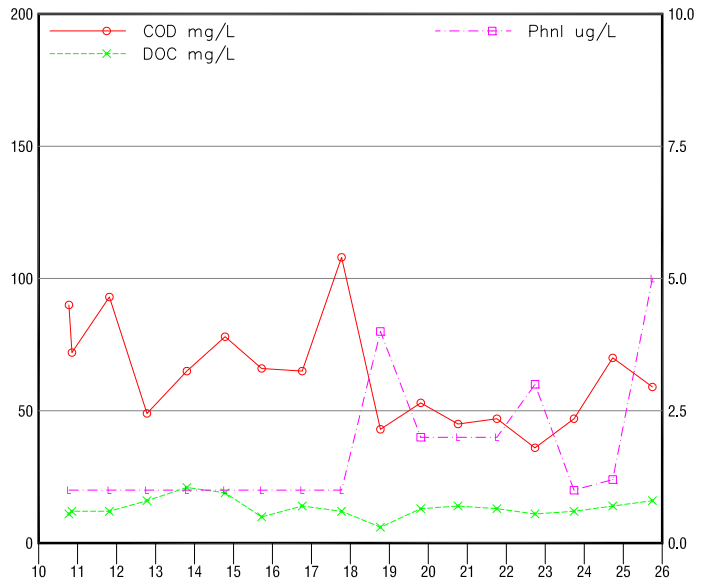
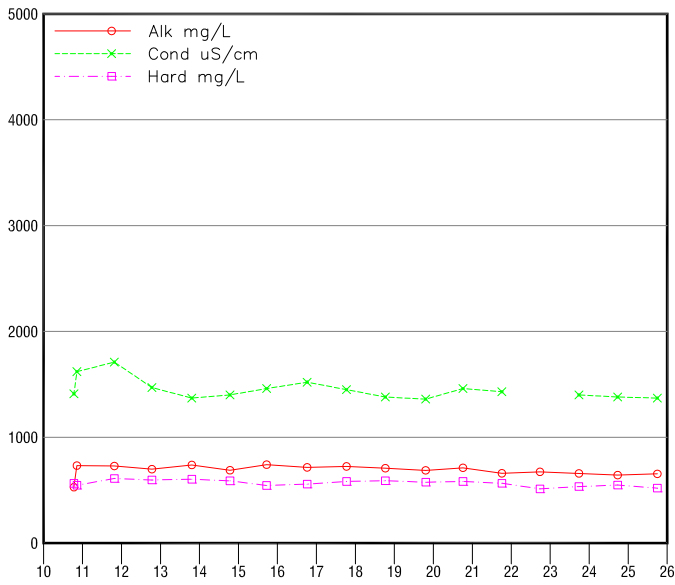
OW1-I
SAND AQUIFER
 OBSERVATION WELL
 Screen 211.5 - 206.9 masl

FORMERLY OW1-IX
 CONVERTED Sep 16



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn ug/L	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %	
	PWQO											0.3									1	
12-Oct-10	2114	889	2150	860	7.1	181	14	242	62	169	21	13.1	620	150	10	10.2	0.1	<0.1	7.45	<1	5.9	
09-Nov-10	2179	885	1980	781	7.1	167	28	212	61	166	22	16.2	631	281	12	12.4	<0.1	<0.1	9.71	<1	3.5	
27-Oct-11	2356	796	1910	674	7.4	138	7	181	54	141	24	25.0	371	132	14	19.7	<0.1	<0.1	19.0	<1	6.0	
12-Oct-12	2550	695	1530	656	7.7	152	4	181	50	140	24	22.9	237	126	19	20.0	<0.1	<0.1	17.7	1	9.1	
21-Oct-13	2731	757	1530	638	7.3	125	3	181	45	127	22	28.9	211	168	21	20.0	0.1	<0.1	17.7	<1	6.0	
14-Oct-14	2923	768	1590	629	7.2	127	3	178	45	124	22	32.1	229	150	21	19.0	0.1	<0.1	17.2	<1	4.8	
22-Sep-15	3130	789	1580	575	7.3	118	2	162	41	111	19	28.8	174	79	9.6	18.3	<0.1	<0.1	16.5	<1	-0.4	
06-Oct-16	3275	768	1690	865	7.5	127	8	244	62	123	21	14.6	906	82	16	17.2	0.1	<0.1	15.2	2	12.9	
10-Oct-17	3453	735	1580	618	7.4	87	2	177	43	105	22	20.7	367	109	13	18.5	<0.1	<0.1	15.7	<1	6.0	
09-Oct-18	3619	751	1480	592	7.4	100	<2	176	37	96	20	26.8	236	48	12	19.2	<0.1	<0.1	16.9	4	2.3	
23-Oct-19	3807	711	1440	588	7.0	90	<2	177	36	93	20	28.2	185	49	15	17.5	<0.1	<0.1	16.4	6	5.1	
05-Oct-20	4013	751	1570	602	7.6	98	<2	188	32	92	20	31.6	214	49	15	18.8	<0.1	<0.1	17.2	<2	3.0	
05-Oct-21	4187	702	1530	562	7.3	90	<2	169	34	95	19	30.7	195	49	15	19.0	<0.1	<0.3	17.5	<2	2.8	
27-Sep-22	4345	694	<i>695</i>	563	7.0	87	<2	169	35	98	19	32.6	200	56	14	19.7	<0.1	<0.1	17.2	4	6.0	
27-Sep-23	4522	707	1470	561	7.0	94	1	183	34	82	21	27.8	174	57	14	13.9	<0.1	<0.1	20.6	2	5.3	
24-Sep-24	2061021	681	1480	611	6.6	94	<2	156	38	91	18	28.6	162	68	16	18	<0.2	<0.2	19.5	1	4.4	
01-Oct-25	252802302	699	1440	548	7.5	85	<1.5	161	35	77	17	26.3	156	61	16	23.5	<0.1	<0.05	18.0	<5	1.8	
TOTAL SAMPLES		17	16	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	16		
AVERAGE 2025																						

all Concentrations mg/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
○	Anomaly Not Plotted	

CITY OF ORILLIA
KITCHEENER PARK CLOSED LANDFILL

OW1-II
SAND AQUIFER
 Screen 215.6 - 214.1 masl

CA0034164
 1 Apr 26



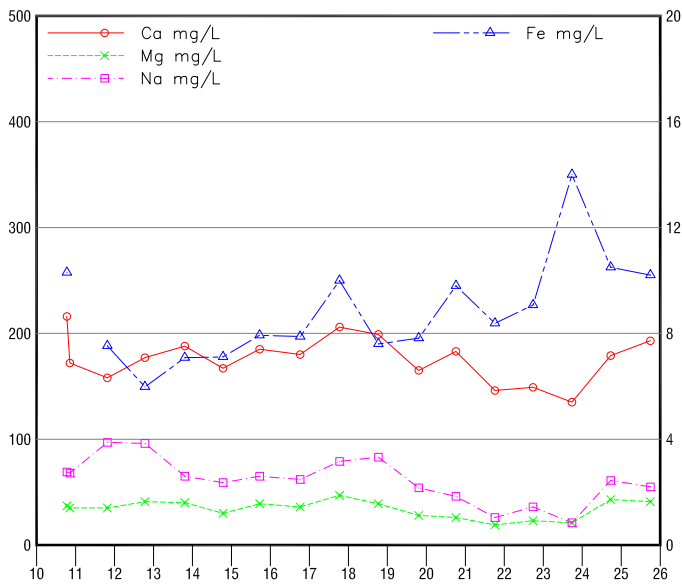
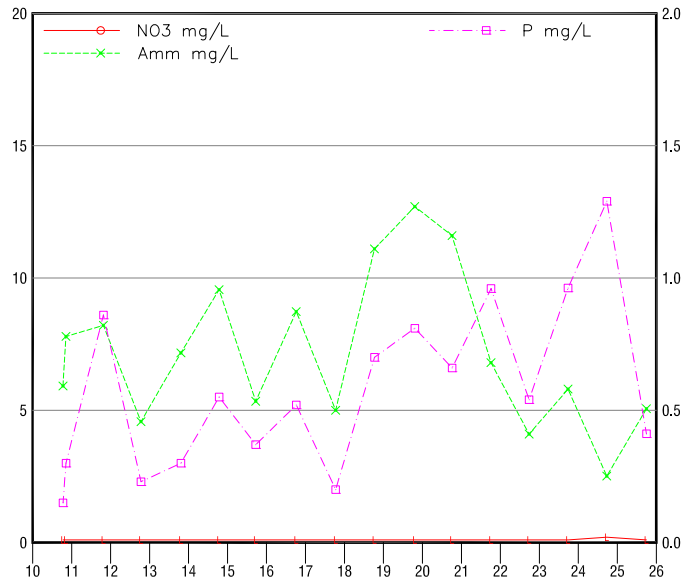
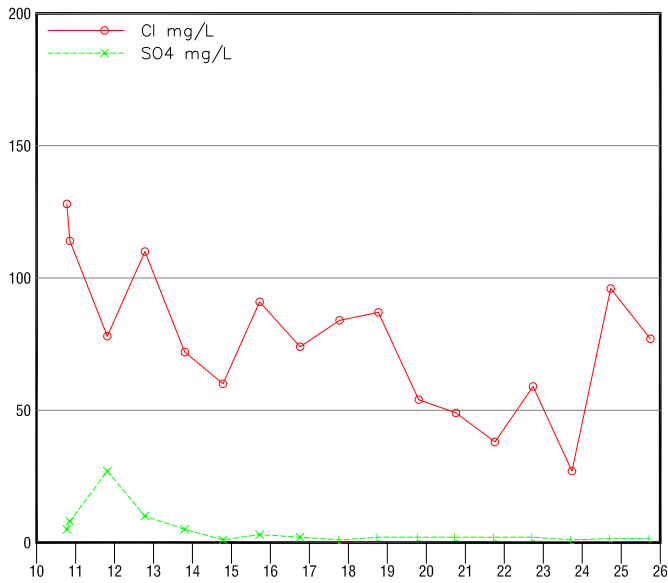
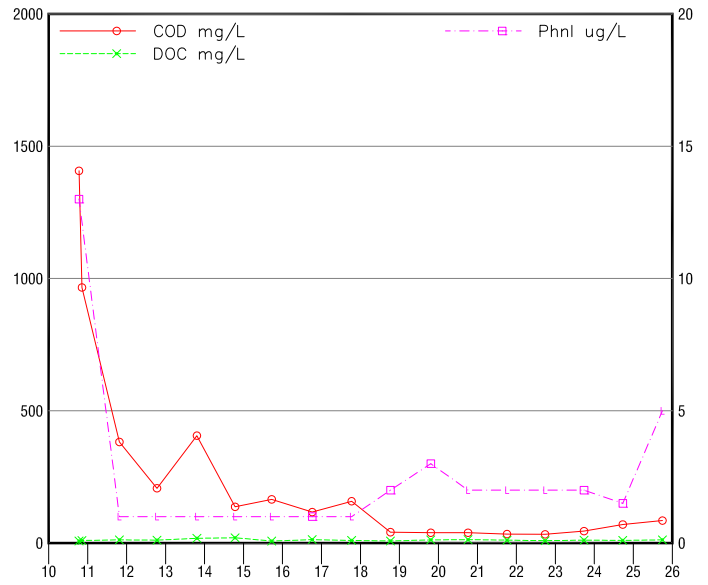
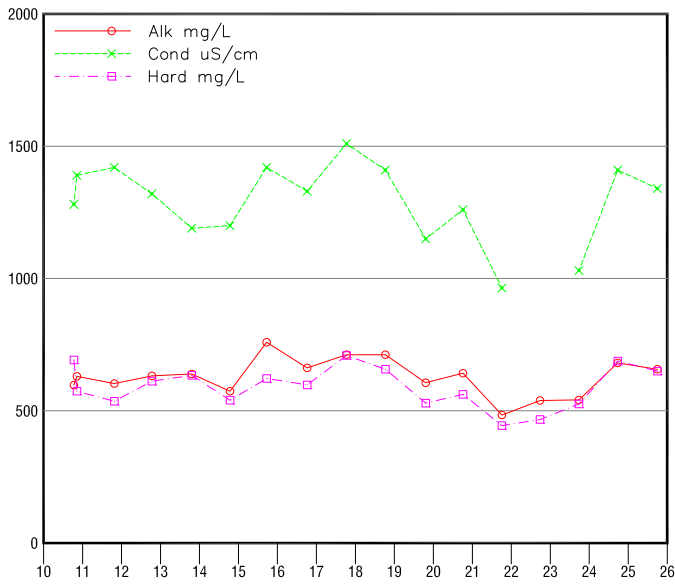
25G002

OW1-II
SAND AQUIFER
 OBSERVATION WELL
 Screen 215.6 - 214.1 masl



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn ug/L	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %	
	PWQO											0.3									1	
12-Oct-10	2115	528	1410	564	7.0	111	1	160	40	73	24	45.3	642	90	11	25.6	0.1	<0.1	23.1	<1	14.4	
09-Nov-10	2180	732	1620	546	7.1	113	1	154	39	93	27	<i>0.05</i>	360	72	12	27.0	<0.1	<0.1	23.4	<1	-1.5	
26-Oct-11	2357	728	1710	610	7.2	106	2	172	44	94	26	51.5	393	93	12	25.1	<0.1	<0.1	23.1	<1	7.6	
12-Oct-12	2551	698	1470	596	7.6	99	1	172	41	86	25	45.4	267	49	16	24.8	<0.1	<0.1	21.2	<1	7.5	
21-Oct-13	2732	738	1370	603	7.2	<i>10</i>	<1	179	38	87	25	56.6	279	65	21	24.0	<0.1	<0.1	24.2	<1	14.8	
14-Oct-14	2924	688	1400	588	7.2	96	<1	174	37	86	24	45.4	262	78	19	22.0	<0.1	<0.1	19.8	<1	7.5	
22-Sep-15	3131	741	1460	544	7.2	90	<1	162	34	76	21	43.7	258	66	9.9	20.4	<0.1	<0.1	19.2	<1	0.9	
06-Oct-16	3276	715	1520	557	7.4	89	<1	166	35	77	22	47.1	275	65	14	20.9	<0.1	<0.1	18.7	<1	3.7	
10-Oct-17	3504	724	1450	582	7.5	69	<1	174	36	79	23	47.2	236	108	12	21.3	<0.1	<0.1	17.9	<1	6.3	
09-Oct-18	3620	707	1380	589	7.2	81	<i>96</i>	178	35	71	21	44.3	254	43	6.0	20.8	<0.1	<0.1	18.1	4	-0.4	
22-Oct-19	3808	687	1360	575	7.0	75	<2	179	31	69	21	45.7	252	53	13	18.5	<0.1	<0.1	20	2	6.6	
05-Oct-20	4014	711	1460	582	7.5	81	<2	184	30	64	21	46.1	262	45	14	21.9	<0.1	<0.1	20.8	<2	4.6	
05-Oct-21	4188	659	1430	565	7.2	81	<2	178	29	63	22	45.1	261	47	13	22.9	<0.1	<0.1	19.7	<2	4.8	
27-Sep-22	4346	673	<i>841</i>	512	6.8	78	<2	159	28	65	19	46.3	248	36	11	22.5	<0.1	<0.1	19.8	3	2.9	
27-Sep-23	4523	658	1400	534	7.1	82	<1	184	31	43	22	48.9	266	47	12	15.1	<0.1	<0.1	21.6	1	5.1	
24-Sep-24	2061022	642	1380	548	6.7	81	<1.5	158	32	65	19	40.6	249	70	14	18.1	<0.2	<0.2	21.3	1.2	5.2	
01-Oct-25	252802303	654	1370	519	7.5	75	<1.5	163	27	61	19	40.8	220	59	16	32.0	<0.1	<0.05	21.9	<5	4.1	
TOTAL SAMPLES		17	16	17	17	16	16	17	17	17	17	16	17	17	17	17	17	17	17	16		
AVERAGE 2025																						

all Concentrations mg/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
	Anomaly Not Plotted	

CITY OF ORILLIA
KITCHENER PARK CLOSED LANDFILL

OW1-III
PEAT
Screen 219.3 - 218.1 masl

OW1-III

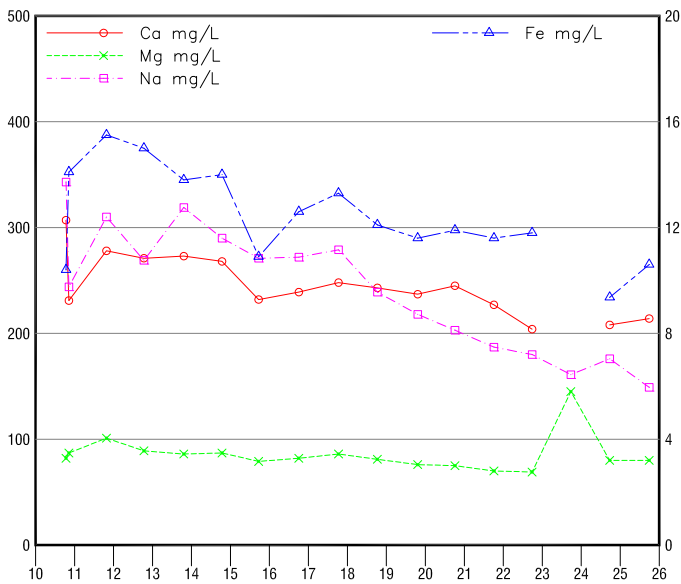
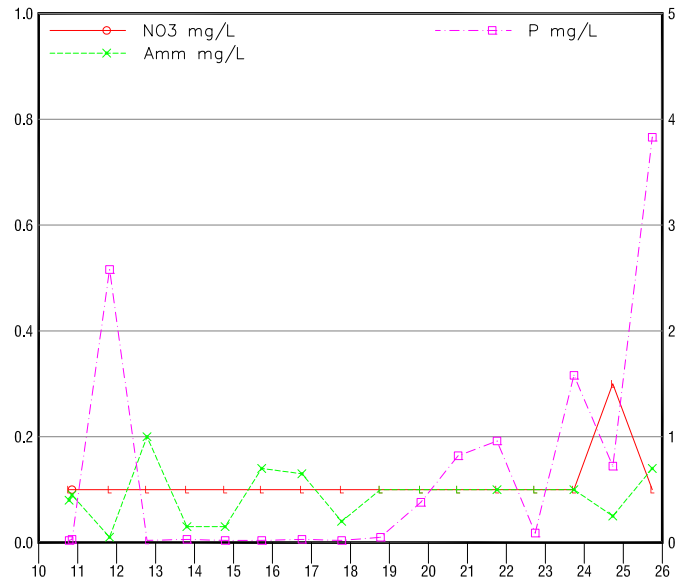
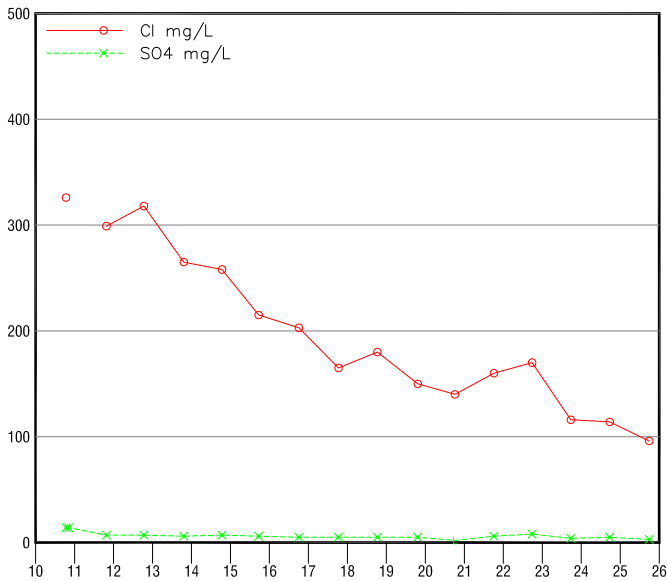
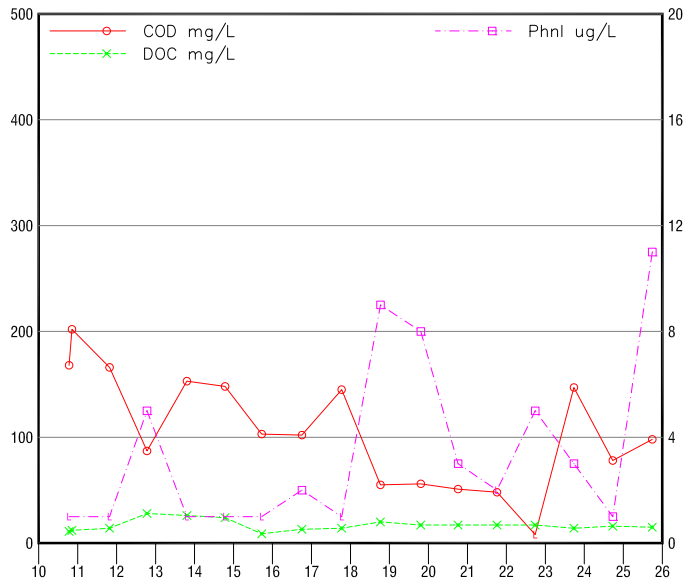
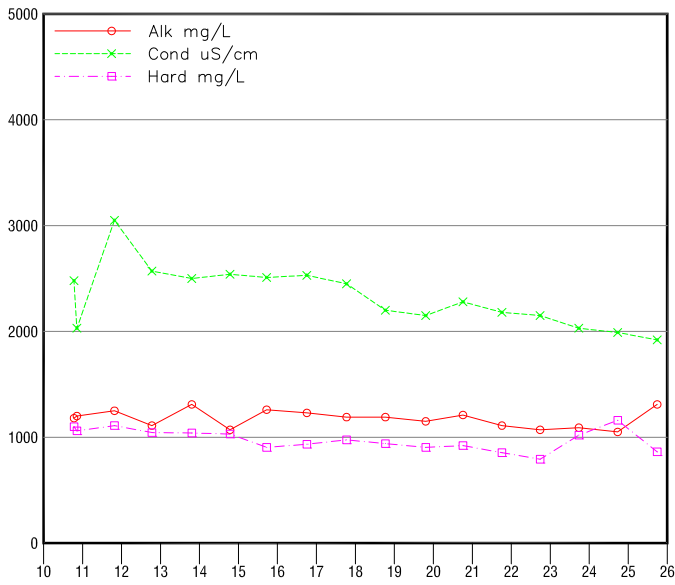
PEAT

OBSERVATION WELL
Screen 219.3 - 218.1 masl



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn ug/L	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %
	PWQO											0.3									1
12-Oct-10	2116	597	1280	692	7.0	128	5	216	37	69	7.0	10.3	1590	1407	7.8	7.6	<0.1	<0.1	5.92	13	6.4
09-Nov-10	2181	630	1390	574	7.1	114	8	172	35	68	7.3	<i>0.03</i>	761	966	9.7	10.7	<0.1	<0.1	7.79		-2.6
26-Oct-11	2358	603	1420	536	7.4	78	27	158	35	97	7.6	7.53	1180	382	12	17.6	<0.1	<0.1	8.21	<1	4.0
12-Oct-12	2552	632	1320	612	8.0	110	10	177	41	96	5.8	5.98	1170	207	11	6.0	<0.1	<0.1	4.57	<1	3.4
21-Oct-13	2733	639	1190	634	7.3	72	5	188	40	65	6.9	7.08	1330	406	18	8.5	<0.1	<0.1	7.17	<1	4.9
14-Oct-14	2925	574	1200	540	7.3	60	1	167	30	59	11	7.11	1000	137	20	13.0	<0.1	<0.1	9.56	<1	5.1
22-Sep-15	3132	759	1420	622	7.4	91	3	185	39	65	6.5	7.93	1330	165	7.5	7.9	<0.1	<0.1	5.34	<1	-5.0
06-Oct-16	3277	662	1330	598	7.7	74	2	180	36	62	8.3	7.88	1070	117	13	11.0	<0.1	<0.1	8.73	1	1.3
10-Oct-17	3454	712	1510	709	7.5	84	<1	206	47	79	7.4	10.0	1510	158	9.9	7.3	<0.1	<0.1	5.0	<1	5.4
09-Oct-18	3621	712	1410	657	7.3	87	<2	199	39	83	12	7.60	1210	41	8.0	13.0	<0.1	<0.1	11.1	2	4.1
22-Oct-19	3809	606	1150	529	7.3	54	<2	165	28	54	12	7.82	936	39	12	12.7	<0.1	<0.1	12.7	3	2.7
05-Oct-20	4015	642	1260	562	7.6	49	<2	183	26	46	12	9.80	911	39	13	12.9	<0.1	<0.1	11.6	<2	1.8
05-Oct-21	4189	484	964	444	7.5	38	<2	146	19	26	8.7	8.38	754	34	11	7.3	<0.1	<0.1	6.8	<2	0.1
27-Sep-22	4347	539	<i>496</i>	467	7.1	59	<2	149	23	36	6.0	9.07	951	33	9.0	5.2	<0.1	<0.1	4.1	<2	-3.3
27-Sep-23	4524	541	1030	526	7.4	27	<1	135	21	21	8.6	14.0	812	45	11	6.1	<0.1	<0.1	5.8	2	7.8
24-Sep-24	2061023	681	1410	688	6.7	96	<1.5	179	43	61	5.8	10.5	1300	70	10	2.6	<0.2	<0.2	2.51	1.5	-1.6
01-Oct-25	252802304	657	1340	650	7.7	77	<1.5	193	41	55	5.4	10.2	1320	85	12	6.8	<0.1	<0.05	5.06	<5	3.2
TOTAL SAMPLES		17	16	17	17	17	17	17	17	17	17	16	17	17	17	17	17	17	17	16	
AVERAGE 2025																					

all Concentrations mg/L unless otherwise indicated
Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
○	Anomaly Not Plotted	

CITY OF ORILLIA
KITCHENER PARK CLOSED LANDFILL

OW2-I
SAND AQUIFER
Screen 212.6 - 210.1 masl

CA0034164
1 Apr 26



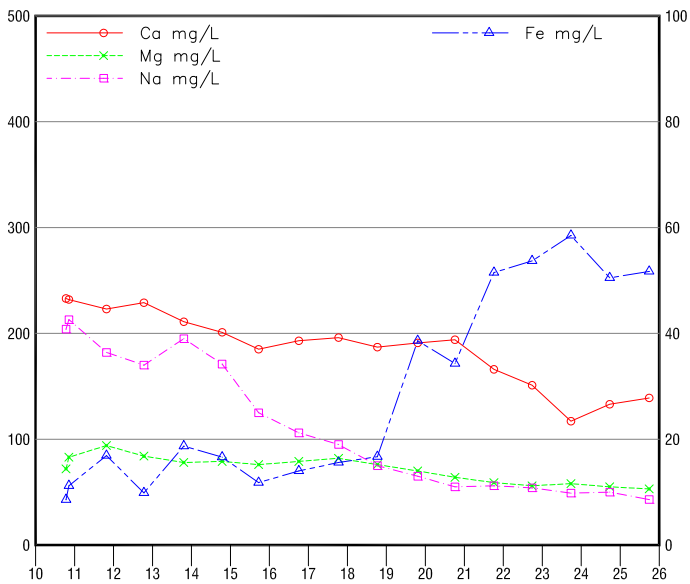
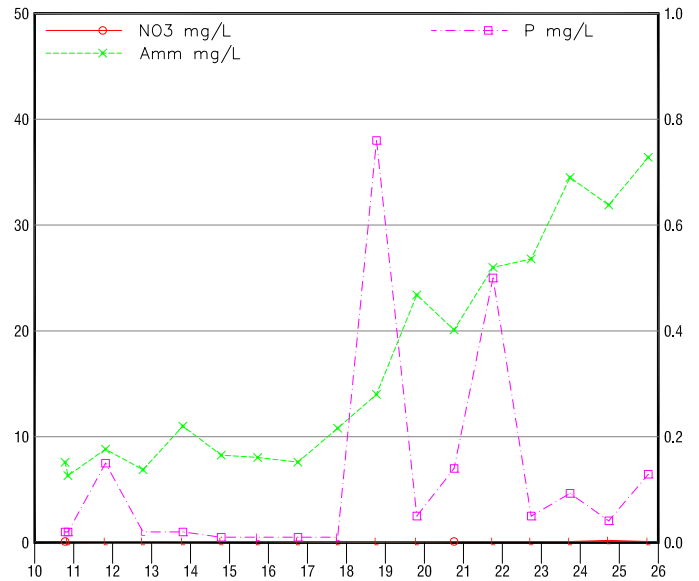
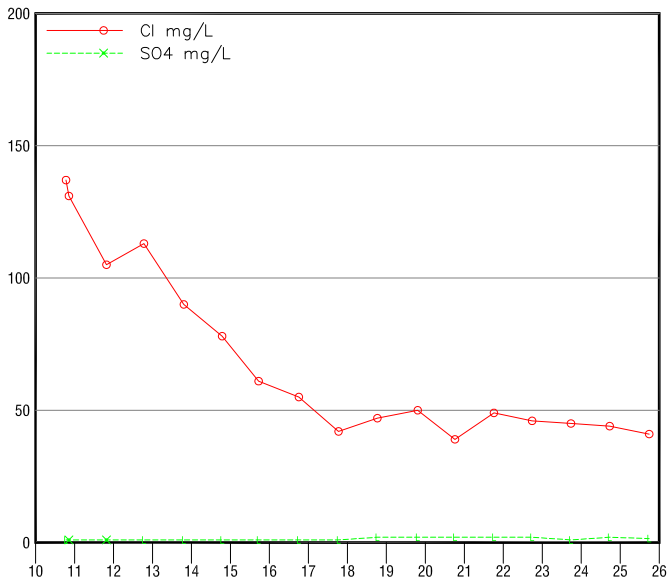
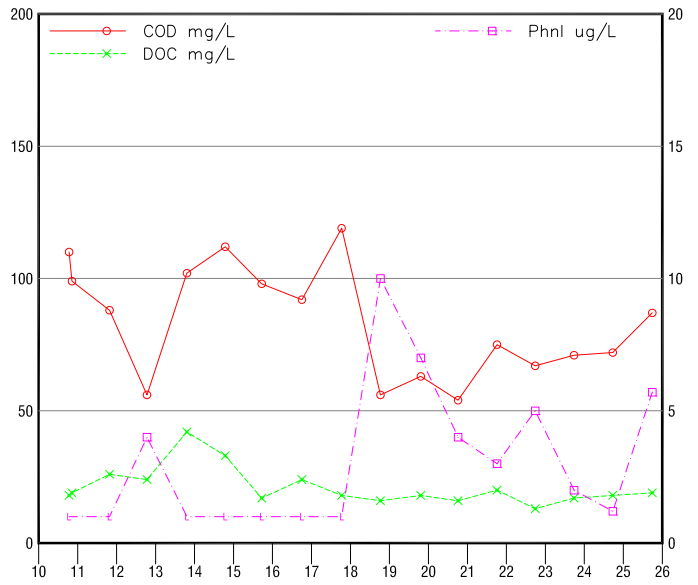
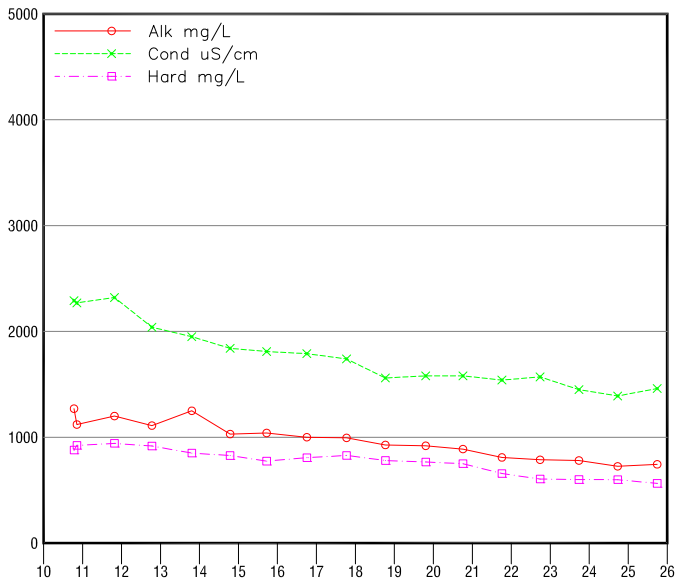
25G004

OW2-I
SAND AQUIFER
 OBSERVATION WELL
 Screen 212.6 - 210.1 masl



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn ug/L	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %	
	PWQO											0.3									1	
13-Oct-10	2117	1180	2480	1100	7.0	326	14	307	82	343	7.8	10.4	292	168	11	1.7	<0.1	<0.1	0.08	<1	6.4	
09-Nov-10	2182	1200	2030	1060	7.1	<i>3</i>	14	231	87	244	7.6	14.1	274	202	12	1.5	0.1	<0.1	0.09	<1	10.4	
27-Oct-11	2359	1250	3050	1110	7.3	299	7	278	101	310	6.7	15.5	110	166	14	1.7	<0.1	<0.1	0.01	<1	4.1	
12-Oct-12	2565	1110	2570	1044	7.6	318	7	271	89	269	6.8	15.0	139	87	28	1.5	<0.1	<0.1	0.20	5	3.1	
21-Oct-13	2734	1310	2500	1040	7.2	265	6	273	86	319	6.4	13.8	94	153	26	2.2	<0.1	<0.1	0.03	<1	2.1	
14-Oct-14	2926	1070	2540	1030	7.2	258	7	268	87	290	6.5	14.0	122	148	24	1.8	<0.1	<0.1	0.03	<1	8.0	
22-Sep-15	3133	1260	2510	904	7.4	215	6	232	79	271	5.2	10.9	98	103	8.8	1.4	<0.1	<0.1	0.14	<1	-1.6	
03-Oct-16	3278	1230	2530	934	7.5	203	5	239	82	272	5.5	12.6	102	102	13	2.0	<0.1	<0.1	0.13	2	1.1	
10-Oct-17	3455	1190	2450	975	7.5	165	5	248	86	279	5.9	13.3	108	145	14	1.2	<0.1	<0.1	0.04	<1	6.1	
09-Oct-18	3622	1190	2200	940	7.2	180	5	243	81	239	5.5	12.1	105	55	20	0.6	<0.1	<0.3	<0.1	9	1.5	
22-Oct-19	3810	1150	2150	904	7.2	150	5	237	76	218	5.1	11.6	98	56	17	0.7	<0.1	<0.1	<0.1	8	1.6	
05-Oct-20	4016	1210	2280	921	7.7	140	<2	245	75	203	5.4	11.9	114	51	17	<0.5	<0.1	<0.1	<0.1	3	-0.4	
05-Oct-21	4190	1110	2180	854	7.4	160	6	227	70	187	4.9	11.6	118	48	17	0.7	<0.1	<0.3	0.1	<2	-1.6	
28-Sep-22	4348	1070	2150	792	7.7	170	8	204	69	180	4.4	11.8	135	<8	17	1.2	<0.1	<0.1	<0.1	5	-4.0	
26-Sep-23	4525	1090	2030	1020	7.3	116	4	<i>471</i>	145	161	4.6	<i>24.3</i>	1390	147	14	0.6	<0.1	<0.1	0.1	3	10.5	
24-Sep-24	2061024	1050	1990	1160	6.8	114	5	208	80	176	5.3	9.36	115	78	16	<0.2	<0.3	<0.3	0.05	1	1.6	
29-Sep-25	252802305	1310	1920	862	7.2	96	3	214	80	149	4.3	10.6	115	98	15	1.3	<0.1	<0.05	0.14	11	-8.9	
TOTAL SAMPLES		17	17	17	17	16	17	16	17	17	17	16	17	17	17	17	17	17	17	16		
AVERAGE 2025																						

all Concentrations mg/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
○	Anomaly Not Plotted	
○	Anomaly Not Plotted	

**CITY OF ORILLIA
KITCHENER PARK CLOSED LANDFILL**

**OW2-II
SAND AQUIFER
Screen 217.8 - 213.2 masl**

CA0034164
1 Apr 26



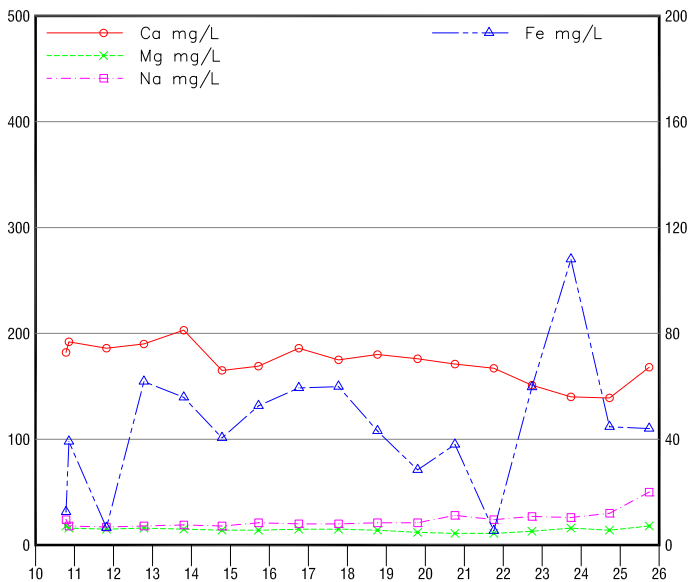
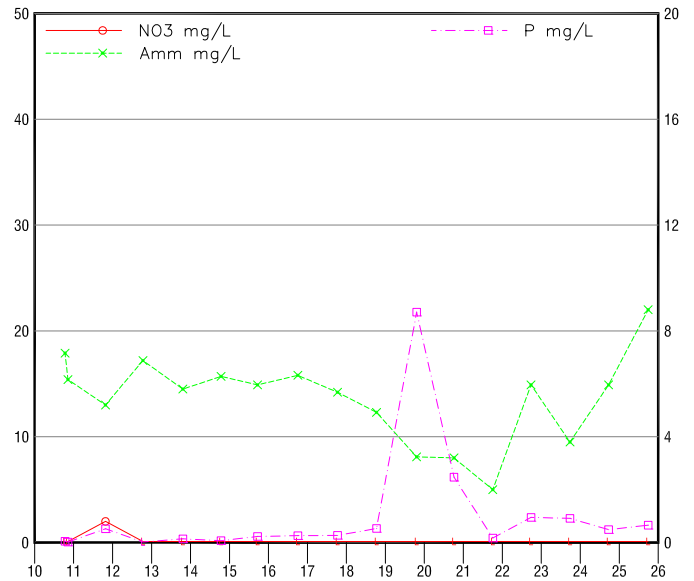
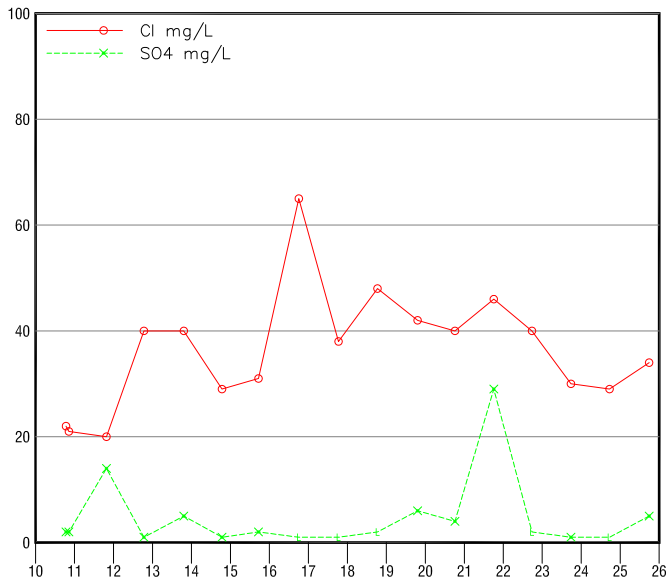
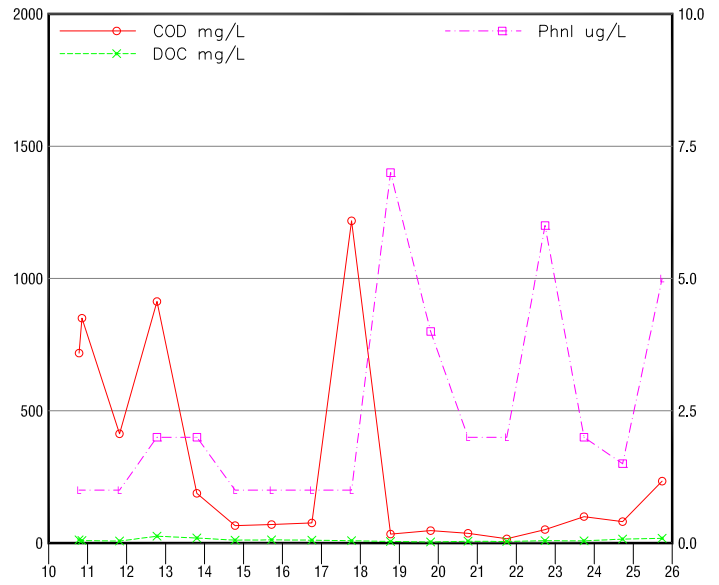
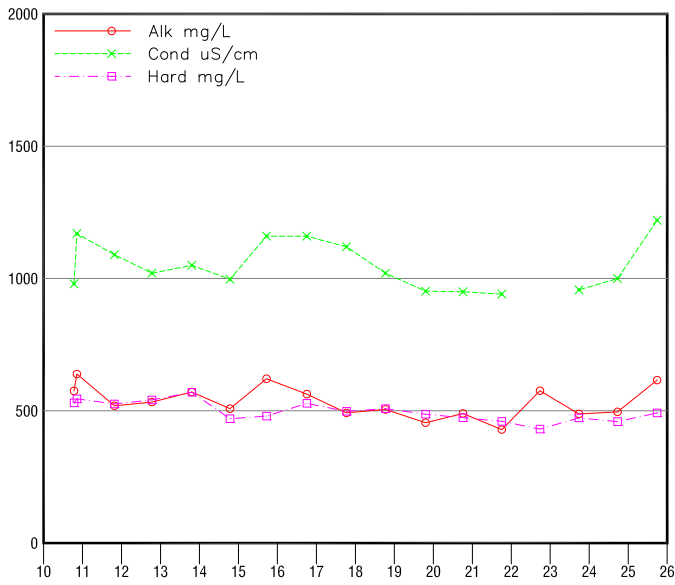
25G005

OW2-II
SAND AQUIFER
 OBSERVATION WELL
 Screen 217.8 - 213.2 masl



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn ug/L	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %	
	PWQO											0.3									1	
13-Oct-10	2118	1270	2290	879	6.9	137	<1	233	72	204	15	8.57	1280	110	18	10.0	0.1	<0.1	7.58	<1	-2.8	
09-Nov-10	2183	1120	2270	923	7.1	131	1	232	83	213	17	11.2	1450	99	19	9.9	<0.1	<0.1	6.33	<1	5.2	
27-Oct-11	2360	1200	2320	942	7.3	105	1	223	94	182	17	16.9	1540	88	26	10.7	<0.1	<0.1	8.82	<1	2.7	
12-Oct-12	2553	1110	2040	917	7.5	113	<1	229	84	170	18	9.86	1460	56	24	9.8	<0.1	<0.1	6.88	4	3.2	
21-Oct-13	2735	1250	1950	850	7.2	90	<1	211	78	195	17	18.7	1100	102	42	13.0	<0.1	<0.1	11.0	<1	-0.4	
15-Oct-14	2927	1030	1840	827	7.2	78	<1	201	79	171	16	16.6	1000	112	33	9.7	<0.1	<0.1	8.26	<1	5.8	
22-Sep-15	3134	1040	1810	774	7.4	61	<1	185	76	125	14	11.8	875	98	17	10.2	<0.1	<0.1	8.04	<1	-0.5	
03-Oct-16	3279	1000	1790	807	7.5	55	<1	193	79	106	14	14.0	910	92	24	9.2	<0.1	<0.1	7.6	<1	1.4	
10-Oct-17	3456	994	1740	828	7.5	42	<1	196	82	95	17	15.6	893	119	18	12.9	<0.1	<0.1	10.8	<1	3.2	
09-Oct-18	3623	927	1560	780	7.3	47	<2	187	76	75	17	16.7	850	56	16	16.3	<0.1	<0.1	14	10	2.5	
22-Oct-19	3811	919	1580	766	7.0	50	<2	191	70	65	22	38.6	787	63	18	23.5	<0.1	<0.1	23.4	7	4.7	
05-Oct-20	4017	888	1580	750	7.7	39	<2	194	64	55	19	34.3	892	54	16	19.6	0.1	<0.1	20.1	4	4.2	
05-Oct-21	4191	809	1540	657	7.3	49	<2	166	59	56	21	51.5	697	75	20	29.6	<0.1	<0.3	26.0	3	3.8	
28-Sep-22	4349	787	1570	605	7.7	46	<2	151	56	54	20	53.7	595	67	13	29.9	<0.1	<0.1	26.8	5	5.0	
27-Sep-23	4526	780	1450	600	6.9	45	<1	117	58	49	26	58.5	542	71	17	24.2	<0.1	<0.1	34.5	2	5.1	
24-Sep-24	2061025	725	1390	599	6.7	44	<2	133	55	50	21	50.5	376	72	18	51	<0.2	<0.2	31.9	1.2	6.6	
29-Sep-25	252802306	744	1460	564	7.3	41	<1.5	139	53	43	23	51.7	326	87	19	44.8	<0.1	<0.05	36.4	5.7	6.4	
TOTAL SAMPLES		17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	16		
AVERAGE 2025																						

all Concentrations mg/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
○	Anomaly Not Plotted	

CITY OF ORILLIA
KITCHENER PARK CLOSED LANDFILL

OW3
WASTE
Screen 221.5 - 218.7 masl

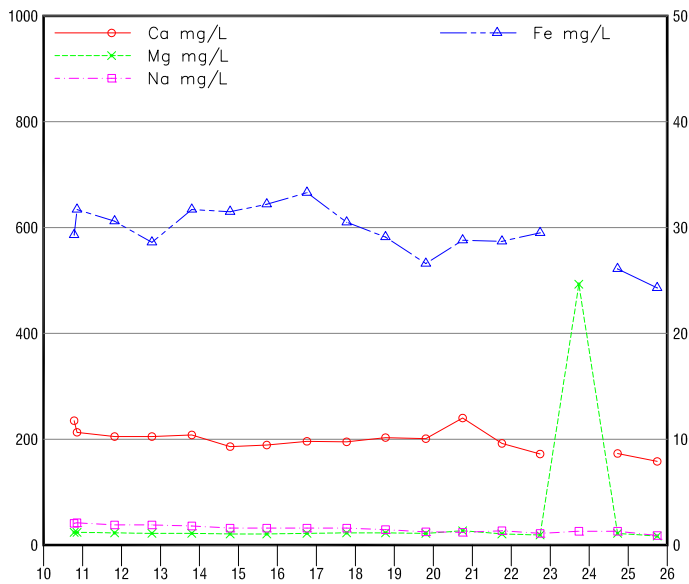
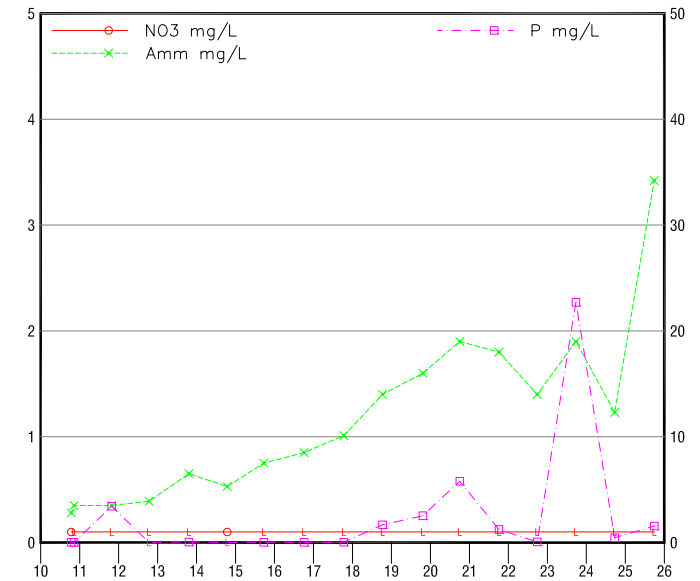
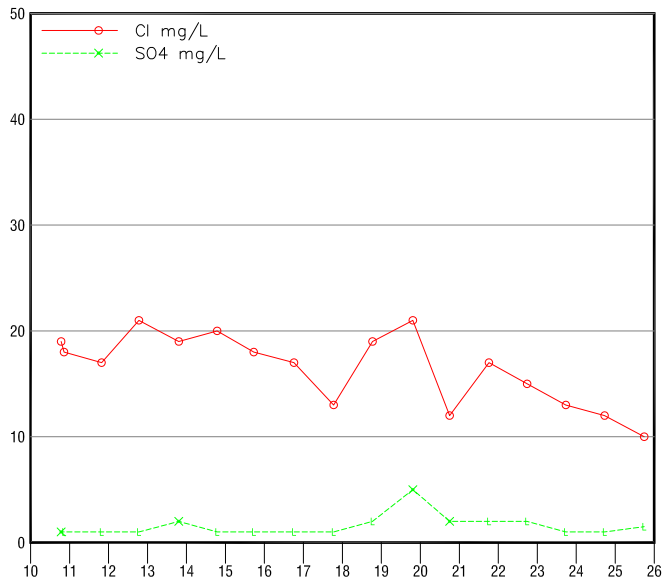
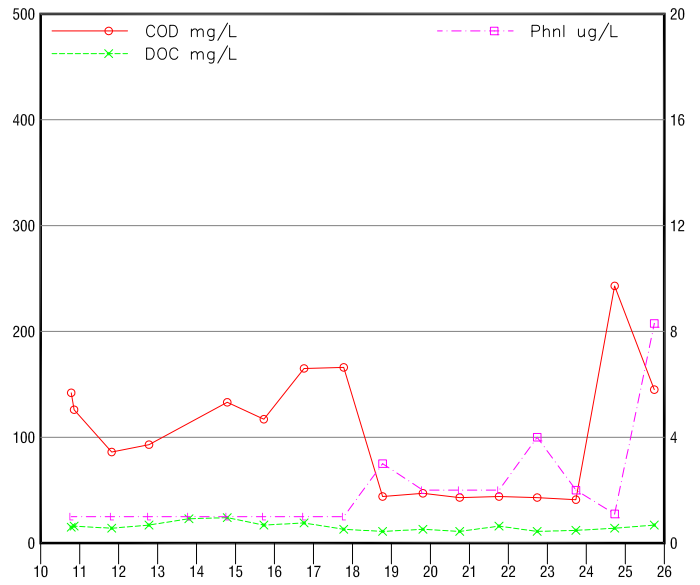
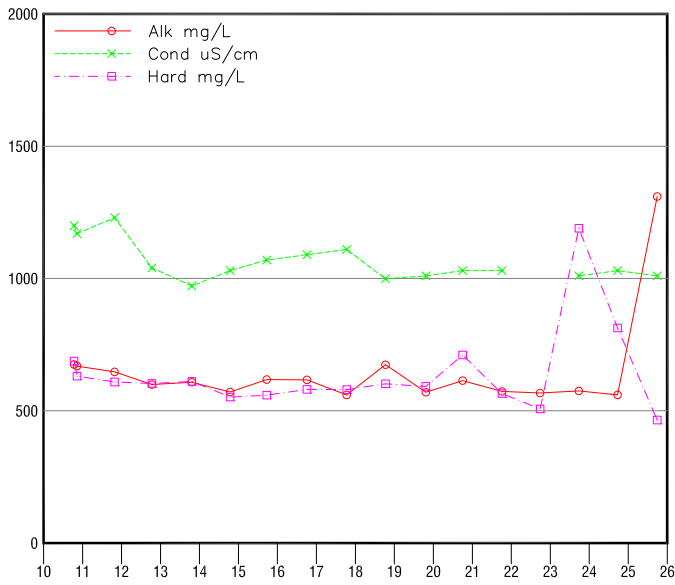
CA0034164 1 Apr 26		25G006
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OW3
WASTE
OBSERVATION WELL
Screen 221.5 - 218.7 masl



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn ug/L	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %	
	PWQO											0.3									1	
13-Oct-10	2119	575	980	530	6.9	22	2	182	18	24	14	12.5	2700	718	12	20.4	<0.1	<0.1	17.9	<1	6.0	
09-Nov-10	2184	639	1170	545	7.0	21	2	192	16	18	10	39.1	1670	850	9.4	18.7	<0.1	<0.1	15.4	<1	3.7	
27-Oct-11	2361	519	1090	526	7.3	20	14	186	15	17	7.8	6.53	2600	413	7.6	14.7	2.0	<0.1	13.0	<1	5.2	
12-Oct-12	2554	533	1020	541	7.8	40	1	190	16	18	11	61.8	1070	913	26	20.6	<0.1	<0.1	17.2	2	12.9	
21-Oct-13	2736	571	1050	570	7.0	40	5	203	15	19	9.0	55.8	1520	188	19	16.0	<0.1	<0.1	14.5	2	10.0	
14-Oct-14	2928	508	997	470	7.1	29	1	165	14	18	9.4	40.5	1070	66	11	16.0	<0.1	<0.1	15.7	<1	8.3	
21-Sep-15	3135	621	1160	480	7.0	31	2	169	14	21	9.0	52.6	941	70	12	16.7	<0.1	<0.1	14.9	<1	1.3	
03-Oct-16	3280	563	1160	528	7.3	65	<1	186	15	20	9.9	59.4	1010	76	11	17.7	<0.1	<0.1	15.8	<1	6.5	
10-Oct-17	3457	492	1120	498	7.3	38	<1	175	15	20	9.7	59.9	897	1218	8.8	15.1	<0.1	<0.1	14.2	<1	13.3	
10-Oct-18	3624	505	1020	508	7.2	48	<2	180	14	21	9.1	43.1	946	34	6.0	15.1	<0.1	<0.1	12.3	7	9.0	
21-Oct-19	3812	455	952	487	7.2	42	6	176	12	21	7.8	28.4	840	47	4.0	9.1	<0.1	<0.1	8.1	4	9.1	
05-Oct-20	4018	490	950	474	7.6	40	4	171	11	28	8.9	38.0	992	37	7.0	8.6	<0.1	<0.1	8.0	<2	7.7	
04-Oct-21	4192	429	941	460	7.4	46	29	167	11	24	8.4	5.37	836	16	6.0	5.6	<0.1	<0.1	5.0	<2	1.6	
27-Sep-22	4350	576	<i>520</i>	431	6.9	40	<2	151	13	27	9.0	59.7	574	51	9.0	17.1	<0.1	<0.1	14.9	6	2.1	
27-Sep-23	4527	488	957	473	7.2	30	1	140	16	26	11	108	713	100	8.3	13.0	<0.1	<0.1	9.5	2	7.0	
23-Sep-24	2061026	496	1000	459	6.9	29	<1	139	14	30	11	44.7	385	81	15	13	<0.1	<0.1	14.9	1.5	6.9	
29-Sep-25	252802307	616	1220	492	7.2	34	5	168	18	50	11	44.0	598	234	18	31.3	<0.1	<0.05	22.0	<5	6.9	
TOTAL SAMPLES		17	16	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	16		
AVERAGE 2025																						

all Concentrations mg/L unless otherwise indicated
Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
○	Anomaly Not Plotted	

CITY OF ORILLIA
KITCHENER PARK CLOSED LANDFILL

OW4-I
SAND AQUIFER
Screen 214.7 - 212.6 masl

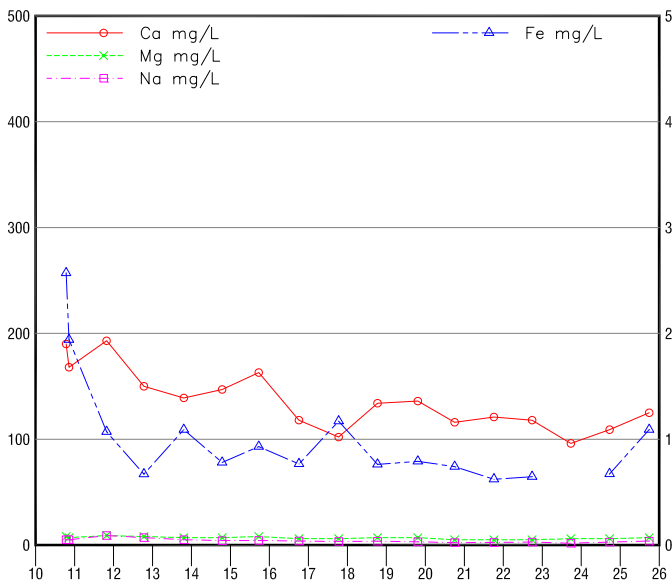
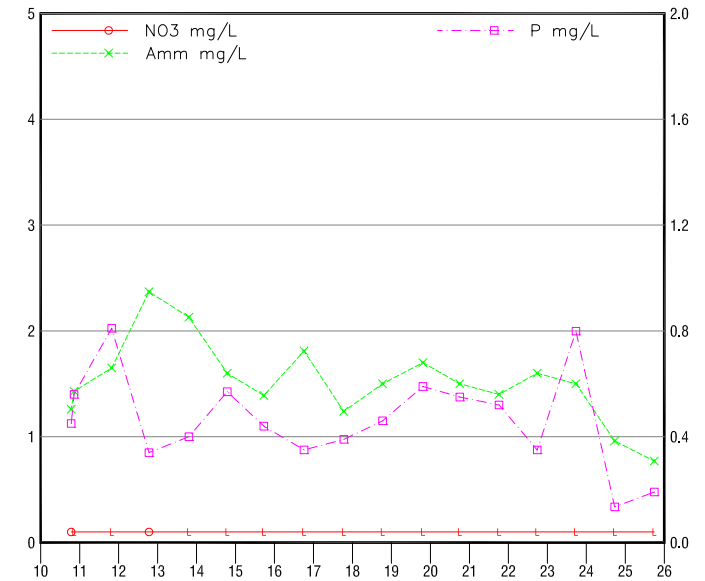
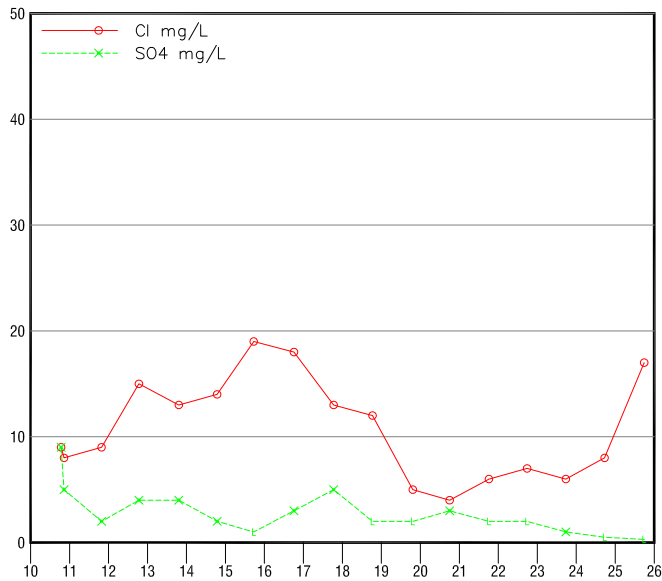
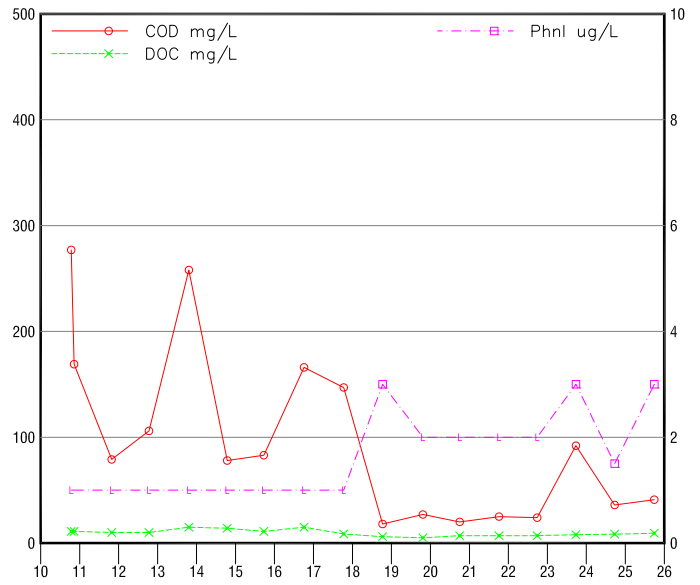
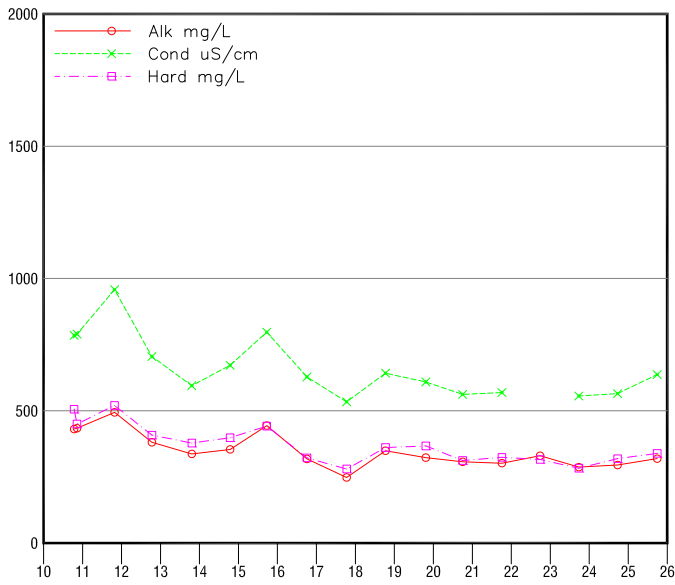
CA0034164 1 Apr 26		25G007
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OW4-I
SAND AQUIFER
 OBSERVATION WELL
 Screen 214.7 - 212.6 masl



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn ug/L	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %	
	PWQO											0.3									1	
14-Oct-10	2120	675	1200	688	7.0	19	1	235	24	41	2.6	29.3	445	142	15	1.3	0.1	<0.1	0.28	<1	8.4	
10-Nov-10	2185	669	1170	631	7.1	18	<1	213	24	42	2.2	31.7	503	126	16	1.3	<0.1	<0.1	0.35	<1	6.0	
28-Oct-11	2362	647	1230	609	7.4	17	<1	205	23	38	2.2	30.6	624	86	14	0.7	<0.1	<0.1	0.35	<1	5.4	
12-Oct-12	2555	599	1040	603	8.1	21	<1	205	22	38	2.0	28.6	535	93	17	1.5	<0.1	<0.1	0.39	<1	8.2	
21-Oct-13	2737	608	972	611	7.2	19	2	208	22	36	2.3	31.7	513		23	1.9	<0.1	<0.1	0.65	<1	8.2	
15-Oct-14	2929	571	1030	552	7.3	20	<1	186	21	32	2.4	31.5	517	133	24	1.8	0.1	<0.1	0.53	<1	6.4	
23-Sep-15	3136	618	1070	559	7.2	18	<1	189	21	32	2.0	32.2	519	117	17	2.1	<0.1	<0.1	0.75	<1	3.6	
04-Oct-16	3281	617	1090	581	7.4	17	<1	196	22	32	2.2	33.3	525	165	19	1.9	<0.1	<0.1	0.85	<1	5.5	
11-Oct-17	3458	560	1110	580	7.4	13	<1	195	23	32	2.5	30.5	526	166	13	2.0	<0.1	<0.1	1.01	<1	10.4	
10-Oct-18	3625	674	999	602	7.3	19	<2	203	23	29	2.7	29.1	600	44	11	2.3	<0.1	<0.1	1.4	3	1.7	
23-Oct-19	3813	570	1010	592	7.2	21	5	201	22	25	2.7	26.6	572	47	13	1.7	<0.1	<0.1	1.6	<2	7.6	
02-Oct-20	4019	614	1030	711	7.6	12	2	240	27	24	3.2	28.8	715	43	11	1.8	<0.1	<0.1	1.9	<2	13.1	
05-Oct-21	4193	573	1030	565	7.3	17	<2	192	21	27	2.7	28.7	590	44	16	2.2	<0.1	<0.1	1.8	<2	8.5	
28-Sep-22	4351	567	<i>672</i>	507	7.0	15	<2	172	19	22	2.8	29.5	503	43	11	2.7	<0.1	<0.1	1.4	4	2.4	
26-Sep-23	4528	575	1010	1190	7.2	13	<1	<i>2500</i>	493	26	2.7	<i>135</i>	11100	41	12	1.5	<0.1	<0.1	1.9	2	12.3	
23-Sep-24	2061027	560	1030	813	6.7	12	<1	173	22	26	3.1	26.1	459	243	14	1.6	<0.1	<0.1	1.23	1.1	4.8	
29-Sep-25	252802308	1310	1010	465	7.2	10	<1.5	158	17	18	2.6	24.3	450	145	17	3.9	<0.1	<0.05	3.42	8.3	-40.2	
TOTAL SAMPLES		17	16	17	17	17	17	16	17	17	17	16	17	16	17	17	17	17	17	16		
AVERAGE 2025																						

all Concentrations mg/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
○	Anomaly Not Plotted	

CITY OF ORILLIA
KITCHENER PARK CLOSED LANDFILL

OW4-II
UPPER SAND / SILTY SAND
 Screen 219.0 - 217.5 masl

CA0034164
 1 Apr 26



25G008

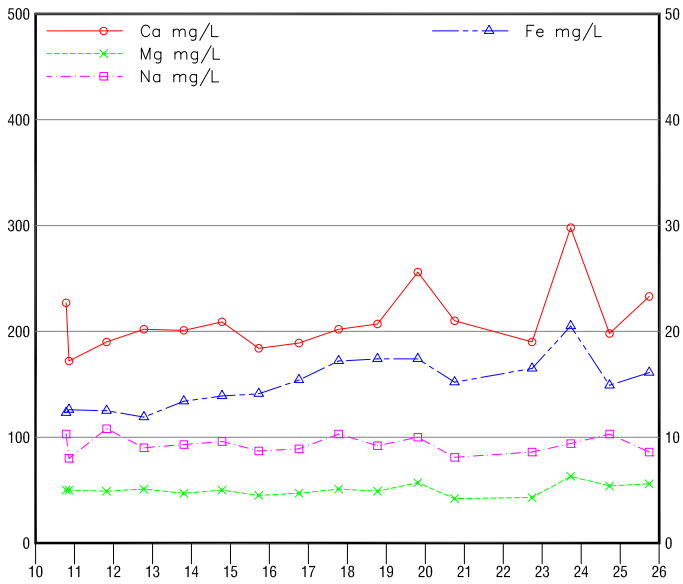
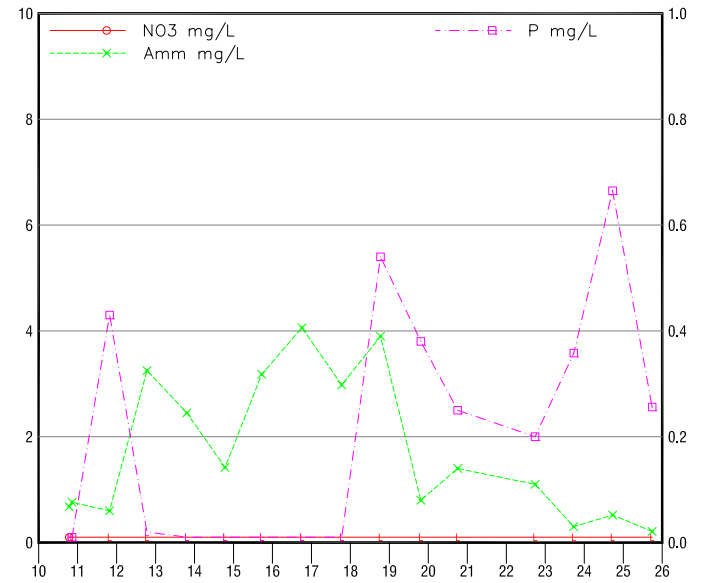
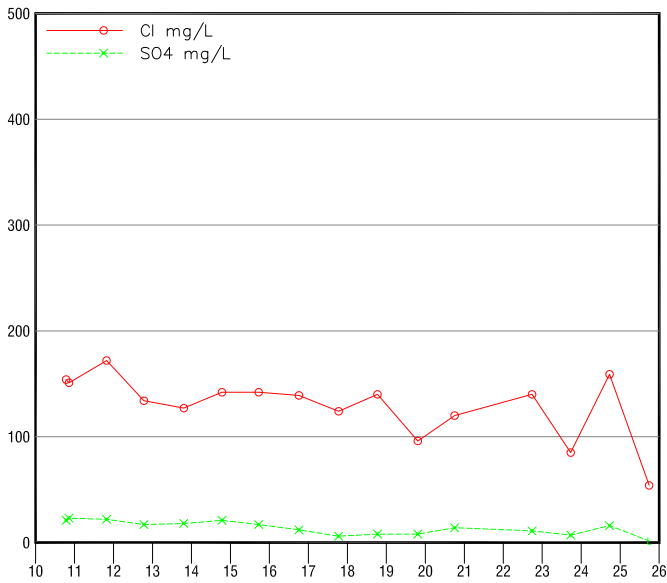
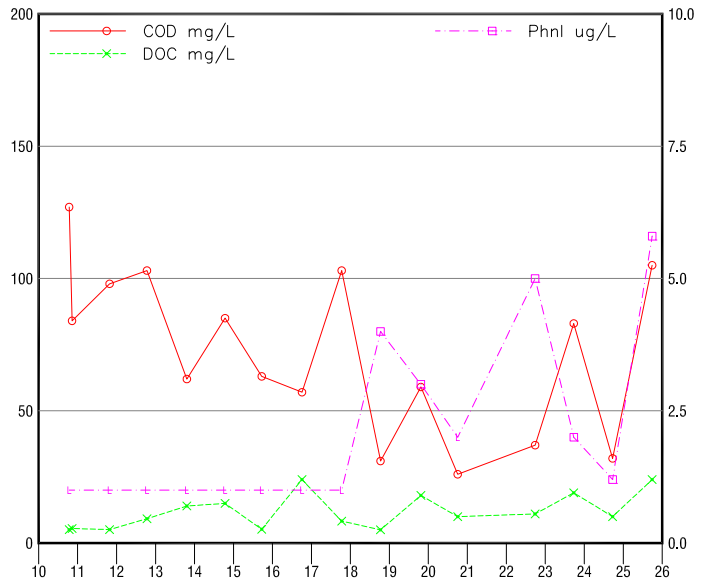
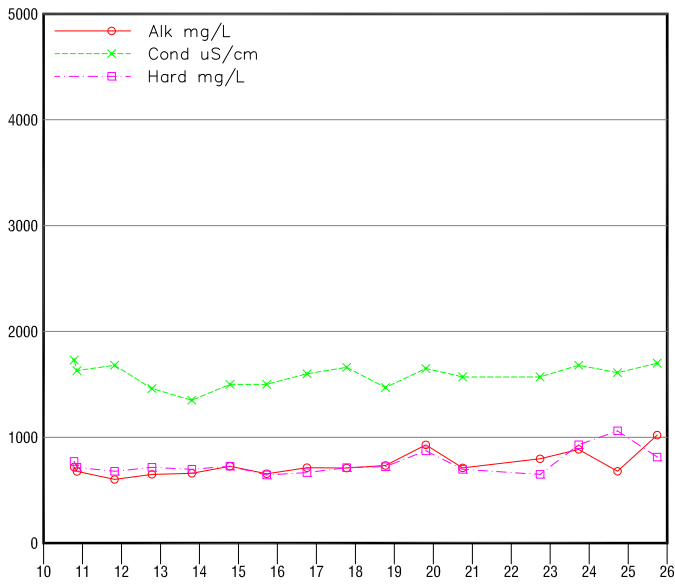
OW4-II UPPER SAND / SILTY SAND

OBSERVATION WELL
Screen 219.0 - 217.5 masl



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn ug/L	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %
	PWQO											0.3									1
14-Oct-10	2121	431	785	506	7.1	9	9	190	8	5.0	4.2	2.57	484	277	11	2.4	0.1	<0.1	1.26	<1	8.0
10-Nov-10	2186	434	790	450	7.2	8	5	168	7	5.0	3.8	1.94	397	169	11	2.6	<0.1	<0.1	1.43	<1	2.4
28-Oct-11	2363	494	958	520	7.4	9	2	193	9	9.0	5.2	1.07	396	79	10	3.5	<0.1	<0.1	1.65	<1	4.2
12-Oct-12	2556	381	705	408	8.3	15	4	150	8	7.0	4.9	0.67	327	106	10	3.6	0.1	<0.1	2.37	<1	3.8
21-Oct-13	2738	337	595	378	7.4	13	4	139	7	5.0	4.6	1.09	292	258	15	3.1	<0.1	<0.1	2.13	<1	5.6
15-Oct-14	2930	354	672	398	7.5	14	2	147	7	4.2	5.3	0.78	265	78	14	2.9	<0.1	<0.1	1.6	<1	5.6
23-Sep-15	3137	444	797	442	7.5	19	<1	163	8	4.3	6.0	0.93	329	83	11	3.1	<0.1	<0.1	1.39	<1	-0.7
04-Oct-16	3282	318	628	322	7.7	18	3	118	6	3.8	5.4	0.766	271	166	15	3.1	<0.1	<0.1	1.81	<1	-0.4
11-Oct-17	3459	248	534	280	7.7	13	5	102	6	3.4	5.2	1.17	232	147	8.6	2.3	<0.1	<0.1	1.24	<1	5.0
10-Oct-18	3626	349	642	361	7.7	12	<2	134	7	3.6	5.7	0.762	299	18	6.0	2.3	<0.1	<0.1	1.5	3	2.4
23-Oct-19	3814	323	609	367	7.4	5	<2	136	7	3.0	5.9	0.791	260	27	5.0	2.1	<0.1	<0.1	1.7	<2	8.1
02-Oct-20	4020	307	562	312	7.7	4	3	116	5	2.3	5.9	0.741	258	20	7.0	2.0	<0.1	<0.1	1.5	<2	2.3
05-Oct-21	4194	302	569	324	7.5	6	<2	121	5	2.4	6.0	0.622	268	25	7.0	1.4	<0.1	<0.1	1.4	<2	4.6
28-Sep-22	4352	330	<i>345</i>	316	7.3	7	<2	118	5	2.8	6.2	0.645	278	24	7.0	2.1	<0.1	<0.1	1.6	<2	-0.4
26-Sep-23	4529	287	556	283	7.5	6	1	96	6	1.7	6.6	<i>3.09</i>	270	92	7.9	2.5	<0.1	<0.1	1.5	3	11.5
23-Sep-24	2061028	295	565	319	7.1	8	<0.5	109	6	2.8	5.7	0.672	289	36	8.4	1.2	<0.1	<0.1	0.96	1.5	1.2
29-Sep-25	252802309	319	637	339	7.7	17	<0.3	125	7	3.7	4.9	1.09	351	41	9.3	1.6	<0.1	<0.01	0.77	3	2.3
TOTAL SAMPLES		17	16	17	17	17	17	17	17	17	17	16	17	17	17	17	17	17	17	16	
AVERAGE 2025																					

all Concentrations mg/L unless otherwise indicated
Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
○	Anomaly Not Plotted	

CITY OF ORILLIA
KITCHENER PARK CLOSED LANDFILL

OW5-1
SAND AQUIFER
Screen 210.0 - 208.4 masl

CA0034164 1 Apr 26		25G009
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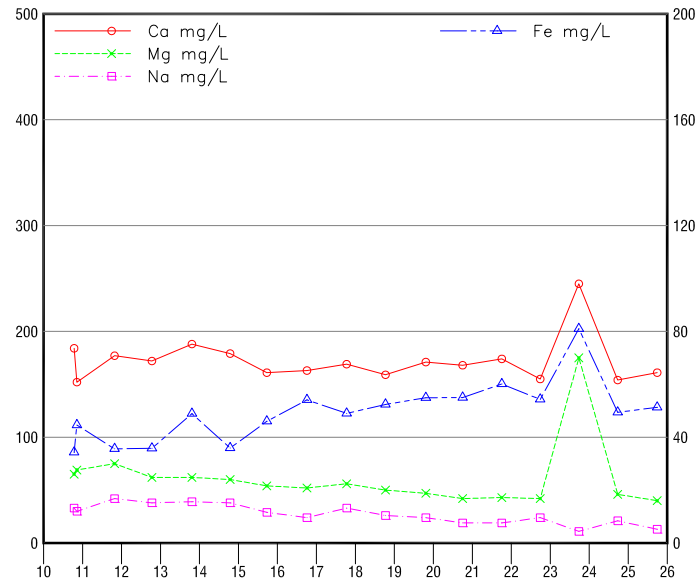
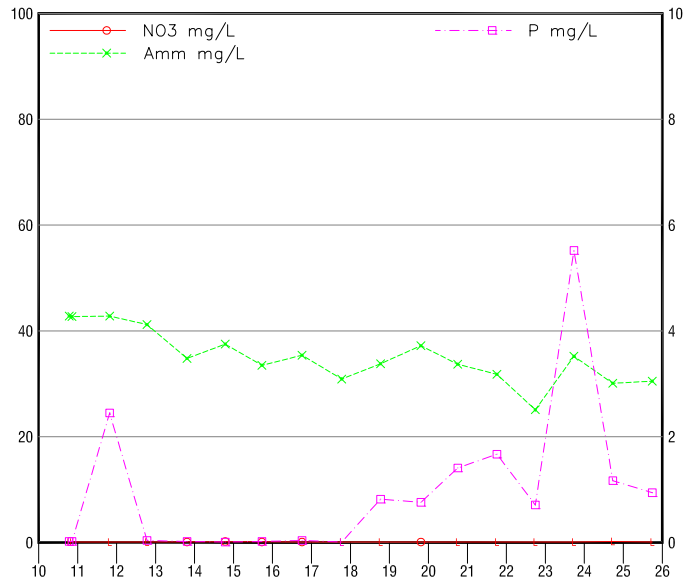
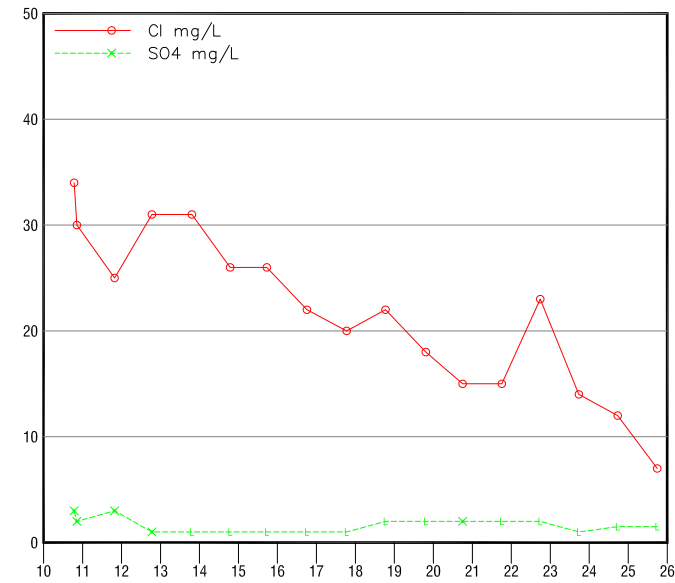
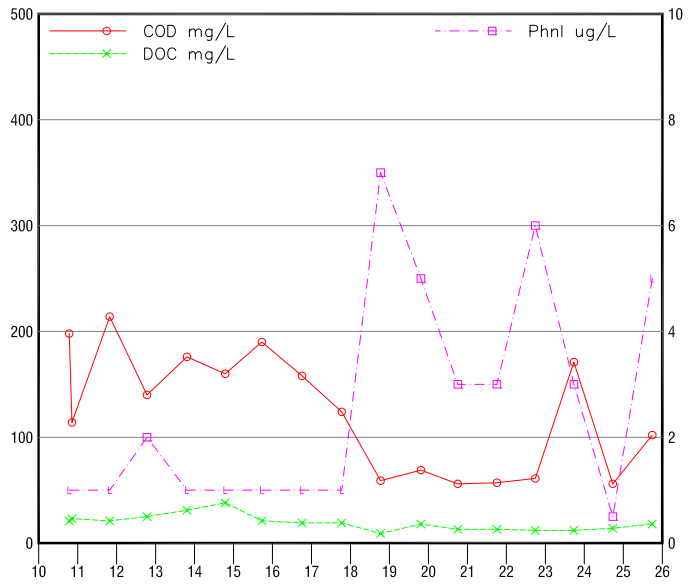
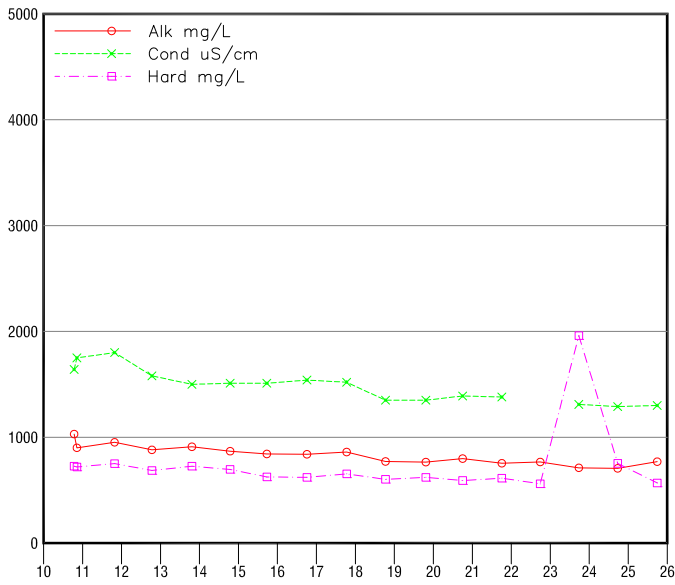
OW5-I
SAND AQUIFER
 OBSERVATION WELL
 Screen 210.0 - 208.4 masl



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn ug/L	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %	
	PWQO											0.3									1	
14-Oct-10	2122	718	1730	771	7.0	154	21	227	50	103	5.0	12.3	1860	127	5.1	1.6	0.1	<0.1	0.68	<1	3.5	
10-Nov-10	2187	677	1630	715	7.1	151	23	172	50	80	5.0	12.6	1930	84	5.5	2.7	<0.1	<0.1	0.76	<1	-4.1	
28-Oct-11	2364	601	1680	678	7.5	172	22	190	49	108	4.5	12.5	1980	98	5.1	1.2	<0.1	<0.1	0.60	<1	4.1	
12-Oct-12	2557	649	1460	715	7.9	134	17	202	51	90	6.5	11.9	1590	103	9.2	4.3	<0.1	<0.1	3.25	<1	5.3	
21-Oct-13	2739	659	1350	697	7.2	127	18	201	47	93	6.2	13.4	1670	62	14	3.7	<0.1	<0.1	2.45	<1	4.5	
14-Oct-14	2931	726	1500	726	7.3	142	21	209	50	96	5.3	13.9	1610	85	15	2.8	<0.1	<0.1	1.42	<1	1.3	
23-Sep-15	3138	655	1500	644	7.3	142	17	184	45	87	5.5	14.1	1440	63	5.2	4.7	<0.1	<0.1	3.18	<1	0.3	
04-Oct-16	3283	712	1600	666	7.5	139	12	189	47	89	6.4	15.4	1350	57	24	5.1	<0.1	<0.1	4.06	<1	-0.6	
11-Oct-17	3460	709	1660	713	7.5	124	6	202	51	103	6.3	17.2	1290	103	8.3	4.2	<0.1	<0.1	2.98	<1	5.2	
10-Oct-18	3627	733	1470	722	7.2	140	8	207	49	92	6.5	17.4	1330	31	5.0	3.3	<0.1	<0.1	3.9	4	1.8	
23-Oct-19	3815	928	1650	872	6.9	96	8	256	57	100	3.5	17.4	1060	59	18	1.3	<0.1	<0.3	0.8	3	2.7	
02-Oct-20	4021	710	1570	697	7.6	120	14	210	42	81	4.3	15.2	1160	26	10	1.2	<0.1	<0.1	1.4	<2	1.0	
28-Sep-22	4397	796	1570	649	7.2	140	11	190	43	86	3.7	16.5	950	37	11	2.0	<0.1	<0.1	1.1	5	-6.9	
25-Sep-23	4530	885	1680	929	7.2	85	7	298	63	94	2.7	20.5	852	83	19	0.5	<0.1	<0.1	0.3	2	12.8	
23-Sep-24	2061029	678	1610	1060	6.9	159	16	198	54	103	4.1	14.9	866	32	10	1.1	<0.1	<0.1	0.52	1.2	3.0	
29-Sep-25	252802310	1020	1700	813	7.0	54	<1.5	233	56	86	2.3	16.1	452	105	24	1.5	<0.1	<0.05	0.21	5.8	-2.8	

TOTAL SAMPLES	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	15	
AVERAGE 2025																					

all Concentrations mg/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
○	Anomaly Not Plotted	

CITY OF ORILLIA
KITCHENER PARK CLOSED LANDFILL

OW6-I
SAND AQUIFER
Screen 217.1 - 214.1 masl

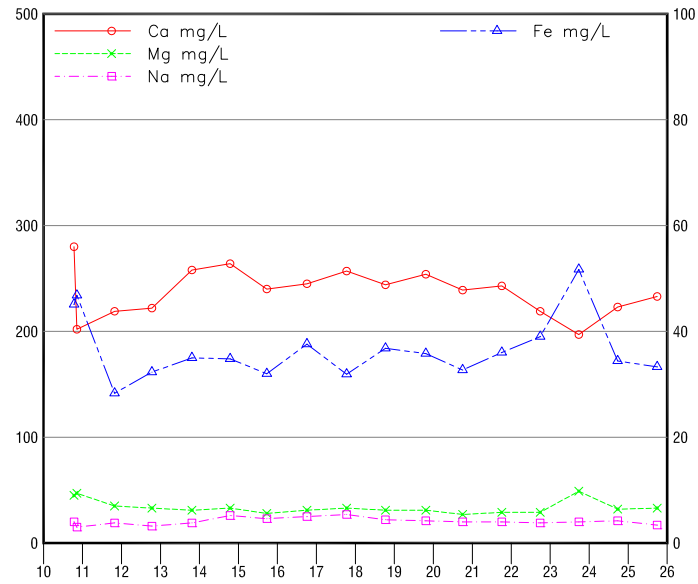
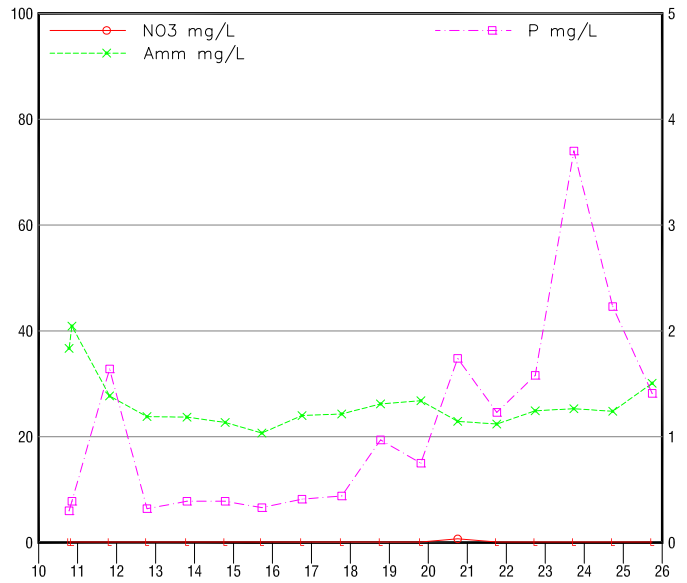
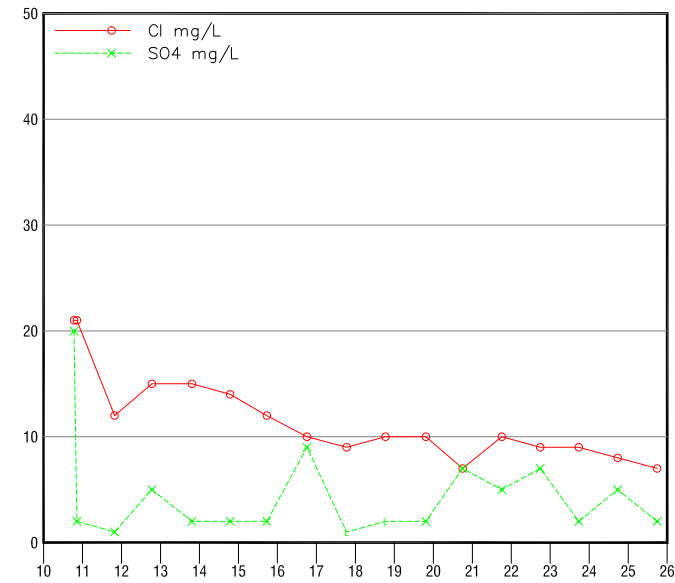
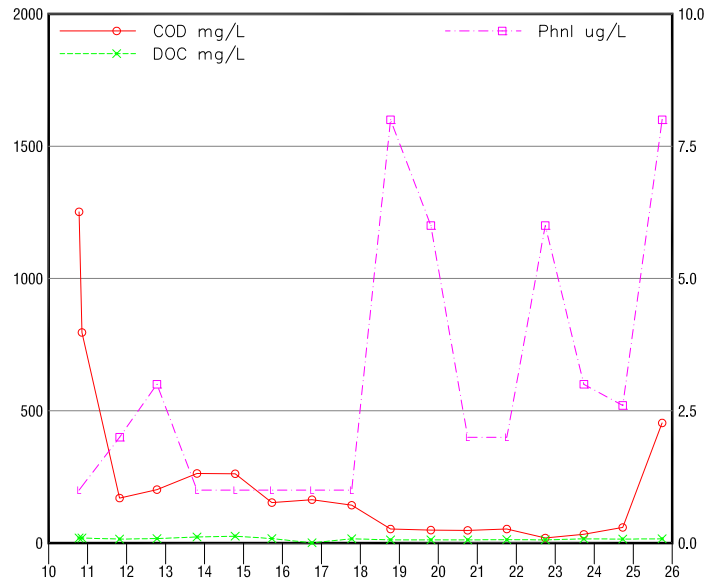
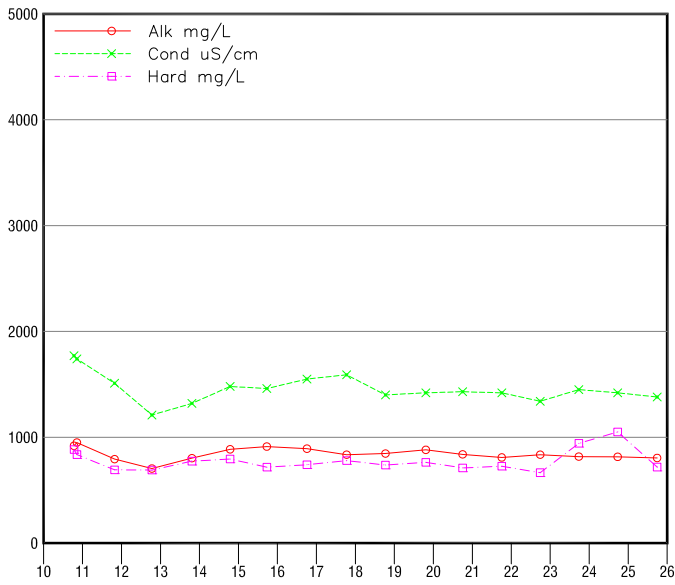
CA0034164 1 Apr 26		25G010
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OW6-I
SAND AQUIFER
 OBSERVATION WELL
 Screen 217.1 - 214.1 masl



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn ug/L	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %
	PWQO											0.3									1
14-Oct-10	2124	1030	1640	726	7.0	34	3	184	65	33	51	34.3	812	198	21	51.8	<0.1	<0.1	42.8	<1	-0.1
09-Nov-10	2189	900	1750	719	7.0	30	2	152	69	30	52	44.6	880	114	23	55.9	<0.1	<0.1	42.7	<1	4.2
28-Oct-11	2366	952	1800	751	7.4	25	3	177	75	42	45	35.6	1160	214	21	47.2	<0.1	<0.1	42.8	<1	6.0
12-Oct-12	2559	881	1580	686	7.9	31	1	172	62	38	42	35.8	876	140	25	45.5	<0.1	<0.1	41.2	2	5.5
22-Oct-13	2741	910	1500	726	7.1	31	<1	188	62	39	42	48.9	930	176	31	36.0	0.1	<0.1	34.8	<1	6.0
15-Oct-14	2933	868	1510	696	7.1	26	<1	179	60	38	42	35.9	882	160	38	38.0	0.2	<0.1	37.5	<1	6.4
24-Sep-15	3140	842	1510	625	7.3	26	<1	161	54	29	37	46.0	793	190	21	39.1	0.1	<0.1	33.5	<1	3.2
04-Oct-16	3285	839	1540	621	7.4	22	<1	163	52	24	41	54.1	632	158	19	41.9	0.1	<0.1	35.4	<1	4.3
11-Oct-17	3462	860	1520	654	7.4	20	<1	169	56	33	37	49.0	857	124	19	35.0	<0.1	<0.1	30.9	<1	4.4
10-Oct-18	3629	771	1350	602	6.9	22	<2	159	50	26	33	52.4	715	59	9.0	34.1	<0.1	<0.1	33.8	7	6.7
23-Oct-19	3817	765	1350	621	7.0	18	<2	171	47	24	38	54.9	539	69	18	37.4	0.1	<0.1	37.2	5	9.3
02-Oct-20	4023	798	1390	591	7.5	15	2	168	42	19	37	55.0	531	56	13	36.4	<0.1	<0.1	33.7	3	4.6
04-Oct-21	4195	754	1380	613	7.2	15	<2	174	43	19	36	60.1	495	57	13	34.2	<0.1	<0.1	31.8	3	5.4
29-Sep-22	4353	766	<i>773</i>	560	6.9	23	<2	155	42	24	28	54.3	553	61	12	27.1	<0.1	<0.1	25.1	6	2.1
26-Sep-23	4531	711	1310	1960	7.1	14	<1	245	175	11	26	81.0	3010	171	12	26.1	<0.1	<0.1	35.2	3	6.2
24-Sep-24	2061030	706	1290	753	6.6	12	<1.5	154	46	21	29	49.4	414	56	14	28.7	<0.2	<0.2	30.1	0.5	8.2
29-Sep-25	252802311	769	1300	568	7.1	7	<1.5	161	40	13	28	51.3	431	102	18	39.2	<0.1	<0.05	30.5	<5	3.1
TOTAL SAMPLES		17	16	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	16	
AVERAGE 2025																					

all Concentrations mg/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
	Anomaly Not Plotted	

CITY OF ORILLIA
KITCHENER PARK CLOSED LANDFILL

OW6-II
WASTE
Screen 219.9 - 217.4 masl

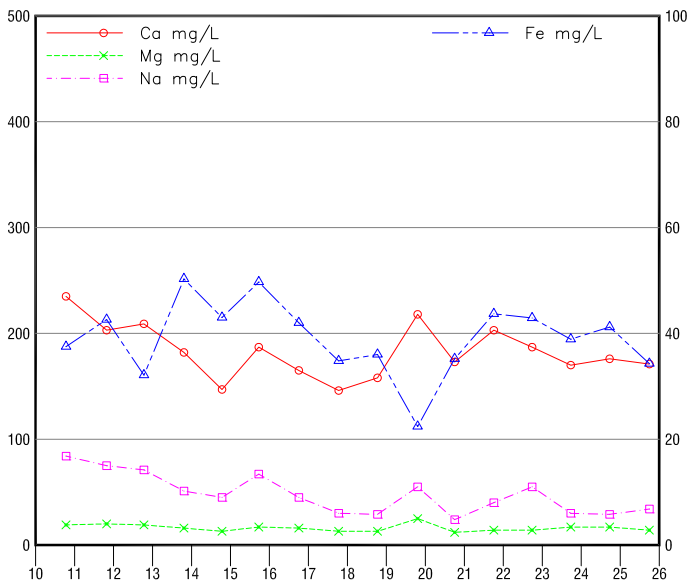
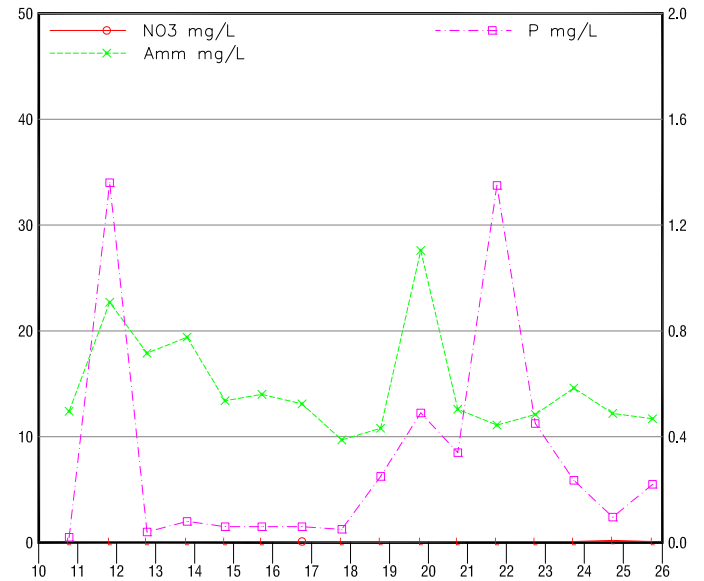
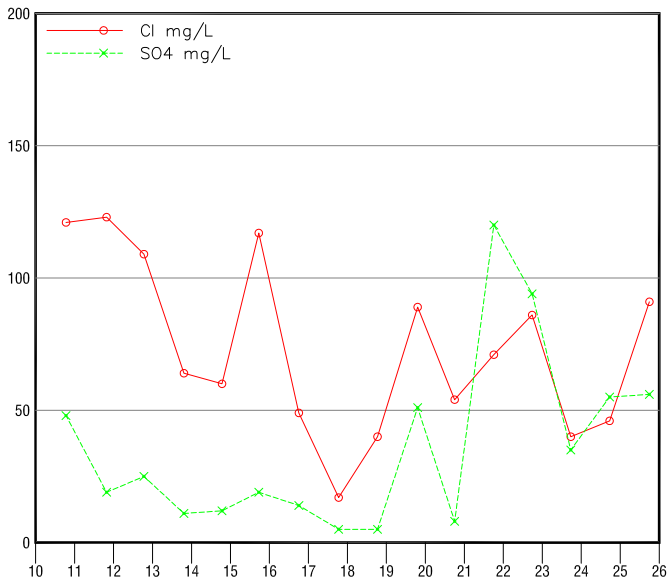
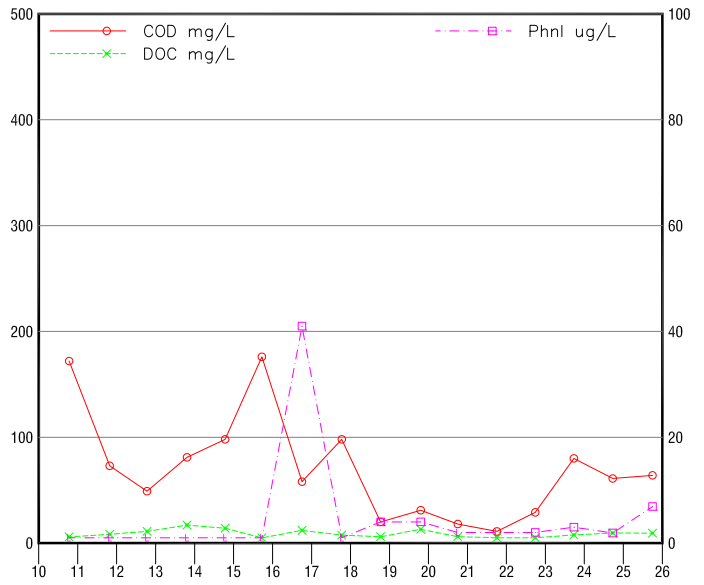
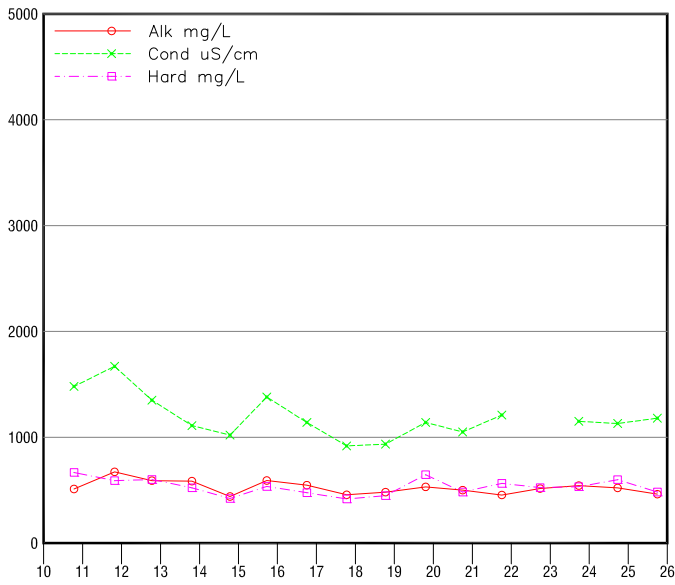
CA0034164 1 Apr 26		25G011
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OW6-II
WASTE
 OBSERVATION WELL
 Screen 219.9 - 217.4 masl



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn ug/L	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %	
	PWQO											0.3									1	
13-Oct-10	2125	919	1770	884	6.9	21	20	280	45	20	36	45.1	1650	1252	19	41.6	<0.1	<0.1	36.7	<1	10.1	
09-Nov-10	2190	950	1740	836	6.9	21	2	202	47	15	34	46.8	1510	796	19	42.5	<0.1	<0.1	40.9	<1	1.1	
28-Oct-11	2367	793	1510	692	7.3	12	1	219	35	19	25	28.3	1350	170	15	30.4	<0.1	<0.1	27.7	2	6.0	
12-Oct-12	2560	704	1210	690	8.0	15	5	222	33	16	23	32.3	1080	202	17	29.0	<0.1	<0.1	23.8	3	10.3	
22-Oct-13	2742	802	1320	774	7.1	15	2	258	31	19	23	35.0	1420	263	23	26.0	<0.1	<0.1	23.7	<1	9.1	
15-Oct-14	2934	886	1480	794	8.1	14	2	264	33	26	25	34.8	1500	262	26	27.0	<0.1	<0.1	22.7	<1	6.2	
24-Sep-15	3141	912	1460	717	7.3	12	2	240	28	23	20	32.0	1540	153	17	25.2	<0.1	<0.1	20.7	<1	-0.5	
04-Oct-16	3286	892	1550	740	7.4	10	9	245	31	25	23	37.6	1560	164	0.9	27.8	<0.1	<0.1	24	<1	3.2	
11-Oct-17	3463	835	1590	779	7.4	9	<1	257	33	27	25	31.9	1650	143	16	28.0	<0.1	<0.1	24.3	<1	8.9	
10-Oct-18	3630	846	1400	737	6.8	10	<2	244	31	22	23	36.8	1660	53	12	27.6	<0.1	<0.1	26.2	8	6.2	
23-Oct-19	3818	881	1420	763	6.9	10	2	254	31	21	23	35.8	1700	49	12	25.4	<0.1	<0.1	26.8	6	5.3	
02-Oct-20	4024	838	1430	710	7.5	7	7	239	27	20	21	32.7	1490	48	12	23.3	0.7	0.1	22.9	<2	3.5	
04-Oct-21	4196	809	1420	726	7.2	10	5	243	29	20	22	36.0	1490	53	13	24.8	<0.1	<0.1	22.4	<2	4.1	
29-Sep-22	4354	835	1340	665	7.0	9	7	219	29	19	20	39.0	1380	19	12	27.6	<0.1	<0.1	24.9	6	2.1	
26-Sep-23	4532	817	1450	942	6.9	9	2	197	49	20	18	51.7	2000	33	16	23.2	<0.1	<0.1	25.3	3	8.1	
24-Sep-24	2061031	815	1420	1050	6.5	8	5	223	32	21	21	34.4	1260	59	15	24	<0.1	<0.1	24.8	2.6	4.7	
29-Sep-25	252802312	804	1380	718	7.1	7	2	233	33	17	21	33.3	1300	454	16	40.7	<0.1	<0.05	30.1	8	7.7	
TOTAL SAMPLES		17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17	16		
AVERAGE 2025																						

all Concentrations mg/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
○	Anomaly Not Plotted	

CITY OF ORILLIA
KITCHENER PARK CLOSED LANDFILL

OW7 FORMERLY -KP1
 CONVERTED Apr 11
SAND AQUIFER
 Screen 218.9 - 213.1 masl

CA0034164
 1 Apr 26



25G012

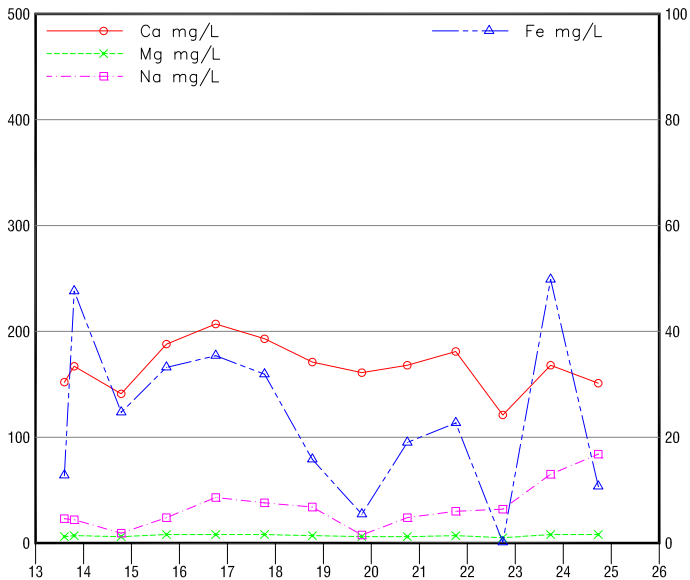
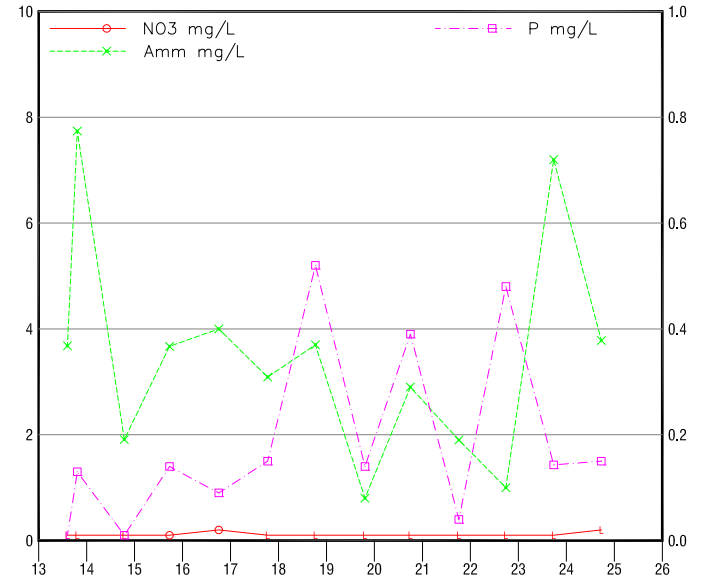
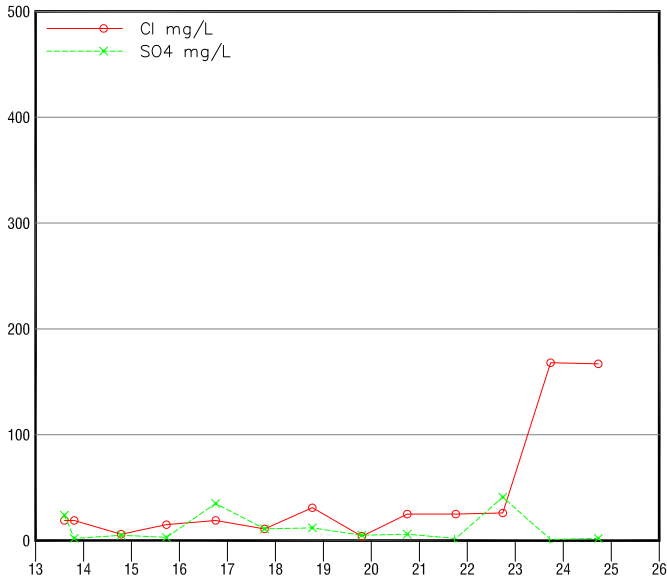
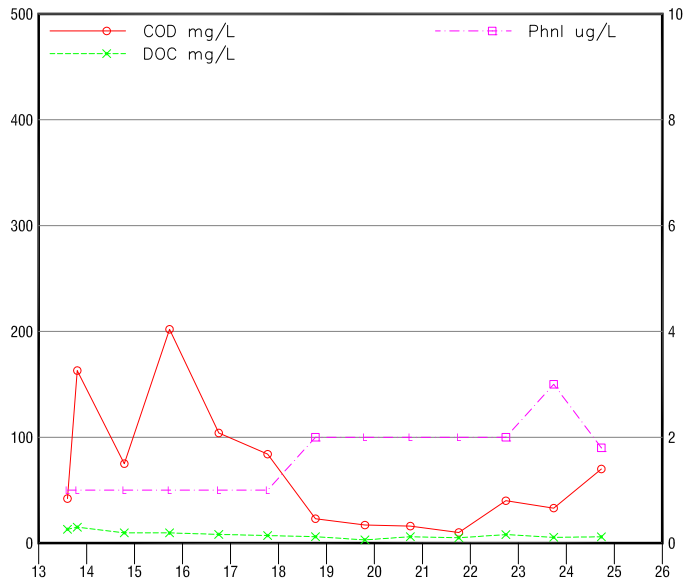
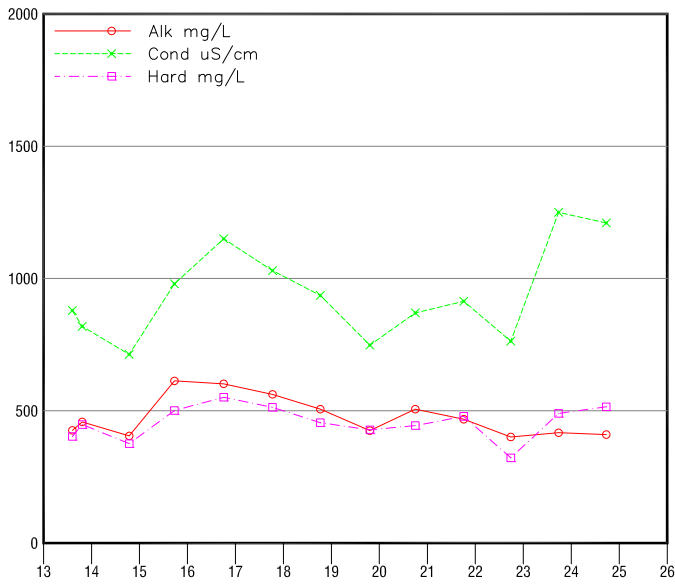
OW7
SAND AQUIFER
 OBSERVATION WELL
 Screen 218.9 - 213.1 masl

FORMERLY GP-KP1
 CONVERTED Apr 11



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn ug/L	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %	
	PWQO											0.3									1	
13-Oct-10	2126	511	1480	667	7.0	121	48	235	19	84	12	37.5	1080	172	5.8	13.5	<0.1	<0.1	12.4	<1	14.2	
28-Oct-11	2368	673	1670	590	7.4	123	19	203	20	75	10	42.6	1020	73	8.3	24.5	<0.1	<0.1	22.7	<1	3.2	
12-Oct-12	2561	590	1350	600	7.8	109	25	209	19	71	11	32.1	970	49	11	20.0	<0.1	<0.1	17.9	<1	7.3	
22-Oct-13	2743	585	1110	522	7.1	64	11	182	16	51	11	50.3	734	81	17	21.0	<0.1	<0.1	19.4	<1	7.9	
14-Oct-14	2935	440	1020	421	7.1	60	12	147	13	45	8.7	43.0	730	98	14	15.0	<0.1	<0.1	13.4	<1	9.9	
23-Sep-15	3142	591	1380	535	7.3	117	19	187	17	67	8.7	49.7	1140	176	4.9	15.8	<0.1	<0.1	14	<1	3.6	
03-Oct-16	3287	547	1140	476	7.4	49	14	165	16	45	7.9	42.0	795	58	12	13.5	0.1	<0.1	13.1	41	5.7	
11-Oct-17	3464	456	918	417	7.5	17	5	146	13	30	6.8	34.8	682	98	7.5	10.6	<0.1	<0.1	9.7	<1	9.7	
10-Oct-18	3631	481	935	448	7.1	40	5	158	13	29	6.8	36.0	769	20	6.0	12.6	<0.1	<0.1	10.8	4	6.9	
21-Oct-19	3819	531	1140	646	7.2	89	51	218	25	55	17	22.4	1440	31	13	26.3	<0.1	<0.1	27.6	4	13.3	
02-Oct-20	4025	500	1050	482	7.5	54	8	173	12	24	7.0	35.2	822	18	6.0	13.6	<0.1	<0.1	12.6	<2	5.5	
04-Oct-21	4197	454	1210	564	7.2	71	120	203	14	40	5.9	43.7	817	11	5.0	12.8	<0.1	<0.1	11.1	<2	6.7	
28-Sep-22	4355	515	<i>596</i>	524	6.9	86	94	187	14	55	5.8	42.9	794	29	5.0	13.4	<0.1	<0.1	12.1	2	2.3	
25-Sep-23	4533	543	1150	533	7.2	40	35	170	17	30	7.1	38.9	1000	80	7.7	10.0	<0.1	<0.1	14.6	3	7.7	
23-Sep-24	2061032	521	1130	599	6.6	46	55	176	17	29	7.8	41.2	818	61	9.5	12.2	<0.2	<0.2	12.2	1.9	4.1	
01-Oct-25	252802313	462	1180	482	7.6	91	56	171	14	34	5.5	34.3	760	64	9.4	13.5	<0.1	<0.05	11.7	6.9	1.1	
TOTAL SAMPLES		16	15	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	
AVERAGE 2025																						

all Concentrations mg/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
○	Anomaly Not Plotted	

CITY OF ORILLIA
KITCHENER PARK CLOSED LANDFILL

OW8
SAND AQUIFER
Screen 221.3 - 219.0 masl

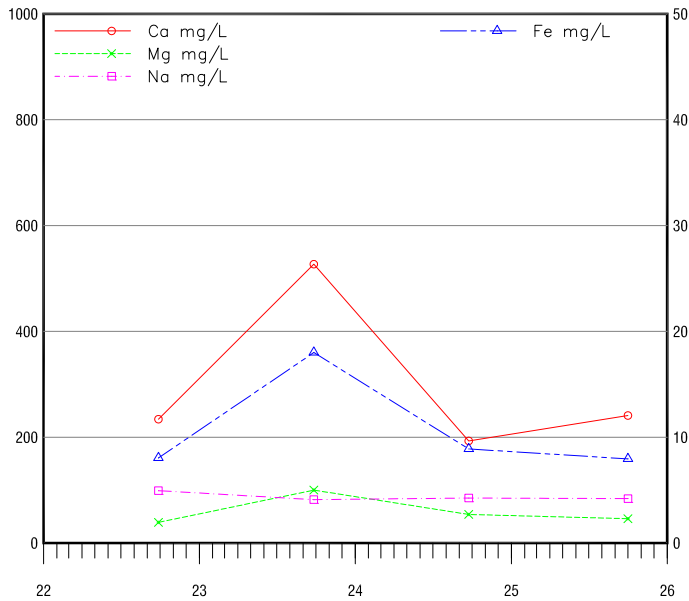
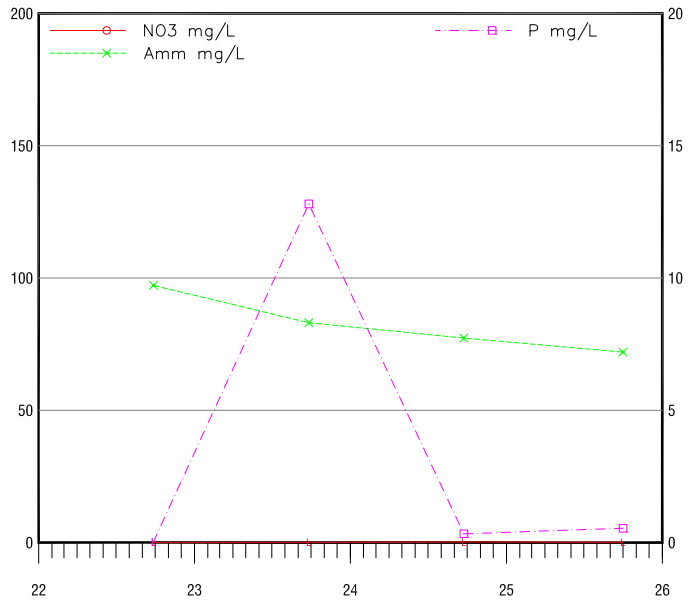
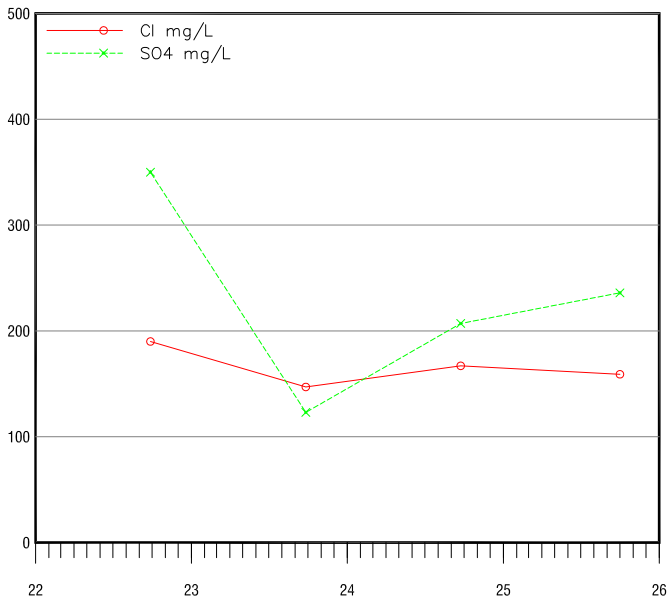
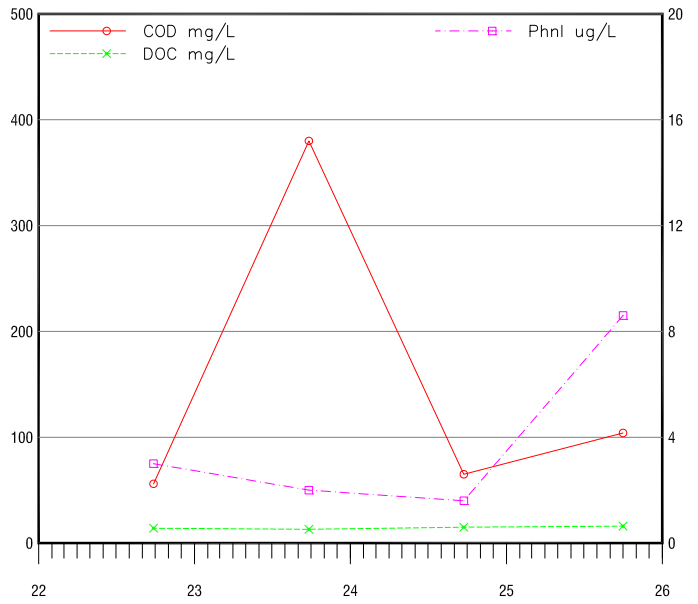
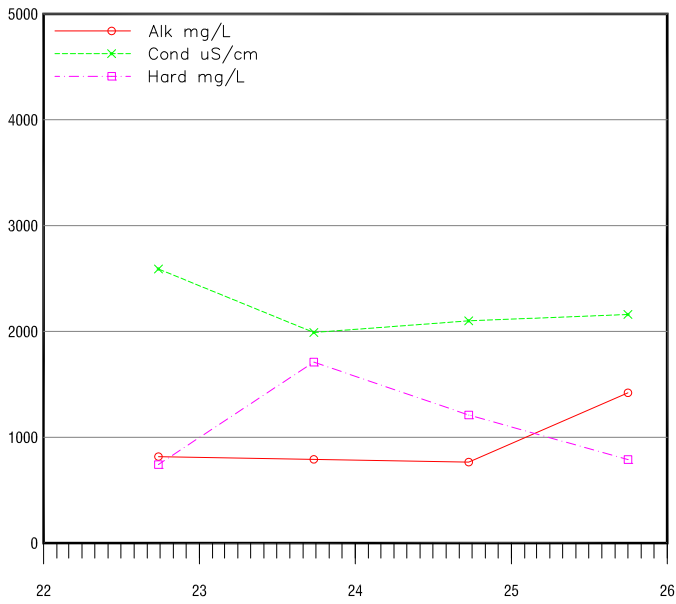
CA0034164 1 Apr 26		25G013
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OW8
SAND AQUIFER
 OBSERVATION WELL
 Screen 221.3 - 219.0 masl



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn ug/L	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %
	PWQO											0.3									1
08-Aug-13	2662	426	879	403	7.1	19	24	152	6	23	4.8	12.8	1250	42	13	4.1	<0.1	<0.1	3.68	<1	1.9
22-Oct-13	2744	458	819	448	7.2	19	2	167	7	22	6.8	47.6	1210	163	15	7.9	<0.1	<0.1	7.74	<1	11.7
15-Oct-14	2936	405	713	376	7.2	6	5	141	6	9.3	3.7	24.7	1420	75	9.7	2.8	<0.1	<0.1	1.91	<1	3.8
24-Sep-15	3143	613	980	501	7.6	15	3	188	8	24	6.0	33.2	1420	202	9.6	4.6	0.1	<0.1	3.67	<1	-0.4
03-Oct-16	3288	602	1150	551	7.6	19	35	207	8	43	6.7	35.4	1710	104	8.2	5.2	0.2	<0.1	4.0	<1	4.7
10-Oct-17	3465	562	1030	513	7.5	11	11	193	8	38	6.9	31.9	1470	84	7.1	4.6	<0.1	<0.1	3.09	<1	6.6
09-Oct-18	3632	506	936	455	7.1	31	12	171	7	34	6.4	15.8	959	23	6.0	4.0	<0.1	<0.1	3.7	2	1.4
21-Oct-19	3820	425	748	428	6.9	4	5	161	6	7.6	4.6	5.45	984	17	3.0	1.0	<0.1	<0.1	0.8	<2	3.0
01-Oct-20	4026	506	870	444	7.2	25	6	168	6	24	6.0	19.0	782	16	6.0	2.8	<0.1	<0.1	2.9	<2	0.1
05-Oct-21	4198	468	914	479	7.4	25	<2	181	7	30	6.4	22.7	764	10	5.0	2.2	<0.1	<0.1	1.9	<2	10.2
28-Sep-22	4356	401	763	322	7.6	26	41	121	5	32	5.1	0.135	421	40	8.0	1.8	<0.1	<0.1	1.0	2	-9.0
27-Sep-23	4534	417	1250	490	7.2	168	<1	168	8	65	8.9	49.8	772	33	5.4	5.7	<0.1	<0.1	7.2	3	4.5
24-Sep-24	2061033	410	1210	515	6.8	167	2	151	8	84	8.5	10.7	527	70	5.9	5.2	<0.2	<0.2	3.78	1.8	-0.9
TOTAL SAMPLES		13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
AVERAGE 2025																					

all Concentrations mg/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
○	Anomaly Not Plotted	
○		

CITY OF ORILLIA
KITCHENER PARK CLOSED LANDFILL

OW9-I
SAND AQUIFER CONTACT
Screen 215.7 - 214.0 masl

CA0034164
1 Apr 26



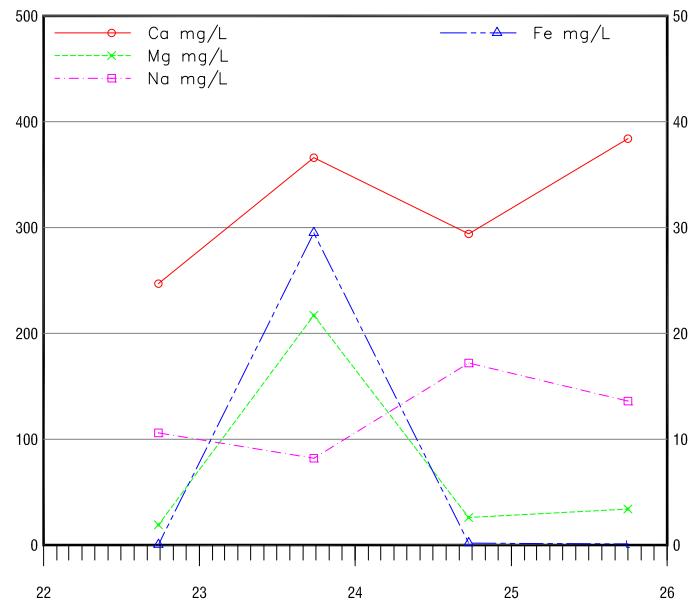
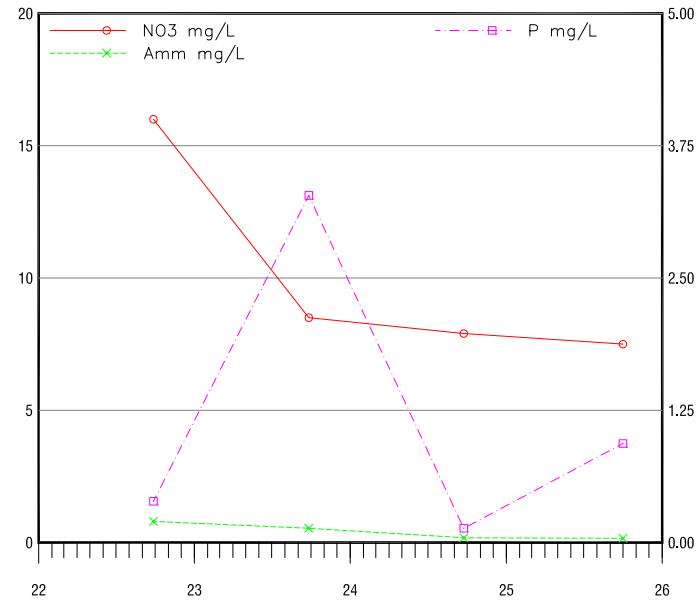
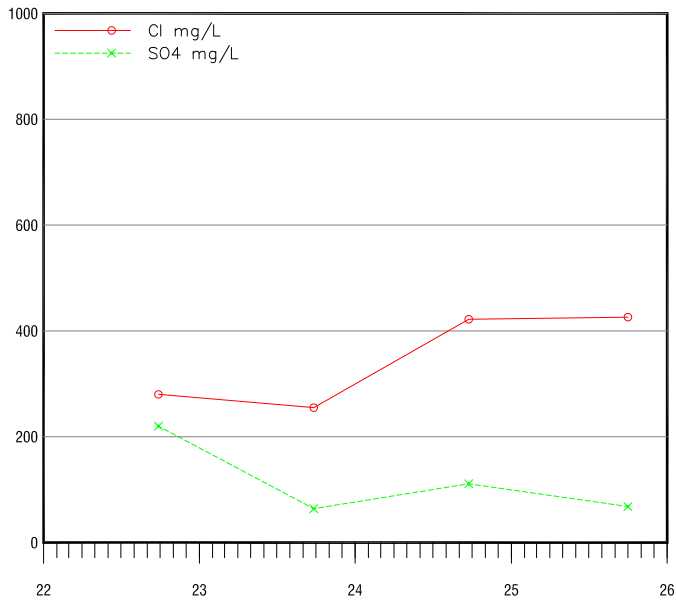
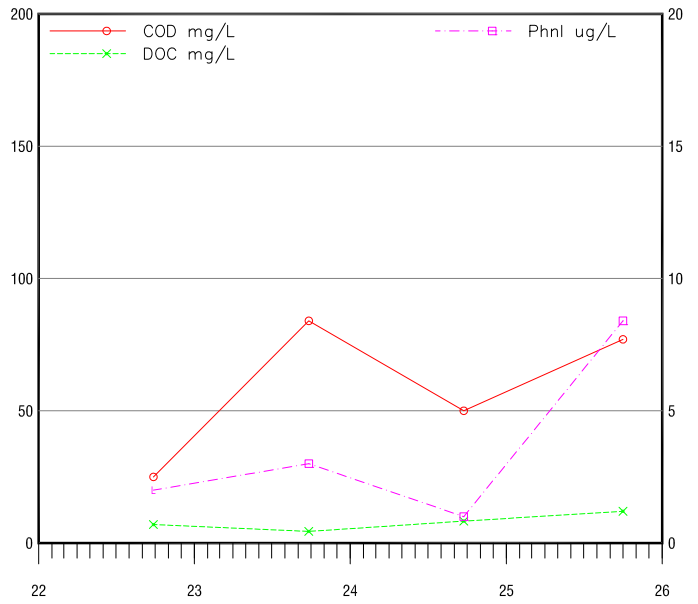
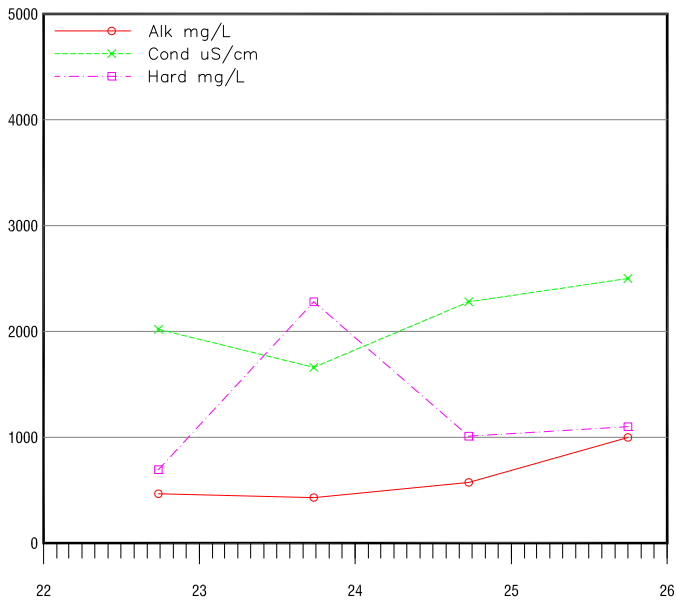
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OW9-I
SAND AQUIFER CONTACT
 OBSERVATION WELL
 Screen 215.7 - 214.0 masl



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn ug/L	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %	
	PWQO											0.3									1	
27-Sep-22	4357	817	2590	742	7.9	190	350	234	39	99	29	8.04	489	56	14	96.5	<0.1	<0.1	97.2	3	-3.3	
26-Sep-23	4535	791	1990	1710	7.3	147	123	527	100	82	26	18.0	1620	380	13	46.5	<0.1	<0.1	83.1	2	-3.1	
23-Sep-24	2061034	765	2100	1210	7.0	167	207	193	54	85	27	8.89	348	65	15	75	<0.2	<0.2	77.3	1.6	0.1	
01-Oct-25	252802314	1420	2160	789	7.6	159	236	241	46	84	24	7.95	503	104	16	98.0	<0.1	<0.05	72.0	8.6	-19.4	
TOTAL SAMPLES		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
AVERAGE 2025																						

all Concentrations mg/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
○	Anomaly Not Plotted	

CITY OF ORILLIA
KITCHENER PARK CLOSED LANDFILL

OW9-II
UPPER SAND / SILTY SAND
Screen 219.8 - 216.7 masl

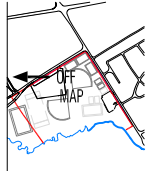
CA0034164
1 Apr 26



25G015

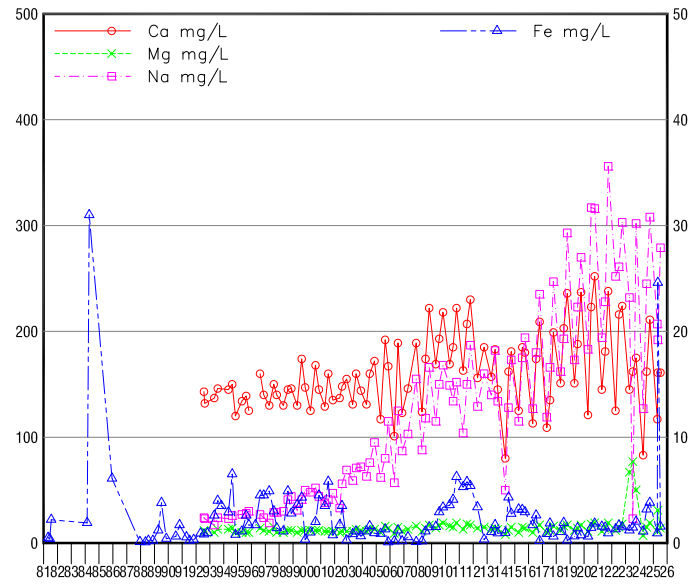
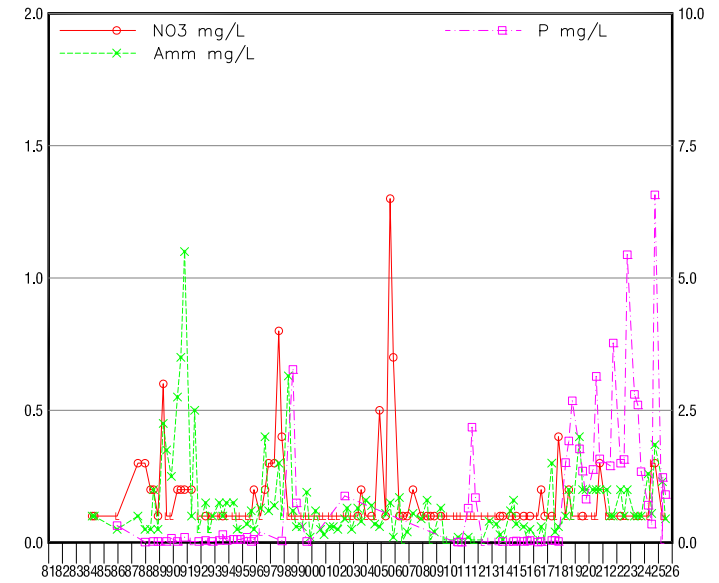
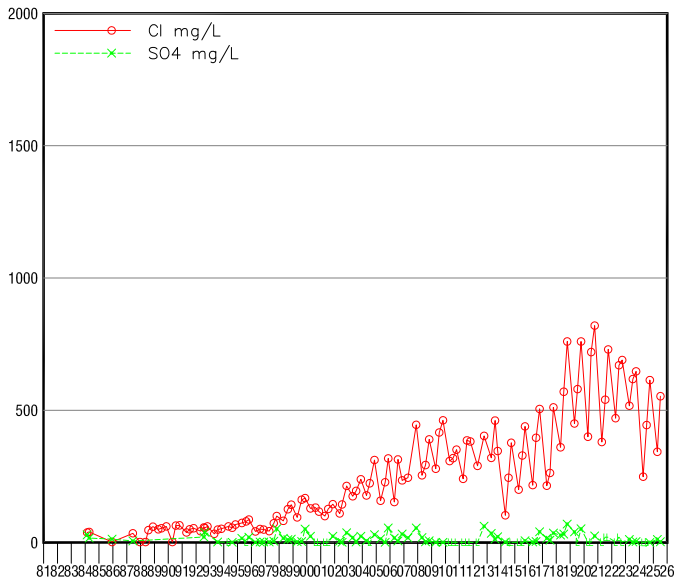
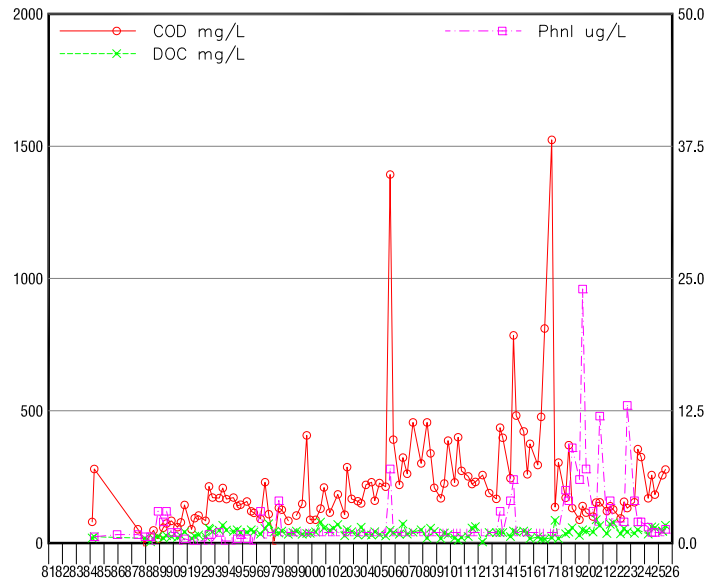
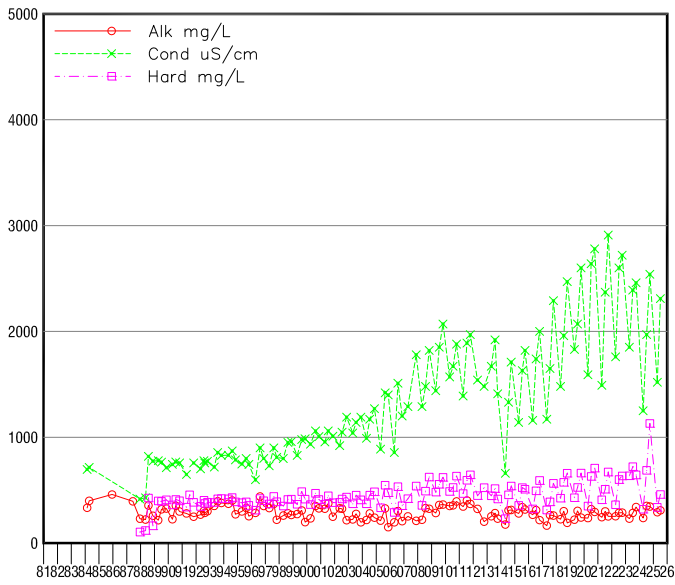
OW9-II UPPER SAND / SILTY SAND

OBSERVATION WELL
Screen 219.8 - 216.7 masl



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn ug/L	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %	
	PWQO											0.3									1	
27-Sep-22	4358	466	2020	694	8.0	280	220	247	19	106	15	0.029	906	25	7.0	2.0	16	0.1	0.8	<2	-9.6	
26-Sep-23	4536	430	1660	2280	7.6	255	64	366	217	82	12	29.5	5880	84	4.4	0.7	8.5	<0.1	0.54	3	7.9	
23-Sep-24	2061035	573	2280	1010	6.9	422	111	294	26	172	13	0.178	849	50	8.3	0.8	7.9	<0.5	0.18	1	-3.1	
01-Oct-25	252802315	998	2500	1100	7.3	426	68	384	34	136	11	<0.1	1230	77	12	1.6	7.5	<0.05	0.16	8.4	-9.2	
TOTAL SAMPLES		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
AVERAGE 2025																						

all Concentrations mg/L unless otherwise indicated
Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
○	Anomaly Not Plotted	
○	Anomaly Not Plotted	

CITY OF ORILLIA
KITCHENER PARK CLOSED LANDFILL

BH1-III
PEAT
Screen 218.8 - 218.2 masl

CA0034164 1 Apr 26		25G016
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BH1-III

PEAT

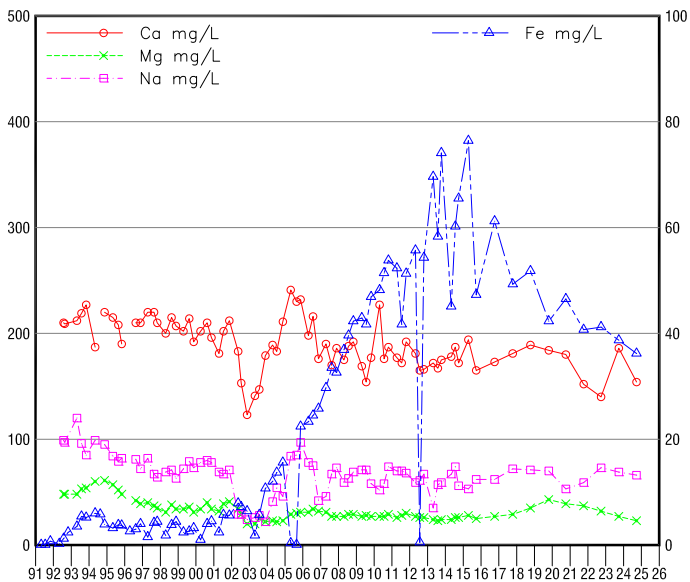
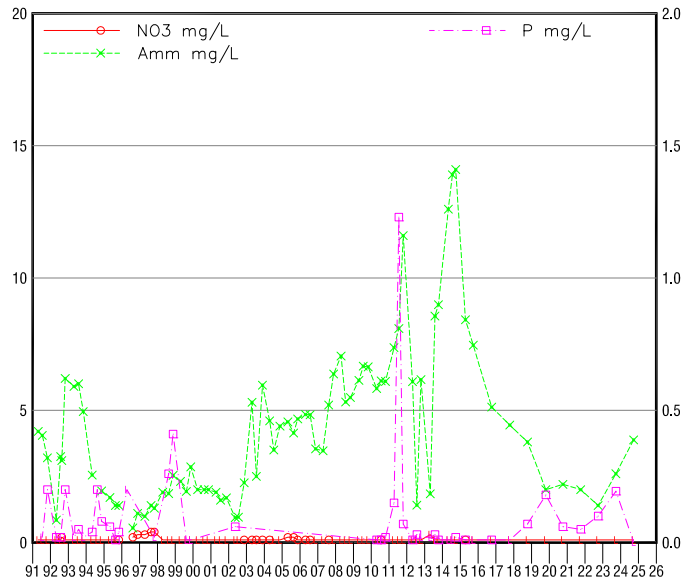
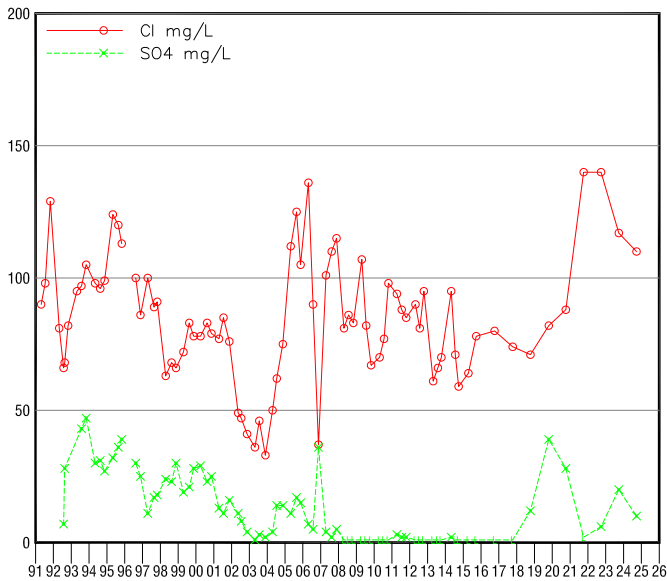
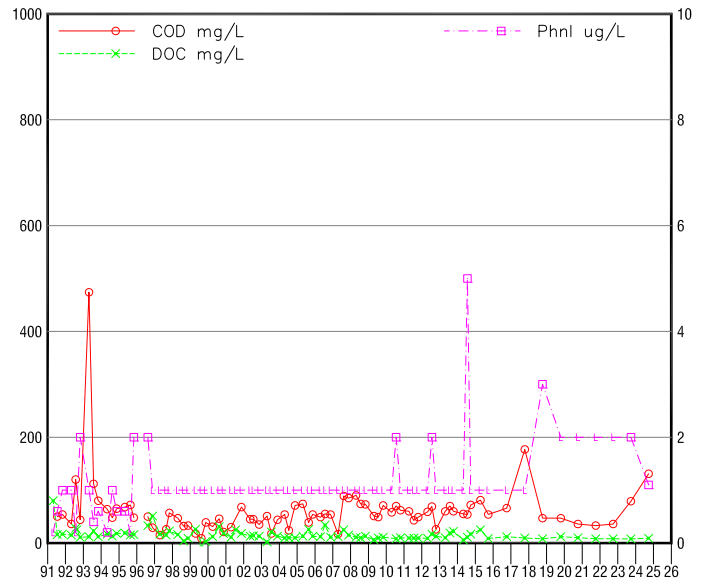
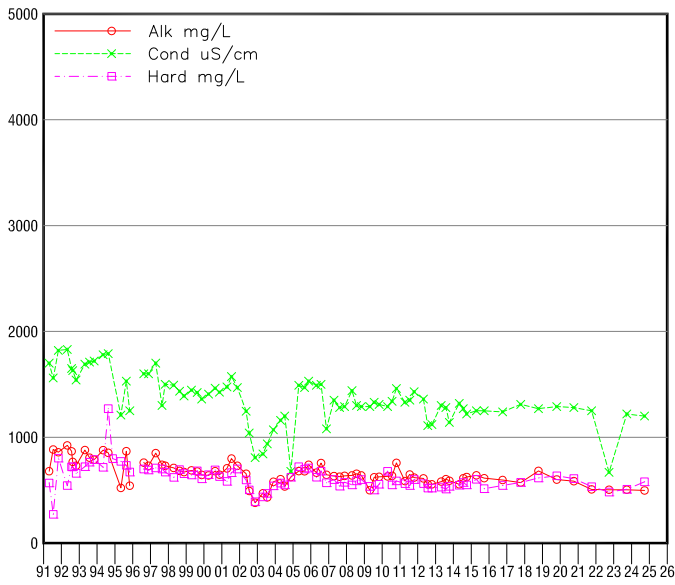
OBSERVATION WELL
Screen 218.8 - 218.2 masl



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn	COD	DOC	TKN	NO3	NO2	Amm	Phnl ug/L	Ion B %		
PWQO												0.3											1
28-Sep-15	3092	317	1820	509	7.2	439	7	180	14	194	0.4	2.91	443	375	17	2.6	0.1	<0.1	0.05	<1	-0.5		
19-Apr-16	3164	267	1160	323	7.3	217	2	113	10	127	0.3	1.69	360	295	23	1.8	<0.1	<0.1	<0.01	<1	2.7		
17-Jul-16	3200	311	1740	493	7.3	396	4	174	14	180	0.3	2.61	399	477	16	2.7	0.2	<0.1	0.06	<1	0.8		
17-Oct-16	3292	217	2000	591	7.7	505	41	209	17	235	0.3	0.197	375	811	15	1.9	0.1	<0.1	<0.01	<1	6.5		
24-Apr-17	3327	165	1170	313	7.3	215	16	109	10	119	0.9	0.864	441	1524	20	2.6	0.1	0.2	0.3	<1	8.5		
18-Jul-17	3393	264	1650	389	7.2	263	9	135	12	166	0.8	1.86	363	136	86	2.6	<0.1	<0.1	0.04	<1	7.7		
17-Oct-17	3469	260	2290	564	7.4	511	36	199	16	247	<0.1	0.613	247	304	17	1.9	0.4	<0.1	0.06	<1	3.8		
23-Apr-18	3520	225	1480	424	7.0	360	28	151	12	162	0.4	1.04	442	171	35	1.0	<0.1	<0.1	0.1	5	1.3		
16-Jul-18	3573	301	1960	574	7.5	570	32	203	16	193	0.7	1.91	478	370	41	1.5	0.2	<0.1	0.2	4	-6.6		
15-Oct-18	3646	191	2470	660	7.0	760	70	236	17	293	0.2	0.242	364	132	58	0.6	<0.1	<0.3	<0.1	9	-1.3		
23-Apr-19	3698	221	1830	429	6.7	450	40	151	12	173	0.5	0.637	418	88	29	1.1	<0.1	<0.1	0.4	6	-5.4		
15-Jul-19	3748	304	2070	525	6.7	580	<2	188	14	223	0.5	1.40	505	140	50	2.4	0.1	<0.1	0.2	24	-5.0		
15-Oct-19	3824	241	2600	661	7.0	760	52	237	17	270	0.3	0.737	359	115	45	2.2	<0.1	<0.1	0.2	7	-4.4		
14-Apr-20	3860	236	1590	349	6.9	400	<2	121	11	183	0.5	0.617	347	100	42	1.3	<0.1	<0.1	0.2	3	-3.3		
08-Jul-20	3912	320	2640	630	7.1	720	<2	223	18	317	0.4	1.44	521	153	88	1.1	<0.1	<0.3	0.2	<2	-0.4		
08-Oct-20	3968	294	2780	708	6.9	820	25	252	19	316	0.4	1.84	616	154	66	2.0	0.3	<0.3	0.2	12	-2.7		
14-Apr-21	4040	244	1490	409	7.0	380	<2	145	11	194	0.5	1.56	369	121	36	1.5	<0.1	<0.3	0.2	<2	3.0		
12-Jul-21	4094	299	2370	509	7.5	540	<20	181	14	228	<0.1	1.46	457	139	71	2.0	<0.1	<0.3	0.1	4	-2.5		
29-Sep-21	4152	252	2910	671	7.8	730	<20	238	19	356	0.3	0.919	458	127	77	2.0	<0.1	<0.3	0.1	<2	6.0		
11-Apr-22	4218	253	1760	362	7.3	470	<2	125	12	252	0.6	1.30	378	93	35	1.0	0.1	<0.1	0.2	<2	-0.1		
11-Jul-22	4286	286	2600	600	7.2	670	<20	216	15	261	0.6	1.67	473	156	55	1.9	<0.1	<0.3	0.1	2	-2.5		
04-Oct-22	4362	287	2720	634	6.7	690	<2	224	18	303	0.4	1.49	478	132	42	1.8	<0.1	<0.3	0.2	13	1.5		
11-Apr-23	4414	231	1850	636	7.2	517	12	145	67	232	0.5	1.20	378	154	37	7.7	<0.1	0.6	0.1	4	8.1		
10-Jul-23	4463	285	2390	722	7.3	618	2	162	77	23	0.6	1.46	473	355	50	6.0	<0.1	<0.1	0.1	2	2.2		
04-Oct-23	4540	340	2460	644	7.3	647	4	175	50	302	1.6	2.02	476	325		2.8	<0.1	<0.1	0.1	2	-0.4		
08-Apr-24	4613	237	1250	320	7.0	249	<0.5	83	7	127	1.0	1.09	273	169	34	1.3	<0.1	<0.1	0.26	1.5	-6.3		
08-Jul-24	4641	351	1970	687	7.6	444	<2.5	162	15	245	1.4	3.18	452	257	61	1.8	<0.3	<0.3	0.11	1	1.6		
01-Oct-24	2064047	345	2540	1130	7.3	614	0.5	211	19	308	1.3	3.81	570	183	58	30	0.3	<0.1	0.37	1	2.8		
16-Apr-25	250864102	291	1520	337	7.3	343	12	117	11	207	0.6	0.921	321	256	45	4.3	<0.1	<0.05	0.23	<1	0.3		
08-Jul-25	251839204	309	2310	459	7.0	553	3	161	14	279	<0.5	1.55	427	278	67	4.4	<0.1	<0.05	0.09	1.3	-0.9		

TOTAL SAMPLES		114	112	112	114	115	98	96	96	95	95	115	90	110	112	115	114	115	115	114	
AVERAGE 2025		300	1915	398	7.2	448	8	139	13	243	<0.5	1.236	374	267	56	4.4	<0.1	<0.05	0.16	<1	

all Concentrations mg/L unless otherwise indicated
Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
○	Anomaly Not Plotted	
○	Anomaly Not Plotted	

CITY OF ORILLIA
KITCHENER PARK CLOSED LANDFILL

BH28-I
SAND AQUIFER
Screen 218.0 - 216.5 masl

CA0034164
1 Apr 26



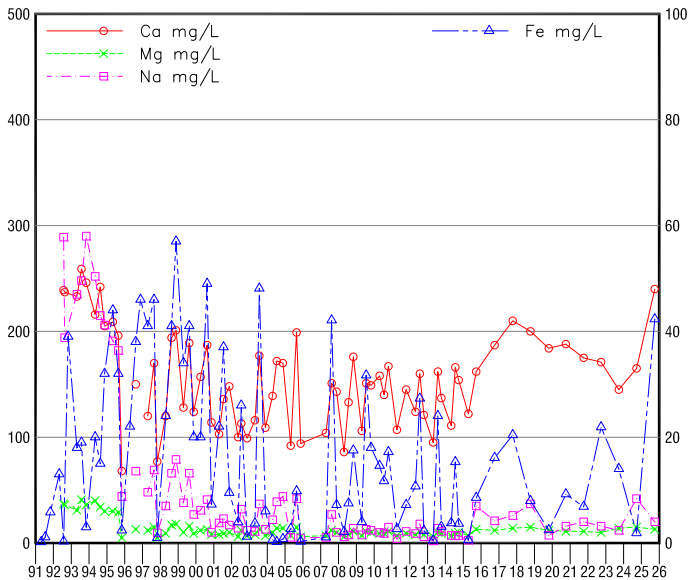
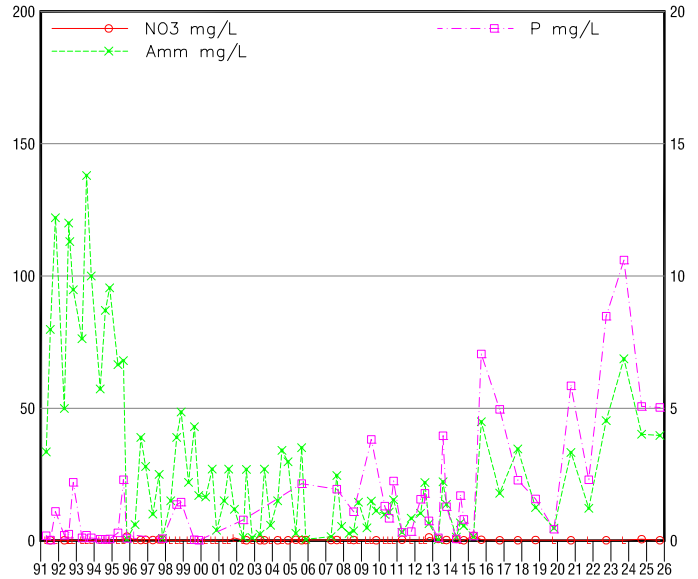
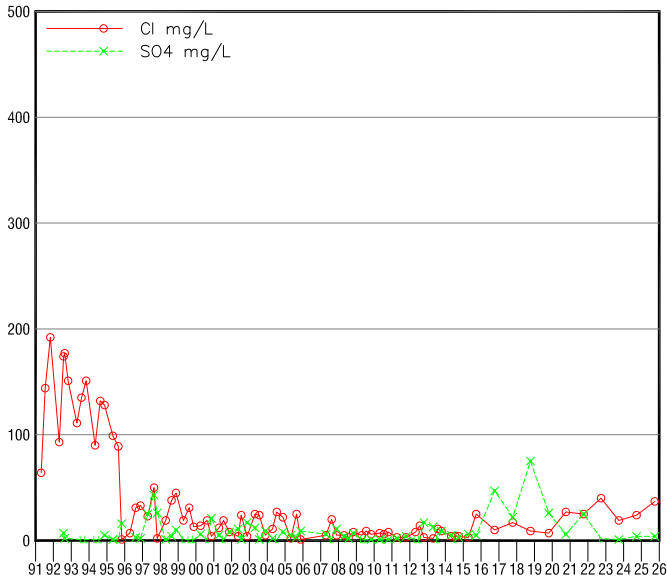
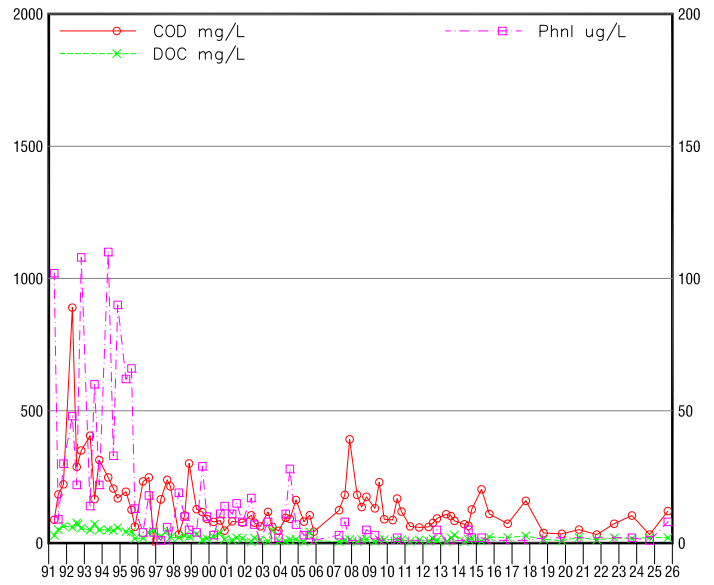
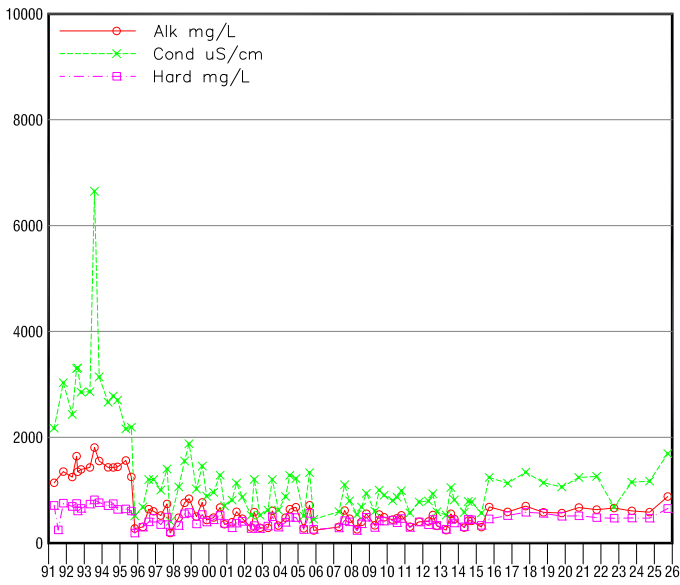
25G017

BH28-I
SAND AQUIFER
OBSERVATION WELL
Screen 218.0 - 216.5 masl



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe ug/L	Mn	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %
	PWQO											0.3								1	
31-Oct-08	810313	639	1290	600	6.7	83	<1	192	29	69	13	42.3	1900	73	13	6.3	<0.1	<0.1	5.48	<1	6.5
23-Apr-09	0911681	499	1290	535	6.4	107	<1	169	27	71	13	42.9	1620	51	6.2	7.3	<0.1	<0.1	6.13	<1	10.5
22-Jul-09	B09-2222	622	1330	501	6.8	82	<1	154	28	71	12	41.7	1550	49	9.6	7.8	<0.1	<0.1	6.67	<1	2.0
30-Oct-09	0934218	626	1310	556	6.8	67	<1	177	27	58	12	46.9	1860	71	11	7.3	<0.1	<0.1	6.64	<1	5.4
23-Apr-10	2033	630	1290	678	7.2	70	<1	227	27	52	12	48.2	1890	58		6.7	<0.1	<0.1	5.82	<1	11.3
23-Jul-10	2093	635	1340	550	7.3	77	<1	176	27	58	11	51.4	1680	70	8.3	6.9	0.1	<0.1	6.11	2	3.9
21-Oct-10	2138	758	1460	587	6.8	98	<1	187	29	74	12	53.8	1800	62	10	7.8	<0.1	<0.1	6.09	<1	-0.9
13-Apr-11	2215	586	1330	562	7.8	94	3	177	26	70	14	52.3	1580	60	9.4	7.8	<0.1	<0.1	7.37	<1	7.5
21-Jul-11	2256	648	1350	544	7.2	88	2	172	28	70	13	41.7	1570	43	9.4	11.6	<0.1	<0.1	8.09	<1	2.7
19-Oct-11	2313	619	1430	600	7.1	85	2	192	30	68	14	51.3	1610	49	9.4	12.5	<0.1	<0.1	11.6	<1	9.8
27-Apr-12	2380	611	1360	562	7.3	90	<1	181	27	59	13	55.7	1640	59	9.0	8.5	<0.1	<0.1	6.08	<1	5.9
25-Jul-12	2457	555	1110	519	7.9	81	<1	165	26	61	13	0.51	1730	69	17	7.5	<0.1	<0.1	1.41	2	0.4
16-Oct-12	2523	555	1120	520	7.9	95	<1	166	26	67	15	54.3	1650	26	13	7.7	<0.1	<0.1	6.16	<1	7.8
25-Apr-13	05955	581	1300	529	7.7	61	<1	172	24	35	15	69.6	2040	60	10	8.9	<0.3	<0.3	1.84	<1	6.2
31-Jul-13	2636	604	1280	511	7.3	66	<1	167	23	57	13	58.3	1700	70	19	10.3	<0.1	<0.1	8.56	<1	6.1
10-Oct-13	2705	589	1140	536	7.3	70	<1	175	24	59	14	74.1	1820	60	22	9.9	<0.1	<0.1	8.99	<1	10.4
30-Apr-14	2785	555	1320	546	7.4	95	2	178	24	67	18	45.1	1810	55	5.7	13.8	<0.1	<0.1	12.6	<1	9.6
23-Jul-14	2847	612	1270	572	7.3	71	<1	187	26	74	19	60.2	1660	54	11	15.2	<0.1	<0.1	13.9	5	12.6
29-Sep-14	2898	624	1220	549	7.5	59	<1	172	26	56	18	65.5	1740	72	17	15.4	<0.1	<0.1	14.1	<1	9.1
17-Apr-15	2981	640	1250	602	6.8	64	<1	194	28	53	15	76.4	2080	81	25	10.3	0.1	<0.1	8.42	<1	10.5
24-Sep-15	3128	613	1250	514	7.3	78	<1	165	25	62	12	47.3	1810	54	8.7	8.0	<0.1	<0.1	7.46	<1	3.6
05-Oct-16	3273	596	1240	544	7.4	80	<1	173	27	62	11	61.2	1740	66	12	6.4	<0.1	<0.1	5.12	<1	7.3
12-Oct-17	3451	572	1310	573	7.5	74	<1	181	29	72	13	49.3	1900	177	9.5	6.1	<0.1	<0.1	4.44	<1	11.3
10-Oct-18	3617	682	1270	615	7.4	71	12	189	35	71	10	51.8	1820	47	8.0	3.7	<0.1	<0.1	3.8	3	5.6
21-Oct-19	3805	600	1290	636	7.1	82	39	184	43	70	6.5	42.3	1670	47	12	2.0	<0.1	<0.1	2.0	<2	7.6
05-Oct-20	4011	585	1280	609	7.7	88	28	180	39	53	6.8	46.5	1670	36	10	1.9	<0.1	<0.1	2.2	<2	5.5
05-Oct-21	4185	507	1250	533	7.4	140	<2	152	37	59	5.6	40.7	1520	33	8.0	2.3	<0.1	<0.1	2.0	<2	5.3
27-Sep-22	4343	504	668	482	7.0	140	6	140	32	73	4.4	41.2	1550	36	8.0	2.4	<0.1	<0.1	1.4	<2	1.1
26-Sep-23	4520	504	1220	508	7.0	117	20	186	27	69	5.9	38.7	1690	79	7.9	3.4	<0.1	<0.1	2.6	2	-3.9
23-Sep-24	2061019	497	1200	579	6.8	110	10	154	23	66	7.6	36.2	1270	131	9.1	6	<0.1	<0.1	3.88	1.1	3.5
TOTAL SAMPLES		82	82	83	82	83	77	77	77	77	77	82	70	80	82	82	83	83	82	82	
AVERAGE 2025																					

all Concentrations mg/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**



L	Concentration Reported Less Than	
G	Concentration Reported Greater Than	
A	Concentration Determined Anomalous	
○	Anomaly Not Plotted	
○		

CITY OF ORILLIA
KITCHENER PARK CLOSED LANDFILL

BH28-II
FILL
Screen 220.4 - 218.9 masl

CA0034164 1 Apr 26		25G018
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BH28-II FILL OBSERVATION WELL Screen 220.4 - 218.9 masl



DATE	SAMPLE #	Alk	Cond uS/cm	Hard	pH units	Cl	SO4	Ca	Mg	Na	K	Fe	Mn ug/L	COD	DOC	TKN	NO3	NO2	Amm	PhnI ug/L	Ion B %
PWQO												0.3						1			
31-Oct-08	810313	555	940	488	6.8	8	7	176	11	14	9.5	17.5	210	175	14	18.2	<0.1	<0.1	14.5	5	3.1
23-Apr-09	0911682	335	601	294	6.6	5	<1	106	7	7.7	6.0	3.96	125	131	5.9	9.1	<0.1	<0.1	4.80	3	0.0
22-Jul-09	B09-239	540	1000	420	6.7	9	<1	151	11	13	9.5	31.7	229	230	12	19.8	<0.1	<0.1	14.9	<1	1.8
30-Oct-09	0934211	487	903	415	7.3	6	1	149	10	12	8.8	18.0	205	90	13	15.5	0.1	<0.1	11.3	<1	2.6
23-Apr-10	2034	441	803	432	7.2	7	1	158	9	10	7.7	14.6	156	87		12.8	<0.1	<0.1	9.93	<1	7.5
23-Jul-10	2094	468	868	386	7.2	6	<1	140	9	9.0	7.6	11.7	297	168	12	11.9	<0.1	<0.1	10.7	2	-0.1
21-Oct-10	2139	523	989	465	6.8	8	1	167	11	15	10	17.2	261	119	13	20.0	<0.1	<0.1	15.4	<1	5.2
13-Apr-11	2216	309	570	296	7.9	3	2	107	7	4.0	2.5	2.64	66	63	5.8	4.8	0.3	<0.1	3.12	<1	1.2
19-Oct-11	2314	402	778	399	7.0	3	4	145	9	11	6.9	7.19	109	59	12	8.8	<0.1	<0.1	8.42	<1	7.3
27-Apr-12	2381	407	795	345	7.5	8	<1	124	8	9.0	6.5	10.7	151	61	7.0	13.7	<0.1	<0.1	10.3	<1	1.0
25-Jul-12	2458	529	932	444	7.9	14	<1	160	11	18	11	27.3	289	76	16	21.3	<0.1	<0.1	21.9	<1	6.5
16-Oct-12	2524	324	590	333	7.7	3	17	121	8	6.0	4.9	2.31	118	93	12	7.4	1.2	0.4	6.39	5	4.3
25-Apr-13	06033	245	530	260	7.9	2	13	95	6	2.0	2.9	0.52	95	109	5.0	2.8	0.6	0.1	0.31	<1	1.6
31-Jul-13	2637	554	1050	446	7.3	11	<1	162	10	14	9.4	24.0	332	102	20	23.0	<0.1	<0.1	22.2	<1	3.5
10-Oct-13	2706	453	817	380	7.6	9	9	137	9	11	7.0	3.08	127	84	30	15.0	0.2	<0.1	13.7	<1	-1.0
30-Apr-14	2786	292	581	306	7.5	4	5	111	7	7.2	5.2	3.76	234	71	5.4	1.9	0.6	<0.1	1.27	<1	5.3
23-Jul-14	2848	424	786	451	7.3	4	<1	166	9	6.8	7.7	15.3	309	65	13	8.9	<0.1	<0.1	6.69	5	10.3
29-Sep-14	2899	420	776	439	7.5	4	3	154	10	7.1	8.0	3.66	383	127	16	6.2	0.1	<0.1	5.62	2	5.3
17-Apr-15	2982	301	567	333	7.1	3	6	122	7	2.6	2.3	0.53	57	203	7.0	2.1	1.8	<0.1	1.39	2	4.5
24-Sep-15	3129	682	1240	456	7.7	25	5	162	13	35	16	8.56	294	110	23	53.0	0.3	<0.1	44.9	<1	0.5
05-Oct-16	3274	589	1130	518	7.4	10	47	187	12	21	13	16.1	326	73	21	33.0	0.1	<0.1	17.9	<1	1.4
12-Oct-17	3452	698	1340	583	7.6	17	22	210	14	26	15	20.4	566	160	27	39.6	0.1	<0.1	34.6	<1	4.7
10-Oct-18	3618	581	1140	562	7.5	9	75	200	15	37	18	7.96	429	38	14	17.2	0.2	<0.1	12.5	<2	3.7
21-Oct-19	3806	567	1060	508	7.0	7	26	184	12	7.3	11	2.44	137	35	9.0	4.9	<0.1	<0.1	4.7	<2	-3.8
05-Oct-20	4012	672	1240	515	7.8	27	6	188	11	16	14	9.22	478	51	21	39.5	0.1	<0.1	33.3	<2	-0.9
05-Oct-21	4186	632	1260	482	7.6	25	25	175	11	20	14	6.87	337	32	12	14.4	<0.1	<0.1	12.2	<2	-10.2
27-Sep-22	4344	661	686	469	7.0	40	<2	171	10	16	11	21.9	444	73	20	48.4	0.1	<0.1	45.3	<2	0.1
26-Sep-23	4521	608	1150	474	7.2	19	1	145	14	12	10	14.0	466	104	17	48.7	<0.1	0.2	68.7	2	-3.9
23-Sep-24	2061020	584	1170	470	6.9	24	4	165	15	42	20	1.87	305	32	21	36	0.5	<0.2	40.2	1	8.4
01-Oct-25	252802301	880	1690	653	7.6	37	4	240	13	20	14	42.3	726	121	20	47.4	0.1	<0.05	39.7	8	0.1
TOTAL SAMPLES AVERAGE 2025		80	80	81	80	81	74	74	74	74	74	80	68	79	80	80	81	80	81	80	

all Concentrations mg/L unless otherwise indicated
Anomalies shown in *Italics* / Exceedence in **BOLD**

Water Quality Graphs and Data - Metals Parameters

OW1-I
SAND AQUIFER
 OBSERVATION WELL
 Screen 211.5 - 206.9 masl

FORMERLY OW1-IX
 CONVERTED Sep 16



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L
	PWQO	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20	
12-Oct-10	2114			2010	2100	0.02	<2	<2	0.04	2.7	0.03	<0.01	<1	<0.02	40	<5		<10	<5	
09-Nov-10	2179			2150		<0.02	<2	<2	<0.02		0.04	<0.01	<1	<0.02	50	<5		<10	<5	
27-Oct-11	2356	<0.1		2290		<0.02	<2	2	<0.02	0.7	1.31	<0.01	1	<0.02	50	<5		<10	21	
12-Oct-12	2550			1960		<0.1	4	<2	<1		0.04		<4	<0.1	4	4.1		<3	<5	
21-Oct-13	2731			2200		<0.02	<2	<2	0.05		0.04		5	<0.02	50	6		<10	7	
14-Oct-14	2923			2070		<0.02	<2	<2	<0.02		0.03		3	<0.02	50	3.8		<10	32	
22-Sep-15	3130			1920		<0.02	<2	<2	0.06		0.03	<0.01	2	<0.02	50	3.5		<10	<5	978
06-Oct-16	3275			1450		<0.02	2	3	<0.02		0.65	<0.01	<1	<0.02	620	0.8		<10	8	1080
10-Oct-17	3453			2120		0.106	<2	<2	<0.02		<0.01	<0.01	<1	<0.02	110	8		<10	<5	896
09-Oct-18	3619			2090		0.049	0.87	2.78	0.08		0.22		0.28	<0.05	12	11.9		8.4	6	
23-Oct-19	3807			2110		0.01	0.82	1.2	0.09		0.32		0.22	<0.05	5	11.5		9	3	
05-Oct-20	4013			2090		0.024	0.92	1.1	0.05		0.17		0.21	<0.05	5	13.1		9.9	4	
05-Oct-21	4187			2100		0.015	1.09	1.4	<0.09		0.36		0.23	<0.05	9	11.5		8.6	3	
27-Sep-22	4345			2030		0.017	1.08	1.1	<0.09		0.08		0.14	<0.05	5	12.7		10.2	3	
27-Sep-23	4522			2220		0.046	4.5	1.9	<0.05		0.176	0.033	2.49	<0.01	8	13.3		14.5	2	
24-Sep-24	2061021			2130		0.032	9.5	2.3	0.1		0.084	0.005	1.7	0.01	5	11.7		11.3	8	
01-Oct-25	252802302			2580		<0.05	<5	<2	<0.5		0.11	0.0348	<0.5	<0.1	13	8.62		6.37	<10	
TOTAL SAMPLES		1	0	17	1	17	17	17	17	2	17	9	17	17	17	17	0	17	17	3
AVERAGE 2025																				

all Concentrations ug/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**

OW1-II
SAND AQUIFER
 OBSERVATION WELL
 Screen 215.6 - 214.1 masl



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L
	PWQO	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20	
12-Oct-10	2115			2260	1610	<0.02	<2	<2	0.04	1	0.02	<0.01	<1	<0.02	40	<5		<10	8	
09-Nov-10	2180										0.03	<0.01								
26-Oct-11	2357	<0.1		2220		<0.02	<2	<2	<0.02	0.6	0.14	<0.01	1	<0.02	40	<5		10	11	
12-Oct-12	2551			2100		<0.1	4	<2	<1		<0.02		<4	<0.1	5	14.5		7	<5	
21-Oct-13	2732			2430		<0.02	<2	<2	0.05		0.02		3	<0.02	60	20		<10	6	
14-Oct-14	2924			2270		<0.02	<2	<2	<0.02		<0.01		2	<0.02	40	11.9		<10	6	
22-Sep-15	3131			1970		<0.02	<2	<2	0.05		0.01	<0.01	1	<0.02	50	11.7		<10	<5	896
06-Oct-16	3276			1940		0.06	<2	<2	0.45		0.01	<0.01	2	<0.02	40	12.4		<10	<5	888
10-Oct-17	3504			2260		<0.014	<2	<2	<0.02		0.02	<0.01	<1	<0.02	80	16		<10	<5	838
09-Oct-18	3620			1970		<0.003	0.92	0.45	<0.01		0.08		0.19	<0.05	3	16.4		9.5	2	
22-Oct-19	3808			2120		<0.003	0.83	1.3	0.09		0.06		0.21	<0.05	2	16.2		8.8	3	
05-Oct-20	4014			1850		0.015	0.96	<0.2	0.04		0.04		0.19	<0.05	2	17.2		9.5	3	
05-Oct-21	4188			2170		0.005	1.06	1.2	<0.09		<0.03		0.24	<0.05	2	16.6		9.8	3	
27-Sep-22	4346			1860		0.006	1.01	1.1	<0.09		0.03		0.15	<0.05	2	18.1		9.3	2	
27-Sep-23	4523			1880		0.06	11.9	1.3	<0.05		0.033	0.037	1.92	<0.01	4	22.2		14.8	<1	
24-Sep-24	2061022			1720		0.041	7.6	2.1	0.13		0.007	<0.005	1.27	0.01	3	16.6		10.4	6	
01-Oct-25	252802303			2020		<0.05	<5	<2	<0.5		0.0325	<0.001	<0.5	<0.1	<10	16.5		8.39	<10	
TOTAL SAMPLES		1	0	16	1	16	16	16	16	2	17	9	16	16	16	16	0	16	16	3
AVERAGE 2025																				

all Concentrations ug/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**

OW1-III
PEAT
 OBSERVATION WELL
 Screen 219.3 - 218.1 masl



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L
	PWQ0	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20	
12-Oct-10	2116			520	454	<0.02	<2	<2	0.03	1.5	0.15	0.11	<1	<0.02	40	<5		<10	<5	
09-Nov-10	2181										0.30	<0.01								
26-Oct-11	2358	<0.1		413		0.02	<2	<2	<0.02	<0.1	0.86	<0.01	2	<0.02	50	<5		<10	<5	
12-Oct-12	2552			454		<0.1	3	<2	<1		0.23		<4	<0.1	11	1		<3	10	
21-Oct-13	2733			557		<0.02	<2	<2	0.04		0.30		2	<0.02	70	<5		<10	<5	
14-Oct-14	2925			377		<0.02	<2	<2	<0.02		0.55		1	<0.02	70	0.7		<10	<5	
22-Sep-15	3132			475		<0.02	<2	<2	0.04		0.37	<0.01	<1	<0.02	50	0.7		<10	<5	861
06-Oct-16	3277			416		<0.02	<2	<2	<0.02		0.52	<0.01	1	<0.02	50	10.4		<10	<5	780
10-Oct-17	3454			749		<0.014	<2	<2	0.09		0.20	<0.01	<1	<0.02	100	<5		<10	5	860
09-Oct-18	3621			518		0.005	0.36	1.59	0.08		0.70		0.14	<0.05	7	1.86		1.4	4	
22-Oct-19	3809			364		0.003	0.23	1	0.08		0.81		0.13	<0.05	7	1.22		0.7	3	
05-Oct-20	4015			295		0.071	0.31	0.5	0.04		0.66		0.1	<0.05	7	1.27		0.9	<2	
05-Oct-21	4189			313		0.004	0.34	0.6	<0.09		0.96		0.13	<0.05	7	0.611		0.5	<2	
27-Sep-22	4347			329		0.003	0.33	0.4	<0.09		0.54		0.09	<0.05	9	0.74		0.8	<2	
27-Sep-23	4524			283		0.015	2.8	0.7	<0.05		0.962	0.039	0.61	<0.01	11	1		6.8	<1	
24-Sep-24	2061023			508		<0.005	7.5	1.8	0.08		1.29	0.033	1.61	<0.01	4	1.4		3.6	7	
01-Oct-25	252802304			565		<0.05	<5	<2	<0.5		0.411	0.0196	<0.5	<0.1	<10	<1		<5	<10	
TOTAL SAMPLES		1	0	16	1	16	16	16	16	2	17	9	16	16	16	16	0	16	16	3
AVERAGE 2025																				

all Concentrations ug/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**

OW2-I
SAND AQUIFER
 OBSERVATION WELL
 Screen 212.6 - 210.1 masl



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L
	PWQ0	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20	
13-Oct-10	2117			2620	4710	0.05	<2	<2	0.1	1.3	0.02	<0.01	<1	<0.02	50	<5		20	<5	
09-Nov-10	2182			2910		0.07	<2	<2	0.08		0.03	<0.01	2	<0.02	60	<5		10	8	
27-Oct-11	2359	0.2		2970		<0.02	<2	<2	0.05	0.2	2.58	<0.01	5	0.03	60	<5		20	7	
12-Oct-12	2565			3020		<0.1	9	<2	<1		<0.02		6	<0.1	5	3.1		14	7	
21-Oct-13	2734			2890		<0.02	<2	<2	0.1		0.03		14	0.02	60	<5		10	<5	
14-Oct-14	2926			2800		<0.02	<2	<2	0.02		0.02		<10	0.02	60	2		<10	<5	
22-Sep-15	3133			2520		<0.02	<2	<2	0.05		0.02	<0.01	5	0.02	60	2.1		<10	6	1580
03-Oct-16	3278			2550		<0.02	<2	<2	<0.02		0.03	<0.01	1	<0.02	60	0.6		10	<5	1560
10-Oct-17	3455			2950		<0.014	<2	<2	0.22		0.02	<0.01	<1	0.03	110	<5		10	<5	1501
09-Oct-18	3622			2480		0.006	0.41	1.36	0.08		0.05		0.32	<0.05	2	2.13		11.6	4	
22-Oct-19	3810			2380		0.005	0.28	1	0.23		0.38		0.3	<0.05	2	1.94		10.9	7	
05-Oct-20	4016			2070		0.007	0.36	0.6	0.06		0.82		0.26	<0.05	8	2.03		10.8	4	
05-Oct-21	4190			2450		0.003	0.43	1.3	<0.09		0.96		0.28	<0.05	6	1.82		10.4	3	
28-Sep-22	4348			2110		0.004	0.41	0.8	<0.09		0.09		0.36	<0.05	2	1.91		9.8	3	
26-Sep-23	4525			2200		0.013	24.7	3.4	<0.05		1.58	0.017	4.61	<0.01	2	2.5		18	1	
24-Sep-24	2061024			1920		0.027	13.1	3.8	0.07		0.722	<0.005	3.62	<0.01	1	2		12.4	8	
29-Sep-25	252802305			2160		<0.05	<5	<2	<0.5		3.83	0.0022	<0.5	<0.1	<10	1.54		8.37	<10	
TOTAL SAMPLES		1	0	17	1	17	17	17	17	2	17	9	17	17	17	17	0	17	17	3
AVERAGE 2025																				

all Concentrations ug/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**

OW2-II
SAND AQUIFER
 OBSERVATION WELL
 Screen 217.8 - 213.2 masl



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L
	PWQ0	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20	
13-Oct-10	2118			1830	4210	0.07	<2	8	<0.02	0.8	0.02	<0.01	2	0.1	50	10		<10	6	
09-Nov-10	2183			1910		0.13	<2	11	0.05		0.02	<0.01	1	<0.02	60	7		<10	6	
27-Oct-11	2360	0.2		2080		0.03	<2	12	0.08	0.4	0.15	<0.01	2	<0.02	50	<5		20	9	
12-Oct-12	2553			2350		<0.1	6	16	<1		<0.02		<4	<0.1	8	14.9		13	8	
21-Oct-13	2735			2050		0.03	<2	12	0.14		0.02		8	<0.02	60	15		<10	5	
15-Oct-14	2927			1920		0.03	<2	9	0.1		0.01		5	<0.02	50	10.8		<10	<5	
22-Sep-15	3134			1900		<0.02	<2	6	0.04		<0.01	<0.01	2	<0.02	50	10.5		<10	<5	1110
03-Oct-16	3279			1690		<0.02	<2	4	<0.02		0.01	<0.01	5	0.04	50	1.8		<10	<5	1070
10-Oct-17	3456			2070		0.17	<2	<2	<0.02		<0.01	<0.01	<1	<0.02	100	11		10	<5	1043
09-Oct-18	3623			1830		0.012	0.79	4.66	0.07		0.76		0.26	<0.05	3	13		7.1	5	
22-Oct-19	3811			2040		0.162	0.86	86.7	0.29		0.05		0.28	<0.05	19	13.4		8.5	8	
05-Oct-20	4017			1750		0.283	1.61	2.1	0.03		0.14		0.25	<0.05	4	13.3		7.9	3	
05-Oct-21	4191			2020		0.016	1.2	2.6	<0.09		0.50		0.25	<0.05	5	13.7		9.2	5	
28-Sep-22	4349			2020		0.008	1.21	2.5	<0.09		0.05		0.17	<0.05	4	15.1		11.4	3	
27-Sep-23	4526			2250		0.065	14.9	2.5	<0.05		0.093	0.014	1.5	<0.01	7	17.3		19	2	
24-Sep-24	2061025			1900		0.066	10.1	3	0.15		0.041	<0.005	1.75	0.01	5	14.9		16.3	6	
29-Sep-25	252802306			2300		0.859	<5	425	1.36		0.129	<0.005	<0.5	<0.1	37.9	15		19.8	<10	
TOTAL SAMPLES		1	0	17	1	17	17	17	17	2	17	9	17	17	17	17	0	17	17	3
AVERAGE 2025																				

all Concentrations ug/L unless otherwise indicated
 Anomalies shown in *italics* / Exceedence in **BOLD**

OW3
WASTE
 OBSERVATION WELL
 Screen 221.5 - 218.7 masl



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L
	PWQO	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20	
13-Oct-10	2119	1.1	24.8	416	1260	0.12	<2	<2	0.51	4.9	0.05	0.08	<1	<0.02	60	<5	<0.02	20	7	
09-Nov-10	2184			551		0.08	<2	<2	0.08		0.02	<0.01	<1	<0.02	60	<5		<10	7	
27-Oct-11	2361	<0.1		360		0.04	<2	<2	0.05	0.3	0.52	0.01	<1	<0.02	50	<5		<10	7	
12-Oct-12	2554			584		<0.1	5	<2	<1		<0.02		<4	<0.1	7	2.6		6	5	
21-Oct-13	2736			518		<0.02	<2	<2	0.11		0.14		<1	<0.02	70	<5		<10	7	
14-Oct-14	2928			490		<0.02	<2	<2	0.02		0.07		<1	<0.02	50	1.1		<10	10	
21-Sep-15	3135			512		0.03	2	<2	0.06		0.23	0.02	<1	<0.02	50	1.6		<10	5	691
03-Oct-16	3280			525		<0.02	3	<2	<0.02		0.26	<0.01	2	<0.02	50	8.8		<10	<5	715
10-Oct-17	3457			579		<0.014	<2	<2	0.03		0.27	<0.01	<1	<0.02	110	<5		<10	<5	573
10-Oct-18	3624			438		0.003	1.54	0.64	0.05		0.53		0.11	<0.05	6	1.07		4.7	4	
21-Oct-19	3812			323		0.01	0.92	1.1	0.19		8.71		0.11	<0.05	14	0.669		5.3	8	
05-Oct-20	4018			265		0.005	1.82	2	0.12		2.47		0.12	<0.05	5	1.18		5.9	3	
04-Oct-21	4192			195		0.041	0.58	1.9	0.84		0.17		0.08	<0.05	65	0.486		11.6	4	
27-Sep-22	4350			403		0.031	2.27	0.7	0.15		0.95		0.14	<0.05	6	1.96		9.3	<2	
27-Sep-23	4527			303		0.039	9.8	0.9	0.14		0.914	0.006	0.56	<0.01	11	2.1		8.8	1	
23-Sep-24	2061026			281		0.049	7.7	1.5	0.33		0.489	<0.005	0.45	<0.01	6	1.4		3.9	6	
29-Sep-25	252802307			420		<0.05	<5	<2	<0.5		0.656	<0.01	<0.5	<0.1	<10	1.76		<5	<10	
TOTAL SAMPLES		2	1	17	1	17	17	17	17	2	17	9	17	17	17	17	1	17	17	3
AVERAGE 2025																				

all Concentrations ug/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**

OW4-I
SAND AQUIFER
 OBSERVATION WELL
 Screen 214.7 - 212.6 masl



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L
	PWQ0	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20	
14-Oct-10	2120			1640	2180	0.1	<2	<2	0.07	0.8	0.02	<0.01	<1	<0.02	40	<5		<10	7	
10-Nov-10	2185			1770		0.08	<2	<2	0.09		0.02	<0.01	<1	<0.02	50	<5		<10	9	
28-Oct-11	2362	<0.1		1750		<0.02	<2	<2	0.05	0.3	3.43	<0.01	<1	<0.02	50	<5		<10	14	
12-Oct-12	2555			1790		<0.1	3	<2	<1		<0.02		<4	<0.1	7	2.6		<3	5	
21-Oct-13	2737			1750		<0.02	<2	<2	0.02		0.04		2	<0.02	70	<5		<10	5	
15-Oct-14	2929			1760		<0.02	<2	<2	0.02		<0.01		1	<0.02	50	1.6		<10	9	
23-Sep-15	3136			1700		<0.02	<2	<2	0.03		0.02	<0.01	<1	<0.02	50	1.6		<10	<5	667
04-Oct-16	3281			1710		0.09	<2	<2	<0.02		0.02	<0.01	<1	<0.02	50	1.1		<10	<5	675
11-Oct-17	3458			1900		<0.014	<2	<2	0.02		0.03	<0.01	<1	<0.02	110	7		<10	<5	603
10-Oct-18	3625			1630		<0.003	0.78	2.52	0.14		1.68		0.09	<0.05	4	2.12		1.3	6	
23-Oct-19	3813			1560		<0.003	0.66	0.8	0.15		2.53		0.08	<0.05	64	1.85		1.2	4	
02-Oct-20	4019			1580		0.029	2.63	2.3	1.14		5.79		0.09	<0.05	783	2.33		2.4	9	
05-Oct-21	4193			1560		0.008	0.87	0.9	<0.09		1.23		0.08	<0.05	17	1.83		1.2	5	
28-Sep-22	4351			1720		0.012	0.77	0.6	0.1		0.06		0.06	<0.05	7	1.82		0.9	<2	
26-Sep-23	4528			1680		0.039	9.9	2.9	0.31		22.7	0.076	0.56	<0.01	6	2.7		8	3	
23-Sep-24	2061027			1570		0.038	8.3	1.1	0.15		0.45	0.006	0.49	<0.01	3	1.9		3.2	8	
29-Sep-25	252802308			1660		<0.05	<5	<2	<0.5		1.56	<0.002	<0.5	<0.1	<10	1.14		<5	<10	
TOTAL SAMPLES		1	0	17	1	17	17	17	17	2	17	9	17	17	17	17	0	17	17	3
AVERAGE 2025																				

all Concentrations ug/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**

OW4-II UPPER SAND / SILTY SAND

OBSERVATION WELL
Screen 219.0 - 217.5 masl



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L
	PWQO	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20	
14-Oct-10	2121			62	107	0.06	<2	<2	0.09	0.2	0.45	0.26	<1	<0.02	50	<5		<10	<5	
10-Nov-10	2186										0.56	0.14								
28-Oct-11	2363	<0.1		47		<0.02	<2	<2	<0.02	<0.1	0.81	0.35	<1	<0.02	70	<5		<10	6	
12-Oct-12	2556			41		<0.1	<3	<2	<1		0.34		<4	<0.1	29	<0.5		<3	10	
21-Oct-13	2738			40		<0.02	<2	<2	<0.02		0.40		<1	<0.02	70	<5		<10	<5	
15-Oct-14	2930			37		<0.02	<2	<2	<0.02		0.57		<1	<0.02	50	<0.1		<10	<5	
23-Sep-15	3137			47		<0.02	<2	<2	<0.02		0.44	0.16	<1	<0.02	60	0.2		<10	<5	471
04-Oct-16	3282			38		<0.02	<2	<2	<0.02		0.35	0.16	<1	<0.02	50	1.3		<10	<5	349
11-Oct-17	3459			40		<0.014	<2	<2	<0.02		0.39	0.18	<1	<0.02	80	<5		<10	<5	286
10-Oct-18	3626			41.8		<0.003	0.33	0.69	0.07		0.46		0.16	<0.05	44	0.092		0.3	3	
23-Oct-19	3814			43.9		0.008	0.18	0.7	0.06		0.59		0.06	<0.05	18	0.069		0.1	2	
02-Oct-20	4020			36.7		0.064	0.77	1.3	0.1		0.55		0.1	<0.05	21	0.07		0.2	4	
05-Oct-21	4194			36.7		0.045	0.34	0.7	<0.09		0.52		0.05	<0.05	23	0.051		0.2	2	
28-Sep-22	4352			44.2		0.043	0.29	0.5	<0.09		0.35		0.1	<0.05	16	0.106		0.4	<2	
26-Sep-23	4529			48.1		0.031	3.6	0.3	<0.05		0.799	0.089	0.18	<0.01	32	0.3		3.5	<1	
23-Sep-24	2061028			33.3		0.021	3.8	0.8	0.12		0.135	0.061	<0.05	<0.01	19	0.2		0.8	5	
29-Sep-25	252802309			47.4		<0.05	<5	<2	<0.5		0.191	0.0733	<0.5	<0.1	16	<1		<5	<10	
TOTAL SAMPLES		1	0	16	1	16	16	16	16	2	17	9	16	16	16	16	0	16	16	3
AVERAGE 2025																				

all Concentrations ug/L unless otherwise indicated
Anomalies shown in *italics* / Exceedence in **BOLD**

OW5-I
SAND AQUIFER
 OBSERVATION WELL
 Screen 210.0 - 208.4 masl



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L
	PWQ0	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20	
14-Oct-10	2122	<0.1	1.7	847	535	<0.02	<2	<2	0.07	0.1	<0.01	<0.01	<1	<0.02	40	<5	<0.02	<10	<5	
10-Nov-10	2187			872		<0.02	<2	<2	0.04		0.01	<0.01	<1	<0.02	50	<5		<10	<5	
28-Oct-11	2364	<0.1		816		<0.02	<2	<2	0.04	<0.1	0.43	<0.01	<1	<0.02	50	<5		<10	9	
12-Oct-12	2557			793		0.3	4	<2	<1		<0.02		<4	<0.1	5	7		6	<5	
21-Oct-13	2739			918		<0.02	<2	<2	0.14		<0.01		2	<0.02	60	8		<10	<5	
14-Oct-14	2931			1030		<0.02	<2	<2	0.08		<0.01		3	<0.02	50	6		<10	<5	
23-Sep-15	3138			952		0.02	<2	<2	0.05		<0.01	<0.01	<1	<0.02	50	6		<10	<5	892
04-Oct-16	3283			1010		<0.02	<2	<2	<0.02		<0.01	<0.01	<1	<0.02	50	<0.1		<10	10	931
11-Oct-17	3460			1350		<0.014	<2	<2	0.19		<0.01	<0.01	<1	<0.02	110	10		<10	5	923
10-Oct-18	3627			1200		0.011	0.39	2.03	0.1		0.54		0.11	<0.05	2	7.51		6.1	5	
23-Oct-19	3815			1780		0.016	0.35	1.5	0.11		0.38		0.16	<0.05	4	7.83		8.1	4	
02-Oct-20	4021			1180		0.081	0.3	0.6	0.06		0.25		0.11	<0.05	2	6.62		5.8	4	
28-Sep-22	4397			1330		0.014	0.37	1.1	<0.09		0.20		0.11	<0.05	4	6.42		5.9	2	
25-Sep-23	4530			1940		0.06	17.9	1.8	<0.05		0.358	0.022	3.8	<0.01	3	8.6		17.1	<1	
23-Sep-24	2061029			1340		0.026	8.3	3.2	0.23		0.665	0.008	1.69	0.01	2	6.7		9.2	9	
29-Sep-25	252802310			2090		<0.05	<5	<2	<0.5		0.256	<0.001	<0.5	<0.1	<10	6.06		6.52	<10	
TOTAL SAMPLES		2	1	16	1	16	16	16	16	2	16	9	16	16	16	16	1	16	16	3
AVERAGE 2025																				

all Concentrations ug/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**

OW6-I
SAND AQUIFER
OBSERVATION WELL
Screen 217.1 - 214.1 masl



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L
	PWQO	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20	
14-Oct-10	2124	<0.1	7.9	1780	2960	0.04	3	3	0.05	1.2	0.02	0.02	<1	0.03	50	<5	<0.02	20	8	
09-Nov-10	2189			1870		0.13	2	3	0.04		0.02	<0.01	<1	0.04	60	<5		<10	7	
28-Oct-11	2366	<0.1		1700		<0.02	4	3	0.03	0.4	2.45	<0.01	<1	0.03	50	<5		20	12	
12-Oct-12	2559			1440		<0.1	5	<2	<1		0.04		<4	<0.1	12	14.1		11	<5	
22-Oct-13	2741			1520		0.04	3	<2	0.02		0.02		2	0.03	60	18		10	9	
15-Oct-14	2933			1480		0.02	2	3	0.05		0.01		2	0.03	50	12.4		<10	54	
24-Sep-15	3140			1310		<0.02	3	<2	<0.02		0.02	<0.01	1	0.04	50	12.5		10	<5	903
04-Oct-16	3285			1270		<0.02	3	<2	<0.02		0.04	<0.01	3	<0.02	50	5.3		10	<5	906
11-Oct-17	3462			1410		<0.014	<2	<2	0.16		<0.01	<0.01	<1	0.03	100	16		10	<5	872
10-Oct-18	3629			1180		0.011	2.39	2.4	0.12		0.82		0.26	<0.05	10	15.9		12.7	7	
23-Oct-19	3817			1150		0.011	2.43	0.3	0.03		0.76		0.23	<0.05	13	15.2		13.9	3	
02-Oct-20	4023			1010		0.010	3.20	1.7	0.03		1.41		0.18	<0.05	10	14.7		13.1	6	
04-Oct-21	4195			1020		0.011	2.99	1.2	<0.09		1.67		0.16	<0.05	28	15		13.6	2	
29-Sep-22	4353			1150		0.027	2.21	1.4	0.09		0.71		0.09	<0.05	10	15.6		12.5	2	
26-Sep-23	4531			1040		0.181	15.1	1.1	<0.05		5.52	0.029	0.87	<0.01	14	17.8		18.3	<1	
24-Sep-24	2061030			894		0.139	9.5	1.3	0.11		1.17	<0.005	0.71	0.02	7	13.9		15.4	5	
29-Sep-25	252802311			1040		<0.05	<5	<2	<0.5		0.942	<0.002	<0.5	<0.1	10.7	13.2		11.4	<10	

TOTAL SAMPLES	2	1	17	1	17	17	17	17	17	2	17	9	17	17	17	17	1	17	17	3
AVERAGE 2025																				

all Concentrations ug/L unless otherwise indicated
Anomalies shown in *Italics* / Exceedence in **BOLD**

OW6-II
WASTE
 OBSERVATION WELL
 Screen 219.9 - 217.4 masl



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L
	PWQO	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20	
13-Oct-10	2125	<0.1	1.3	468	4010	0.06	3	<2	0.05	0.3	0.30	0.01	<1	<0.02	60	<5	<0.02	<10	10	
09-Nov-10	2190			481		0.06	3	<2	0.06		0.39	0.01	<1	<0.02	70	<5		<10	10	
28-Oct-11	2367	<0.1		358		<0.02	4	<2	<0.02	0.2	1.64	<0.01	<1	<0.02	60	<5		<10	9	
12-Oct-12	2560			328		<0.1	4	<2	<1		0.32		<4	<0.1	12	2.1		<3	6	
22-Oct-13	2742			387		<0.02	3	<2	<0.02		0.39		1	<0.02	70	<5		<10	<5	
15-Oct-14	2934			403		<0.02	2	2	0.04		0.39		1	<0.02	60	1.6		<10	49	
24-Sep-15	3141			374		<0.02	3	<2	<0.02		0.33	<0.01	<1	<0.02	70	1.7		<10	6	933
04-Oct-16	3286			403		0.03	3	<2	<0.02		0.41	<0.01	<1	0.06	70	10.9		<10	<5	947
11-Oct-17	3463			464		0.071	<2	<2	0.15		0.44	<0.01	<1	<0.02	120	<5		<10	5	886
10-Oct-18	3630			440		0.004	2.25	1.22	0.07		0.97		0.16	<0.05	13	2.42		1.9	5	
23-Oct-19	3818			417		0.06	2.79	2	2.87		0.75		0.09	<0.05	384	2.24		2.7	12	
02-Oct-20	4024			352		0.115	2.1	0.5	0.06		1.74		0.15	<0.05	12	2.02		0.9	<2	
04-Oct-21	4196			388		0.078	2.42	0.8	0.71		1.23		0.15	<0.05	77	1.76		1.2	6	
29-Sep-22	4354			426		0.004	2.3	2	<0.09		1.58		0.19	<0.05	12	2.36		1	<2	
26-Sep-23	4532			423		0.106	8.4	0.8	<0.05		3.70	0.025	0.77	<0.01	15	2.4		9.6	2	
24-Sep-24	2061031			388		0.011	12.5	1.2	0.12		2.23	0.01	0.15	<0.01	12	1.4		4.2	7	
29-Sep-25	252802312			450		<0.05	<5	<2	<0.5		1.41	<0.002	<0.5	<0.1	13.6	1.97		<5	<10	
TOTAL SAMPLES		2	1	17	1	17	17	17	17	2	17	9	17	17	17	17	1	17	17	3
AVERAGE 2025																				

all Concentrations ug/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**

OW7
SAND AQUIFER
 OBSERVATION WELL
 Screen 218.9 - 213.1 masl

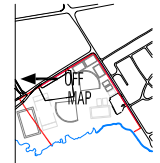
FORMERLY GP-KP1
 CONVERTED Apr 11



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L
	PWQ0	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20	
13-Oct-10	2126			475	601	0.07	<2	<2	0.09	1.9	0.02	0.04	<1	<0.02	50	<5		<10	13	
28-Oct-11	2368	<0.1		334		<0.02	<2	<2	<0.02	0.2	1.36	<0.01	<1	<0.02	50	<5		<10	9	
12-Oct-12	2561			316		<0.1	4	3	<1		0.04		<4	<0.1	9	1.7		<3	6	
22-Oct-13	2743			312		<0.02	<2	<2	<0.02		0.08		1	<0.02	60	<5		<10	<5	
14-Oct-14	2935			245		<0.02	<2	<2	<0.02		0.06		<1	<0.02	40	0.9		<10	<5	
23-Sep-15	3142			311		<0.02	<2	<2	<0.02		0.06	<0.01	<1	<0.02	50	1		<10	<5	839
03-Oct-16	3287			241		0.09	<2	<2	<0.02		0.06	<0.01	<1	<0.02	40	1.5		<10	<5	684
11-Oct-17	3464			212		<0.014	<2	<2	<0.02		0.05	<0.01	<1	<0.02	80	<5		<10	<5	504
10-Oct-18	3631			238		0.364	0.66	1.73	0.08		0.25		0.08	<0.05	4	0.843		0.6	4	
21-Oct-19	3819			537		0.011	0.33	0.6	0.05		0.49		0.09	<0.05	3	1.69		3.2	2	
02-Oct-20	4025			219		0.018	0.49	0.6	0.05		0.34		0.09	<0.05	3	0.585		0.6	3	
04-Oct-21	4197			240		0.003	0.69	0.8	<0.09		1.35		0.07	<0.05	7	0.563		0.4	3	
28-Sep-22	4355			269		0.007	0.6	<0.2	<0.09		0.45		<0.04	<0.05	3	0.922		0.6	<2	
25-Sep-23	4533			300		0.037	2.4	1.3	<0.05		0.235	0.02	0.7	<0.01	8	1.4		7.5	1	
23-Sep-24	2061032			266		0.033	7.7	1.2	0.08		0.096	<0.005	0.88	<0.01	3	1		3	8	
01-Oct-25	252802313			246		<0.05	<5	<2	<0.5		0.22	<0.001	<0.5	<0.1	<10	<1		<5	<10	
TOTAL SAMPLES		1	0	16	1	16	16	16	16	2	16	8	16	16	16	16	0	16	16	3
AVERAGE 2025																				

all Concentrations ug/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**

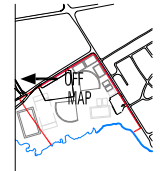
OW8
SAND AQUIFER
 OBSERVATION WELL
 Screen 221.3 - 219.0 masl



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L
	PWQ0	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20	
08-Aug-13	2662			151		0.03	<2	<2	0.1		<0.01		<1	<0.02	50	7		<10	17	
22-Oct-13	2744			255		<0.02	<2	<2	0.04		0.13		<1	<0.02	60	<5		<10	7	
15-Oct-14	2936			173		<0.02	<2	3	0.07		0.01		<1	<0.02	40	3.2		<10	60	
24-Sep-15	3143			251		<0.02	<2	<2	<0.02		0.14	<0.01	<1	<0.02	50	0.5		<10	10	651
03-Oct-16	3288			249		<0.02	<2	<2	<0.02		0.09	<0.01	<1	<0.02	50	0.9		<10	5	723
10-Oct-17	3465			290		<0.014	<2	<2	0.02		0.15	<0.01	<1	<0.02	110	<5		<10	<5	609
09-Oct-18	3632			274		<0.003	0.6	2.12	0.15		0.52		0.08	<0.05	4	0.566		9.1	7	
21-Oct-19	3820			173		<0.003	0.26	1.7	0.14		0.14		0.06	<0.05	3	2.02		15.6	4	
01-Oct-20	4026			239		<0.003	0.52	0.5	0.07		0.39		0.05	<0.05	2	0.327		3.6	4	
05-Oct-21	4198			231		0.004	0.79	0.3	<0.09		0.04		0.07	<0.05	6	0.557		22	3	
28-Sep-22	4356			130		1.455	0.5	2.7	0.34		0.48		0.04	<0.05	7	1.58		84.9	11	
27-Sep-23	4534			286		0.015	6.5	2.2	<0.05		0.143	0.007	0.43	<0.01	6	1.1		11.1	1	
24-Sep-24	2061033			169		<0.005	4.8	1.7	<0.05		0.15	0.006	0.61	<0.01	<1	0.7		7.2	3	
TOTAL SAMPLES		0	0	13	0	13	13	13	13	0	13	5	13	13	13	13	0	13	13	3
AVERAGE 2025																				

all Concentrations ug/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**

OW9-I
SAND AQUIFER CONTACT
 OBSERVATION WELL
 Screen 215.7 - 214.0 masl



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L
	PWQ0	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20	
27-Sep-22	4357			193		0.01	0.35	4.3	0.15		<0.03		0.31	<0.05	49	11.2		21.1	3	
26-Sep-23	4535			464		0.019	4.3	3.7	<0.05		12.8	0.031	1.29	<0.01	3	8.2		18.9	1	
23-Sep-24	2061034			311		0.024	8	4.1	0.15		0.331	0.026	0.78	<0.01	5	8.1		17.5	7	
01-Oct-25	252802314			238		<0.05	<5	2.36	<0.5		0.539	0.0221	<0.5	<0.1	<10	8.01		18.2	<10	
TOTAL SAMPLES		0	0	4	0	4	4	4	4	0	4	3	4	4	4	4	0	4	4	0
AVERAGE 2025																				

all Concentrations ug/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**

OW9-II UPPER SAND / SILTY SAND

OBSERVATION WELL
Screen 219.8 - 216.7 masl



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L
	PWQO	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20	
27-Sep-22	4358			87.4		0.016	0.25	7.8	<0.09		0.39		4.71	<0.05	3	2.24		8.9	<2	
26-Sep-23	4536			96.7		0.06	4.6	8.6	<0.05		3.28	0.011	3.14	<0.01	6	2.5		7.5	2	
23-Sep-24	2061035			91.1		0.118	6.5	15.9	0.14		0.134	<0.005	2.02	0.02	3	3.7		13.5	10	
01-Oct-25	252802315			74.4		0.057	<5	14.1	<0.5		0.936	0.0448	0.742	<0.1	<10	4.16		16.6	<10	
TOTAL SAMPLES		0	0	4	0	4	4	4	4	0	4	3	4	4	4	4	0	4	4	0
AVERAGE 2025																				

all Concentrations ug/L unless otherwise indicated
Anomalies shown in *Italics* / Exceedence in **BOLD**

BH1-III

PEAT

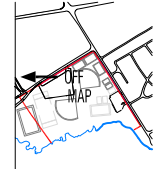
OBSERVATION WELL
Screen 218.8 - 218.2 masl



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L
	PWQ0	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20	
20-Jul-15	3033										0.03									912
28-Sep-15	3092										0.04									1030
19-Apr-16	3164										0.01									630
17-Jul-16	3200										0.02									959
17-Oct-16	3292										<0.01									1140
24-Apr-17	3327										0.04									570
18-Jul-17	3393										0.04									747
17-Oct-17	3469										0.02									1168
23-Apr-18	3520										1.51									
16-Jul-18	3573										1.92									
15-Oct-18	3646										2.68									
23-Apr-19	3698										1.77									
15-Jul-19	3748										1.35									
15-Oct-19	3824										0.82									
14-Apr-20	3860										1.38									
08-Jul-20	3912										3.14									
08-Oct-20	3968										1.58									
12-Jul-21	4094										1.45									
29-Sep-21	4152										3.77									
11-Apr-22	4218										1.50									
11-Jul-22	4286										1.57									
04-Oct-22	4362										5.44									
11-Apr-23	4414										2.80									
10-Jul-23	4463										2.60									
04-Oct-23	4540										1.34									
08-Apr-24	4613										0.706									
08-Jul-24	4641										0.349									
01-Oct-24	2064047										6.57									
16-Apr-25	250864102	0.14	1.16	84.3	17	0.0054	<0.5	0.44	0.081	0.636	<0.05		0.24	<0.01	31.7	0.34		0.82	2.1	
08-Jul-25	251839204			362		0.194	27	22.6	9.34		0.907		<0.5	<0.1	18900	10.5		22.9	88.4	
TOTAL SAMPLES		1	10	21	2	21	21	21	21	5	75	29	17	21	21	21	0	21	21	31
AVERAGE 2025				223		0.100	14	11.52	4.711		0.4535		<0.5	<0.1	9466	5.42		11.9	45.25	

all Concentrations ug/L unless otherwise indicated
Anomalies shown in *Italics* / Exceedence in **BOLD**

BH28-I
SAND AQUIFER
 OBSERVATION WELL
 Screen 218.0 - 216.5 masl



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L	
	PWQ0	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20		
31-Oct-08	810313																				822
23-Apr-09	0911681																				696
22-Jul-09	B09-2222																				772
30-Oct-09	0934218																				775
23-Apr-10	2033										0.01										
23-Jul-10	2093										0.01	<0.01									
21-Oct-10	2138										0.02										
13-Apr-11	2215										0.15										
21-Jul-11	2256										1.23										
19-Oct-11	2313										0.07										
27-Apr-12	2380										0.01										
25-Jul-12	2457										0.03										
16-Oct-12	2523										<0.02										
25-Apr-13	05955										<0.02										
31-Jul-13	2636										0.03										
10-Oct-13	2705										0.01										
30-Apr-14	2785										<0.01										
23-Jul-14	2847										<0.01										
29-Sep-14	2898										0.02										
17-Apr-15	2981										0.01										751
24-Sep-15	3128										<0.01										769
05-Oct-16	3273										0.01	<0.01									780
12-Oct-17	3451										<0.01	<0.01									720
10-Oct-18	3617										0.07										
21-Oct-19	3805										0.18										
05-Oct-20	4011										0.06										
05-Oct-21	4185										0.05										
27-Sep-22	4343										0.10										
26-Sep-23	4520										0.194	<0.005									
23-Sep-24	2061019										<0.002	<0.005									

TOTAL SAMPLES	0	9	17	0	17	17	17	17	17	3	46	23	14	17	17	17	1	17	17	26	
AVERAGE 2025																					

all Concentrations ug/L unless otherwise indicated
 Anomalies shown in *Italics* / Exceedence in **BOLD**

BH28-II
FILL
OBSERVATION WELL
Screen 220.4 - 218.9 masl



DATE	SAMPLE #	Sb	As	Ba	B	Cd	Cr	Cu	Pb	Mo	P mg/L	PO4 mg/L	Se	Ag	Al	Co	Hg	Ni	Zn	TDS mg/L		
	PWQO	20	5		200	0.5		5	5	40	0.02		100	0.1	75	0.9	0.2	25	20			
31-Oct-08	810313																				595	
23-Apr-09	0911682																				343	
22-Jul-09	B09-239			224		<0.02	<2	<2	<0.02		3.82		1.6	<0.02	30	<5		<10	16		569	
30-Oct-09	0934211																				513	
23-Apr-10	2034										1.30											
23-Jul-10	2094			272		0.08	2	<2	0.1		0.84	0.09	<1	<0.02	20	<5		<10	<5			
21-Oct-10	2139										2.25											
13-Apr-11	2216										0.31											
19-Oct-11	2314										0.34											
27-Apr-12	2381										1.56											
25-Jul-12	2458			256		<0.1	9	<2	<1		1.78		<4	<0.1	25	2.2		15	14			
16-Oct-12	2524										0.74											
25-Apr-13	06033										0.10											
31-Jul-13	2637			261		0.05	<2	<2	0.2		3.96		<1	<0.02	60	<5		<10	<5			
10-Oct-13	2706										1.28											
30-Apr-14	2786										0.06											
23-Jul-14	2848			282		<0.02	<2	<2	0.16		1.70		<1	<0.02	40	0.9		<10	17			
29-Sep-14	2899										0.80											
17-Apr-15	2982										0.17										333	
24-Sep-15	3129			143		<0.02	4	<2	0.18		7.05		1	<0.02	50	1.8		10	<5		731	
05-Oct-16	3274			293		<0.02	3	<2	<0.02		4.96	0.34	<1	<0.02	50	4.5		<10	<5		684	
12-Oct-17	3452			186		<0.014	<2	<2	<0.02		2.28	0.09	<1	<0.02	110	<5		10	<5		768	
10-Oct-18	3618			79.1		0.032	3.7	0.64	0.07		1.57		0.48	<0.05	6	1.83		16.1	4			
21-Oct-19	3806			279		0.019	0.81	2	0.18		0.43		0.29	<0.05	4	0.784		5.2	99			
05-Oct-20	4012			240		0.005	2.88	2.2	0.16		5.85		0.31	<0.05	12	0.626		4.5	6			
05-Oct-21	4186			177		0.042	2.99	1.3	0.7		2.30		0.29	<0.05	28	1.07		7	48			
27-Sep-22	4344			254		0.015	2.94	2.6	0.22		8.48		0.36	<0.05	12	1.4		10.7	46			
26-Sep-23	4521			208		0.034	5.2	1.9	0.18		10.6	3.23	0.61	<0.01	18	1.3		13.4	21			
23-Sep-24	2061020			35.5		0.023	10.1	2.1	0.2		5.07	1.02	1.44	<0.01	5	1.8		14	16			
01-Oct-25	252802301			433		<0.05	<5	<2	<0.5		5.03	0.911	<0.5	<0.1	11.4	1.75		6.1	<10			
TOTAL SAMPLES		0	9	37	1	37	37	37	37	4	52	25	33	37	37	37	0	37	37	26		
AVERAGE 2025																						

all Concentrations ug/L unless otherwise indicated
Anomalies shown in *Italics* / Exceedence in **BOLD**

Volatile Organic Compounds

Monitor	Parameter	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L																							
		M.D.L.	0.5	0.5	0.5	0.5	0.2	0.5	5	0.5	5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5																		
		PWQO	100	200	60	0.9	-	15	-	-	700	40	-	2.5	2.5	4	200	100	40	200	200	0.7	-	7	8	-	-	2.4	-	-	-	-	-																
		ODWS	5	-	-	-	5	80	-	-	-	-	200	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																
		Parameter	benzene	bromodichloromethane	bromofarm	bromomethane	Carbon Tetrachloride	Monochlorobenzene (Chlorobenzene)	Phloroethane	Phloroform	Phloromethane	Dibromochloromethane	Dibromodichloromethane	Dibromobenzene, 1,2- (Ethylenedibromide)	Dibromobenzene, 1,2-	Dibromobenzene, 1,3-	Dibromobenzene, 1,4-	Dibromochloroethane, 1,1-	Dibromochloroethane, 1,2-	Dibromochloroethane, 1,1-	Dibromochloroethane, cis-1,2-	Dibromochloroethane, trans-1,2-	Dibromopropane, 1,2-	Dibromopropylene, cis-1,3-	Dibromopropylene, trans-1,3-	Ethylbenzene	Ethylenechloride	Dichloromethane (Methylene Chloride)	Styrene	Tetrahydrofuran, 1,1,1,2-	Tetrahydrofuran, 1,1,2,2-	Tetrahydrofuran	Trichloroethane, 1,1,1-	Trichloroethane, 1,1,2-	Trichloroethylene	Toluene	Trichloroethane, 1,1,1-	Trichloroethane, 1,1,2-	Trichloroethylene	Trichlorofluoromethane	Vinyl Chloride	Xylene, m, p-	Xylene, o-						
OW1-I	01-Oct-2025	3.84				7.63						0.73	4.60					0.51																						1.33									
OW1-II	01-Oct-2025	3.87				8.07							4.09																												0.57								
OW1-III	01-Oct-2025	2.26				2.50								0.80																																			
OW2-I	29-Sep-2025	0.72																																							1.07								
OW2-II	29-Sep-2025	1.51				1.93								0.92																																			
OW3	29-Sep-2025					5.00								1.24																															0.55				
OW4-I	29-Sep-2025																																																
DUP 1	29-Sep-2025																																			0.53									0.44				
OW4-II	29-Sep-2025																																																
OW6-I	29-Sep-2025	1.94				21.9								2.25																																37.9			
OW6-II	29-Sep-2025	0.89				6.42								0.76																																	1620	0.42	
OW7	01-Oct-2025	0.62				4.04								1.04																																			3.46
OW9-I	01-Oct-2025	0.66				7.60													0.63																													0.47	
OW9-II	01-Oct-2025																																																
DUP 2	01-Oct-2025																																																

Note: Exceedances of the PWQO shown in Bold

APPENDIX C

Laboratory Certificates of Analysis



Your P.O. #: CA0034164.2458
 Your Project #: CA0034164.2458 TASK 002.2025
 Site Location: KITCHENER PARK LANDFILL
 Your C.O.C. #: 40278

Attention: Joel Robinson

WSP Canada Inc.
 121 Commerce Park Drive
 Unit L
 Barrie, ON
 CANADA L4N 8X1

Report Date: 2025/11/26
 Report #: R8658034
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5E3667

Received: 2025/11/13, 08:43

Sample Matrix: Air
 # Samples Received: 3

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Hydrogen Sulfide	3	N/A	2025/11/13	CAM SOP-00220	GC/FPD
Light Hydrocarbons	3	N/A	2025/11/13	CAM SOP-00204	GC/FID
Matrix Gases (1)	3	N/A	2025/11/13	CAM SOP-00225	GC/TCD
Volatile Organics in Air (ug/m3)	3	N/A	2025/11/17	BRL SOP-00304	EPA TO-15 m
Volatile Organics in Air (TO-15) (2)	3	N/A	2025/11/13	BRL SOP-00304	EPA TO-15 m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Argon interferes with Oxygen and is included in the reported Oxygen concentration. The atmosphere contains about 0.9% Argon.

(2) Air sampling canisters have been cleaned in accordance with U.S. EPA Method TO15. At the end of the cleaning, evacuation, and pressurization cycles, one canister was selected and was pressurized with Zero Air. This canister was then analyzed via TO15 on a GC/MS. The canister must have been found to contain <0.2 ppbv concentration of all target analytes in order for the batch to have been considered clean. Each canister also underwent a leak check prior to shipment.

Please Note: SUMMA® canister samples will be retained by Bureau Veritas for a period of 5 calendar days or as contractually agreed from the date of this report, after which time they will be cleaned for reuse. If you require a longer sample storage period, please contact your service representative.



Your P.O. #: CA0034164.2458
Your Project #: CA0034164.2458 TASK 002.2025
Site Location: KITCHENER PARK LANDFILL
Your C.O.C. #: 40278

Attention: Joel Robinson

WSP Canada Inc.
121 Commerce Park Drive
Unit L
Barrie, ON
CANADA L4N 8X1

Report Date: 2025/11/26
Report #: R8658034
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C5E3667
Received: 2025/11/13, 08:43

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Cristina (Maria) Bacchus, Project Manager
Email: maria.bacchus@bureauveritas.com
Phone# (905)817-5763

=====
This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.
For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



Bureau Veritas Job #: C5E3667
 Report Date: 2025/11/26

WSP Canada Inc.
 Client Project #: CA0034164.2458 TASK 002.2025
 Site Location: KITCHENER PARK LANDFILL
 Your P.O. #: CA0034164.2458

RESULTS OF ANALYSES OF AIR

Bureau Veritas ID		AXGT16	AXGT16	AXGT17	AXGT18		
Sampling Date		2025/11/12 10:00	2025/11/12 10:00	2025/11/12 11:00	2025/11/12 12:00		
COC Number		40278	40278	40278	40278		
	UNITS	GVP 1	GVP 1 Lab-Dup	GVP 2	GVP 3	RDL	QC Batch
Gas							
Methane	ppm	3	3	570	3	2	A055746
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate							



Bureau Veritas Job #: C5E3667
 Report Date: 2025/11/26

WSP Canada Inc.
 Client Project #: CA0034164.2458 TASK 002.2025
 Site Location: KITCHENER PARK LANDFILL
 Your P.O. #: CA0034164.2458

COMPRESSED GAS PARAMETERS (AIR)

Bureau Veritas ID		AXGT16			AXGT16			AXGT17	AXGT18		
Sampling Date		2025/11/12 10:00			2025/11/12 10:00			2025/11/12 11:00	2025/11/12 12:00		
COC Number		40278			40278			40278	40278		
	UNITS	GVP 1	RDL	QC Batch	GVP 1 Lab-Dup	RDL	QC Batch	GVP 2	GVP 3	RDL	QC Batch
Fixed Gases											
Oxygen	% v/v	19.4	0.1	A055765				19.1	21.8	0.1	A055765
Carbon Dioxide	% v/v	1.8	0.1	A055765				1.9	<0.1	0.1	A055765
Gas											
Hydrogen sulfide	ppmv	<0.3	0.3	A055961	<0.3	0.3	A055961	<0.3	<0.3	0.3	A055961
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate											



VOLATILE ORGANICS BY GC/MS (AIR)

Bureau Veritas ID		AXGT16		AXGT17		AXGT18		
Sampling Date		2025/11/12 10:00		2025/11/12 11:00		2025/11/12 12:00		
COC Number		40278		40278		40278		
	UNITS	GVP 1	RDL	GVP 2	RDL	GVP 3	RDL	QC Batch
Volatile Organics								
Dichlorodifluoromethane (FREON 12)	ppbv	2.59	0.20	2.62	0.20	0.54	0.20	A053421
1,2-Dichlorotetrafluoroethane	ppbv	0.18	0.17	1.24	0.17	<0.17	0.17	A053421
Chloromethane	ppbv	<0.30	0.30	<0.30	0.30	0.39	0.30	A053421
Vinyl Chloride	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
Chloroethane	ppbv	<0.30	0.30	<0.30	0.30	<0.30	0.30	A053421
1,3-Butadiene	ppbv	<0.50	0.50	<0.50	0.50	<0.50	0.50	A053421
Trichlorofluoromethane (FREON 11)	ppbv	0.20	0.20	0.26	0.20	0.21	0.20	A053421
Ethanol (ethyl alcohol)	ppbv	22.8	1.0	9.1	1.0	5.0	1.0	A053421
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<0.15	0.15	<0.15	0.15	A053421
2-propanol	ppbv	3.3	1.0	1.4	1.0	1.7	1.0	A053421
2-Propanone	ppbv	5.67	0.60	4.19	0.60	4.16	0.60	A053421
Methyl Ethyl Ketone (2-Butanone)	ppbv	2.25	0.20	1.89	0.20	3.08	0.20	A053421
Methyl Isobutyl Ketone	ppbv	0.24	0.20	<0.20	0.20	<0.20	0.20	A053421
Methyl Butyl Ketone (2-Hexanone)	ppbv	<1.0	1.0	<1.0	1.0	<1.0	1.0	A053421
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.20	0.20	<0.20	0.20	A053421
Ethyl Acetate	ppbv	4.5	1.0	2.7	1.0	2.5	1.0	A053421
1,1-Dichloroethylene	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
cis-1,2-Dichloroethylene	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
trans-1,2-Dichloroethylene	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
Methylene Chloride(Dichloromethane)	ppbv	1.46	0.60	<0.60	0.60	0.62	0.60	A053421
Chloroform	ppbv	0.41	0.10	0.86	0.10	<0.10	0.10	A053421
Carbon Tetrachloride	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
1,1-Dichloroethane	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
1,2-Dichloroethane	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
Ethylene Dibromide	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
1,1,1-Trichloroethane	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
1,1,2-Trichloroethane	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
1,1,2,2-Tetrachloroethane	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
cis-1,3-Dichloropropene	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
trans-1,3-Dichloropropene	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
1,2-Dichloropropane	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								



VOLATILE ORGANICS BY GC/MS (AIR)

Bureau Veritas ID		AXGT16		AXGT17		AXGT18		
Sampling Date		2025/11/12 10:00		2025/11/12 11:00		2025/11/12 12:00		
COC Number		40278		40278		40278		
	UNITS	GVP 1	RDL	GVP 2	RDL	GVP 3	RDL	QC Batch
Bromomethane	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
Bromoform	ppbv	<0.20	0.20	<0.20	0.20	<0.20	0.20	A053421
Bromodichloromethane	ppbv	<0.20	0.20	<0.20	0.20	<0.20	0.20	A053421
Dibromochloromethane	ppbv	<0.20	0.20	<0.20	0.20	<0.20	0.20	A053421
Trichloroethylene	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
Tetrachloroethylene	ppbv	0.11	0.10	0.25	0.10	<0.10	0.10	A053421
Benzene	ppbv	0.18	0.10	0.13	0.10	0.17	0.10	A053421
Toluene	ppbv	2.33	0.10	1.57	0.10	1.18	0.10	A053421
Ethylbenzene	ppbv	0.20	0.10	0.16	0.10	0.14	0.10	A053421
p+m-Xylene	ppbv	0.71	0.20	0.55	0.20	0.49	0.20	A053421
o-Xylene	ppbv	0.22	0.10	0.21	0.10	0.16	0.10	A053421
Styrene	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
4-ethyltoluene	ppbv	<0.50	0.50	<0.50	0.50	<0.50	0.50	A053421
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<0.50	0.50	<0.50	0.50	A053421
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<0.50	0.50	<0.50	0.50	A053421
Chlorobenzene	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
Benzyl chloride	ppbv	<0.50	0.50	<0.50	0.50	<0.50	0.50	A053421
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<0.40	0.40	<0.40	0.40	A053421
1,4-Dichlorobenzene	ppbv	0.14	0.10	0.10	0.10	<0.10	0.10	A053421
1,2-Dichlorobenzene	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
1,2,4-Trichlorobenzene	ppbv	<0.50	0.50	<0.50	0.50	<0.50	0.50	A053421
Hexachlorobutadiene	ppbv	<0.50	0.50	<0.50	0.50	<0.50	0.50	A053421
Hexane	ppbv	0.95	0.20	0.45	0.20	0.30	0.20	A053421
Heptane	ppbv	0.34	0.30	<0.30	0.30	<0.30	0.30	A053421
Cyclohexane	ppbv	<0.20	0.20	0.55	0.20	<0.20	0.20	A053421
Tetrahydrofuran	ppbv	1.64	0.40	<0.40	0.40	<0.40	0.40	A053421
1,4-Dioxane	ppbv	<1.0	1.0	<1.0	1.0	<1.0	1.0	A053421
Naphthalene	ppbv	<0.20	0.20	<0.20	0.20	<0.20	0.20	A053421
Total Xylenes	ppbv	0.93	0.30	0.76	0.30	0.65	0.30	A053421
1,1,1,2-Tetrachloroethane	ppbv	<0.10	0.10	<0.10	0.10	<0.10	0.10	A053421
Vinyl Bromide	ppbv	<0.20	0.20	<0.20	0.20	<0.20	0.20	A053421
Propene	ppbv	<1.5	1.5	<10	10	<1.5	1.5	A053421
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								



Bureau Veritas Job #: C5E3667
 Report Date: 2025/11/26

WSP Canada Inc.
 Client Project #: CA0034164.2458 TASK 002.2025
 Site Location: KITCHENER PARK LANDFILL
 Your P.O. #: CA0034164.2458

VOLATILE ORGANICS BY GC/MS (AIR)

Bureau Veritas ID		AXGT16		AXGT17		AXGT18		
Sampling Date		2025/11/12 10:00		2025/11/12 11:00		2025/11/12 12:00		
COC Number		40278		40278		40278		
	UNITS	GVP 1	RDL	GVP 2	RDL	GVP 3	RDL	QC Batch
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.20	0.20	<0.20	0.20	A053421
Carbon Disulfide	ppbv	<0.50	0.50	<0.50	0.50	<0.50	0.50	A053421
Vinyl Acetate	ppbv	<0.20	0.20	<0.40	0.40	<0.20	0.20	A053421
Surrogate Recovery (%)								
Bromochloromethane	%	84		85		80		A053421
D5-Chlorobenzene	%	88		89		80		A053421
Difluorobenzene	%	83		82		76		A053421
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								



CALCULATED VOLATILE ORGANICS (AIR)

Bureau Veritas ID		AXGT16		AXGT17		AXGT18		
Sampling Date		2025/11/12 10:00		2025/11/12 11:00		2025/11/12 12:00		
COC Number		40278		40278		40278		
	UNITS	GVP 1	RDL	GVP 2	RDL	GVP 3	RDL	QC Batch
Calculated Parameters								
Dichlorodifluoromethane (FREON 12)	ug/m3	12.8	0.99	12.9	0.99	2.67	0.99	A053495
1,2-Dichlorotetrafluoroethane	ug/m3	1.2	1.2	8.7	1.2	<1.2	1.2	A053495
Chloromethane	ug/m3	<0.62	0.62	<0.62	0.62	0.81	0.62	A053495
Vinyl Chloride	ug/m3	<0.26	0.26	<0.26	0.26	<0.26	0.26	A053495
Chloroethane	ug/m3	<0.79	0.79	<0.79	0.79	<0.79	0.79	A053495
1,3-Butadiene	ug/m3	<1.1	1.1	<1.1	1.1	<1.1	1.1	A053495
Trichlorofluoromethane (FREON 11)	ug/m3	1.1	1.1	1.4	1.1	1.2	1.1	A053495
Ethanol (ethyl alcohol)	ug/m3	43.0	1.9	17.2	1.9	9.5	1.9	A053495
Trichlorotrifluoroethane	ug/m3	<1.2	1.2	<1.2	1.2	<1.2	1.2	A053495
2-propanol	ug/m3	8.1	2.5	3.5	2.5	4.3	2.5	A053495
2-Propanone	ug/m3	13.5	1.4	9.9	1.4	9.9	1.4	A053495
Methyl Ethyl Ketone (2-Butanone)	ug/m3	6.62	0.59	5.58	0.59	9.09	0.59	A053495
Methyl Isobutyl Ketone	ug/m3	0.97	0.82	<0.82	0.82	<0.82	0.82	A053495
Methyl Butyl Ketone (2-Hexanone)	ug/m3	<4.1	4.1	<4.1	4.1	<4.1	4.1	A053495
Methyl t-butyl ether (MTBE)	ug/m3	<0.72	0.72	<0.72	0.72	<0.72	0.72	A053495
Ethyl Acetate	ug/m3	16.2	3.6	9.6	3.6	9.0	3.6	A053495
1,1-Dichloroethylene	ug/m3	<0.40	0.40	<0.40	0.40	<0.40	0.40	A053495
cis-1,2-Dichloroethylene	ug/m3	<0.40	0.40	<0.40	0.40	<0.40	0.40	A053495
trans-1,2-Dichloroethylene	ug/m3	<0.40	0.40	<0.40	0.40	<0.40	0.40	A053495
Methylene Chloride(Dichloromethane)	ug/m3	5.1	2.1	<2.1	2.1	2.2	2.1	A053495
Chloroform	ug/m3	1.99	0.49	4.19	0.49	<0.49	0.49	A053495
Carbon Tetrachloride	ug/m3	<0.63	0.63	<0.63	0.63	<0.63	0.63	A053495
1,1-Dichloroethane	ug/m3	<0.40	0.40	<0.40	0.40	<0.40	0.40	A053495
1,2-Dichloroethane	ug/m3	<0.40	0.40	<0.40	0.40	<0.40	0.40	A053495
Ethylene Dibromide	ug/m3	<0.77	0.77	<0.77	0.77	<0.77	0.77	A053495
1,1,1-Trichloroethane	ug/m3	<0.55	0.55	<0.55	0.55	<0.55	0.55	A053495
1,1,2-Trichloroethane	ug/m3	<0.55	0.55	<0.55	0.55	<0.55	0.55	A053495
1,1,2,2-Tetrachloroethane	ug/m3	<0.69	0.69	<0.69	0.69	<0.69	0.69	A053495
cis-1,3-Dichloropropene	ug/m3	<0.45	0.45	<0.45	0.45	<0.45	0.45	A053495
trans-1,3-Dichloropropene	ug/m3	<0.45	0.45	<0.45	0.45	<0.45	0.45	A053495
1,2-Dichloropropane	ug/m3	<0.46	0.46	<0.46	0.46	<0.46	0.46	A053495
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								



CALCULATED VOLATILE ORGANICS (AIR)

Bureau Veritas ID		AXGT16		AXGT17		AXGT18		
Sampling Date		2025/11/12 10:00		2025/11/12 11:00		2025/11/12 12:00		
COC Number		40278		40278		40278		
	UNITS	GVP 1	RDL	GVP 2	RDL	GVP 3	RDL	QC Batch
Bromomethane	ug/m3	<0.39	0.39	<0.39	0.39	<0.39	0.39	A053495
Bromoform	ug/m3	<2.1	2.1	<2.1	2.1	<2.1	2.1	A053495
Bromodichloromethane	ug/m3	<1.3	1.3	<1.3	1.3	<1.3	1.3	A053495
Dibromochloromethane	ug/m3	<1.7	1.7	<1.7	1.7	<1.7	1.7	A053495
Trichloroethylene	ug/m3	<0.54	0.54	<0.54	0.54	<0.54	0.54	A053495
Tetrachloroethylene	ug/m3	0.76	0.68	1.72	0.68	<0.68	0.68	A053495
Benzene	ug/m3	0.56	0.32	0.43	0.32	0.55	0.32	A053495
Toluene	ug/m3	8.77	0.38	5.91	0.38	4.44	0.38	A053495
Ethylbenzene	ug/m3	0.87	0.43	0.71	0.43	0.61	0.43	A053495
p+m-Xylene	ug/m3	3.08	0.87	2.39	0.87	2.13	0.87	A053495
o-Xylene	ug/m3	0.97	0.43	0.92	0.43	0.71	0.43	A053495
Styrene	ug/m3	<0.43	0.43	<0.43	0.43	<0.43	0.43	A053495
4-ethyltoluene	ug/m3	<2.5	2.5	<2.5	2.5	<2.5	2.5	A053495
1,3,5-Trimethylbenzene	ug/m3	<2.5	2.5	<2.5	2.5	<2.5	2.5	A053495
1,2,4-Trimethylbenzene	ug/m3	<2.5	2.5	<2.5	2.5	<2.5	2.5	A053495
Chlorobenzene	ug/m3	<0.46	0.46	<0.46	0.46	<0.46	0.46	A053495
Benzyl chloride	ug/m3	<2.6	2.6	<2.6	2.6	<2.6	2.6	A053495
1,3-Dichlorobenzene	ug/m3	<2.4	2.4	<2.4	2.4	<2.4	2.4	A053495
1,4-Dichlorobenzene	ug/m3	0.85	0.60	0.63	0.60	<0.60	0.60	A053495
1,2-Dichlorobenzene	ug/m3	<0.60	0.60	<0.60	0.60	<0.60	0.60	A053495
1,2,4-Trichlorobenzene	ug/m3	<3.7	3.7	<3.7	3.7	<3.7	3.7	A053495
Hexachlorobutadiene	ug/m3	<5.3	5.3	<5.3	5.3	<5.3	5.3	A053495
Hexane	ug/m3	3.35	0.70	1.59	0.70	1.07	0.70	A053495
Heptane	ug/m3	1.4	1.2	<1.2	1.2	<1.2	1.2	A053495
Cyclohexane	ug/m3	<0.69	0.69	1.90	0.69	<0.69	0.69	A053495
Tetrahydrofuran	ug/m3	4.8	1.2	<1.2	1.2	<1.2	1.2	A053495
1,4-Dioxane	ug/m3	<3.6	3.6	<3.6	3.6	<3.6	3.6	A053495
Naphthalene	ug/m3	<1.0	1.0	<1.0	1.0	<1.0	1.0	A053495
Total Xylenes	ug/m3	4.0	1.3	3.3	1.3	2.8	1.3	A053495
1,1,1,2-Tetrachloroethane	ug/m3	<0.69	0.69	<0.69	0.69	<0.69	0.69	A053495
Vinyl Bromide	ug/m3	<0.87	0.87	<0.87	0.87	<0.87	0.87	A053495
Propene	ug/m3	<2.6	2.6	<17	17	<2.6	2.6	A053495
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								



Bureau Veritas Job #: C5E3667
 Report Date: 2025/11/26

WSP Canada Inc.
 Client Project #: CA0034164.2458 TASK 002.2025
 Site Location: KITCHENER PARK LANDFILL
 Your P.O. #: CA0034164.2458

CALCULATED VOLATILE ORGANICS (AIR)

Bureau Veritas ID		AXGT16		AXGT17		AXGT18		
Sampling Date		2025/11/12 10:00		2025/11/12 11:00		2025/11/12 12:00		
COC Number		40278		40278		40278		
	UNITS	GVP 1	RDL	GVP 2	RDL	GVP 3	RDL	QC Batch
2,2,4-Trimethylpentane	ug/m3	<0.93	0.93	<0.93	0.93	<0.93	0.93	A053495
Carbon Disulfide	ug/m3	<1.6	1.6	<1.6	1.6	<1.6	1.6	A053495
Vinyl Acetate	ug/m3	<0.70	0.70	<1.4	1.4	<0.70	0.70	A053495
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								



Bureau Veritas Job #: C5E3667
 Report Date: 2025/11/26

WSP Canada Inc.
 Client Project #: CA0034164.2458 TASK 002.2025
 Site Location: KITCHENER PARK LANDFILL
 Your P.O. #: CA0034164.2458

TEST SUMMARY

Bureau Veritas ID: AXGT16
Sample ID: GVP 1
Matrix: Air

Collected: 2025/11/12
Shipped:
Received: 2025/11/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hydrogen Sulfide	GC/FPD	A055961	N/A	2025/11/13	Satvinder Bhathal
Light Hydrocarbons	GC/FID	A055746	N/A	2025/11/13	Vasan Thiagarajah
Matrix Gases	GC/TCD	A055765	N/A	2025/11/13	Vasan Thiagarajah
Volatile Organics in Air (ug/m3)	GC/MS	A053495	N/A	2025/11/17	Automated Statchk
Volatile Organics in Air (TO-15)	GC/MS	A053421	N/A	2025/11/13	Pratima Patel

Bureau Veritas ID: AXGT16 Dup
Sample ID: GVP 1
Matrix: Air

Collected: 2025/11/12
Shipped:
Received: 2025/11/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hydrogen Sulfide	GC/FPD	A055961	N/A	2025/11/13	Satvinder Bhathal
Light Hydrocarbons	GC/FID	A055746	N/A	2025/11/13	Vasan Thiagarajah

Bureau Veritas ID: AXGT17
Sample ID: GVP 2
Matrix: Air

Collected: 2025/11/12
Shipped:
Received: 2025/11/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hydrogen Sulfide	GC/FPD	A055961	N/A	2025/11/13	Satvinder Bhathal
Light Hydrocarbons	GC/FID	A055746	N/A	2025/11/13	Vasan Thiagarajah
Matrix Gases	GC/TCD	A055765	N/A	2025/11/13	Vasan Thiagarajah
Volatile Organics in Air (ug/m3)	GC/MS	A053495	N/A	2025/11/17	Automated Statchk
Volatile Organics in Air (TO-15)	GC/MS	A053421	N/A	2025/11/13	Pratima Patel

Bureau Veritas ID: AXGT18
Sample ID: GVP 3
Matrix: Air

Collected: 2025/11/12
Shipped:
Received: 2025/11/13

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hydrogen Sulfide	GC/FPD	A055961	N/A	2025/11/13	Satvinder Bhathal
Light Hydrocarbons	GC/FID	A055746	N/A	2025/11/13	Vasan Thiagarajah
Matrix Gases	GC/TCD	A055765	N/A	2025/11/13	Vasan Thiagarajah
Volatile Organics in Air (ug/m3)	GC/MS	A053495	N/A	2025/11/17	Automated Statchk
Volatile Organics in Air (TO-15)	GC/MS	A053421	N/A	2025/11/13	Pratima Patel



Bureau Veritas Job #: C5E3667
Report Date: 2025/11/26

WSP Canada Inc.
Client Project #: CA0034164.2458 TASK 002.2025
Site Location: KITCHENER PARK LANDFILL
Your P.O. #: CA0034164.2458

GENERAL COMMENTS

Matrix Gas Analysis: Results normalized to 100% dry volume.

Sample AXGT16 [GVP 1] : Increased DL for propene due to interference from propane.

Sample AXGT17 [GVP 2] : Increased DL for propene due to interference from propane.
Increased DL for Vinyl acetate due to interference.

Sample AXGT18 [GVP 3] : Increased DL for propene due to interference from propane.

Results relate only to the items tested.



Bureau Veritas Job #: C5E3667
Report Date: 2025/11/26

WSP Canada Inc.
Client Project #: CA0034164.2458 TASK 002.2025
Site Location: KITCHENER PARK LANDFILL
Your P.O. #: CA0034164.2458

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
A053421	TIM	Spiked Blank	Bromochloromethane	2025/11/13		108	%	60 - 140
			D5-Chlorobenzene	2025/11/13		110	%	60 - 140
			Difluorobenzene	2025/11/13		109	%	60 - 140
			Dichlorodifluoromethane (FREON 12)	2025/11/13		96	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2025/11/13		91	%	70 - 130
			Chloromethane	2025/11/13		88	%	70 - 130
			Vinyl Chloride	2025/11/13		93	%	70 - 130
			Chloroethane	2025/11/13		91	%	70 - 130
			1,3-Butadiene	2025/11/13		99	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2025/11/13		90	%	70 - 130
			Ethanol (ethyl alcohol)	2025/11/13		66 (1)	%	70 - 130
			Trichlorotrifluoroethane	2025/11/13		91	%	70 - 130
			2-propanol	2025/11/13		99	%	70 - 130
			2-Propanone	2025/11/13		82	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2025/11/13		95	%	70 - 130
			Methyl Isobutyl Ketone	2025/11/13		98	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2025/11/13		93	%	70 - 130
			Methyl t-butyl ether (MTBE)	2025/11/13		95	%	70 - 130
			Ethyl Acetate	2025/11/13		92	%	70 - 130
			1,1-Dichloroethylene	2025/11/13		96	%	70 - 130
			cis-1,2-Dichloroethylene	2025/11/13		91	%	70 - 130
			trans-1,2-Dichloroethylene	2025/11/13		92	%	70 - 130
			Methylene Chloride(Dichloromethane)	2025/11/13		92	%	70 - 130
			Chloroform	2025/11/13		93	%	70 - 130
			Carbon Tetrachloride	2025/11/13		102	%	70 - 130
			1,1-Dichloroethane	2025/11/13		90	%	70 - 130
			1,2-Dichloroethane	2025/11/13		88	%	70 - 130
			Ethylene Dibromide	2025/11/13		93	%	70 - 130
			1,1,1-Trichloroethane	2025/11/13		92	%	70 - 130
			1,1,2-Trichloroethane	2025/11/13		91	%	70 - 130
			1,1,2,2-Tetrachloroethane	2025/11/13		91	%	70 - 130
			cis-1,3-Dichloropropene	2025/11/13		96	%	70 - 130
			trans-1,3-Dichloropropene	2025/11/13		102	%	70 - 130
			1,2-Dichloropropane	2025/11/13		92	%	70 - 130
			Bromomethane	2025/11/13		95	%	70 - 130
			Bromoform	2025/11/13		94	%	70 - 130
			Bromodichloromethane	2025/11/13		97	%	70 - 130
			Dibromochloromethane	2025/11/13		100	%	70 - 130
			Trichloroethylene	2025/11/13		92	%	70 - 130
			Tetrachloroethylene	2025/11/13		87	%	70 - 130
			Benzene	2025/11/13		92	%	70 - 130
			Toluene	2025/11/13		94	%	70 - 130
			Ethylbenzene	2025/11/13		91	%	70 - 130
			p+m-Xylene	2025/11/13		90	%	70 - 130
			o-Xylene	2025/11/13		90	%	70 - 130
			Styrene	2025/11/13		91	%	70 - 130
			4-ethyltoluene	2025/11/13		93	%	70 - 130
			1,3,5-Trimethylbenzene	2025/11/13		92	%	70 - 130
			1,2,4-Trimethylbenzene	2025/11/13		96	%	70 - 130
			Chlorobenzene	2025/11/13		86	%	70 - 130
			Benzyl chloride	2025/11/13		124	%	70 - 130
			1,3-Dichlorobenzene	2025/11/13		94	%	70 - 130
			1,4-Dichlorobenzene	2025/11/13		94	%	70 - 130



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			1,2-Dichlorobenzene	2025/11/13		97	%	70 - 130
			1,2,4-Trichlorobenzene	2025/11/13		108	%	70 - 130
			Hexachlorobutadiene	2025/11/13		96	%	70 - 130
			Hexane	2025/11/13		96	%	70 - 130
			Heptane	2025/11/13		97	%	70 - 130
			Cyclohexane	2025/11/13		96	%	70 - 130
			Tetrahydrofuran	2025/11/13		96	%	70 - 130
			1,4-Dioxane	2025/11/13		100	%	70 - 130
			Naphthalene	2025/11/13		112	%	70 - 130
			Total Xylenes	2025/11/13		90	%	70 - 130
			1,1,1,2-Tetrachloroethane	2025/11/13		100	%	70 - 130
			Vinyl Bromide	2025/11/13		108	%	70 - 130
			Propene	2025/11/13		99	%	70 - 130
			2,2,4-Trimethylpentane	2025/11/13		102	%	70 - 130
			Carbon Disulfide	2025/11/13		97	%	70 - 130
			Vinyl Acetate	2025/11/13		112	%	70 - 130
A053421	TIM	Method Blank	Bromochloromethane	2025/11/13		91	%	60 - 140
			D5-Chlorobenzene	2025/11/13		77	%	60 - 140
			Difluorobenzene	2025/11/13		92	%	60 - 140
			Dichlorodifluoromethane (FREON 12)	2025/11/13	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2025/11/13	<0.17		ppbv	
			Chloromethane	2025/11/13	<0.30		ppbv	
			Vinyl Chloride	2025/11/13	<0.10		ppbv	
			Chloroethane	2025/11/13	<0.30		ppbv	
			1,3-Butadiene	2025/11/13	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2025/11/13	<0.20		ppbv	
			Ethanol (ethyl alcohol)	2025/11/13	<1.0		ppbv	
			Trichlorotrifluoroethane	2025/11/13	<0.15		ppbv	
			2-propanol	2025/11/13	<1.0		ppbv	
			2-Propanone	2025/11/13	<0.60		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2025/11/13	<0.20		ppbv	
			Methyl Isobutyl Ketone	2025/11/13	<0.20		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2025/11/13	<1.0		ppbv	
			Methyl t-butyl ether (MTBE)	2025/11/13	<0.20		ppbv	
			Ethyl Acetate	2025/11/13	<1.0		ppbv	
			1,1-Dichloroethylene	2025/11/13	<0.10		ppbv	
			cis-1,2-Dichloroethylene	2025/11/13	<0.10		ppbv	
			trans-1,2-Dichloroethylene	2025/11/13	<0.10		ppbv	
			Methylene Chloride(Dichloromethane)	2025/11/13	<0.60		ppbv	
			Chloroform	2025/11/13	<0.10		ppbv	
			Carbon Tetrachloride	2025/11/13	<0.10		ppbv	
			1,1-Dichloroethane	2025/11/13	<0.10		ppbv	
			1,2-Dichloroethane	2025/11/13	<0.10		ppbv	
			Ethylene Dibromide	2025/11/13	<0.10		ppbv	
			1,1,1-Trichloroethane	2025/11/13	<0.10		ppbv	
			1,1,2-Trichloroethane	2025/11/13	<0.10		ppbv	
			1,1,2,2-Tetrachloroethane	2025/11/13	<0.10		ppbv	
			cis-1,3-Dichloropropene	2025/11/13	<0.10		ppbv	
			trans-1,3-Dichloropropene	2025/11/13	<0.10		ppbv	
			1,2-Dichloropropane	2025/11/13	<0.10		ppbv	
			Bromomethane	2025/11/13	<0.10		ppbv	
			Bromoform	2025/11/13	<0.20		ppbv	
			Bromodichloromethane	2025/11/13	<0.20		ppbv	



QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dibromochloromethane	2025/11/13	<0.20		ppbv	
			Trichloroethylene	2025/11/13	<0.10		ppbv	
			Tetrachloroethylene	2025/11/13	<0.10		ppbv	
			Benzene	2025/11/13	<0.10		ppbv	
			Toluene	2025/11/13	<0.10		ppbv	
			Ethylbenzene	2025/11/13	<0.10		ppbv	
			p+m-Xylene	2025/11/13	<0.20		ppbv	
			o-Xylene	2025/11/13	<0.10		ppbv	
			Styrene	2025/11/13	<0.10		ppbv	
			4-ethyltoluene	2025/11/13	<0.50		ppbv	
			1,3,5-Trimethylbenzene	2025/11/13	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2025/11/13	<0.50		ppbv	
			Chlorobenzene	2025/11/13	<0.10		ppbv	
			Benzyl chloride	2025/11/13	<0.50		ppbv	
			1,3-Dichlorobenzene	2025/11/13	<0.40		ppbv	
			1,4-Dichlorobenzene	2025/11/13	<0.10		ppbv	
			1,2-Dichlorobenzene	2025/11/13	<0.10		ppbv	
			1,2,4-Trichlorobenzene	2025/11/13	<0.50		ppbv	
			Hexachlorobutadiene	2025/11/13	<0.50		ppbv	
			Hexane	2025/11/13	<0.20		ppbv	
			Heptane	2025/11/13	<0.30		ppbv	
			Cyclohexane	2025/11/13	<0.20		ppbv	
			Tetrahydrofuran	2025/11/13	<0.40		ppbv	
			1,4-Dioxane	2025/11/13	<1.0		ppbv	
			Naphthalene	2025/11/13	<0.20		ppbv	
			Total Xylenes	2025/11/13	<0.30		ppbv	
			1,1,1,2-Tetrachloroethane	2025/11/13	<0.10		ppbv	
			Vinyl Bromide	2025/11/13	<0.20		ppbv	
			Propene	2025/11/13	<0.50		ppbv	
			2,2,4-Trimethylpentane	2025/11/13	<0.20		ppbv	
			Carbon Disulfide	2025/11/13	<0.50		ppbv	
			Vinyl Acetate	2025/11/13	<0.20		ppbv	
A055746	VTH	Method Blank	Methane	2025/11/13	<2		ppm	
A055746	VTH	RPD [AXGT16-01]	Methane	2025/11/13	0.79		%	30
A055765	VTH	Method Blank	Oxygen	2025/11/13	<0.1		% v/v	
			Carbon Dioxide	2025/11/13	<0.1		% v/v	
A055961	SB1	Method Blank	Hydrogen sulfide	2025/11/13	<0.4		ppmv	
A055961	SB1	RPD [AXGT16-01]	Hydrogen sulfide	2025/11/13	NC		%	25

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



Bureau Veritas Job #: C5E3667
Report Date: 2025/11/26

WSP Canada Inc.
Client Project #: CA0034164.2458 TASK 002.2025
Site Location: KITCHENER PARK LANDFILL
Your P.O. #: CA0034164.2458

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Melanie Mabini, Team Leader

Tom Mitchell, B.Sc, Supervisor, Compressed Gases

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



Your P.O. #: CA0034164.2458
 Your Project #: CA0034164.2458
 Site Location: KITCHENER PARK LANDFILL
 Your C.O.C. #: N/A

Attention: Joel Robinson

WSP Canada Inc.
 121 Commerce Park Drive
 Unit L
 Barrie, ON
 CANADA L4N 8X1

Report Date: 2025/03/05
 Report #: R8497166
 Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C517787

Received: 2025/02/20, 09:45

Sample Matrix: Air
 # Samples Received: 3

Analyses	Quantity	Date	Date	Laboratory Method	Analytical Method
		Extracted	Analyzed		
Hydrogen Sulfide	3	N/A	2025/02/20	CAM SOP-00220	GC/FPD
Light Hydrocarbons	3	N/A	2025/02/24	CAM SOP-00204	GC/FID
Matrix Gases (1)	3	N/A	2025/02/24	CAM SOP-00225	GC/TCD
Volatile Organics in Air (ug/m3)	3	N/A	2025/02/21	BRL SOP-00304	EPA TO-15 m
Volatile Organics in Air (TO-15) (2)	3	N/A	2025/02/20	BRL SOP-00304	EPA TO-15 m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, EPA, APHA or the Quebec Ministry of Environment.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Argon interferes with Oxygen and is included in the reported Oxygen concentration. The atmosphere contains about 0.9% Argon.

(2) Air sampling canisters have been cleaned in accordance with U.S. EPA Method TO15. At the end of the cleaning, evacuation, and pressurization cycles, one canister was selected and was pressurized with Zero Air. This canister was then analyzed via TO15 on a GC/MS. The canister must have been found to contain <0.2 ppbv concentration of all target analytes in order for the batch to have been considered clean. Each canister also underwent a leak check prior to shipment.

Please Note: SUMMA® canister samples will be retained by Bureau Veritas for a period of 5 calendar days or as contractually agreed from the date of this report, after which time



Your P.O. #: CA0034164.2458
Your Project #: CA0034164.2458
Site Location: KITCHENER PARK LANDFILL
Your C.O.C. #: N/A

Attention: Joel Robinson

WSP Canada Inc.
121 Commerce Park Drive
Unit L
Barrie, ON
CANADA L4N 8X1

Report Date: 2025/03/05
Report #: R8497166
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C517787

Received: 2025/02/20, 09:45

they will be cleaned for reuse. If you require a longer sample storage period, please contact your service representative.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Cristina (Maria) Bacchus, Project Manager
Email: maria.bacchus@bureauveritas.com
Phone# (905)817-5763

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For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.



Bureau Veritas Job #: C517787
 Report Date: 2025/03/05

WSP Canada Inc.
 Client Project #: CA0034164.2458
 Site Location: KITCHENER PARK LANDFILL
 Your P.O. #: CA0034164.2458
 Sampler Initials: BD

RESULTS OF ANALYSES OF AIR

Bureau Veritas ID		AOEM22	AOEM22	AOEM23	AOEM24		
Sampling Date		2025/02/19 09:15	2025/02/19 09:15	2025/02/19 09:30	2025/02/19 09:50		
COC Number		N/A	N/A	N/A	N/A		
	UNITS	GVP 1	GVP 1 Lab-Dup	GVP 2	GVP 3	RDL	QC Batch
Gas							
Methane	ppm	4	4	2	2	2	9882375
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate							



Bureau Veritas Job #: C517787
 Report Date: 2025/03/05

WSP Canada Inc.
 Client Project #: CA0034164.2458
 Site Location: KITCHENER PARK LANDFILL
 Your P.O. #: CA0034164.2458
 Sampler Initials: BD

COMPRESSED GAS PARAMETERS (AIR)

Bureau Veritas ID		AOEM22			AOEM22			AOEM23		AOEM24	
Sampling Date		2025/02/19 09:15			2025/02/19 09:15			2025/02/19 09:30		2025/02/19 09:50	
COC Number		N/A			N/A			N/A		N/A	
	UNITS	GVP 1	RDL	QC Batch	GVP 1 Lab-Dup	RDL	QC Batch	GVP 2	GVP 3	RDL	QC Batch
Fixed Gases											
Oxygen	% v/v	21.6	0.1	9880012				21.8	21.8	0.1	9880012
Carbon Dioxide	% v/v	0.2	0.1	9880012				<0.1	<0.1	0.1	9880012
Gas											
Hydrogen sulfide	ppmv	<0.8	0.8	9878517	<0.8	0.8	9878517	<0.8	<0.8	0.8	9878517
RDL = Reportable Detection Limit QC Batch = Quality Control Batch Lab-Dup = Laboratory Initiated Duplicate											



VOLATILE ORGANICS BY GC/MS (AIR)

Bureau Veritas ID		AOEM22		AOEM23	AOEM24		
Sampling Date		2025/02/19 09:15		2025/02/19 09:30	2025/02/19 09:50		
COC Number		N/A		N/A	N/A		
	UNITS	GVP 1	RDL	GVP 2	GVP 3	RDL	QC Batch
Volatile Organics							
Dichlorodifluoromethane (FREON 12)	ppbv	0.49	0.20	0.46	0.53	0.20	9878220
1,2-Dichlorotetrafluoroethane	ppbv	<0.17	0.17	<0.17	<0.17	0.17	9878220
Chloromethane	ppbv	0.64	0.30	0.62	0.64	0.30	9878220
Vinyl Chloride	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
Chloroethane	ppbv	<0.30	0.30	<0.30	<0.30	0.30	9878220
1,3-Butadiene	ppbv	<0.50	0.50	<0.50	<0.50	0.50	9878220
Trichlorofluoromethane (FREON 11)	ppbv	0.23	0.20	0.23	1.28	0.20	9878220
Ethanol (ethyl alcohol)	ppbv	23.1	1.0	7.1	8.6	1.0	9878220
Trichlorotrifluoroethane	ppbv	<0.15	0.15	<0.15	<0.15	0.15	9878220
2-propanol	ppbv	<1.0	1.0	4.1	3.2	1.0	9878220
2-Propanone	ppbv	2.86	0.60	9.79	7.58	0.60	9878220
Methyl Ethyl Ketone (2-Butanone)	ppbv	0.32	0.20	0.55	0.40	0.20	9878220
Methyl Isobutyl Ketone	ppbv	<0.20	0.20	2.89	1.15	0.20	9878220
Methyl Butyl Ketone (2-Hexanone)	ppbv	<1.0	1.0	<1.0	<1.0	1.0	9878220
Methyl t-butyl ether (MTBE)	ppbv	<0.20	0.20	<0.20	<0.20	0.20	9878220
Ethyl Acetate	ppbv	<1.0	1.0	<1.0	<1.0	1.0	9878220
1,1-Dichloroethylene	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
cis-1,2-Dichloroethylene	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
trans-1,2-Dichloroethylene	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
Methylene Chloride(Dichloromethane)	ppbv	<0.60	0.60	<0.60	<0.60	0.60	9878220
Chloroform	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
Carbon Tetrachloride	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
1,1-Dichloroethane	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
1,2-Dichloroethane	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
Ethylene Dibromide	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
1,1,1-Trichloroethane	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
1,1,2-Trichloroethane	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
1,1,2,2-Tetrachloroethane	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
cis-1,3-Dichloropropene	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
trans-1,3-Dichloropropene	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							



BUREAU
VERITAS

Bureau Veritas Job #: C517787

Report Date: 2025/03/05

WSP Canada Inc.

Client Project #: CA0034164.2458

Site Location: KITCHENER PARK LANDFILL

Your P.O. #: CA0034164.2458

Sampler Initials: BD

VOLATILE ORGANICS BY GC/MS (AIR)

Bureau Veritas ID		AOEM22		AOEM23	AOEM24		
Sampling Date		2025/02/19 09:15		2025/02/19 09:30	2025/02/19 09:50		
COC Number		N/A		N/A	N/A		
	UNITS	GVP 1	RDL	GVP 2	GVP 3	RDL	QC Batch
1,2-Dichloropropane	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
Bromomethane	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
Bromoform	ppbv	<0.20	0.20	<0.20	<0.20	0.20	9878220
Bromodichloromethane	ppbv	<0.20	0.20	<0.20	<0.20	0.20	9878220
Dibromochloromethane	ppbv	<0.20	0.20	<0.20	<0.20	0.20	9878220
Trichloroethylene	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
Tetrachloroethylene	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
Benzene	ppbv	0.26	0.10	0.26	0.32	0.10	9878220
Toluene	ppbv	1.30	0.10	1.16	1.63	0.10	9878220
Ethylbenzene	ppbv	0.10	0.10	0.14	0.16	0.10	9878220
p+m-Xylene	ppbv	0.43	0.20	0.73	0.85	0.20	9878220
o-Xylene	ppbv	0.13	0.10	0.20	0.20	0.10	9878220
Styrene	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
4-ethyltoluene	ppbv	<0.50	0.50	<0.50	<0.50	0.50	9878220
1,3,5-Trimethylbenzene	ppbv	<0.50	0.50	<0.50	<0.50	0.50	9878220
1,2,4-Trimethylbenzene	ppbv	<0.50	0.50	<0.50	<0.50	0.50	9878220
Chlorobenzene	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
Benzyl chloride	ppbv	<0.50	0.50	<0.50	<0.50	0.50	9878220
1,3-Dichlorobenzene	ppbv	<0.40	0.40	<0.40	<0.40	0.40	9878220
1,4-Dichlorobenzene	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
1,2-Dichlorobenzene	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
1,2,4-Trichlorobenzene	ppbv	<0.50	0.50	<0.50	<0.50	0.50	9878220
Hexachlorobutadiene	ppbv	<0.50	0.50	<0.50	<0.50	0.50	9878220
Hexane	ppbv	0.30	0.20	0.28	0.35	0.20	9878220
Heptane	ppbv	<0.30	0.30	0.37	<0.30	0.30	9878220
Cyclohexane	ppbv	<0.20	0.20	<0.20	<0.20	0.20	9878220
Tetrahydrofuran	ppbv	<0.40	0.40	<0.40	<0.40	0.40	9878220
1,4-Dioxane	ppbv	<1.0	1.0	<1.0	<1.0	1.0	9878220
Naphthalene	ppbv	0.21	0.20	<0.20	<0.20	0.20	9878220
Total Xylenes	ppbv	0.56	0.30	0.93	1.05	0.30	9878220
1,1,1,2-Tetrachloroethane	ppbv	<0.10	0.10	<0.10	<0.10	0.10	9878220
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							



Bureau Veritas Job #: C517787
 Report Date: 2025/03/05

WSP Canada Inc.
 Client Project #: CA0034164.2458
 Site Location: KITCHENER PARK LANDFILL
 Your P.O. #: CA0034164.2458
 Sampler Initials: BD

VOLATILE ORGANICS BY GC/MS (AIR)

Bureau Veritas ID		AOEM22		AOEM23	AOEM24		
Sampling Date		2025/02/19 09:15		2025/02/19 09:30	2025/02/19 09:50		
COC Number		N/A		N/A	N/A		
	UNITS	GVP 1	RDL	GVP 2	GVP 3	RDL	QC Batch
Vinyl Bromide	ppbv	<0.20	0.20	<0.20	<0.20	0.20	9878220
Propene	ppbv	<2.0	2.0	<1.0	<1.0	1.0	9878220
2,2,4-Trimethylpentane	ppbv	<0.20	0.20	<0.20	<0.20	0.20	9878220
Carbon Disulfide	ppbv	<0.50	0.50	1.02	0.66	0.50	9878220
Vinyl Acetate	ppbv	<0.20	0.20	<0.20	<0.20	0.20	9878220
Surrogate Recovery (%)							
Bromochloromethane	%	84		101	100		9878220
D5-Chlorobenzene	%	79		96	95		9878220
Difluorobenzene	%	84		101	101		9878220
RDL = Reportable Detection Limit QC Batch = Quality Control Batch							



CALCULATED VOLATILE ORGANICS (AIR)

Bureau Veritas ID		AOEM22		AOEM23	AOEM24		
Sampling Date		2025/02/19 09:15		2025/02/19 09:30	2025/02/19 09:50		
COC Number		N/A		N/A	N/A		
	UNITS	GVP 1	RDL	GVP 2	GVP 3	RDL	QC Batch
Calculated Parameters							
Dichlorodifluoromethane (FREON 12)	ug/m3	2.43	0.99	2.26	2.64	0.99	9878189
1,2-Dichlorotetrafluoroethane	ug/m3	<1.2	1.2	<1.2	<1.2	1.2	9878189
Chloromethane	ug/m3	1.32	0.62	1.29	1.33	0.62	9878189
Vinyl Chloride	ug/m3	<0.26	0.26	<0.26	<0.26	0.26	9878189
Chloroethane	ug/m3	<0.79	0.79	<0.79	<0.79	0.79	9878189
1,3-Butadiene	ug/m3	<1.1	1.1	<1.1	<1.1	1.1	9878189
Trichlorofluoromethane (FREON 11)	ug/m3	1.3	1.1	1.3	7.2	1.1	9878189
Ethanol (ethyl alcohol)	ug/m3	43.6	1.9	13.4	16.1	1.9	9878189
Trichlorotrifluoroethane	ug/m3	<1.2	1.2	<1.2	<1.2	1.2	9878189
2-propanol	ug/m3	<2.5	2.5	10.1	7.8	2.5	9878189
2-Propanone	ug/m3	6.8	1.4	23.3	18.0	1.4	9878189
Methyl Ethyl Ketone (2-Butanone)	ug/m3	0.95	0.59	1.61	1.17	0.59	9878189
Methyl Isobutyl Ketone	ug/m3	<0.82	0.82	11.9	4.70	0.82	9878189
Methyl Butyl Ketone (2-Hexanone)	ug/m3	<4.1	4.1	<4.1	<4.1	4.1	9878189
Methyl t-butyl ether (MTBE)	ug/m3	<0.72	0.72	<0.72	<0.72	0.72	9878189
Ethyl Acetate	ug/m3	<3.6	3.6	<3.6	<3.6	3.6	9878189
1,1-Dichloroethylene	ug/m3	<0.40	0.40	<0.40	<0.40	0.40	9878189
cis-1,2-Dichloroethylene	ug/m3	<0.40	0.40	<0.40	<0.40	0.40	9878189
trans-1,2-Dichloroethylene	ug/m3	<0.40	0.40	<0.40	<0.40	0.40	9878189
Methylene Chloride(Dichloromethane)	ug/m3	<2.1	2.1	<2.1	<2.1	2.1	9878189
Chloroform	ug/m3	<0.49	0.49	<0.49	<0.49	0.49	9878189
Carbon Tetrachloride	ug/m3	<0.63	0.63	<0.63	<0.63	0.63	9878189
1,1-Dichloroethane	ug/m3	<0.40	0.40	<0.40	<0.40	0.40	9878189
1,2-Dichloroethane	ug/m3	<0.40	0.40	<0.40	<0.40	0.40	9878189
Ethylene Dibromide	ug/m3	<0.77	0.77	<0.77	<0.77	0.77	9878189
1,1,1-Trichloroethane	ug/m3	<0.55	0.55	<0.55	<0.55	0.55	9878189
1,1,2-Trichloroethane	ug/m3	<0.55	0.55	<0.55	<0.55	0.55	9878189
1,1,2,2-Tetrachloroethane	ug/m3	<0.69	0.69	<0.69	<0.69	0.69	9878189
cis-1,3-Dichloropropene	ug/m3	<0.45	0.45	<0.45	<0.45	0.45	9878189
trans-1,3-Dichloropropene	ug/m3	<0.45	0.45	<0.45	<0.45	0.45	9878189
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							



CALCULATED VOLATILE ORGANICS (AIR)

Bureau Veritas ID		AOEM22		AOEM23	AOEM24		
Sampling Date		2025/02/19 09:15		2025/02/19 09:30	2025/02/19 09:50		
COC Number		N/A		N/A	N/A		
	UNITS	GVP 1	RDL	GVP 2	GVP 3	RDL	QC Batch
1,2-Dichloropropane	ug/m3	<0.46	0.46	<0.46	<0.46	0.46	9878189
Bromomethane	ug/m3	<0.39	0.39	<0.39	<0.39	0.39	9878189
Bromoform	ug/m3	<2.1	2.1	<2.1	<2.1	2.1	9878189
Bromodichloromethane	ug/m3	<1.3	1.3	<1.3	<1.3	1.3	9878189
Dibromochloromethane	ug/m3	<1.7	1.7	<1.7	<1.7	1.7	9878189
Trichloroethylene	ug/m3	<0.54	0.54	<0.54	<0.54	0.54	9878189
Tetrachloroethylene	ug/m3	<0.68	0.68	<0.68	<0.68	0.68	9878189
Benzene	ug/m3	0.82	0.32	0.84	1.03	0.32	9878189
Toluene	ug/m3	4.89	0.38	4.39	6.15	0.38	9878189
Ethylbenzene	ug/m3	0.44	0.43	0.61	0.68	0.43	9878189
p+m-Xylene	ug/m3	1.86	0.87	3.17	3.67	0.87	9878189
o-Xylene	ug/m3	0.55	0.43	0.87	0.87	0.43	9878189
Styrene	ug/m3	<0.43	0.43	<0.43	<0.43	0.43	9878189
4-ethyltoluene	ug/m3	<2.5	2.5	<2.5	<2.5	2.5	9878189
1,3,5-Trimethylbenzene	ug/m3	<2.5	2.5	<2.5	<2.5	2.5	9878189
1,2,4-Trimethylbenzene	ug/m3	<2.5	2.5	<2.5	<2.5	2.5	9878189
Chlorobenzene	ug/m3	<0.46	0.46	<0.46	<0.46	0.46	9878189
Benzyl chloride	ug/m3	<2.6	2.6	<2.6	<2.6	2.6	9878189
1,3-Dichlorobenzene	ug/m3	<2.4	2.4	<2.4	<2.4	2.4	9878189
1,4-Dichlorobenzene	ug/m3	<0.60	0.60	<0.60	<0.60	0.60	9878189
1,2-Dichlorobenzene	ug/m3	<0.60	0.60	<0.60	<0.60	0.60	9878189
1,2,4-Trichlorobenzene	ug/m3	<3.7	3.7	<3.7	<3.7	3.7	9878189
Hexachlorobutadiene	ug/m3	<5.3	5.3	<5.3	<5.3	5.3	9878189
Hexane	ug/m3	1.04	0.70	1.00	1.23	0.70	9878189
Heptane	ug/m3	<1.2	1.2	1.5	<1.2	1.2	9878189
Cyclohexane	ug/m3	<0.69	0.69	<0.69	<0.69	0.69	9878189
Tetrahydrofuran	ug/m3	<1.2	1.2	<1.2	<1.2	1.2	9878189
1,4-Dioxane	ug/m3	<3.6	3.6	<3.6	<3.6	3.6	9878189
Naphthalene	ug/m3	1.1	1.0	<1.0	<1.0	1.0	9878189
Total Xylenes	ug/m3	2.4	1.3	4.0	4.5	1.3	9878189
1,1,1,2-Tetrachloroethane	ug/m3	<0.69	0.69	<0.69	<0.69	0.69	9878189
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							



Bureau Veritas Job #: C517787
 Report Date: 2025/03/05

WSP Canada Inc.
 Client Project #: CA0034164.2458
 Site Location: KITCHENER PARK LANDFILL
 Your P.O. #: CA0034164.2458
 Sampler Initials: BD

CALCULATED VOLATILE ORGANICS (AIR)

Bureau Veritas ID		AOEM22		AOEM23	AOEM24		
Sampling Date		2025/02/19 09:15		2025/02/19 09:30	2025/02/19 09:50		
COC Number		N/A		N/A	N/A		
	UNITS	GVP 1	RDL	GVP 2	GVP 3	RDL	QC Batch
Vinyl Bromide	ug/m3	<0.87	0.87	<0.87	<0.87	0.87	9878189
Propene	ug/m3	<3.4	3.4	<1.7	<1.7	1.7	9878189
2,2,4-Trimethylpentane	ug/m3	<0.93	0.93	<0.93	<0.93	0.93	9878189
Carbon Disulfide	ug/m3	<1.6	1.6	3.2	2.1	1.6	9878189
Vinyl Acetate	ug/m3	<0.70	0.70	<0.70	<0.70	0.70	9878189
RDL = Reportable Detection Limit							
QC Batch = Quality Control Batch							



Bureau Veritas Job #: C517787
 Report Date: 2025/03/05

WSP Canada Inc.
 Client Project #: CA0034164.2458
 Site Location: KITCHENER PARK LANDFILL
 Your P.O. #: CA0034164.2458
 Sampler Initials: BD

TEST SUMMARY

Bureau Veritas ID: AOEM22
Sample ID: GVP 1
Matrix: Air

Collected: 2025/02/19
Shipped:
Received: 2025/02/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hydrogen Sulfide	GC/FPD	9878517	N/A	2025/02/20	Iqbal Hasan
Light Hydrocarbons	GC/FID	9882375	N/A	2025/02/24	Vasan Thiagarajah
Matrix Gases	GC/TCD	9880012	N/A	2025/02/24	Vasan Thiagarajah
Volatile Organics in Air (ug/m3)	GC/MS	9878189	N/A	2025/02/21	Automated Statchk
Volatile Organics in Air (TO-15)	GC/MS	9878220	N/A	2025/02/20	Pratima Patel

Bureau Veritas ID: AOEM22 Dup
Sample ID: GVP 1
Matrix: Air

Collected: 2025/02/19
Shipped:
Received: 2025/02/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hydrogen Sulfide	GC/FPD	9878517	N/A	2025/02/20	Iqbal Hasan
Light Hydrocarbons	GC/FID	9882375	N/A	2025/02/24	Vasan Thiagarajah

Bureau Veritas ID: AOEM23
Sample ID: GVP 2
Matrix: Air

Collected: 2025/02/19
Shipped:
Received: 2025/02/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hydrogen Sulfide	GC/FPD	9878517	N/A	2025/02/20	Iqbal Hasan
Light Hydrocarbons	GC/FID	9882375	N/A	2025/02/24	Vasan Thiagarajah
Matrix Gases	GC/TCD	9880012	N/A	2025/02/24	Vasan Thiagarajah
Volatile Organics in Air (ug/m3)	GC/MS	9878189	N/A	2025/02/21	Automated Statchk
Volatile Organics in Air (TO-15)	GC/MS	9878220	N/A	2025/02/20	Pratima Patel

Bureau Veritas ID: AOEM24
Sample ID: GVP 3
Matrix: Air

Collected: 2025/02/19
Shipped:
Received: 2025/02/20

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Hydrogen Sulfide	GC/FPD	9878517	N/A	2025/02/20	Iqbal Hasan
Light Hydrocarbons	GC/FID	9882375	N/A	2025/02/24	Vasan Thiagarajah
Matrix Gases	GC/TCD	9880012	N/A	2025/02/24	Vasan Thiagarajah
Volatile Organics in Air (ug/m3)	GC/MS	9878189	N/A	2025/02/21	Automated Statchk
Volatile Organics in Air (TO-15)	GC/MS	9878220	N/A	2025/02/20	Pratima Patel



Bureau Veritas Job #: C517787
Report Date: 2025/03/05

WSP Canada Inc.
Client Project #: CA0034164.2458
Site Location: KITCHENER PARK LANDFILL
Your P.O. #: CA0034164.2458
Sampler Initials: BD

GENERAL COMMENTS

Matrix Gas Analysis: Results normalized to 100% dry volume.

Sample AOEM22 [GVP 1] : Increased DL for propene due to interference from propane.

Sample AOEM23 [GVP 2] : Increased DL for propene due to interference from propane.

Sample AOEM24 [GVP 3] : Increased DL for propene due to interference from propane.

Results relate only to the items tested.



BUREAU
VERITAS

Bureau Veritas Job #: C517787
Report Date: 2025/03/05

WSP Canada Inc.
Client Project #: CA0034164.2458
Site Location: KITCHENER PARK LANDFILL
Your P.O. #: CA0034164.2458
Sampler Initials: BD

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9878220	TIM	Spiked Blank	Bromochloromethane	2025/02/20		101	%	60 - 140
			D5-Chlorobenzene	2025/02/20		100	%	60 - 140
			Difluorobenzene	2025/02/20		100	%	60 - 140
			Dichlorodifluoromethane (FREON 12)	2025/02/20		104	%	70 - 130
			1,2-Dichlorotetrafluoroethane	2025/02/20		123	%	70 - 130
			Chloromethane	2025/02/20		123	%	70 - 130
			Vinyl Chloride	2025/02/20		122	%	70 - 130
			Chloroethane	2025/02/20		120	%	70 - 130
			1,3-Butadiene	2025/02/20		126	%	70 - 130
			Trichlorofluoromethane (FREON 11)	2025/02/20		114	%	70 - 130
			Ethanol (ethyl alcohol)	2025/02/20		74	%	70 - 130
			Trichlorotrifluoroethane	2025/02/20		121	%	70 - 130
			2-propanol	2025/02/20		127	%	70 - 130
			2-Propanone	2025/02/20		124	%	70 - 130
			Methyl Ethyl Ketone (2-Butanone)	2025/02/20		111	%	70 - 130
			Methyl Isobutyl Ketone	2025/02/20		122	%	70 - 130
			Methyl Butyl Ketone (2-Hexanone)	2025/02/20		120	%	70 - 130
			Methyl t-butyl ether (MTBE)	2025/02/20		105	%	70 - 130
			Ethyl Acetate	2025/02/20		107	%	70 - 130
			1,1-Dichloroethylene	2025/02/20		128	%	70 - 130
			cis-1,2-Dichloroethylene	2025/02/20		109	%	70 - 130
			trans-1,2-Dichloroethylene	2025/02/20		110	%	70 - 130
			Methylene Chloride(Dichloromethane)	2025/02/20		106	%	70 - 130
			Chloroform	2025/02/20		108	%	70 - 130
			Carbon Tetrachloride	2025/02/20		101	%	70 - 130
			1,1-Dichloroethane	2025/02/20		114	%	70 - 130
			1,2-Dichloroethane	2025/02/20		106	%	70 - 130
			Ethylene Dibromide	2025/02/20		113	%	70 - 130
			1,1,1-Trichloroethane	2025/02/20		97	%	70 - 130
			1,1,2-Trichloroethane	2025/02/20		111	%	70 - 130
			1,1,2,2-Tetrachloroethane	2025/02/20		111	%	70 - 130
			cis-1,3-Dichloropropene	2025/02/20		110	%	70 - 130
			trans-1,3-Dichloropropene	2025/02/20		105	%	70 - 130
			1,2-Dichloropropane	2025/02/20		112	%	70 - 130
			Bromomethane	2025/02/20		111	%	70 - 130
			Bromoform	2025/02/20		116	%	70 - 130
			Bromodichloromethane	2025/02/20		117	%	70 - 130
			Dibromochloromethane	2025/02/20		119	%	70 - 130
			Trichloroethylene	2025/02/20		106	%	70 - 130
			Tetrachloroethylene	2025/02/20		109	%	70 - 130
			Benzene	2025/02/20		110	%	70 - 130
			Toluene	2025/02/20		115	%	70 - 130
			Ethylbenzene	2025/02/20		109	%	70 - 130
			p+m-Xylene	2025/02/20		111	%	70 - 130
			o-Xylene	2025/02/20		115	%	70 - 130
			Styrene	2025/02/20		116	%	70 - 130
			4-ethyltoluene	2025/02/20		113	%	70 - 130
			1,3,5-Trimethylbenzene	2025/02/20		113	%	70 - 130
			1,2,4-Trimethylbenzene	2025/02/20		111	%	70 - 130
			Chlorobenzene	2025/02/20		107	%	70 - 130



Bureau Veritas Job #: C517787
Report Date: 2025/03/05

WSP Canada Inc.
Client Project #: CA0034164.2458
Site Location: KITCHENER PARK LANDFILL
Your P.O. #: CA0034164.2458
Sampler Initials: BD

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Benzyl chloride	2025/02/20		98	%	70 - 130
			1,3-Dichlorobenzene	2025/02/20		109	%	70 - 130
			1,4-Dichlorobenzene	2025/02/20		111	%	70 - 130
			1,2-Dichlorobenzene	2025/02/20		112	%	70 - 130
			1,2,4-Trichlorobenzene	2025/02/20		103	%	70 - 130
			Hexachlorobutadiene	2025/02/20		94	%	70 - 130
			Hexane	2025/02/20		114	%	70 - 130
			Heptane	2025/02/20		111	%	70 - 130
			Cyclohexane	2025/02/20		111	%	70 - 130
			Tetrahydrofuran	2025/02/20		108	%	70 - 130
			1,4-Dioxane	2025/02/20		121	%	70 - 130
			Naphthalene	2025/02/20		105	%	70 - 130
			Total Xylenes	2025/02/20		112	%	70 - 130
			1,1,1,2-Tetrachloroethane	2025/02/20		107	%	70 - 130
			Vinyl Bromide	2025/02/20		134 (1)	%	70 - 130
			Propene	2025/02/20		107	%	70 - 130
			2,2,4-Trimethylpentane	2025/02/20		114	%	70 - 130
			Carbon Disulfide	2025/02/20		113	%	70 - 130
9878220	TIM	Method Blank	Vinyl Acetate	2025/02/20		110	%	70 - 130
			Bromochloromethane	2025/02/20		107	%	60 - 140
			D5-Chlorobenzene	2025/02/20		99	%	60 - 140
			Difluorobenzene	2025/02/20		109	%	60 - 140
			Dichlorodifluoromethane (FREON 12)	2025/02/20	<0.20		ppbv	
			1,2-Dichlorotetrafluoroethane	2025/02/20	<0.17		ppbv	
			Chloromethane	2025/02/20	<0.30		ppbv	
			Vinyl Chloride	2025/02/20	<0.10		ppbv	
			Chloroethane	2025/02/20	<0.30		ppbv	
			1,3-Butadiene	2025/02/20	<0.50		ppbv	
			Trichlorofluoromethane (FREON 11)	2025/02/20	<0.20		ppbv	
			Ethanol (ethyl alcohol)	2025/02/20	<1.0		ppbv	
			Trichlorotrifluoroethane	2025/02/20	<0.15		ppbv	
			2-propanol	2025/02/20	<1.0		ppbv	
			2-Propanone	2025/02/20	<0.60		ppbv	
			Methyl Ethyl Ketone (2-Butanone)	2025/02/20	<0.20		ppbv	
			Methyl Isobutyl Ketone	2025/02/20	<0.20		ppbv	
			Methyl Butyl Ketone (2-Hexanone)	2025/02/20	<1.0		ppbv	
			Methyl t-butyl ether (MTBE)	2025/02/20	<0.20		ppbv	
			Ethyl Acetate	2025/02/20	<1.0		ppbv	
			1,1-Dichloroethylene	2025/02/20	<0.10		ppbv	
			cis-1,2-Dichloroethylene	2025/02/20	<0.10		ppbv	
			trans-1,2-Dichloroethylene	2025/02/20	<0.10		ppbv	
			Methylene Chloride(Dichloromethane)	2025/02/20	<0.60		ppbv	
			Chloroform	2025/02/20	<0.10		ppbv	
			Carbon Tetrachloride	2025/02/20	<0.10		ppbv	
			1,1-Dichloroethane	2025/02/20	<0.10		ppbv	
			1,2-Dichloroethane	2025/02/20	<0.10		ppbv	
			Ethylene Dibromide	2025/02/20	<0.10		ppbv	
			1,1,1-Trichloroethane	2025/02/20	<0.10		ppbv	
			1,1,2-Trichloroethane	2025/02/20	<0.10		ppbv	
			1,1,2,2-Tetrachloroethane	2025/02/20	<0.10		ppbv	



Bureau Veritas Job #: C517787
 Report Date: 2025/03/05

WSP Canada Inc.
 Client Project #: CA0034164.2458
 Site Location: KITCHENER PARK LANDFILL
 Your P.O. #: CA0034164.2458
 Sampler Initials: BD

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			cis-1,3-Dichloropropene	2025/02/20	<0.10		ppbv	
			trans-1,3-Dichloropropene	2025/02/20	<0.10		ppbv	
			1,2-Dichloropropane	2025/02/20	<0.10		ppbv	
			Bromomethane	2025/02/20	<0.10		ppbv	
			Bromoform	2025/02/20	<0.20		ppbv	
			Bromodichloromethane	2025/02/20	<0.20		ppbv	
			Dibromochloromethane	2025/02/20	<0.20		ppbv	
			Trichloroethylene	2025/02/20	<0.10		ppbv	
			Tetrachloroethylene	2025/02/20	<0.10		ppbv	
			Benzene	2025/02/20	<0.10		ppbv	
			Toluene	2025/02/20	<0.10		ppbv	
			Ethylbenzene	2025/02/20	<0.10		ppbv	
			p+m-Xylene	2025/02/20	<0.20		ppbv	
			o-Xylene	2025/02/20	<0.10		ppbv	
			Styrene	2025/02/20	<0.10		ppbv	
			4-ethyltoluene	2025/02/20	<0.50		ppbv	
			1,3,5-Trimethylbenzene	2025/02/20	<0.50		ppbv	
			1,2,4-Trimethylbenzene	2025/02/20	<0.50		ppbv	
			Chlorobenzene	2025/02/20	<0.10		ppbv	
			Benzyl chloride	2025/02/20	<0.50		ppbv	
			1,3-Dichlorobenzene	2025/02/20	<0.40		ppbv	
			1,4-Dichlorobenzene	2025/02/20	<0.10		ppbv	
			1,2-Dichlorobenzene	2025/02/20	<0.10		ppbv	
			1,2,4-Trichlorobenzene	2025/02/20	<0.50		ppbv	
			Hexachlorobutadiene	2025/02/20	<0.50		ppbv	
			Hexane	2025/02/20	<0.20		ppbv	
			Heptane	2025/02/20	<0.30		ppbv	
			Cyclohexane	2025/02/20	<0.20		ppbv	
			Tetrahydrofuran	2025/02/20	<0.40		ppbv	
			1,4-Dioxane	2025/02/20	<1.0		ppbv	
			Naphthalene	2025/02/20	<0.20		ppbv	
			Total Xylenes	2025/02/20	<0.30		ppbv	
			1,1,1,2-Tetrachloroethane	2025/02/20	<0.10		ppbv	
			Vinyl Bromide	2025/02/20	<0.20		ppbv	
			Propene	2025/02/20	<0.50		ppbv	
			2,2,4-Trimethylpentane	2025/02/20	<0.20		ppbv	
			Carbon Disulfide	2025/02/20	<0.50		ppbv	
			Vinyl Acetate	2025/02/20	<0.20		ppbv	
9878517	IH0	Method Blank	Hydrogen sulfide	2025/02/20	<0.4		ppmv	
9878517	IH0	RPD [AOEM22-01]	Hydrogen sulfide	2025/02/20	NC		%	25
9880012	VTH	Method Blank	Oxygen	2025/02/24	<0.1		% v/v	
			Carbon Dioxide	2025/02/24	<0.1		% v/v	
9880012	VTH	RPD	Oxygen	2025/02/24	2.0		%	20
			Carbon Dioxide	2025/02/24	9.3		%	20
9882375	VTH	Method Blank	Methane	2025/02/24	<2		ppm	



Bureau Veritas Job #: C517787
 Report Date: 2025/03/05

WSP Canada Inc.
 Client Project #: CA0034164.2458
 Site Location: KITCHENER PARK LANDFILL
 Your P.O. #: CA0034164.2458
 Sampler Initials: BD

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC									
Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits	
9882375	VTH	RPD [AOEM22-01]	Methane	2025/02/24	0.19		%	30	
<p>Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.</p> <p>Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.</p> <p>Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.</p> <p>Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.</p> <p>NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).</p> <p>(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.</p>									



Bureau Veritas Job #: C517787
Report Date: 2025/03/05

WSP Canada Inc.
Client Project #: CA0034164.2458
Site Location: KITCHENER PARK LANDFILL
Your P.O. #: CA0034164.2458
Sampler Initials: BD

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Melanie Mabini, Team Leader

Tom Mitchell, B.Sc, Supervisor, Compressed Gases

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

CERTIFICATE OF ANALYSIS

Work Order	: WT2528023	Laboratory	: ALS Environmental - Waterloo
Client	: City of Orillia	Account Manager	: Karanpartap Singh
Contact	: Ian Acheson	Address	: 60 Northland Road, Unit 1
Address	: 50 Andrew St. S. Suite 300 Orillia Ontario Canada L3V 7T5		: Waterloo ON Canada N2V 2B8
Telephone	: ----	E-mail	: karanpartap.singh@alsglobal.com
Project	: WASTE DIVERSION SITE	Telephone	: 19055076910
PO	: 86912	Date Samples Received	: 02-Oct-2025 14:00
C-O-C number	: ----	Date Analysis Commenced	: 03-Oct-2025
Sampler	: IA	Issue Date	: 14-Oct-2025 14:36
Site	: ----		
Quote number	: Waste Diversion Site		
No. of samples received	: 19		
No. of samples analysed	: 19		

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

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
David Tremblett	VOC Section Supervisor	VOC, Waterloo, Ontario
Hannah Lewis	Inorganics Analyst	Inorganics, Waterloo, Ontario
Jon Fisher	Laboratory Manager - Environmental	Metals, Waterloo, Ontario
Jon Fisher	Laboratory Manager - Environmental	Inorganics, Waterloo, Ontario
Jon Fisher	Laboratory Manager - Environmental	Centralized Prep, Waterloo, Ontario
Lee McTavish		Inorganics, Winnipeg, Manitoba
Nik Perkio	Senior Analyst	Inorganics, 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).

<i>Unit</i>	<i>Description</i>
-	no units
%	percent
meq/L	milliequivalents per litre
mg/L	milligrams per litre
pH units	pH units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre

<: 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

<u>Qualifier</u>	<u>Description</u>
BODL	Limit of Reporting for BOD was increased to account for the largest volume of sample tested.
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).
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
OWP	Organic water sample contained visible sediment (must be included as part of analysis). Measured concentrations of organic substances in water can be biased high due to presence of sediment.
SP	Sample was preserved at the laboratory.



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	BH28-II ----	OW1-I ----	OW1-II ----	OW1-III ----	OW2-I ----
					Client sampling date / time	01-Oct-2025 13:45	01-Oct-2025 10:35	01-Oct-2025 10:45	01-Oct-2025 11:10	29-Sep-2025 14:30
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-001	WT2528023-002	WT2528023-003	WT2528023-004	WT2528023-005	
					Result	Result	Result	Result	Result	
Sample Preparation										
Dissolved carbon filtration location	----	EP358/WT	-	-	field	field	field	field	field	
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/WT	2.0	mg/L	880	699	654	657	1310	
Alkalinity, carbonate (as CaCO3)	----	E290/WT	2.0	mg/L	<10.0 ^{DLM}	<2.0	<2.0	<2.0	<10.0 ^{DLM}	
Alkalinity, hydroxide (as CaCO3)	----	E290/WT	2.0	mg/L	<10.0 ^{DLM}	<2.0	<2.0	<2.0	<10.0 ^{DLM}	
Alkalinity, total (as CaCO3)	----	E290/WT	2.0	mg/L	880	699	654	657	1310	
Conductivity	----	E100/WT	2.0	µS/cm	1690	1440	1370	1340	1920	
Hardness (as CaCO3), dissolved	----	EC100/WT	0.50	mg/L	653	548	519	650	862	
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/WT	0.50	mg/L	681	652	566	667	2820	
pH	----	E108/WT	0.10	pH units	7.57	7.51	7.53	7.74	7.21	
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WT	0.0050	mg/L	39.7	18.0	21.9	5.06	0.142	
Chloride	16887-00-6	E235.Cl/WT	0.50	mg/L	36.8 ^{DLDS}	84.7 ^{DLDS}	74.5 ^{DLDS}	77.4 ^{DLDS}	96.1 ^{DLDS}	
Fluoride	16984-48-8	E235.F/WT	0.020	mg/L	0.148 ^{DLDS}	<0.100 ^{DLDS}	<0.100 ^{DLDS}	0.125 ^{DLDS}	<0.100 ^{DLDS}	
Kjeldahl nitrogen, total [TKN]	----	E318/WT	0.050	mg/L	47.4	23.5	32.0	6.78	1.34	
Nitrate (as N)	14797-55-8	E235.NO3/WT	0.020	mg/L	0.107 ^{DLDS}	<0.100 ^{DLDS}	<0.100 ^{DLDS}	<0.100 ^{DLDS}	<0.100 ^{DLDS}	
Nitrite (as N)	14797-65-0	E235.NO2/WT	0.010	mg/L	<0.050 ^{DLDS}	<0.050 ^{DLDS}	<0.050 ^{DLDS}	<0.050 ^{DLDS}	<0.050 ^{DLDS}	
Nitrogen, total organic	----	EC363/WT	0.050	mg/L	<9.39	5.50	10.1	1.72	1.20	
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/WT	0.0010	mg/L	0.911	0.0348	<0.0010	0.0196	0.0022	
Phosphorus, total	7723-14-0	E372-U/WT	0.0020	mg/L	5.03	0.110	0.0325	0.411	3.83	
Sulfate (as SO4)	14808-79-8	E235.SO4/WT	0.30	mg/L	4.08 ^{DLDS}	<1.50 ^{DLDS}	<1.50 ^{DLDS}	<1.50 ^{DLDS}	2.48 ^{DLDS}	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	BH28-II ----	OW1-I ----	OW1-II ----	OW1-III ----	OW2-I ----
					Client sampling date / time	01-Oct-2025 13:45	01-Oct-2025 10:35	01-Oct-2025 10:45	01-Oct-2025 11:10	29-Sep-2025 14:30
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-001	WT2528023-002	WT2528023-003	WT2528023-004	WT2528023-005	
					Result	Result	Result	Result	Result	
Organic / Inorganic Carbon										
Carbon, dissolved inorganic [DIC]	----	E353-L/WP	0.50	mg/L	189	151	132	131	226	
Carbon, dissolved organic [DOC]	----	E358-L/WT	0.50	mg/L	19.5	16.1	15.8	11.7	14.7	
Ion Balance										
Anion sum	----	EC101A/WT	0.10	meq/L	18.7	16.4	15.2	15.3	28.9	
Anion sum	----	EC101/WT	0.10	meq/L	18.7	16.4	15.2	15.3	28.9	
Cation sum	----	EC101/WT	0.10	meq/L	18.7	17.0	16.5	16.3	24.2	
Cation sum (total)	----	EC101A/WT	0.10	meq/L	19.6	19.8	18.0	17.0	69.1	
Ion balance (cations/anions)	----	EC101A/WT	0.01	%	105	121	118	111	239	
Ion balance (APHA)	----	EC101A/WT	0.010	%	2.35	9.39	8.43	5.26	41.0	
Ion balance (cations/anions)	----	EC101/WT	0.010	%	100	104	108	106	83.7	
Ion balance (APHA)	----	EC101/WT	0.01	%	0.0	1.80	4.10	3.16	-8.85	
Total Metals										
Aluminum, total	7429-90-5	E420/WT	0.0030	mg/L	0.116 DLHC	1.39 DLHC	0.216 DLHC	1.84 DLHC	27.3 DLHC	
Barium, total	7440-39-3	E420/WT	0.00010	mg/L	0.387 DLHC	2.68 DLHC	2.06 DLHC	0.598 DLHC	2.95 DLHC	
Cadmium, total	7440-43-9	E420/WT	0.0000050	mg/L	0.000478 DLHC	0.000120 DLHC	0.000138 DLHC	0.000285 DLHC	0.000886 DLHC	
Calcium, total	7440-70-2	E420/WT	0.050	mg/L	248 DLHC	189 DLHC	172 DLHC	198 DLHC	751 DLHC	
Chromium, total	7440-47-3	E420/WT	0.00050	mg/L	0.00530 DLHC	<0.00500 DLHC	<0.00500 DLHC	<0.00500 DLHC	0.0430 DLHC	
Cobalt, total	7440-48-4	E420/WT	0.00010	mg/L	0.00192 DLHC	0.00986 DLHC	0.0182 DLHC	0.00211 DLHC	0.0235 DLHC	
Copper, total	7440-50-8	E420/WT	0.00050	mg/L	0.00999 DLHC	0.00884 DLHC	<0.00500 DLHC	<0.00500 DLHC	0.0588 DLHC	
Iron, total	7439-89-6	E420/WT	0.010	mg/L	41.1 DLHC	30.8 DLHC	45.1 DLHC	12.6 DLHC	55.6 DLHC	
Lead, total	7439-92-1	E420/WT	0.000050	mg/L	0.0103 DLHC	0.00123 DLHC	<0.000500 DLHC	0.00104 DLHC	0.0271 DLHC	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	BH28-II ----	OW1-I ----	OW1-II ----	OW1-III ----	OW2-I ----
					Client sampling date / time	01-Oct-2025 13:45	01-Oct-2025 10:35	01-Oct-2025 10:45	01-Oct-2025 11:10	29-Sep-2025 14:30
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-001	WT2528023-002	WT2528023-003	WT2528023-004	WT2528023-005	
					Result	Result	Result	Result	Result	
Total Metals										
Magnesium, total	7439-95-4	E420/WT	0.0050	mg/L	15.1 DLHC	43.7 DLHC	33.1 DLHC	42.0 DLHC	230 DLHC	
Manganese, total	7439-96-5	E420/WT	0.00010	mg/L	0.723 DLHC	0.237 DLHC	0.238 DLHC	1.30 DLHC	2.66 DLHC	
Nickel, total	7440-02-0	E420/WT	0.00050	mg/L	0.00883 DLHC	0.00860 DLHC	0.00908 DLHC	<0.00500 DLHC	0.0548 DLHC	
Potassium, total	7440-09-7	E420/WT	0.050	mg/L	16.5 DLHC	18.4 DLHC	19.6 DLHC	6.39 DLHC	12.0 DLHC	
Selenium, total	7782-49-2	E420/WT	0.000050	mg/L	<0.000500 DLHC	<0.000500 DLHC	<0.000500 DLHC	<0.000500 DLHC	<0.000500 DLHC	
Silver, total	7440-22-4	E420/WT	0.000010	mg/L	0.000154 DLHC	<0.000100 DLHC	<0.000100 DLHC	<0.000100 DLHC	0.000144 DLHC	
Sodium, total	7440-23-5	E420/WT	0.050	mg/L	28.6 DLHC	87.0 DLHC	69.0 DLHC	55.7 DLHC	168 DLHC	
Zinc, total	7440-66-6	E420/WT	0.0030	mg/L	0.0377 DLHC	<0.0300 DLHC	<0.0300 DLHC	<0.0300 DLHC	0.104 DLHC	
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/WT	0.0010	mg/L	0.0114 DLM	0.0130 DLM	<0.0100 DLM	<0.0100 DLM	<0.0100 DLM	
Barium, dissolved	7440-39-3	E421/WT	0.00010	mg/L	0.433 DLM	2.58 DLM	2.02 DLM	0.565 DLM	2.16 DLM	
Cadmium, dissolved	7440-43-9	E421/WT	0.0000050	mg/L	<0.0000500 DLM	<0.0000500 DLM	<0.0000500 DLM	<0.0000500 DLM	<0.0000500 DLM	
Calcium, dissolved	7440-70-2	E421/WT	0.050	mg/L	240 DLM	161 DLM	163 DLM	193 DLM	214 DLM	
Chromium, dissolved	7440-47-3	E421/WT	0.00050	mg/L	<0.00500 DLM	<0.00500 DLM	<0.00500 DLM	<0.00500 DLM	<0.00500 DLM	
Cobalt, dissolved	7440-48-4	E421/WT	0.00010	mg/L	0.00175 DLM	0.00862 DLM	0.0165 DLM	<0.00100 DLM	0.00154 DLM	
Copper, dissolved	7440-50-8	E421/WT	0.00020	mg/L	<0.00200 DLM	<0.00200 DLM	<0.00200 DLM	<0.00200 DLM	<0.00200 DLM	
Iron, dissolved	7439-89-6	E421/WT	0.010	mg/L	42.3 DLM	26.3 DLM	40.8 DLM	10.2 DLM	10.6 DLM	
Lead, dissolved	7439-92-1	E421/WT	0.000050	mg/L	<0.000500 DLM	<0.000500 DLM	<0.000500 DLM	<0.000500 DLM	<0.000500 DLM	
Magnesium, dissolved	7439-95-4	E421/WT	0.0050	mg/L	13.0 DLM	35.4 DLM	27.3 DLM	40.7 DLM	79.7 DLM	
Manganese, dissolved	7439-96-5	E421/WT	0.00010	mg/L	0.726 DLM	0.156 DLM	0.220 DLM	1.32 DLM	0.115 DLM	
Nickel, dissolved	7440-02-0	E421/WT	0.00050	mg/L	0.00610 DLM	0.00637 DLM	0.00839 DLM	<0.00500 DLM	0.00837 DLM	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	BH28-II ----	OW1-I ----	OW1-II ----	OW1-III ----	OW2-I ----
					Client sampling date / time	01-Oct-2025 13:45	01-Oct-2025 10:35	01-Oct-2025 10:45	01-Oct-2025 11:10	29-Sep-2025 14:30
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-001	WT2528023-002	WT2528023-003	WT2528023-004	WT2528023-005	
					Result	Result	Result	Result	Result	
Dissolved Metals										
Potassium, dissolved	7440-09-7	E421/WT	0.050	mg/L	14.0 ^{DLM}	17.2 ^{DLM}	18.5 ^{DLM}	5.40 ^{DLM}	4.34 ^{DLM}	
Selenium, dissolved	7782-49-2	E421/WT	0.000050	mg/L	<0.000500 ^{DLM}	<0.000500 ^{DLM}	<0.000500 ^{DLM}	<0.000500 ^{DLM}	<0.000500 ^{DLM}	
Silver, dissolved	7440-22-4	E421/WT	0.000010	mg/L	<0.000100 ^{DLM}	<0.000100 ^{DLM}	<0.000100 ^{DLM}	<0.000100 ^{DLM}	<0.000100 ^{DLM}	
Sodium, dissolved	7440-23-5	E421/WT	0.050	mg/L	20.3 ^{DLM}	77.0 ^{DLM}	61.2 ^{DLM}	54.8 ^{DLM}	149 ^{DLM}	
Zinc, dissolved	7440-66-6	E421/WT	0.0010	mg/L	<0.0100 ^{DLM}	<0.0100 ^{DLM}	<0.0100 ^{DLM}	<0.0100 ^{DLM}	<0.0100 ^{DLM}	
Dissolved metals filtration location	----	EP421/WT	-	-	Field	Field	Field	Field	Field	
Aggregate Organics										
Biochemical oxygen demand [BOD]	----	E550/WT	2.0	mg/L	4.9	9.6	<10.0 ^{DLM}	9.0	<3.0 ^{BODL}	
Chemical oxygen demand [COD]	----	E559-L/WT	10	mg/L	121	61	59	85	98	
Phenols, total (4AAP)	----	E562/WT	0.0010	mg/L	0.0080	<0.0050 ^{DLM}	<0.0050 ^{DLM}	<0.0050 ^{DLM}	0.0109 ^{SP}	
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	----	3.84	3.87	2.26	0.72 ^{OWP}	
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 disulfide	75-15-0	E611D/WT	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0	
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	----	7.63	8.07	2.50	<0.50	
Chloroethane	75-00-3	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	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	BH28-II ----	OW1-I ----	OW1-II ----	OW1-III ----	OW2-I ----
					Client sampling date / time	01-Oct-2025 13:45	01-Oct-2025 10:35	01-Oct-2025 10:45	01-Oct-2025 11:10	29-Sep-2025 14:30
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-001	WT2528023-002	WT2528023-003	WT2528023-004	WT2528023-005	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds										
Chloromethane	74-87-3	E611D/WT	2.0	µg/L	----	<2.0	<2.0	<2.0	<2.0	
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	
Dichlorobenzene, 1,2-	95-50-1	E611D/WT	0.50	µg/L	----	0.73	<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	----	4.60	4.09	0.80	<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	----	0.51	<0.50	<0.50	<0.50	
Dichloroethylene, cis+trans-1,2-	540-59-0	E611D/WT	0.71	µg/L	----	<0.71	<0.71	<0.71	<0.71	
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	
Hexanone, 2-	591-78-6	E611D/WT	20	µg/L	----	<20	<20	<20	<20	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	BH28-II ----	OW1-I ----	OW1-II ----	OW1-III ----	OW2-I ----
					Client sampling date / time	01-Oct-2025 13:45	01-Oct-2025 10:35	01-Oct-2025 10:45	01-Oct-2025 11:10	29-Sep-2025 14:30
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-001	WT2528023-002	WT2528023-003	WT2528023-004	WT2528023-005	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds										
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	
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	----	1.33	0.57	<0.20	1.07 ^{OWP}	
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	----	3.8	3.9	2.3	<1.0	
Trihalomethanes [THMs], total	----	E611D/WT	1.0	µg/L	----	<1.0	<1.0	<1.0	<1.0	
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611D/WT	1.0	%	----	88.0	87.7	88.8	87.0	
Difluorobenzene, 1,4-	540-36-3	E611D/WT	1.0	%	----	96.8	97.2	97.2	97.2	



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

Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	OW2-II ----	OW3 ----	OW4-I ----	OW4-II ----	OW5-I ----
					Client sampling date / time	29-Sep-2025 14:45	29-Sep-2025 14:05	29-Sep-2025 11:20	29-Sep-2025 11:30	29-Sep-2025 11:00
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-006	WT2528023-007	WT2528023-008	WT2528023-009	WT2528023-010	
					Result	Result	Result	Result	Result	
Sample Preparation										
Dissolved carbon filtration location	----	EP358/WT	-	-	field	field	field	field	field	
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/WT	2.0	mg/L	744	616	1310	319	1020	
Alkalinity, carbonate (as CaCO3)	----	E290/WT	2.0	mg/L	<2.0	<2.0	<10.0 ^{DLM}	<2.0	<10.0 ^{DLM}	
Alkalinity, hydroxide (as CaCO3)	----	E290/WT	2.0	mg/L	<2.0	<2.0	<10.0 ^{DLM}	<2.0	<10.0 ^{DLM}	
Alkalinity, total (as CaCO3)	----	E290/WT	2.0	mg/L	744	616	1310	319	1020	
Conductivity	----	E100/WT	2.0	µS/cm	1460	1220	1010	637	1700	
Hardness (as CaCO3), dissolved	----	EC100/WT	0.50	mg/L	564	492	465	339	813	
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/WT	0.50	mg/L	612	533	2750	334	1040	
pH	----	E108/WT	0.10	pH units	7.28	7.20	7.19	7.73	6.99	
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WT	0.0050	mg/L	36.4	22.0	3.42	0.767	0.210	
Chloride	16887-00-6	E235.Cl/WT	0.50	mg/L	40.7 ^{DLDS}	33.6 ^{DLDS}	10.0 ^{DLDS}	16.9	53.8 ^{DLDS}	
Fluoride	16984-48-8	E235.F/WT	0.020	mg/L	<0.100 ^{DLDS}	0.260 ^{DLDS}	<0.100 ^{DLDS}	0.060	<0.100 ^{DLDS}	
Kjeldahl nitrogen, total [TKN]	----	E318/WT	0.050	mg/L	44.8	31.3	3.89	1.55	1.47	
Nitrate (as N)	14797-55-8	E235.NO3/WT	0.020	mg/L	<0.100 ^{DLDS}	<0.100 ^{DLDS}	<0.100 ^{DLDS}	<0.020	<0.100 ^{DLDS}	
Nitrite (as N)	14797-65-0	E235.NO2/WT	0.010	mg/L	<0.050 ^{DLDS}	<0.050 ^{DLDS}	<0.050 ^{DLDS}	<0.010	<0.050 ^{DLDS}	
Nitrogen, total organic	----	EC363/WT	0.050	mg/L	<8.80	9.30	<0.786	0.783	1.26	
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/WT	0.0010	mg/L	<0.0050 ^{DLM}	<0.0100 ^{DLM}	<0.0020 ^{DLM}	0.0733	<0.0010	
Phosphorus, total	7723-14-0	E372-U/WT	0.0020	mg/L	0.129	0.656	1.56	0.191	0.256	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	OW2-II	OW3	OW4-I	OW4-II	OW5-I
					Client sampling date / time	29-Sep-2025 14:45	29-Sep-2025 14:05	29-Sep-2025 11:20	29-Sep-2025 11:30	29-Sep-2025 11:00
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-006	WT2528023-007	WT2528023-008	WT2528023-009	WT2528023-010	
					Result	Result	Result	Result	Result	
Anions and Nutrients										
Sulfate (as SO4)	14808-79-8	E235.SO4/WT	0.30	mg/L	<1.50 DLDS	4.54 DLDS	<1.50 DLDS	<0.30	<1.50 DLDS	
Organic / Inorganic Carbon										
Carbon, dissolved inorganic [DIC]	---	E353-L/WP	0.50	mg/L	149	132	109	64.9	178	
Carbon, dissolved organic [DOC]	---	E358-L/WT	0.50	mg/L	19.0	18.0	17.4	9.33	23.7	
Ion Balance										
Anion sum	---	EC101A/WT	0.10	meq/L	16.0	13.4	26.5	6.85	21.9	
Anion sum	---	EC101/WT	0.10	meq/L	16.0	13.4	26.5	6.85	21.9	
Cation sum	---	EC101/WT	0.10	meq/L	18.2	15.4	11.3	7.18	20.7	
Cation sum (total)	---	EC101A/WT	0.10	meq/L	19.8	17.8	64.7	7.09	26.2	
Ion balance (cations/anions)	---	EC101A/WT	0.01	%	124	133	244	104	120	
Ion balance (APHA)	---	EC101A/WT	0.010	%	10.6	14.1	41.9	1.72	8.94	
Ion balance (cations/anions)	---	EC101/WT	0.010	%	114	115	42.6	105	94.5	
Ion balance (APHA)	---	EC101/WT	0.01	%	6.43	6.94	-40.2	2.35	-2.82	
Total Metals										
Aluminum, total	7429-90-5	E420/WT	0.0030	mg/L	0.455 DLHC	0.740 DLHC	42.0 DLHC	0.170	2.38 DLHC	
Barium, total	7440-39-3	E420/WT	0.00010	mg/L	2.54 DLHC	0.486 DLHC	2.86 DLHC	0.0450	2.24 DLHC	
Cadmium, total	7440-43-9	E420/WT	0.0000050	mg/L	0.00519 DLHC	0.00114 DLHC	0.000718 DLHC	0.000495	0.000995 DLHC	
Calcium, total	7440-70-2	E420/WT	0.050	mg/L	148 DLHC	181 DLHC	842 DLHC	123	303 DLHC	
Chromium, total	7440-47-3	E420/WT	0.00050	mg/L	<0.00500 DLHC	<0.00500 DLHC	0.0618 DLHC	0.00077	<0.00500 DLHC	
Cobalt, total	7440-48-4	E420/WT	0.00010	mg/L	0.0212 DLHC	0.00423 DLHC	0.0325 DLHC	0.00028	0.00816 DLHC	
Copper, total	7440-50-8	E420/WT	0.00050	mg/L	3.08 DLHC	0.00623 DLHC	0.0770 DLHC	0.00061	<0.00500 DLHC	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	OW2-II	OW3	OW4-I	OW4-II	OW5-I
					Client sampling date / time	29-Sep-2025 14:45	29-Sep-2025 14:05	29-Sep-2025 11:20	29-Sep-2025 11:30	29-Sep-2025 11:00
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-006	WT2528023-007	WT2528023-008	WT2528023-009	WT2528023-010	
					Result	Result	Result	Result	Result	
Total Metals										
Iron, total	7439-89-6	E420/WT	0.010	mg/L	60.5 DLHC	76.2 DLHC	87.6 DLHC	1.39	23.1 DLHC	
Lead, total	7439-92-1	E420/WT	0.000050	mg/L	0.00734 DLHC	0.0142 DLHC	0.0238 DLHC	0.000352	0.00395 DLHC	
Magnesium, total	7439-95-4	E420/WT	0.0050	mg/L	58.9 DLHC	19.6 DLHC	157 DLHC	6.52	68.3 DLHC	
Manganese, total	7439-96-5	E420/WT	0.00010	mg/L	0.413 DLHC	0.649 DLHC	3.40 DLHC	0.324	0.647 DLHC	
Nickel, total	7440-02-0	E420/WT	0.00050	mg/L	0.0293 DLHC	0.0182 DLHC	0.0614 DLHC	0.00057	0.0103 DLHC	
Potassium, total	7440-09-7	E420/WT	0.050	mg/L	23.1 DLHC	11.4 DLHC	14.1 DLHC	5.26	3.13 DLHC	
Selenium, total	7782-49-2	E420/WT	0.000050	mg/L	<0.000500 DLHC	<0.000500 DLHC	<0.000500 DLHC	0.000079	<0.000500 DLHC	
Silver, total	7440-22-4	E420/WT	0.000010	mg/L	<0.000100 DLHC	<0.000100 DLHC	0.000183 DLHC	<0.000010	<0.000100 DLHC	
Sodium, total	7440-23-5	E420/WT	0.050	mg/L	47.0 DLHC	56.0 DLHC	27.9 DLHC	3.39	97.5 DLHC	
Zinc, total	7440-66-6	E420/WT	0.0030	mg/L	<0.0300 DLHC	<0.0300 DLHC	0.151 DLHC	<0.0030	<0.0300 DLHC	
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/WT	0.0010	mg/L	0.0379 DLM	<0.0100 DLM	<0.0100 DLM	0.0160 DLM	<0.0100 DLM	
Barium, dissolved	7440-39-3	E421/WT	0.00010	mg/L	2.30 DLM	0.420 DLM	1.66 DLM	0.0474 DLM	2.09 DLM	
Cadmium, dissolved	7440-43-9	E421/WT	0.0000050	mg/L	0.000859 DLM	<0.0000500 DLM	<0.0000500 DLM	<0.0000500 DLM	<0.0000500 DLM	
Calcium, dissolved	7440-70-2	E421/WT	0.050	mg/L	139 DLM	168 DLM	158 DLM	125 DLM	233 DLM	
Chromium, dissolved	7440-47-3	E421/WT	0.00050	mg/L	<0.00500 DLM	<0.00500 DLM	<0.00500 DLM	<0.00500 DLM	<0.00500 DLM	
Cobalt, dissolved	7440-48-4	E421/WT	0.00010	mg/L	0.0150 DLM	0.00176 DLM	0.00114 DLM	<0.00100 DLM	0.00606 DLM	
Copper, dissolved	7440-50-8	E421/WT	0.00020	mg/L	0.425 DLM	<0.00200 DLM	<0.00200 DLM	<0.00200 DLM	<0.00200 DLM	
Iron, dissolved	7439-89-6	E421/WT	0.010	mg/L	51.7 DLM	44.0 DLM	24.3 DLM	1.09 DLM	16.1 DLM	
Lead, dissolved	7439-92-1	E421/WT	0.000050	mg/L	0.00136 DLM	<0.000500 DLM	<0.000500 DLM	<0.000500 DLM	<0.000500 DLM	
Magnesium, dissolved	7439-95-4	E421/WT	0.0050	mg/L	52.6 DLM	17.6 DLM	17.1 DLM	6.61 DLM	56.2 DLM	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	OW2-II	OW3	OW4-I	OW4-II	OW5-I
					Client sampling date / time	29-Sep-2025 14:45	29-Sep-2025 14:05	29-Sep-2025 11:20	29-Sep-2025 11:30	29-Sep-2025 11:00
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-006	WT2528023-007	WT2528023-008	WT2528023-009	WT2528023-010	
					Result	Result	Result	Result	Result	
Dissolved Metals										
Manganese, dissolved	7439-96-5	E421/WT	0.00010	mg/L	0.326 ^{DLM}	0.598 ^{DLM}	0.450 ^{DLM}	0.351 ^{DLM}	0.452 ^{DLM}	
Nickel, dissolved	7440-02-0	E421/WT	0.00050	mg/L	0.0198 ^{DLM}	<0.00500 ^{DLM}	<0.00500 ^{DLM}	<0.00500 ^{DLM}	0.00652 ^{DLM}	
Potassium, dissolved	7440-09-7	E421/WT	0.050	mg/L	22.5 ^{DLM}	10.9 ^{DLM}	2.56 ^{DLM}	4.86 ^{DLM}	2.30 ^{DLM}	
Selenium, dissolved	7782-49-2	E421/WT	0.000050	mg/L	<0.000500 ^{DLM}	<0.000500 ^{DLM}	<0.000500 ^{DLM}	<0.000500 ^{DLM}	<0.000500 ^{DLM}	
Silver, dissolved	7440-22-4	E421/WT	0.000010	mg/L	<0.000100 ^{DLM}	<0.000100 ^{DLM}	<0.000100 ^{DLM}	<0.000100 ^{DLM}	<0.000100 ^{DLM}	
Sodium, dissolved	7440-23-5	E421/WT	0.050	mg/L	42.6 ^{DLM}	49.7 ^{DLM}	18.2 ^{DLM}	3.73 ^{DLM}	86.4 ^{DLM}	
Zinc, dissolved	7440-66-6	E421/WT	0.0010	mg/L	<0.0100 ^{DLM}	<0.0100 ^{DLM}	<0.0100 ^{DLM}	<0.0100 ^{DLM}	<0.0100 ^{DLM}	
Dissolved metals filtration location	----	EP421/WT	-	-	Field	Field	Field	Field	Field	
Aggregate Organics										
Biochemical oxygen demand [BOD]	----	E550/WT	2.0	mg/L	10.5	18.1	18.9	5.3	3.6	
Chemical oxygen demand [COD]	----	E559-L/WT	10	mg/L	87	234	145	41	105	
Phenols, total (4AAP)	----	E562/WT	0.0010	mg/L	0.0057	<0.0050 ^{DLM}	0.0083 ^{SP}	0.0030	0.0058	
Volatile Organic Compounds										
Acetone	67-64-1	E611D/WT	20	µg/L	<20	42 ^{OWP}	<20	<20	----	
Benzene	71-43-2	E611D/WT	0.50	µg/L	1.51	<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 disulfide	75-15-0	E611D/WT	1.0	µg/L	<1.0	3.8 ^{OWP}	<1.0	<1.0	----	
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	1.93	5.00 ^{OWP}	<0.50	<0.50	----	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	OW2-II ----	OW3 ----	OW4-I ----	OW4-II ----	OW5-I ----
					Client sampling date / time	29-Sep-2025 14:45	29-Sep-2025 14:05	29-Sep-2025 11:20	29-Sep-2025 11:30	29-Sep-2025 11:00
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-006	WT2528023-007	WT2528023-008	WT2528023-009	WT2528023-010	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds										
Chloroethane	75-00-3	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	----	
Chloromethane	74-87-3	E611D/WT	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	----	
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	----	
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	0.92	1.24 ^{OWP}	<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, cis+trans-1,2-	540-59-0	E611D/WT	0.71	µg/L	<0.71	<0.71	<0.71	<0.71	----	
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	----	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	OW2-II ----	OW3 ----	OW4-I ----	OW4-II ----	OW5-I ----
					Client sampling date / time	29-Sep-2025 14:45	29-Sep-2025 14:05	29-Sep-2025 11:20	29-Sep-2025 11:30	29-Sep-2025 11:00
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-006	WT2528023-007	WT2528023-008	WT2528023-009	WT2528023-010	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds										
Hexane, n-	110-54-3	E611D/WT	0.50	µg/L	<0.50	<0.50	<0.50	<0.50	<0.50	----
Hexanone, 2-	591-78-6	E611D/WT	20	µg/L	<20	<20	<20	<20	<20	----
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	----
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	<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	<0.50	<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	<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	0.55 ^{OWP}	<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	0.55	<0.50	<0.50	<0.50	----
BTEX, total	----	E611D/WT	1.0	µg/L	1.5	<1.0	<1.0	<1.0	<1.0	----
Trihalomethanes [THMs], total	----	E611D/WT	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	----



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	OW2-II ----	OW3 ----	OW4-I ----	OW4-II ----	OW5-I ----
					Client sampling date / time	29-Sep-2025 14:45	29-Sep-2025 14:05	29-Sep-2025 11:20	29-Sep-2025 11:30	29-Sep-2025 11:00
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-006	WT2528023-007	WT2528023-008	WT2528023-009	WT2528023-010	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611D/WT	1.0	%	86.9	85.2	94.8	93.8	----	
Difluorobenzene, 1,4-	540-36-3	E611D/WT	1.0	%	96.9	96.7	99.2	99.0	----	

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

Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	OW6-I ----	OW6-II ----	OW7 ----	OW9-I ----	OW9-II ----
					Client sampling date / time	29-Sep-2025 11:55	29-Sep-2025 12:10	01-Oct-2025 10:30	01-Oct-2025 12:00	01-Oct-2025 12:15
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-011	WT2528023-012	WT2528023-013	WT2528023-014	WT2528023-015	
					Result	Result	Result	Result	Result	
Sample Preparation										
Dissolved carbon filtration location	----	EP358/WT	-	-	field	field	field	field	field	
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/WT	2.0	mg/L	769	804	462	1420	998	
Alkalinity, carbonate (as CaCO3)	----	E290/WT	2.0	mg/L	<2.0	<2.0	<2.0	<10.0 ^{DLM}	<10.0 ^{DLM}	
Alkalinity, hydroxide (as CaCO3)	----	E290/WT	2.0	mg/L	<2.0	<2.0	<2.0	<10.0 ^{DLM}	<10.0 ^{DLM}	
Alkalinity, total (as CaCO3)	----	E290/WT	2.0	mg/L	769	804	462	1420	998	
Conductivity	----	E100/WT	2.0	µS/cm	1300	1380	1180	2160	2500	
Hardness (as CaCO3), dissolved	----	EC100/WT	0.50	mg/L	568	718	482	789	1100	
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/WT	0.50	mg/L	1070	1170	602	3390	5150	
pH	----	E108/WT	0.10	pH units	7.13	7.11	7.59	7.56	7.26	
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WT	0.0050	mg/L	30.5	30.1	11.7	72.0	0.156	
Chloride	16887-00-6	E235.Cl/WT	0.50	mg/L	6.87 ^{DLDS}	7.08 ^{DLDS}	91.3 ^{DLDS}	159 ^{DLDS}	426 ^{DLDS}	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	OW6-I	OW6-II	OW7	OW9-I	OW9-II
					Client sampling date / time	29-Sep-2025 11:55	29-Sep-2025 12:10	01-Oct-2025 10:30	01-Oct-2025 12:00	01-Oct-2025 12:15
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-011	WT2528023-012	WT2528023-013	WT2528023-014	WT2528023-015	
					Result	Result	Result	Result	Result	
Anions and Nutrients										
Fluoride	16984-48-8	E235.F/WT	0.020	mg/L	<0.100 DLDS	0.577 DLDS	0.112 DLDS	<0.100 DLDS	0.121 DLDS	
Kjeldahl nitrogen, total [TKN]	----	E318/WT	0.050	mg/L	39.2	40.7	13.5	98.0	1.61	
Nitrate (as N)	14797-55-8	E235.NO3/WT	0.020	mg/L	<0.100 DLDS	<0.100 DLDS	<0.100 DLDS	<0.100 DLDS	7.47 DLDS	
Nitrite (as N)	14797-65-0	E235.NO2/WT	0.010	mg/L	<0.050 DLDS	<0.050 DLDS	<0.050 DLDS	<0.050 DLDS	<0.050 DLDS	
Nitrogen, total organic	----	EC363/WT	0.050	mg/L	8.70	10.6	<2.70	26.0	1.45	
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/WT	0.0010	mg/L	<0.0020 DLM	<0.0020 DLM	<0.0010	0.0221	0.0448	
Phosphorus, total	7723-14-0	E372-U/WT	0.0020	mg/L	0.942	1.41	0.220	0.539	0.936	
Sulfate (as SO4)	14808-79-8	E235.SO4/WT	0.30	mg/L	<1.50 DLDS	1.78 DLDS	56.4 DLDS	236 DLDS	67.5 DLDS	
Organic / Inorganic Carbon										
Carbon, dissolved inorganic [DIC]	----	E353-L/WP	0.50	mg/L	139	162	85.7	140	126	
Carbon, dissolved organic [DOC]	----	E358-L/WT	0.50	mg/L	18.4	16.2	9.41	15.7	12.1	
Ion Balance										
Anion sum	----	EC101A/WT	0.10	meq/L	15.6	16.3	13.0	37.8	33.9	
Anion sum	----	EC101/WT	0.10	meq/L	15.6	16.3	13.0	37.8	33.9	
Cation sum	----	EC101/WT	0.10	meq/L	16.6	19.0	13.3	25.5	28.2	
Cation sum (total)	----	EC101A/WT	0.10	meq/L	28.6	31.3	16.7	85.1	117	
Ion balance (cations/anions)	----	EC101A/WT	0.01	%	183	192	128	225	345	
Ion balance (APHA)	----	EC101A/WT	0.010	%	29.4	31.5	12.4	38.5	55.1	
Ion balance (cations/anions)	----	EC101/WT	0.010	%	106	116	102	67.5	83.2	
Ion balance (APHA)	----	EC101/WT	0.01	%	3.10	7.65	1.14	-19.4	-9.18	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	OW6-I	OW6-II	OW7	OW9-I	OW9-II
					Client sampling date / time	29-Sep-2025 11:55	29-Sep-2025 12:10	01-Oct-2025 10:30	01-Oct-2025 12:00	01-Oct-2025 12:15
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-011	WT2528023-012	WT2528023-013	WT2528023-014	WT2528023-015	
					Result	Result	Result	Result	Result	
Total Metals										
Aluminum, total	7429-90-5	E420/WT	0.0030	mg/L	8.79 DLHC	16.5 DLHC	1.98 DLHC	36.6 DLHC	40.1 DLHC	
Barium, total	7440-39-3	E420/WT	0.00010	mg/L	1.22 DLHC	0.681 DLHC	0.286 DLHC	1.49 DLHC	0.381 DLHC	
Cadmium, total	7440-43-9	E420/WT	0.0000050	mg/L	0.00150 DLHC	0.00347 DLHC	0.000275 DLHC	0.000318 DLHC	0.000407 DLHC	
Calcium, total	7440-70-2	E420/WT	0.050	mg/L	294 DLHC	362 DLHC	208 DLHC	991 DLHC	1460 DLHC	
Chromium, total	7440-47-3	E420/WT	0.00050	mg/L	0.0142 DLHC	0.0396 DLHC	<0.00500 DLHC	0.0554 DLHC	0.0512 DLHC	
Cobalt, total	7440-48-4	E420/WT	0.00010	mg/L	0.0235 DLHC	0.0124 DLHC	0.00241 DLHC	0.0361 DLHC	0.0433 DLHC	
Copper, total	7440-50-8	E420/WT	0.00050	mg/L	0.146 DLHC	0.0515 DLHC	0.00860 DLHC	0.395 DLHC	0.116 DLHC	
Iron, total	7439-89-6	E420/WT	0.010	mg/L	66.8 DLHC	67.7 DLHC	46.3 DLHC	84.2 DLHC	59.4 DLHC	
Lead, total	7439-92-1	E420/WT	0.000050	mg/L	0.0107 DLHC	0.0822 DLHC	0.00255 DLHC	0.0222 DLHC	0.0250 DLHC	
Magnesium, total	7439-95-4	E420/WT	0.0050	mg/L	82.4 DLHC	64.3 DLHC	20.2 DLHC	222 DLHC	366 DLHC	
Manganese, total	7439-96-5	E420/WT	0.00010	mg/L	1.11 DLHC	2.05 DLHC	0.974 DLHC	4.17 DLHC	7.63 DLHC	
Nickel, total	7440-02-0	E420/WT	0.00050	mg/L	0.0358 DLHC	0.135 DLHC	<0.00500 DLHC	0.0706 DLHC	0.0850 DLHC	
Potassium, total	7440-09-7	E420/WT	0.050	mg/L	31.9 DLHC	24.2 DLHC	6.52 DLHC	34.6 DLHC	19.9 DLHC	
Selenium, total	7782-49-2	E420/WT	0.000050	mg/L	<0.000500 DLHC	0.000582 DLHC	<0.000500 DLHC	<0.000500 DLHC	0.00147 DLHC	
Silver, total	7440-22-4	E420/WT	0.000010	mg/L	<0.000100 DLHC	0.00109 DLHC	<0.000100 DLHC	0.000388 DLHC	0.000235 DLHC	
Sodium, total	7440-23-5	E420/WT	0.050	mg/L	16.7 DLHC	19.7 DLHC	39.7 DLHC	95.6 DLHC	157 DLHC	
Zinc, total	7440-66-6	E420/WT	0.0030	mg/L	0.0388 DLHC	0.269 DLHC	<0.0300 DLHC	0.146 DLHC	0.171 DLHC	
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/WT	0.0010	mg/L	0.0107 DLM	0.0136 DLM	<0.0100 DLM	<0.0100 DLM	<0.0100 DLM	
Barium, dissolved	7440-39-3	E421/WT	0.00010	mg/L	1.04 DLM	0.450 DLM	0.246 DLM	0.238 DLM	0.0744 DLM	
Cadmium, dissolved	7440-43-9	E421/WT	0.0000050	mg/L	<0.0000500 DLM	<0.0000500 DLM	<0.0000500 DLM	<0.0000500 DLM	0.0000570 DLM	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	OW6-I	OW6-II	OW7	OW9-I	OW9-II
					Client sampling date / time	29-Sep-2025 11:55	29-Sep-2025 12:10	01-Oct-2025 10:30	01-Oct-2025 12:00	01-Oct-2025 12:15
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-011	WT2528023-012	WT2528023-013	WT2528023-014	WT2528023-015	
					Result	Result	Result	Result	Result	
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/WT	0.050	mg/L	161 DLM	233 DLM	171 DLM	241 DLM	384 DLM	
Chromium, dissolved	7440-47-3	E421/WT	0.00050	mg/L	<0.00500 DLM	<0.00500 DLM	<0.00500 DLM	<0.00500 DLM	<0.00500 DLM	
Cobalt, dissolved	7440-48-4	E421/WT	0.00010	mg/L	0.0132 DLM	0.00197 DLM	<0.00100 DLM	0.00801 DLM	0.00416 DLM	
Copper, dissolved	7440-50-8	E421/WT	0.00020	mg/L	<0.00200 DLM	<0.00200 DLM	<0.00200 DLM	0.00236 DLM	0.0141 DLM	
Iron, dissolved	7439-89-6	E421/WT	0.010	mg/L	51.3 DLM	33.3 DLM	34.3 DLM	7.95 DLM	<0.100 DLM	
Lead, dissolved	7439-92-1	E421/WT	0.000050	mg/L	<0.000500 DLM	<0.000500 DLM	<0.000500 DLM	<0.000500 DLM	<0.000500 DLM	
Magnesium, dissolved	7439-95-4	E421/WT	0.0050	mg/L	40.2 DLM	33.2 DLM	13.5 DLM	45.5 DLM	33.7 DLM	
Manganese, dissolved	7439-96-5	E421/WT	0.00010	mg/L	0.431 DLM	1.30 DLM	0.760 DLM	0.503 DLM	1.23 DLM	
Nickel, dissolved	7440-02-0	E421/WT	0.00050	mg/L	0.0114 DLM	<0.00500 DLM	<0.00500 DLM	0.0182 DLM	0.0166 DLM	
Potassium, dissolved	7440-09-7	E421/WT	0.050	mg/L	27.9 DLM	21.3 DLM	5.50 DLM	24.2 DLM	11.2 DLM	
Selenium, dissolved	7782-49-2	E421/WT	0.000050	mg/L	<0.000500 DLM	<0.000500 DLM	<0.000500 DLM	<0.000500 DLM	0.000742 DLM	
Silver, dissolved	7440-22-4	E421/WT	0.000010	mg/L	<0.000100 DLM	<0.000100 DLM	<0.000100 DLM	<0.000100 DLM	<0.000100 DLM	
Sodium, dissolved	7440-23-5	E421/WT	0.050	mg/L	12.9 DLM	17.1 DLM	33.7 DLM	83.5 DLM	136 DLM	
Zinc, dissolved	7440-66-6	E421/WT	0.0010	mg/L	<0.0100 DLM	<0.0100 DLM	<0.0100 DLM	<0.0100 DLM	<0.0100 DLM	
Dissolved metals filtration location	----	EP421/WT	-	-	Field	Field	Field	Field	Field	
Aggregate Organics										
Biochemical oxygen demand [BOD]	----	E550/WT	2.0	mg/L	14.3	17.1	12.2	<3.0 BODL	<3.0 BODL	
Chemical oxygen demand [COD]	----	E559-L/WT	10	mg/L	102	454	64	104	77	
Phenols, total (4AAP)	----	E562/WT	0.0010	mg/L	<0.0050 DLM	0.0080	0.0069	0.0086 SP	0.0084 SP	
Volatile Organic Compounds										
Acetone	67-64-1	E611D/WT	20	µg/L	<20	<20	<20	<20	<20	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	OW6-I	OW6-II	OW7	OW9-I	OW9-II
					Client sampling date / time	29-Sep-2025 11:55	29-Sep-2025 12:10	01-Oct-2025 10:30	01-Oct-2025 12:00	01-Oct-2025 12:15
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-011	WT2528023-012	WT2528023-013	WT2528023-014	WT2528023-015	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds										
Benzene	71-43-2	E611D/WT	0.50	µg/L	1.94 ^{OWP}	0.89 ^{OWP}	0.62 ^{OWP}	0.66 ^{OWP}	<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 disulfide	75-15-0	E611D/WT	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
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	21.9 ^{OWP}	6.42 ^{OWP}	4.04 ^{OWP}	7.60 ^{OWP}	<0.50	
Chloroethane	75-00-3	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	
Chloromethane	74-87-3	E611D/WT	2.0	µg/L	<2.0	<2.0	<2.0	<2.0	<2.0	
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	
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	2.25 ^{OWP}	0.76 ^{OWP}	1.04 ^{OWP}	<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	0.63 ^{OWP}	<0.50	
Dichloroethylene, cis+trans-1,2-	540-59-0	E611D/WT	0.71	µg/L	<0.71	<0.71	<0.71	<0.71	<0.71	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	OW6-I ----	OW6-II ----	OW7 ----	OW9-I ----	OW9-II ----
					Client sampling date / time	29-Sep-2025 11:55	29-Sep-2025 12:10	01-Oct-2025 10:30	01-Oct-2025 12:00	01-Oct-2025 12:15
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-011	WT2528023-012	WT2528023-013	WT2528023-014	WT2528023-015	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds										
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	
Hexanone, 2-	591-78-6	E611D/WT	20	µg/L	<20	<20	<20	<20	<20	
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	
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	<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	<0.50	<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	<0.50	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	OW6-I	OW6-II	OW7	OW9-I	OW9-II
					Client sampling date / time	29-Sep-2025 11:55	29-Sep-2025 12:10	01-Oct-2025 10:30	01-Oct-2025 12:00	01-Oct-2025 12:15
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-011	WT2528023-012	WT2528023-013	WT2528023-014	WT2528023-015	
					Result	Result	Result	Result	Result	
Volatile Organic Compounds										
Vinyl chloride	75-01-4	E611D/WT	0.20	µg/L	<0.20	<0.20	<0.20	0.47 ^{OWP}	<0.20	
Xylene, m+p-	179601-23-1	E611D/WT	0.40	µg/L	37.9 ^{OWP}	1620 ^{OWP}	3.46 ^{OWP}	<0.40	<0.40	
Xylene, o-	95-47-6	E611D/WT	0.30	µg/L	<0.30	0.42 ^{OWP}	<0.30	<0.30	<0.30	
Xylenes, total	1330-20-7	E611D/WT	0.50	µg/L	37.9	1620	3.46	<0.50	<0.50	
BTEX, total	----	E611D/WT	1.0	µg/L	39.8	1620	4.1	<1.0	<1.0	
Trihalomethanes [THMs], total	----	E611D/WT	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611D/WT	1.0	%	97.4	106	95.0	95.1	94.0	
Difluorobenzene, 1,4-	540-36-3	E611D/WT	1.0	%	98.6	98.7	99.1	98.4	98.8	

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

Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	DUP 1	DUP 2	----	----	----
					Client sampling date / time	29-Sep-2025 11:20	01-Oct-2025 12:15	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-016	WT2528023-017	----	----	----	
					Result	Result	----	----	----	
Sample Preparation										
Dissolved carbon filtration location	----	EP358/WT	-	-	field	field	----	----	----	
Physical Tests										
Alkalinity, bicarbonate (as CaCO3)	----	E290/WT	2.0	mg/L	802	971	----	----	----	
Alkalinity, carbonate (as CaCO3)	----	E290/WT	2.0	mg/L	<2.0	<10.0 ^{DLM}	----	----	----	
Alkalinity, hydroxide (as CaCO3)	----	E290/WT	2.0	mg/L	<2.0	<10.0 ^{DLM}	----	----	----	
Alkalinity, total (as CaCO3)	----	E290/WT	2.0	mg/L	802	971	----	----	----	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	DUP 1	DUP 2	----	----	----
					Client sampling date / time	29-Sep-2025 11:20	01-Oct-2025 12:15	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-016	WT2528023-017	----	----	----	
					Result	Result	----	----	----	
Physical Tests										
Conductivity	----	E100/WT	2.0	µS/cm	1000	2600	----	----	----	
Hardness (as CaCO3), dissolved	----	EC100/WT	0.50	mg/L	505	1110	----	----	----	
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/WT	0.50	mg/L	2520	3630	----	----	----	
pH	----	E108/WT	0.10	pH units	7.22	7.21	----	----	----	
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WT	0.0050	mg/L	3.41	0.160	----	----	----	
Chloride	16887-00-6	E235.Cl/WT	0.50	mg/L	10.6 ^{DLDS}	441 ^{DLDS}	----	----	----	
Fluoride	16984-48-8	E235.F/WT	0.020	mg/L	0.064 ^{DLDS}	0.110 ^{DLDS}	----	----	----	
Kjeldahl nitrogen, total [TKN]	----	E318/WT	0.050	mg/L	3.80	1.58	----	----	----	
Nitrate (as N)	14797-55-8	E235.NO3/WT	0.020	mg/L	<0.040 ^{DLDS}	7.71 ^{DLDS}	----	----	----	
Nitrite (as N)	14797-65-0	E235.NO2/WT	0.010	mg/L	<0.020 ^{DLDS}	<0.050 ^{DLDS}	----	----	----	
Nitrogen, total organic	----	EC363/WT	0.050	mg/L	<0.773	1.42	----	----	----	
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/WT	0.0010	mg/L	<0.0010	0.0451	----	----	----	
Phosphorus, total	7723-14-0	E372-U/WT	0.0020	mg/L	0.643	0.355	----	----	----	
Sulfate (as SO4)	14808-79-8	E235.SO4/WT	0.30	mg/L	<0.60 ^{DLDS}	69.0 ^{DLDS}	----	----	----	
Organic / Inorganic Carbon										
Carbon, dissolved inorganic [DIC]	----	E353-L/WP	0.50	mg/L	106	123	----	----	----	
Carbon, dissolved organic [DOC]	----	E358-L/WT	0.50	mg/L	16.0	12.4	----	----	----	
Ion Balance										
Anion sum	----	EC101A/WT	0.10	meq/L	16.3	33.8	----	----	----	
Anion sum	----	EC101/WT	0.10	meq/L	16.3	33.8	----	----	----	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	DUP 1	DUP 2	----	----	----
					Client sampling date / time	29-Sep-2025 11:20	01-Oct-2025 12:15	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-016	WT2528023-017	----	----	----	
					Result	Result	----	----	----	
Ion Balance										
Cation sum	----	EC101/WT	0.10	meq/L	12.2	28.5	----	----	----	
Cation sum (total)	----	EC101A/WT	0.10	meq/L	59.6	84.6	----	----	----	
Ion balance (cations/anions)	----	EC101A/WT	0.01	%	366	250	----	----	----	
Ion balance (APHA)	----	EC101A/WT	0.010	%	57.0	42.9	----	----	----	
Ion balance (cations/anions)	----	EC101/WT	0.010	%	74.8	84.3	----	----	----	
Ion balance (APHA)	----	EC101/WT	0.01	%	-14.4	-8.51	----	----	----	
Total Metals										
Aluminum, total	7429-90-5	E420/WT	0.0030	mg/L	38.9 DLHC	28.5 DLHC	----	----	----	
Barium, total	7440-39-3	E420/WT	0.00010	mg/L	2.78 DLHC	0.295 DLHC	----	----	----	
Cadmium, total	7440-43-9	E420/WT	0.0000050	mg/L	0.000671 DLHC	0.000261 DLHC	----	----	----	
Calcium, total	7440-70-2	E420/WT	0.050	mg/L	784 DLHC	1050 DLHC	----	----	----	
Chromium, total	7440-47-3	E420/WT	0.00050	mg/L	0.0582 DLHC	0.0370 DLHC	----	----	----	
Cobalt, total	7440-48-4	E420/WT	0.00010	mg/L	0.0315 DLHC	0.0308 DLHC	----	----	----	
Copper, total	7440-50-8	E420/WT	0.00050	mg/L	0.0706 DLHC	0.0818 DLHC	----	----	----	
Iron, total	7439-89-6	E420/WT	0.010	mg/L	82.6 DLHC	42.6 DLHC	----	----	----	
Lead, total	7439-92-1	E420/WT	0.000050	mg/L	0.0225 DLHC	0.0177 DLHC	----	----	----	
Magnesium, total	7439-95-4	E420/WT	0.0050	mg/L	137 DLHC	246 DLHC	----	----	----	
Manganese, total	7439-96-5	E420/WT	0.00010	mg/L	2.95 DLHC	5.38 DLHC	----	----	----	
Nickel, total	7440-02-0	E420/WT	0.00050	mg/L	0.0592 DLHC	0.0649 DLHC	----	----	----	
Potassium, total	7440-09-7	E420/WT	0.050	mg/L	13.6 DLHC	17.6 DLHC	----	----	----	
Selenium, total	7782-49-2	E420/WT	0.000050	mg/L	<0.000500 DLHC	0.00126 DLHC	----	----	----	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	DUP 1	DUP 2	----	----	----
					Client sampling date / time	29-Sep-2025 11:20	01-Oct-2025 12:15	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-016	WT2528023-017	----	----	----	----
					Result	Result	----	----	----	----
Total Metals										
Silver, total	7440-22-4	E420/WT	0.000010	mg/L	0.000165 DLHC	0.000199 DLHC	----	----	----	----
Sodium, total	7440-23-5	E420/WT	0.050	mg/L	26.9 DLHC	151 DLHC	----	----	----	----
Zinc, total	7440-66-6	E420/WT	0.0030	mg/L	0.148 DLHC	0.119 DLHC	----	----	----	----
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/WT	0.0010	mg/L	<0.0100 DLM	<0.0100 DLM	----	----	----	----
Barium, dissolved	7440-39-3	E421/WT	0.00010	mg/L	1.90 DLM	0.0752 DLM	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/WT	0.0000050	mg/L	<0.0000500 DLM	<0.0000500 DLM	----	----	----	----
Calcium, dissolved	7440-70-2	E421/WT	0.050	mg/L	172 DLM	388 DLM	----	----	----	----
Chromium, dissolved	7440-47-3	E421/WT	0.00050	mg/L	<0.00500 DLM	<0.00500 DLM	----	----	----	----
Cobalt, dissolved	7440-48-4	E421/WT	0.00010	mg/L	0.00139 DLM	0.00419 DLM	----	----	----	----
Copper, dissolved	7440-50-8	E421/WT	0.00020	mg/L	<0.00200 DLM	0.0139 DLM	----	----	----	----
Iron, dissolved	7439-89-6	E421/WT	0.010	mg/L	25.6 DLM	<0.100 DLM	----	----	----	----
Lead, dissolved	7439-92-1	E421/WT	0.000050	mg/L	<0.000500 DLM	<0.000500 DLM	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/WT	0.0050	mg/L	18.4 DLM	34.2 DLM	----	----	----	----
Manganese, dissolved	7439-96-5	E421/WT	0.00010	mg/L	0.473 DLM	1.24 DLM	----	----	----	----
Nickel, dissolved	7440-02-0	E421/WT	0.00050	mg/L	<0.00500 DLM	0.0161 DLM	----	----	----	----
Potassium, dissolved	7440-09-7	E421/WT	0.050	mg/L	2.72 DLM	11.3 DLM	----	----	----	----
Selenium, dissolved	7782-49-2	E421/WT	0.000050	mg/L	<0.000500 DLM	0.000762 DLM	----	----	----	----
Silver, dissolved	7440-22-4	E421/WT	0.000010	mg/L	<0.000100 DLM	<0.000100 DLM	----	----	----	----
Sodium, dissolved	7440-23-5	E421/WT	0.050	mg/L	19.6 DLM	137 DLM	----	----	----	----
Zinc, dissolved	7440-66-6	E421/WT	0.0010	mg/L	<0.0100 DLM	<0.0100 DLM	----	----	----	----



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	DUP 1	DUP 2	----	----	----
					Client sampling date / time	29-Sep-2025 11:20	01-Oct-2025 12:15	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-016	WT2528023-017	----	----	----	
					Result	Result	----	----	----	
Dissolved Metals										
Dissolved metals filtration location	----	EP421/WT	-	-	Field	Field	----	----	----	
Aggregate Organics										
Biochemical oxygen demand [BOD]	----	E550/WT	2.0	mg/L	19.0	<3.0 ^{BODL}	----	----	----	
Chemical oxygen demand [COD]	----	E559-L/WT	10	mg/L	96	87	----	----	----	
Phenols, total (4AAP)	----	E562/WT	0.0010	mg/L	0.0071 ^{SP}	0.0085 ^{SP}	----	----	----	
Volatile Organic Compounds										
Acetone	67-64-1	E611D/WT	20	µg/L	<20	<20	----	----	----	
Benzene	71-43-2	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Bromodichloromethane	75-27-4	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Bromoform	75-25-2	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Bromomethane	74-83-9	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Carbon disulfide	75-15-0	E611D/WT	1.0	µg/L	<1.0	<1.0	----	----	----	
Carbon tetrachloride	56-23-5	E611D/WT	0.20	µg/L	<0.20	<0.20	----	----	----	
Chlorobenzene	108-90-7	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Chloroethane	75-00-3	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Chloroform	67-66-3	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Chloromethane	74-87-3	E611D/WT	2.0	µg/L	<2.0	<2.0	----	----	----	
Dibromochloromethane	124-48-1	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dibromoethane, 1,2-	106-93-4	E611D/WT	0.20	µg/L	<0.20	<0.20	----	----	----	
Dichlorobenzene, 1,2-	95-50-1	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichlorobenzene, 1,3-	541-73-1	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	DUP 1	DUP 2	----	----	----
					Client sampling date / time	29-Sep-2025 11:20	01-Oct-2025 12:15	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-016	WT2528023-017	----	----	----	
					Result	Result	----	----	----	
Volatile Organic Compounds										
Dichlorobenzene, 1,4-	106-46-7	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichlorodifluoromethane	75-71-8	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichloroethane, 1,1-	75-34-3	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichloroethane, 1,2-	107-06-2	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichloroethylene, 1,1-	75-35-4	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichloroethylene, cis-1,2-	156-59-2	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichloroethylene, cis+trans-1,2-	540-59-0	E611D/WT	0.71	µg/L	<0.71	<0.71	----	----	----	
Dichloroethylene, trans-1,2-	156-60-5	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichloromethane	75-09-2	E611D/WT	1.0	µg/L	<1.0	<1.0	----	----	----	
Dichloropropane, 1,2-	78-87-5	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichloropropylene, cis-1,3-	10061-01-5	E611D/WT	0.30	µg/L	<0.30	<0.30	----	----	----	
Dichloropropylene, cis+trans-1,3-	542-75-6	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichloropropylene, trans-1,3-	10061-02-6	E611D/WT	0.30	µg/L	<0.30	<0.30	----	----	----	
Ethylbenzene	100-41-4	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Hexane, n-	110-54-3	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Hexanone, 2-	591-78-6	E611D/WT	20	µg/L	<20	<20	----	----	----	
Methyl ethyl ketone [MEK]	78-93-3	E611D/WT	20	µg/L	<20	<20	----	----	----	
Methyl isobutyl ketone [MIBK]	108-10-1	E611D/WT	20	µg/L	<20	<20	----	----	----	
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Styrene	100-42-5	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	DUP 1	DUP 2	----	----	----
					Client sampling date / time	29-Sep-2025 11:20	01-Oct-2025 12:15	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-016	WT2528023-017	----	----	----	----
					Result	Result	----	----	----	----
Volatile Organic Compounds										
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Tetrachloroethylene	127-18-4	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Toluene	108-88-3	E611D/WT	0.50	µg/L	0.53 ^{OWP}	<0.50	----	----	----	----
Trichloroethane, 1,1,1-	71-55-6	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Trichloroethane, 1,1,2-	79-00-5	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Trichloroethylene	79-01-6	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Trichlorofluoromethane	75-69-4	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Vinyl chloride	75-01-4	E611D/WT	0.20	µg/L	<0.20	<0.20	----	----	----	----
Xylene, m+p-	179601-23-1	E611D/WT	0.40	µg/L	0.44 ^{OWP}	<0.40	----	----	----	----
Xylene, o-	95-47-6	E611D/WT	0.30	µg/L	<0.30	<0.30	----	----	----	----
Xylenes, total	1330-20-7	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
BTEX, total	----	E611D/WT	1.0	µg/L	<1.0	<1.0	----	----	----	----
Trihalomethanes [THMs], total	----	E611D/WT	1.0	µg/L	<1.0	<1.0	----	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611D/WT	1.0	%	94.5	94.3	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611D/WT	1.0	%	98.9	98.4	----	----	----	----

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



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	Trip Blank ----	Field Blank ----	----	----	----
					Client sampling date / time	01-Oct-2025 14:45	01-Oct-2025 14:05	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-018	WT2528023-019	----	----	----	
					Result	Result	----	----	----	
Volatile Organic Compounds										
Acetone	67-64-1	E611D/WT	20	µg/L	<20	<20	----	----	----	
Benzene	71-43-2	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Bromodichloromethane	75-27-4	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Bromoform	75-25-2	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Bromomethane	74-83-9	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Carbon disulfide	75-15-0	E611D/WT	1.0	µg/L	<1.0	<1.0	----	----	----	
Carbon tetrachloride	56-23-5	E611D/WT	0.20	µg/L	<0.20	<0.20	----	----	----	
Chlorobenzene	108-90-7	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Chloroethane	75-00-3	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Chloroform	67-66-3	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Chloromethane	74-87-3	E611D/WT	2.0	µg/L	<2.0	<2.0	----	----	----	
Dibromochloromethane	124-48-1	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dibromoethane, 1,2-	106-93-4	E611D/WT	0.20	µg/L	<0.20	<0.20	----	----	----	
Dichlorobenzene, 1,2-	95-50-1	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichlorobenzene, 1,3-	541-73-1	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichlorobenzene, 1,4-	106-46-7	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichlorodifluoromethane	75-71-8	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichloroethane, 1,1-	75-34-3	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichloroethane, 1,2-	107-06-2	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichloroethylene, 1,1-	75-35-4	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	
Dichloroethylene, cis-1,2-	156-59-2	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	Trip Blank	Field Blank	----	----	----
					Client sampling date / time	01-Oct-2025 14:45	01-Oct-2025 14:05	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-018	WT2528023-019	----	----	----	----
					Result	Result	----	----	----	----
Volatile Organic Compounds										
Dichloroethylene, cis+trans-1,2-	540-59-0	E611D/WT	0.71	µg/L	<0.71	<0.71	----	----	----	----
Dichloroethylene, trans-1,2-	156-60-5	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Dichloromethane	75-09-2	E611D/WT	1.0	µg/L	<1.0	<1.0	----	----	----	----
Dichloropropane, 1,2-	78-87-5	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D/WT	0.30	µg/L	<0.30	<0.30	----	----	----	----
Dichloropropylene, cis+trans-1,3-	542-75-6	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D/WT	0.30	µg/L	<0.30	<0.30	----	----	----	----
Ethylbenzene	100-41-4	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Hexane, n-	110-54-3	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Hexanone, 2-	591-78-6	E611D/WT	20	µg/L	<20	<20	----	----	----	----
Methyl ethyl ketone [MEK]	78-93-3	E611D/WT	20	µg/L	<20	<20	----	----	----	----
Methyl isobutyl ketone [MIBK]	108-10-1	E611D/WT	20	µg/L	<20	<20	----	----	----	----
Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Styrene	100-42-5	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Tetrachloroethylene	127-18-4	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Toluene	108-88-3	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Trichloroethane, 1,1,1-	71-55-6	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Trichloroethane, 1,1,2-	79-00-5	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Trichloroethylene	79-01-6	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----



Analytical Results

Sub-Matrix: Water
 (Matrix: Water)

					Client sample ID	Trip Blank	Field Blank	----	----	----
					Client sampling date / time	01-Oct-2025 14:45	01-Oct-2025 14:05	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	WT2528023-018	WT2528023-019	----	----	----	----
					Result	Result	----	----	----	----
Volatile Organic Compounds										
Trichlorofluoromethane	75-69-4	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
Vinyl chloride	75-01-4	E611D/WT	0.20	µg/L	<0.20	<0.20	----	----	----	----
Xylene, m+p-	179601-23-1	E611D/WT	0.40	µg/L	<0.40	<0.40	----	----	----	----
Xylene, o-	95-47-6	E611D/WT	0.30	µg/L	<0.30	<0.30	----	----	----	----
Xylenes, total	1330-20-7	E611D/WT	0.50	µg/L	<0.50	<0.50	----	----	----	----
BTEX, total	----	E611D/WT	1.0	µg/L	<1.0	<1.0	----	----	----	----
Trihalomethanes [THMs], total	----	E611D/WT	1.0	µg/L	<1.0	<1.0	----	----	----	----
Volatile Organic Compounds Surrogates										
Bromofluorobenzene, 4-	460-00-4	E611D/WT	1.0	%	93.6	92.7	----	----	----	----
Difluorobenzene, 1,4-	540-36-3	E611D/WT	1.0	%	98.8	98.8	----	----	----	----

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

QUALITY CONTROL INTERPRETIVE REPORT

<p>Work Order : WT2528023</p> <p>Client : City of Orillia</p> <p>Contact : Ian Acheson</p> <p>Address : 50 Andrew St. S. Suite 300 Orillia ON Canada L3V 7T5</p> <p>Telephone : ----</p> <p>Project : WASTE DIVERSION SITE</p> <p>PO : 86912</p> <p>C-O-C number : ----</p> <p>Sampler : IA</p> <p>Site : ----</p> <p>Quote number : Waste Diversion Site</p> <p>No. of samples received : 19</p> <p>No. of samples analysed : 19</p>	<p>Page : 1 of 49</p> <p>Laboratory : ALS Environmental - Waterloo</p> <p>Account Manager : Karanpartap Singh</p> <p>Address : 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8</p> <p>Telephone : 19055076910</p> <p>Date Samples Received : 02-Oct-2025 14:00</p> <p>Issue Date : 14-Oct-2025 14:43</p>
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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: **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-2261072-002	----	Methyl ethyl ketone [MEK]	78-93-3	E611D	137 % ^{MES}	70.0-130%	Recovery greater than upper control limit
Volatile Organic Compounds	QC-2261072-002	----	Methyl isobutyl ketone [MIBK]	108-10-1	E611D	133 % ^{MES}	70.0-130%	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		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] BH28-II	E550	01-Oct-2025	---	---	---		03-Oct-2025	4 days	1 days	✔
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] DUP 2	E550	01-Oct-2025	---	---	---		04-Oct-2025	4 days	2 days	✔
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] OW1-I	E550	01-Oct-2025	---	---	---		03-Oct-2025	4 days	2 days	✔
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] OW1-II	E550	01-Oct-2025	---	---	---		03-Oct-2025	4 days	2 days	✔
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] OW9-II	E550	01-Oct-2025	---	---	---		04-Oct-2025	4 days	2 days	✔
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] OW1-III	E550	01-Oct-2025	---	---	---		04-Oct-2025	4 days	3 days	✔
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] OW2-I	E550	29-Sep-2025	---	---	---		03-Oct-2025	4 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	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] OW2-II	E550	29-Sep-2025	----	----	----		03-Oct-2025	4 days	3 days	✔
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] OW3	E550	29-Sep-2025	----	----	----		03-Oct-2025	4 days	3 days	✔
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] OW6-II	E550	29-Sep-2025	----	----	----		03-Oct-2025	4 days	3 days	✔
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] OW7	E550	01-Oct-2025	----	----	----		04-Oct-2025	4 days	3 days	✔
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] OW9-I	E550	01-Oct-2025	----	----	----		04-Oct-2025	4 days	3 days	✔
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] DUP 1	E550	29-Sep-2025	----	----	----		03-Oct-2025	4 days	4 days	✔
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] OW4-I	E550	29-Sep-2025	----	----	----		03-Oct-2025	4 days	4 days	✔
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] OW4-II	E550	29-Sep-2025	----	----	----		03-Oct-2025	4 days	4 days	✔
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] OW5-I	E550	29-Sep-2025	----	----	----		03-Oct-2025	4 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		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Aggregate Organics : Biochemical Oxygen Demand - 5 day										
HDPE [BOD HT-4d] OW6-I	E550	29-Sep-2025	----	----	----		03-Oct-2025	4 days	4 days	✔
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] BH28-II	E559-L	01-Oct-2025	----	----	----		08-Oct-2025	28 days	7 days	✔
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] DUP 2	E559-L	01-Oct-2025	----	----	----		08-Oct-2025	28 days	7 days	✔
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] OW1-I	E559-L	01-Oct-2025	----	----	----		08-Oct-2025	28 days	7 days	✔
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] OW1-II	E559-L	01-Oct-2025	----	----	----		08-Oct-2025	28 days	7 days	✔
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] OW1-III	E559-L	01-Oct-2025	----	----	----		08-Oct-2025	28 days	7 days	✔
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] OW7	E559-L	01-Oct-2025	----	----	----		08-Oct-2025	28 days	7 days	✔
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] OW9-I	E559-L	01-Oct-2025	----	----	----		08-Oct-2025	28 days	7 days	✔
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] OW9-II	E559-L	01-Oct-2025	----	----	----		08-Oct-2025	28 days	7 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	
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] DUP 1	E559-L	29-Sep-2025	----	----	----		08-Oct-2025	28 days	9 days	✔
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] OW2-I	E559-L	29-Sep-2025	----	----	----		08-Oct-2025	28 days	9 days	✔
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] OW2-II	E559-L	29-Sep-2025	----	----	----		08-Oct-2025	28 days	9 days	✔
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] OW3	E559-L	29-Sep-2025	----	----	----		08-Oct-2025	28 days	9 days	✔
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] OW4-I	E559-L	29-Sep-2025	----	----	----		08-Oct-2025	28 days	9 days	✔
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] OW4-II	E559-L	29-Sep-2025	----	----	----		08-Oct-2025	28 days	9 days	✔
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] OW5-I	E559-L	29-Sep-2025	----	----	----		08-Oct-2025	28 days	9 days	✔
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] OW6-I	E559-L	29-Sep-2025	----	----	----		08-Oct-2025	28 days	9 days	✔
Aggregate Organics : Chemical Oxygen Demand by Colourimetry (Low Level)										
Amber glass total (sulfuric acid) [ON MECP] OW6-II	E559-L	29-Sep-2025	----	----	----		08-Oct-2025	28 days	9 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		
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] DUP 2	E562	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] OW7	E562	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] OW9-I	E562	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] OW9-II	E562	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] BH28-II	E562	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	09-Oct-2025	28 days	7 days	✔	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] OW1-I	E562	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	09-Oct-2025	28 days	7 days	✔	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] OW1-II	E562	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	09-Oct-2025	28 days	7 days	✔	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] OW1-III	E562	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	09-Oct-2025	28 days	7 days	✔	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] DUP 1	E562	29-Sep-2025	07-Oct-2025	28 days	8 days	✔	08-Oct-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		
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] OW4-I	E562	29-Sep-2025	07-Oct-2025	28 days	8 days	✔	08-Oct-2025	28 days	8 days	✔	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] OW4-II	E562	29-Sep-2025	07-Oct-2025	28 days	8 days	✔	08-Oct-2025	28 days	8 days	✔	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] OW5-I	E562	29-Sep-2025	07-Oct-2025	28 days	8 days	✔	08-Oct-2025	28 days	8 days	✔	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] OW6-I	E562	29-Sep-2025	07-Oct-2025	28 days	8 days	✔	08-Oct-2025	28 days	8 days	✔	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] OW6-II	E562	29-Sep-2025	07-Oct-2025	28 days	8 days	✔	08-Oct-2025	28 days	8 days	✔	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] OW2-I	E562	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	09-Oct-2025	28 days	9 days	✔	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] OW2-II	E562	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	09-Oct-2025	28 days	9 days	✔	
Aggregate Organics : Phenols (4AAP) in Water by Colorimetry											
Amber glass total (sulfuric acid) [ON MECP] OW3	E562	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	09-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] DUP 2	E298	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 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		
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] OW7	E298	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] OW9-I	E298	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] OW9-II	E298	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] BH28-II	E298	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	10-Oct-2025	28 days	7 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] OW1-I	E298	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	10-Oct-2025	28 days	7 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] OW1-II	E298	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	10-Oct-2025	28 days	7 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] DUP 1	E298	29-Sep-2025	07-Oct-2025	28 days	8 days	✔	08-Oct-2025	28 days	8 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] OW4-I	E298	29-Sep-2025	07-Oct-2025	28 days	8 days	✔	08-Oct-2025	28 days	8 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] OW4-II	E298	29-Sep-2025	07-Oct-2025	28 days	8 days	✔	08-Oct-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		
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] OW5-I	E298	29-Sep-2025	07-Oct-2025	28 days	8 days	✔	08-Oct-2025	28 days	8 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] OW6-I	E298	29-Sep-2025	07-Oct-2025	28 days	8 days	✔	08-Oct-2025	28 days	8 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] OW6-II	E298	29-Sep-2025	07-Oct-2025	28 days	8 days	✔	08-Oct-2025	28 days	8 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] OW1-III	E298	01-Oct-2025	08-Oct-2025	28 days	9 days	✔	10-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] OW2-I	E298	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	10-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] OW2-II	E298	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	10-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Ammonia by Fluorescence											
Amber glass total (sulfuric acid) [ON MECP] OW3	E298	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	10-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] DUP 1	E235.Cl	29-Sep-2025	03-Oct-2025	28 days	4 days	✔	03-Oct-2025	28 days	4 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] OW4-I	E235.Cl	29-Sep-2025	03-Oct-2025	28 days	4 days	✔	03-Oct-2025	28 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		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] OW4-II	E235.Cl	29-Sep-2025	03-Oct-2025	28 days	4 days	✔	03-Oct-2025	28 days	4 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] OW5-I	E235.Cl	29-Sep-2025	03-Oct-2025	28 days	4 days	✔	03-Oct-2025	28 days	4 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] OW6-I	E235.Cl	29-Sep-2025	03-Oct-2025	28 days	4 days	✔	03-Oct-2025	28 days	4 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] OW2-I	E235.Cl	29-Sep-2025	04-Oct-2025	28 days	5 days	✔	06-Oct-2025	28 days	5 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] OW2-II	E235.Cl	29-Sep-2025	04-Oct-2025	28 days	5 days	✔	06-Oct-2025	28 days	5 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] OW3	E235.Cl	29-Sep-2025	04-Oct-2025	28 days	5 days	✔	06-Oct-2025	28 days	5 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] OW6-II	E235.Cl	29-Sep-2025	04-Oct-2025	28 days	5 days	✔	06-Oct-2025	28 days	5 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] BH28-II	E235.Cl	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] DUP 2	E235.Cl	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 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		
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] OW1-I	E235.Cl	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] OW1-II	E235.Cl	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] OW1-III	E235.Cl	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] OW7	E235.Cl	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] OW9-I	E235.Cl	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Chloride in Water by IC											
HDPE [ON MECP] OW9-II	E235.Cl	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)											
HDPE [ON MECP] DUP 1	E378-U	29-Sep-2025	03-Oct-2025	7 days	4 days	✔	06-Oct-2025	7 days	4 days	✔	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)											
HDPE [ON MECP] OW4-I	E378-U	29-Sep-2025	03-Oct-2025	7 days	4 days	✔	06-Oct-2025	7 days	4 days	✔	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)											
HDPE [ON MECP] OW4-II	E378-U	29-Sep-2025	03-Oct-2025	7 days	4 days	✔	06-Oct-2025	7 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		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE [ON MECP] OW5-I	E378-U	29-Sep-2025	03-Oct-2025	7 days	4 days	✓	06-Oct-2025	7 days	4 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE [ON MECP] OW6-I	E378-U	29-Sep-2025	03-Oct-2025	7 days	4 days	✓	06-Oct-2025	7 days	4 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE [ON MECP] OW2-I	E378-U	29-Sep-2025	04-Oct-2025	7 days	5 days	✓	06-Oct-2025	7 days	5 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE [ON MECP] OW2-II	E378-U	29-Sep-2025	04-Oct-2025	7 days	5 days	✓	06-Oct-2025	7 days	5 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE [ON MECP] OW3	E378-U	29-Sep-2025	04-Oct-2025	7 days	5 days	✓	06-Oct-2025	7 days	5 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE [ON MECP] OW6-II	E378-U	29-Sep-2025	04-Oct-2025	7 days	5 days	✓	06-Oct-2025	7 days	5 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE [ON MECP] BH28-II	E378-U	01-Oct-2025	07-Oct-2025	7 days	6 days	✓	08-Oct-2025	7 days	6 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE [ON MECP] DUP 2	E378-U	01-Oct-2025	07-Oct-2025	7 days	6 days	✓	08-Oct-2025	7 days	6 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE [ON MECP] OW1-I	E378-U	01-Oct-2025	07-Oct-2025	7 days	6 days	✓	08-Oct-2025	7 days	6 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		
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)											
HDPE [ON MECP] OW1-II	E378-U	01-Oct-2025	07-Oct-2025	7 days	6 days	✔	08-Oct-2025	7 days	6 days	✔	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)											
HDPE [ON MECP] OW1-III	E378-U	01-Oct-2025	07-Oct-2025	7 days	6 days	✔	08-Oct-2025	7 days	6 days	✔	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)											
HDPE [ON MECP] OW7	E378-U	01-Oct-2025	07-Oct-2025	7 days	6 days	✔	08-Oct-2025	7 days	6 days	✔	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)											
HDPE [ON MECP] OW9-I	E378-U	01-Oct-2025	07-Oct-2025	7 days	6 days	✔	08-Oct-2025	7 days	6 days	✔	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)											
HDPE [ON MECP] OW9-II	E378-U	01-Oct-2025	07-Oct-2025	7 days	6 days	✔	08-Oct-2025	7 days	6 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] DUP 1	E235.F	29-Sep-2025	03-Oct-2025	28 days	4 days	✔	03-Oct-2025	28 days	4 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] OW4-I	E235.F	29-Sep-2025	03-Oct-2025	28 days	4 days	✔	03-Oct-2025	28 days	4 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] OW4-II	E235.F	29-Sep-2025	03-Oct-2025	28 days	4 days	✔	03-Oct-2025	28 days	4 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] OW5-I	E235.F	29-Sep-2025	03-Oct-2025	28 days	4 days	✔	03-Oct-2025	28 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		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] OW6-I	E235.F	29-Sep-2025	03-Oct-2025	28 days	4 days	✔	03-Oct-2025	28 days	4 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] OW2-I	E235.F	29-Sep-2025	04-Oct-2025	28 days	5 days	✔	06-Oct-2025	28 days	5 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] OW2-II	E235.F	29-Sep-2025	04-Oct-2025	28 days	5 days	✔	06-Oct-2025	28 days	5 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] OW3	E235.F	29-Sep-2025	04-Oct-2025	28 days	5 days	✔	06-Oct-2025	28 days	5 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] OW6-II	E235.F	29-Sep-2025	04-Oct-2025	28 days	5 days	✔	06-Oct-2025	28 days	5 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] BH28-II	E235.F	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] DUP 2	E235.F	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] OW1-I	E235.F	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] OW1-II	E235.F	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 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		
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] OW1-III	E235.F	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] OW7	E235.F	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] OW9-I	E235.F	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Fluoride in Water by IC											
HDPE [ON MECP] OW9-II	E235.F	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] DUP 1	E235.NO3	29-Sep-2025	03-Oct-2025	7 days	4 days	✔	03-Oct-2025	7 days	4 days	✔	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] OW4-I	E235.NO3	29-Sep-2025	03-Oct-2025	7 days	4 days	✔	03-Oct-2025	7 days	4 days	✔	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] OW4-II	E235.NO3	29-Sep-2025	03-Oct-2025	7 days	4 days	✔	03-Oct-2025	7 days	4 days	✔	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] OW5-I	E235.NO3	29-Sep-2025	03-Oct-2025	7 days	4 days	✔	03-Oct-2025	7 days	4 days	✔	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] OW6-I	E235.NO3	29-Sep-2025	03-Oct-2025	7 days	4 days	✔	03-Oct-2025	7 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		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] OW2-I	E235.NO3	29-Sep-2025	04-Oct-2025	7 days	5 days	✔	06-Oct-2025	7 days	5 days	✔	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] OW2-II	E235.NO3	29-Sep-2025	04-Oct-2025	7 days	5 days	✔	06-Oct-2025	7 days	5 days	✔	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] OW3	E235.NO3	29-Sep-2025	04-Oct-2025	7 days	5 days	✔	06-Oct-2025	7 days	5 days	✔	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] OW6-II	E235.NO3	29-Sep-2025	04-Oct-2025	7 days	5 days	✔	06-Oct-2025	7 days	5 days	✔	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] BH28-II	E235.NO3	01-Oct-2025	07-Oct-2025	7 days	6 days	✔	08-Oct-2025	7 days	6 days	✔	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] DUP 2	E235.NO3	01-Oct-2025	07-Oct-2025	7 days	6 days	✔	08-Oct-2025	7 days	6 days	✔	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] OW1-I	E235.NO3	01-Oct-2025	07-Oct-2025	7 days	6 days	✔	08-Oct-2025	7 days	6 days	✔	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] OW1-II	E235.NO3	01-Oct-2025	07-Oct-2025	7 days	6 days	✔	08-Oct-2025	7 days	6 days	✔	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] OW1-III	E235.NO3	01-Oct-2025	07-Oct-2025	7 days	6 days	✔	08-Oct-2025	7 days	6 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		
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] OW7	E235.NO3	01-Oct-2025	07-Oct-2025	7 days	6 days	✓	08-Oct-2025	7 days	6 days	✓	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] OW9-I	E235.NO3	01-Oct-2025	07-Oct-2025	7 days	6 days	✓	08-Oct-2025	7 days	6 days	✓	
Anions and Nutrients : Nitrate in Water by IC											
HDPE [ON MECP] OW9-II	E235.NO3	01-Oct-2025	07-Oct-2025	7 days	6 days	✓	08-Oct-2025	7 days	6 days	✓	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] DUP 1	E235.NO2	29-Sep-2025	03-Oct-2025	7 days	4 days	✓	03-Oct-2025	7 days	4 days	✓	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] OW4-I	E235.NO2	29-Sep-2025	03-Oct-2025	7 days	4 days	✓	03-Oct-2025	7 days	4 days	✓	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] OW4-II	E235.NO2	29-Sep-2025	03-Oct-2025	7 days	4 days	✓	03-Oct-2025	7 days	4 days	✓	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] OW5-I	E235.NO2	29-Sep-2025	03-Oct-2025	7 days	4 days	✓	03-Oct-2025	7 days	4 days	✓	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] OW6-I	E235.NO2	29-Sep-2025	03-Oct-2025	7 days	4 days	✓	03-Oct-2025	7 days	4 days	✓	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] OW2-I	E235.NO2	29-Sep-2025	04-Oct-2025	7 days	5 days	✓	06-Oct-2025	7 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		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] OW2-II	E235.NO2	29-Sep-2025	04-Oct-2025	7 days	5 days	✔	06-Oct-2025	7 days	5 days	✔	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] OW3	E235.NO2	29-Sep-2025	04-Oct-2025	7 days	5 days	✔	06-Oct-2025	7 days	5 days	✔	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] OW6-II	E235.NO2	29-Sep-2025	04-Oct-2025	7 days	5 days	✔	06-Oct-2025	7 days	5 days	✔	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] BH28-II	E235.NO2	01-Oct-2025	07-Oct-2025	7 days	6 days	✔	08-Oct-2025	7 days	6 days	✔	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] DUP 2	E235.NO2	01-Oct-2025	07-Oct-2025	7 days	6 days	✔	08-Oct-2025	7 days	6 days	✔	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] OW1-I	E235.NO2	01-Oct-2025	07-Oct-2025	7 days	6 days	✔	08-Oct-2025	7 days	6 days	✔	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] OW1-II	E235.NO2	01-Oct-2025	07-Oct-2025	7 days	6 days	✔	08-Oct-2025	7 days	6 days	✔	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] OW1-III	E235.NO2	01-Oct-2025	07-Oct-2025	7 days	6 days	✔	08-Oct-2025	7 days	6 days	✔	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] OW7	E235.NO2	01-Oct-2025	07-Oct-2025	7 days	6 days	✔	08-Oct-2025	7 days	6 days	✔	



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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		
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] OW9-I	E235.NO2	01-Oct-2025	07-Oct-2025	7 days	6 days	✓	08-Oct-2025	7 days	6 days	✓	
Anions and Nutrients : Nitrite in Water by IC											
HDPE [ON MECP] OW9-II	E235.NO2	01-Oct-2025	07-Oct-2025	7 days	6 days	✓	08-Oct-2025	7 days	6 days	✓	
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] DUP 1	E235.SO4	29-Sep-2025	03-Oct-2025	28 days	4 days	✓	03-Oct-2025	28 days	4 days	✓	
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] OW4-I	E235.SO4	29-Sep-2025	03-Oct-2025	28 days	4 days	✓	03-Oct-2025	28 days	4 days	✓	
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] OW4-II	E235.SO4	29-Sep-2025	03-Oct-2025	28 days	4 days	✓	03-Oct-2025	28 days	4 days	✓	
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] OW5-I	E235.SO4	29-Sep-2025	03-Oct-2025	28 days	4 days	✓	03-Oct-2025	28 days	4 days	✓	
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] OW6-I	E235.SO4	29-Sep-2025	03-Oct-2025	28 days	4 days	✓	03-Oct-2025	28 days	4 days	✓	
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] OW2-I	E235.SO4	29-Sep-2025	04-Oct-2025	28 days	5 days	✓	06-Oct-2025	28 days	5 days	✓	
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] OW2-II	E235.SO4	29-Sep-2025	04-Oct-2025	28 days	5 days	✓	06-Oct-2025	28 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		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] OW3	E235.SO4	29-Sep-2025	04-Oct-2025	28 days	5 days	✔	06-Oct-2025	28 days	5 days	✔	
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] OW6-II	E235.SO4	29-Sep-2025	04-Oct-2025	28 days	5 days	✔	06-Oct-2025	28 days	5 days	✔	
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] BH28-II	E235.SO4	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] DUP 2	E235.SO4	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] OW1-I	E235.SO4	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] OW1-II	E235.SO4	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] OW1-III	E235.SO4	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] OW7	E235.SO4	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] OW9-I	E235.SO4	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	



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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		
Anions and Nutrients : Sulfate in Water by IC											
HDPE [ON MECP] OW9-II	E235.SO4	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] OW2-I	E318	29-Sep-2025	09-Oct-2025	28 days	10 days	✔	09-Oct-2025	28 days	10 days	✔	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] OW2-II	E318	29-Sep-2025	09-Oct-2025	28 days	10 days	✔	09-Oct-2025	28 days	10 days	✔	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] OW3	E318	29-Sep-2025	09-Oct-2025	28 days	10 days	✔	09-Oct-2025	28 days	10 days	✔	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] DUP 2	E318	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	08-Oct-2025	28 days	7 days	✔	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] OW7	E318	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	08-Oct-2025	28 days	7 days	✔	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] OW9-I	E318	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	08-Oct-2025	28 days	7 days	✔	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] OW9-II	E318	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	08-Oct-2025	28 days	7 days	✔	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] BH28-II	E318	01-Oct-2025	09-Oct-2025	28 days	8 days	✔	09-Oct-2025	28 days	8 days	✔	



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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		
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] OW1-I	E318	01-Oct-2025	09-Oct-2025	28 days	8 days	✔	09-Oct-2025	28 days	8 days	✔	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] OW1-II	E318	01-Oct-2025	09-Oct-2025	28 days	8 days	✔	09-Oct-2025	28 days	8 days	✔	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] OW1-III	E318	01-Oct-2025	09-Oct-2025	28 days	8 days	✔	09-Oct-2025	28 days	8 days	✔	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] DUP 1	E318	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	08-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] OW4-I	E318	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	08-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] OW4-II	E318	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	08-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] OW5-I	E318	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	08-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] OW6-I	E318	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	08-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)											
Amber glass total (sulfuric acid) [ON MECP] OW6-II	E318	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	08-Oct-2025	28 days	9 days	✔	



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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		
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] BH28-II	E372-U	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	09-Oct-2025	28 days	7 days	✔	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] DUP 2	E372-U	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	09-Oct-2025	28 days	7 days	✔	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] OW1-III	E372-U	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	09-Oct-2025	28 days	7 days	✔	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] OW9-I	E372-U	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	09-Oct-2025	28 days	7 days	✔	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] OW9-II	E372-U	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	09-Oct-2025	28 days	7 days	✔	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] OW1-I	E372-U	01-Oct-2025	08-Oct-2025	28 days	8 days	✔	09-Oct-2025	28 days	8 days	✔	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] OW1-II	E372-U	01-Oct-2025	08-Oct-2025	28 days	8 days	✔	09-Oct-2025	28 days	8 days	✔	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] OW7	E372-U	01-Oct-2025	08-Oct-2025	28 days	8 days	✔	09-Oct-2025	28 days	8 days	✔	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] DUP 1	E372-U	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	09-Oct-2025	28 days	9 days	✔	



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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		
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] OW2-I	E372-U	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	09-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] OW2-II	E372-U	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	09-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] OW3	E372-U	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	09-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] OW4-I	E372-U	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	09-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] OW4-II	E372-U	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	09-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] OW5-I	E372-U	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	09-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] OW6-I	E372-U	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	09-Oct-2025	28 days	9 days	✔	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)											
Amber glass total (sulfuric acid) [ON MECP] OW6-II	E372-U	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	09-Oct-2025	28 days	9 days	✔	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) BH28-II	E421	01-Oct-2025	03-Oct-2025	180 days	2 days	✔	03-Oct-2025	180 days	2 days	✔	



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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		
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) DUP 2	E421	01-Oct-2025	03-Oct-2025	180 days	2 days	✔	03-Oct-2025	180 days	2 days	✔	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) OW1-I	E421	01-Oct-2025	03-Oct-2025	180 days	2 days	✔	03-Oct-2025	180 days	2 days	✔	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) OW1-II	E421	01-Oct-2025	03-Oct-2025	180 days	2 days	✔	03-Oct-2025	180 days	2 days	✔	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) OW1-III	E421	01-Oct-2025	03-Oct-2025	180 days	2 days	✔	03-Oct-2025	180 days	2 days	✔	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) OW7	E421	01-Oct-2025	03-Oct-2025	180 days	2 days	✔	03-Oct-2025	180 days	2 days	✔	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) OW9-I	E421	01-Oct-2025	03-Oct-2025	180 days	2 days	✔	03-Oct-2025	180 days	2 days	✔	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) OW9-II	E421	01-Oct-2025	03-Oct-2025	180 days	2 days	✔	03-Oct-2025	180 days	2 days	✔	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) DUP 1	E421	29-Sep-2025	03-Oct-2025	180 days	4 days	✔	03-Oct-2025	180 days	4 days	✔	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) OW2-I	E421	29-Sep-2025	03-Oct-2025	180 days	4 days	✔	03-Oct-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		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) OW2-II	E421	29-Sep-2025	03-Oct-2025	180 days	4 days	✓	03-Oct-2025	180 days	4 days	✓	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) OW3	E421	29-Sep-2025	03-Oct-2025	180 days	4 days	✓	03-Oct-2025	180 days	4 days	✓	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) OW4-I	E421	29-Sep-2025	03-Oct-2025	180 days	4 days	✓	03-Oct-2025	180 days	4 days	✓	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) OW4-II	E421	29-Sep-2025	03-Oct-2025	180 days	4 days	✓	03-Oct-2025	180 days	4 days	✓	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) OW5-I	E421	29-Sep-2025	03-Oct-2025	180 days	4 days	✓	03-Oct-2025	180 days	4 days	✓	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) OW6-I	E421	29-Sep-2025	03-Oct-2025	180 days	4 days	✓	03-Oct-2025	180 days	4 days	✓	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS											
HDPE dissolved (nitric acid) OW6-II	E421	29-Sep-2025	03-Oct-2025	180 days	4 days	✓	03-Oct-2025	180 days	4 days	✓	
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion											
HDPE BH28-II	E353-L	01-Oct-2025	----	----	----		07-Oct-2025	14 days	6 days	✓	
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion											
HDPE DUP 2	E353-L	01-Oct-2025	----	----	----		07-Oct-2025	14 days	6 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	
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion										
HDPE OW1-I	E353-L	01-Oct-2025	----	----	----		07-Oct-2025	14 days	6 days	✔
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion										
HDPE OW1-II	E353-L	01-Oct-2025	----	----	----		07-Oct-2025	14 days	6 days	✔
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion										
HDPE OW1-III	E353-L	01-Oct-2025	----	----	----		07-Oct-2025	14 days	6 days	✔
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion										
HDPE OW7	E353-L	01-Oct-2025	----	----	----		07-Oct-2025	14 days	6 days	✔
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion										
HDPE OW9-I	E353-L	01-Oct-2025	----	----	----		07-Oct-2025	14 days	6 days	✔
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion										
HDPE OW9-II	E353-L	01-Oct-2025	----	----	----		07-Oct-2025	14 days	6 days	✔
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion										
HDPE DUP 1	E353-L	29-Sep-2025	----	----	----		07-Oct-2025	14 days	8 days	✔
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion										
HDPE OW2-I	E353-L	29-Sep-2025	----	----	----		07-Oct-2025	14 days	8 days	✔
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion										
HDPE OW2-II	E353-L	29-Sep-2025	----	----	----		07-Oct-2025	14 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	
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion										
HDPE OW3	E353-L	29-Sep-2025	----	----	----		07-Oct-2025	14 days	8 days	✔
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion										
HDPE OW4-I	E353-L	29-Sep-2025	----	----	----		07-Oct-2025	14 days	8 days	✔
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion										
HDPE OW4-II	E353-L	29-Sep-2025	----	----	----		07-Oct-2025	14 days	8 days	✔
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion										
HDPE OW5-I	E353-L	29-Sep-2025	----	----	----		07-Oct-2025	14 days	8 days	✔
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion										
HDPE OW6-I	E353-L	29-Sep-2025	----	----	----		07-Oct-2025	14 days	8 days	✔
Organic / Inorganic Carbon : Dissolved Inorganic Carbon by Combustion										
HDPE OW6-II	E353-L	29-Sep-2025	----	----	----		07-Oct-2025	14 days	8 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) [ON MECP] BH28-II	E358-L	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	08-Oct-2025	28 days	7 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) [ON MECP] DUP 2	E358-L	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	08-Oct-2025	28 days	7 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) [ON MECP] OW1-I	E358-L	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	08-Oct-2025	28 days	7 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		
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)											
Amber glass dissolved (sulfuric acid) [ON MECP] OW1-II	E358-L	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	08-Oct-2025	28 days	7 days	✔	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)											
Amber glass dissolved (sulfuric acid) [ON MECP] OW1-III	E358-L	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	08-Oct-2025	28 days	7 days	✔	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)											
Amber glass dissolved (sulfuric acid) [ON MECP] OW7	E358-L	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	08-Oct-2025	28 days	7 days	✔	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)											
Amber glass dissolved (sulfuric acid) [ON MECP] OW9-I	E358-L	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	08-Oct-2025	28 days	7 days	✔	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)											
Amber glass dissolved (sulfuric acid) [ON MECP] OW9-II	E358-L	01-Oct-2025	08-Oct-2025	28 days	7 days	✔	08-Oct-2025	28 days	7 days	✔	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)											
Amber glass dissolved (sulfuric acid) [ON MECP] DUP 1	E358-L	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	08-Oct-2025	28 days	9 days	✔	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)											
Amber glass dissolved (sulfuric acid) [ON MECP] OW2-I	E358-L	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	08-Oct-2025	28 days	9 days	✔	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)											
Amber glass dissolved (sulfuric acid) [ON MECP] OW2-II	E358-L	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	08-Oct-2025	28 days	9 days	✔	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)											
Amber glass dissolved (sulfuric acid) [ON MECP] OW3	E358-L	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	08-Oct-2025	28 days	9 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	
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) [ON MECP] OW4-I	E358-L	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	08-Oct-2025	28 days	9 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) [ON MECP] OW4-II	E358-L	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	08-Oct-2025	28 days	9 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) [ON MECP] OW5-I	E358-L	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	08-Oct-2025	28 days	9 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) [ON MECP] OW6-I	E358-L	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	08-Oct-2025	28 days	9 days	✔
Organic / Inorganic Carbon : Dissolved Organic Carbon by Combustion (Low Level)										
Amber glass dissolved (sulfuric acid) [ON MECP] OW6-II	E358-L	29-Sep-2025	08-Oct-2025	28 days	9 days	✔	08-Oct-2025	28 days	9 days	✔
Physical Tests : Alkalinity Species by Titration										
HDPE [ON MECP] DUP 1	E290	29-Sep-2025	03-Oct-2025	14 days	4 days	✔	04-Oct-2025	14 days	4 days	✔
Physical Tests : Alkalinity Species by Titration										
HDPE [ON MECP] OW4-I	E290	29-Sep-2025	03-Oct-2025	14 days	4 days	✔	04-Oct-2025	14 days	4 days	✔
Physical Tests : Alkalinity Species by Titration										
HDPE [ON MECP] OW4-II	E290	29-Sep-2025	03-Oct-2025	14 days	4 days	✔	04-Oct-2025	14 days	4 days	✔
Physical Tests : Alkalinity Species by Titration										
HDPE [ON MECP] OW5-I	E290	29-Sep-2025	03-Oct-2025	14 days	4 days	✔	04-Oct-2025	14 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		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Physical Tests : Alkalinity Species by Titration											
HDPE [ON MECP] OW6-I	E290	29-Sep-2025	03-Oct-2025	14 days	4 days	✔	04-Oct-2025	14 days	4 days	✔	
Physical Tests : Alkalinity Species by Titration											
HDPE [ON MECP] OW2-I	E290	29-Sep-2025	04-Oct-2025	14 days	5 days	✔	07-Oct-2025	14 days	5 days	✔	
Physical Tests : Alkalinity Species by Titration											
HDPE [ON MECP] OW2-II	E290	29-Sep-2025	04-Oct-2025	14 days	5 days	✔	07-Oct-2025	14 days	5 days	✔	
Physical Tests : Alkalinity Species by Titration											
HDPE [ON MECP] OW3	E290	29-Sep-2025	04-Oct-2025	14 days	5 days	✔	07-Oct-2025	14 days	5 days	✔	
Physical Tests : Alkalinity Species by Titration											
HDPE [ON MECP] OW6-II	E290	29-Sep-2025	04-Oct-2025	14 days	5 days	✔	07-Oct-2025	14 days	5 days	✔	
Physical Tests : Alkalinity Species by Titration											
HDPE [ON MECP] BH28-II	E290	01-Oct-2025	07-Oct-2025	14 days	6 days	✔	08-Oct-2025	14 days	6 days	✔	
Physical Tests : Alkalinity Species by Titration											
HDPE [ON MECP] DUP 2	E290	01-Oct-2025	07-Oct-2025	14 days	6 days	✔	08-Oct-2025	14 days	6 days	✔	
Physical Tests : Alkalinity Species by Titration											
HDPE [ON MECP] OW1-I	E290	01-Oct-2025	07-Oct-2025	14 days	6 days	✔	08-Oct-2025	14 days	6 days	✔	
Physical Tests : Alkalinity Species by Titration											
HDPE [ON MECP] OW1-II	E290	01-Oct-2025	07-Oct-2025	14 days	6 days	✔	08-Oct-2025	14 days	6 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 : Alkalinity Species by Titration											
HDPE [ON MECP] OW1-III	E290	01-Oct-2025	07-Oct-2025	14 days	6 days	✔	08-Oct-2025	14 days	6 days	✔	
Physical Tests : Alkalinity Species by Titration											
HDPE [ON MECP] OW7	E290	01-Oct-2025	07-Oct-2025	14 days	6 days	✔	08-Oct-2025	14 days	6 days	✔	
Physical Tests : Alkalinity Species by Titration											
HDPE [ON MECP] OW9-I	E290	01-Oct-2025	07-Oct-2025	14 days	6 days	✔	08-Oct-2025	14 days	6 days	✔	
Physical Tests : Alkalinity Species by Titration											
HDPE [ON MECP] OW9-II	E290	01-Oct-2025	07-Oct-2025	14 days	6 days	✔	08-Oct-2025	14 days	6 days	✔	
Physical Tests : Conductivity in Water											
HDPE [ON MECP] DUP 1	E100	29-Sep-2025	03-Oct-2025	28 days	4 days	✔	04-Oct-2025	28 days	4 days	✔	
Physical Tests : Conductivity in Water											
HDPE [ON MECP] OW4-I	E100	29-Sep-2025	03-Oct-2025	28 days	4 days	✔	04-Oct-2025	28 days	4 days	✔	
Physical Tests : Conductivity in Water											
HDPE [ON MECP] OW4-II	E100	29-Sep-2025	03-Oct-2025	28 days	4 days	✔	04-Oct-2025	28 days	4 days	✔	
Physical Tests : Conductivity in Water											
HDPE [ON MECP] OW5-I	E100	29-Sep-2025	03-Oct-2025	28 days	4 days	✔	04-Oct-2025	28 days	4 days	✔	
Physical Tests : Conductivity in Water											
HDPE [ON MECP] OW6-I	E100	29-Sep-2025	03-Oct-2025	28 days	4 days	✔	04-Oct-2025	28 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		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Conductivity in Water										
HDPE [ON MECP] OW2-I	E100	29-Sep-2025	04-Oct-2025	28 days	5 days	✔	07-Oct-2025	28 days	5 days	✔
Physical Tests : Conductivity in Water										
HDPE [ON MECP] OW2-II	E100	29-Sep-2025	04-Oct-2025	28 days	5 days	✔	07-Oct-2025	28 days	5 days	✔
Physical Tests : Conductivity in Water										
HDPE [ON MECP] OW3	E100	29-Sep-2025	04-Oct-2025	28 days	5 days	✔	07-Oct-2025	28 days	5 days	✔
Physical Tests : Conductivity in Water										
HDPE [ON MECP] OW6-II	E100	29-Sep-2025	04-Oct-2025	28 days	5 days	✔	07-Oct-2025	28 days	5 days	✔
Physical Tests : Conductivity in Water										
HDPE [ON MECP] BH28-II	E100	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔
Physical Tests : Conductivity in Water										
HDPE [ON MECP] DUP 2	E100	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔
Physical Tests : Conductivity in Water										
HDPE [ON MECP] OW1-I	E100	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔
Physical Tests : Conductivity in Water										
HDPE [ON MECP] OW1-II	E100	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔
Physical Tests : Conductivity in Water										
HDPE [ON MECP] OW1-III	E100	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 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 : Conductivity in Water										
HDPE [ON MECP] OW7	E100	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔
Physical Tests : Conductivity in Water										
HDPE [ON MECP] OW9-I	E100	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔
Physical Tests : Conductivity in Water										
HDPE [ON MECP] OW9-II	E100	01-Oct-2025	07-Oct-2025	28 days	6 days	✔	08-Oct-2025	28 days	6 days	✔
Physical Tests : pH by Meter										
HDPE [ON MECP] DUP 1	E108	29-Sep-2025	03-Oct-2025	14 days	4 days	✔	04-Oct-2025	14 days	4 days	✔
Physical Tests : pH by Meter										
HDPE [ON MECP] OW4-I	E108	29-Sep-2025	03-Oct-2025	14 days	4 days	✔	04-Oct-2025	14 days	4 days	✔
Physical Tests : pH by Meter										
HDPE [ON MECP] OW4-II	E108	29-Sep-2025	03-Oct-2025	14 days	4 days	✔	04-Oct-2025	14 days	4 days	✔
Physical Tests : pH by Meter										
HDPE [ON MECP] OW5-I	E108	29-Sep-2025	03-Oct-2025	14 days	4 days	✔	04-Oct-2025	14 days	4 days	✔
Physical Tests : pH by Meter										
HDPE [ON MECP] OW6-I	E108	29-Sep-2025	03-Oct-2025	14 days	4 days	✔	04-Oct-2025	14 days	4 days	✔
Physical Tests : pH by Meter										
HDPE [ON MECP] OW2-I	E108	29-Sep-2025	04-Oct-2025	14 days	5 days	✔	07-Oct-2025	14 days	5 days	✔



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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] OW2-II	E108	29-Sep-2025	04-Oct-2025	14 days	5 days	✔	07-Oct-2025	14 days	5 days	✔
Physical Tests : pH by Meter										
HDPE [ON MECP] OW3	E108	29-Sep-2025	04-Oct-2025	14 days	5 days	✔	07-Oct-2025	14 days	5 days	✔
Physical Tests : pH by Meter										
HDPE [ON MECP] OW6-II	E108	29-Sep-2025	04-Oct-2025	14 days	5 days	✔	07-Oct-2025	14 days	5 days	✔
Physical Tests : pH by Meter										
HDPE [ON MECP] BH28-II	E108	01-Oct-2025	07-Oct-2025	14 days	6 days	✔	08-Oct-2025	14 days	6 days	✔
Physical Tests : pH by Meter										
HDPE [ON MECP] DUP 2	E108	01-Oct-2025	07-Oct-2025	14 days	6 days	✔	08-Oct-2025	14 days	6 days	✔
Physical Tests : pH by Meter										
HDPE [ON MECP] OW1-I	E108	01-Oct-2025	07-Oct-2025	14 days	6 days	✔	08-Oct-2025	14 days	6 days	✔
Physical Tests : pH by Meter										
HDPE [ON MECP] OW1-II	E108	01-Oct-2025	07-Oct-2025	14 days	6 days	✔	08-Oct-2025	14 days	6 days	✔
Physical Tests : pH by Meter										
HDPE [ON MECP] OW1-III	E108	01-Oct-2025	07-Oct-2025	14 days	6 days	✔	08-Oct-2025	14 days	6 days	✔
Physical Tests : pH by Meter										
HDPE [ON MECP] OW7	E108	01-Oct-2025	07-Oct-2025	14 days	6 days	✔	08-Oct-2025	14 days	6 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] OW9-I	E108	01-Oct-2025	07-Oct-2025	14 days	6 days	✓	08-Oct-2025	14 days	6 days	✓	
Physical Tests : pH by Meter											
HDPE [ON MECP] OW9-II	E108	01-Oct-2025	07-Oct-2025	14 days	6 days	✓	08-Oct-2025	14 days	6 days	✓	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) BH28-II	E420	01-Oct-2025	03-Oct-2025	180 days	2 days	✓	03-Oct-2025	180 days	2 days	✓	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) DUP 2	E420	01-Oct-2025	03-Oct-2025	180 days	2 days	✓	03-Oct-2025	180 days	2 days	✓	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) OW1-I	E420	01-Oct-2025	03-Oct-2025	180 days	2 days	✓	03-Oct-2025	180 days	2 days	✓	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) OW1-II	E420	01-Oct-2025	03-Oct-2025	180 days	2 days	✓	03-Oct-2025	180 days	2 days	✓	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) OW1-III	E420	01-Oct-2025	03-Oct-2025	180 days	2 days	✓	03-Oct-2025	180 days	2 days	✓	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) OW7	E420	01-Oct-2025	03-Oct-2025	180 days	2 days	✓	03-Oct-2025	180 days	2 days	✓	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) OW9-I	E420	01-Oct-2025	03-Oct-2025	180 days	2 days	✓	03-Oct-2025	180 days	2 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		
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) OW9-II	E420	01-Oct-2025	03-Oct-2025	180 days	2 days	✓	03-Oct-2025	180 days	2 days	✓	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) DUP 1	E420	29-Sep-2025	03-Oct-2025	180 days	4 days	✓	03-Oct-2025	180 days	4 days	✓	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) OW2-I	E420	29-Sep-2025	03-Oct-2025	180 days	4 days	✓	03-Oct-2025	180 days	4 days	✓	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) OW2-II	E420	29-Sep-2025	03-Oct-2025	180 days	4 days	✓	03-Oct-2025	180 days	4 days	✓	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) OW3	E420	29-Sep-2025	03-Oct-2025	180 days	4 days	✓	03-Oct-2025	180 days	4 days	✓	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) OW4-I	E420	29-Sep-2025	03-Oct-2025	180 days	4 days	✓	03-Oct-2025	180 days	4 days	✓	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) OW4-II	E420	29-Sep-2025	03-Oct-2025	180 days	4 days	✓	03-Oct-2025	180 days	4 days	✓	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) OW5-I	E420	29-Sep-2025	03-Oct-2025	180 days	4 days	✓	03-Oct-2025	180 days	4 days	✓	
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) OW6-I	E420	29-Sep-2025	03-Oct-2025	180 days	4 days	✓	03-Oct-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		Eval	Analysis Date	Holding Times		Eval	
				Rec	Actual			Rec	Actual		
Total Metals : Total Metals in Water by CRC ICPMS											
HDPE total (nitric acid) OW6-II	E420	29-Sep-2025	03-Oct-2025	180 days	4 days	✔	03-Oct-2025	180 days	4 days	✔	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS											
Glass vial (sodium bisulfate) DUP 2	E611D	01-Oct-2025	06-Oct-2025	14 days	5 days	✔	06-Oct-2025	14 days	5 days	✔	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS											
Glass vial (sodium bisulfate) Field Blank	E611D	01-Oct-2025	06-Oct-2025	14 days	5 days	✔	07-Oct-2025	14 days	5 days	✔	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS											
Glass vial (sodium bisulfate) OW1-I	E611D	01-Oct-2025	06-Oct-2025	14 days	5 days	✔	06-Oct-2025	14 days	5 days	✔	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS											
Glass vial (sodium bisulfate) OW1-II	E611D	01-Oct-2025	06-Oct-2025	14 days	5 days	✔	06-Oct-2025	14 days	5 days	✔	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS											
Glass vial (sodium bisulfate) OW1-III	E611D	01-Oct-2025	06-Oct-2025	14 days	5 days	✔	06-Oct-2025	14 days	5 days	✔	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS											
Glass vial (sodium bisulfate) OW7	E611D	01-Oct-2025	06-Oct-2025	14 days	5 days	✔	06-Oct-2025	14 days	5 days	✔	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS											
Glass vial (sodium bisulfate) OW9-I	E611D	01-Oct-2025	06-Oct-2025	14 days	5 days	✔	06-Oct-2025	14 days	5 days	✔	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS											
Glass vial (sodium bisulfate) OW9-II	E611D	01-Oct-2025	06-Oct-2025	14 days	5 days	✔	06-Oct-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		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) Trip Blank	E611D	01-Oct-2025	06-Oct-2025	14 days	5 days	✓	06-Oct-2025	14 days	5 days	✓	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS											
Glass vial (sodium bisulfate) DUP 1	E611D	29-Sep-2025	06-Oct-2025	14 days	7 days	✓	06-Oct-2025	14 days	7 days	✓	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS											
Glass vial (sodium bisulfate) OW2-I	E611D	29-Sep-2025	06-Oct-2025	14 days	7 days	✓	06-Oct-2025	14 days	7 days	✓	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS											
Glass vial (sodium bisulfate) OW2-II	E611D	29-Sep-2025	06-Oct-2025	14 days	7 days	✓	06-Oct-2025	14 days	7 days	✓	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS											
Glass vial (sodium bisulfate) OW3	E611D	29-Sep-2025	06-Oct-2025	14 days	7 days	✓	06-Oct-2025	14 days	7 days	✓	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS											
Glass vial (sodium bisulfate) OW4-I	E611D	29-Sep-2025	06-Oct-2025	14 days	7 days	✓	06-Oct-2025	14 days	7 days	✓	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS											
Glass vial (sodium bisulfate) OW4-II	E611D	29-Sep-2025	06-Oct-2025	14 days	7 days	✓	06-Oct-2025	14 days	7 days	✓	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS											
Glass vial (sodium bisulfate) OW6-I	E611D	29-Sep-2025	06-Oct-2025	14 days	7 days	✓	06-Oct-2025	14 days	7 days	✓	
Volatile Organic Compounds : VOCs (Eastern Canada List) by Headspace GC-MS											
Glass vial (sodium bisulfate) OW6-II	E611D	29-Sep-2025	06-Oct-2025	14 days	7 days	✓	06-Oct-2025	14 days	7 days	✓	

Legend & Qualifier Definitions

Page : 42 of 49
Work Order : WT2528023
Client : City of Orillia
Project : WASTE DIVERSION SITE



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	Method	QC Lot #	Count		Frequency (%)		Evaluation
			QC	Regular	Actual	Expected	
Analytical Methods							
Laboratory Duplicates (DUP)							
Conductivity in Water	E100	2256067	3	44	6.8	5.0	✔
pH by Meter	E108	2256069	3	45	6.6	5.0	✔
Chloride in Water by IC	E235.Cl	2256075	3	58	5.1	5.0	✔
Fluoride in Water by IC	E235.F	2256073	3	54	5.5	5.0	✔
Nitrite in Water by IC	E235.NO2	2256074	3	55	5.4	5.0	✔
Nitrate in Water by IC	E235.NO3	2256072	3	60	5.0	5.0	✔
Sulfate in Water by IC	E235.SO4	2256076	3	55	5.4	5.0	✔
Alkalinity Species by Titration	E290	2256068	3	55	5.4	5.0	✔
Ammonia by Fluorescence	E298	2262986	2	40	5.0	5.0	✔
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2262984	3	40	7.5	5.0	✔
Dissolved Inorganic Carbon by Combustion	E353-L	2261962	1	17	5.8	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	2264142	2	40	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2262985	2	40	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2256071	3	60	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	2255485	1	20	5.0	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	2256991	1	19	5.2	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2256335	3	55	5.4	5.0	✔
Chemical Oxygen Demand by Colourimetry (Low Level)	E559-L	2264784	2	39	5.1	5.0	✔
Phenols (4AAP) in Water by Colorimetry	E562	2262987	2	30	6.6	5.0	✔
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	2260973	2	30	6.6	5.0	✔
Laboratory Control Samples (LCS)							
Conductivity in Water	E100	2256067	3	44	6.8	5.0	✔
pH by Meter	E108	2256069	3	45	6.6	5.0	✔
Chloride in Water by IC	E235.Cl	2256075	3	58	5.1	5.0	✔
Fluoride in Water by IC	E235.F	2256073	3	54	5.5	5.0	✔
Nitrite in Water by IC	E235.NO2	2256074	3	55	5.4	5.0	✔
Nitrate in Water by IC	E235.NO3	2256072	3	60	5.0	5.0	✔
Sulfate in Water by IC	E235.SO4	2256076	3	55	5.4	5.0	✔
Alkalinity Species by Titration	E290	2256068	3	55	5.4	5.0	✔
Ammonia by Fluorescence	E298	2262986	2	40	5.0	5.0	✔
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2262984	3	40	7.5	5.0	✔
Dissolved Inorganic Carbon by Combustion	E353-L	2261962	1	17	5.8	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	2264142	2	40	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2262985	2	40	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2256071	3	60	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	2255485	1	20	5.0	5.0	✔



Matrix: **Water**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
Analytical Methods							
Laboratory Control Samples (LCS) - Continued							
Dissolved Metals in Water by CRC ICPMS	E421	2256991	1	19	5.2	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2256335	3	55	5.4	5.0	✔
Chemical Oxygen Demand by Colourimetry (Low Level)	E559-L	2264784	2	39	5.1	5.0	✔
Phenols (4AAP) in Water by Colorimetry	E562	2262987	2	30	6.6	5.0	✔
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	2260973	2	30	6.6	5.0	✔
Method Blanks (MB)							
Conductivity in Water	E100	2256067	3	44	6.8	5.0	✔
Chloride in Water by IC	E235.Cl	2256075	3	58	5.1	5.0	✔
Fluoride in Water by IC	E235.F	2256073	3	54	5.5	5.0	✔
Nitrite in Water by IC	E235.NO2	2256074	3	55	5.4	5.0	✔
Nitrate in Water by IC	E235.NO3	2256072	3	60	5.0	5.0	✔
Sulfate in Water by IC	E235.SO4	2256076	3	55	5.4	5.0	✔
Alkalinity Species by Titration	E290	2256068	3	55	5.4	5.0	✔
Ammonia by Fluorescence	E298	2262986	2	40	5.0	5.0	✔
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2262984	3	40	7.5	5.0	✔
Dissolved Inorganic Carbon by Combustion	E353-L	2261962	1	17	5.8	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	2264142	2	40	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2262985	2	40	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2256071	3	60	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	2255485	1	20	5.0	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	2256991	1	19	5.2	5.0	✔
Biochemical Oxygen Demand - 5 day	E550	2256335	3	55	5.4	5.0	✔
Chemical Oxygen Demand by Colourimetry (Low Level)	E559-L	2264784	2	39	5.1	5.0	✔
Phenols (4AAP) in Water by Colorimetry	E562	2262987	2	30	6.6	5.0	✔
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	2260973	2	30	6.6	5.0	✔
Matrix Spikes (MS)							
Chloride in Water by IC	E235.Cl	2256075	3	58	5.1	5.0	✔
Fluoride in Water by IC	E235.F	2256073	3	54	5.5	5.0	✔
Nitrite in Water by IC	E235.NO2	2256074	3	55	5.4	5.0	✔
Nitrate in Water by IC	E235.NO3	2256072	3	60	5.0	5.0	✔
Sulfate in Water by IC	E235.SO4	2256076	3	55	5.4	5.0	✔
Ammonia by Fluorescence	E298	2262986	2	40	5.0	5.0	✔
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2262984	3	40	7.5	5.0	✔
Dissolved Inorganic Carbon by Combustion	E353-L	2261962	1	17	5.8	5.0	✔
Dissolved Organic Carbon by Combustion (Low Level)	E358-L	2264142	2	40	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2262985	2	40	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2256071	3	60	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	2255485	1	20	5.0	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	2256991	1	19	5.2	5.0	✔



Matrix: **Water** Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type	Method	QC Lot #	Count		Frequency (%)		
			QC	Regular	Actual	Expected	Evaluation
<i>Analytical Methods</i>							
Matrix Spikes (MS) - Continued							
Chemical Oxygen Demand by Colourimetry (Low Level)	E559-L	2264784	2	39	5.1	5.0	✔
Phenols (4AAP) in Water by Colorimetry	E562	2262987	2	30	6.6	5.0	✔
VOCs (Eastern Canada List) by Headspace GC-MS	E611D	2260973	2	30	6.6	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
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.
Fluoride in Water by IC	E235.F ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC	E235.NO2 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC	E235.NO3 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Sulfate in Water by IC	E235.SO4 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Waterloo	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Waterloo	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318 ALS Environmental - Waterloo	Water	Method Fialab 100, 2018	TKN in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021).



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Inorganic Carbon by Combustion	E353-L ALS Environmental - Winnipeg	Water	APHA 5310 B (mod)	Dissolved Inorganic Carbon is determined on a sample which is filtered through a 0.45 micron filter prior to analysis by the high temperature combustion method with measurement by an infrared detector, where the sample is acidified in a reaction chamber to convert all inorganic carbons (carbonates) to carbon dioxide for analysis.
Dissolved Organic Carbon by Combustion (Low Level)	E358-L ALS Environmental - Waterloo	Water	APHA 5310 B (mod)	Dissolved Organic Carbon (Non-Purgeable), also known as NPOC (dissolved), is a direct measurement of DOC after a filtered (0.45 micron) sample has been acidified and purged to remove inorganic carbon (IC). Analysis is by high temperature combustion with infrared detection of CO ₂ . NPOC does not include volatile organic species that are purged off with IC. For samples where the majority of DC (dissolved carbon) is comprised of IC (which is common), this method is more accurate and more reliable than the DOC by subtraction method (i.e. DC minus DIC).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Waterloo	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Waterloo	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Waterloo	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
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.
Biochemical Oxygen Demand - 5 day	E550 ALS Environmental - Waterloo	Water	APHA 5210 B (mod)	Samples are diluted and incubated for a specified time period, after which the oxygen depletion is measured using a dissolved oxygen meter. Free chlorine is a negative interference in the BOD method; please advise ALS when free chlorine is present in samples.
Chemical Oxygen Demand by Colourimetry (Low Level)	E559-L ALS Environmental - Waterloo	Water	APHA 5220 D (mod)	Samples are analyzed using the closed reflux colourimetric method.
Phenols (4AAP) in Water by Colorimetry	E562 ALS Environmental - Waterloo	Water	EPA 9066	This automated method is based on the distillation of phenol and subsequent reaction of the distillate with alkaline ferricyanide (K ₃ Fe(CN) ₆) and 4-amino-antipyrine (4-AAP) to form a red complex which is measured colorimetrically.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
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.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Waterloo	Water	APHA 2340B	"Hardness (as CaCO ₃), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO ₃ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Waterloo	Water	APHA 2340B	"Hardness (as CaCO ₃), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed as CaCO ₃ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because hardness is a property of water due to dissolved divalent cations. In non-turbid waters, Hardness from total Ca/Mg is normally comparable to Dissolved Hardness, but may be biased high if particulate forms of Ca or Mg are present.
Ion Balance using Dissolved Metals	EC101 ALS Environmental - Waterloo	Water	APHA 1030E	Cation Sum, Anion Sum, and Ion Balance are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Dissolved species are used where available. Minor ions are included where data is present. Ion Balance cannot be calculated accurately for waters with very low electrical conductivity (EC).
Ion Balance using Total Metals	EC101A ALS Environmental - Waterloo	Water	APHA 1030E	Cation Sum (using total metals), Anion Sum, and Ion Balance are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Minor ions are included where data is present. Ion Balance cannot be calculated accurately for waters with very low electrical conductivity (EC).
Total Organic Nitrogen (Calculation)	EC363 ALS Environmental - Waterloo	Water	APHA 4500-NORG (TKN)/NH ₃ -NITROGEN (NH ₃)	Total Organic Nitrogen is a calculated parameter. Total Organic Nitrogen = Total Kjeldahl Nitrogen - Ammonia.

Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Waterloo	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.
Digestion for TKN in water	EP318 ALS Environmental - Waterloo	Water	APHA 4500-Norg D (mod)	Samples are digested at high temperature using Sulfuric Acid with Copper catalyst, which converts organic nitrogen sources to Ammonia, which is then quantified by the analytical method as TKN. This method is unsuitable for samples containing high levels of nitrate. If nitrate exceeds TKN concentration by ten times or more, results may be biased low.
Preparation for Dissolved Organic Carbon for Combustion	EP358 ALS Environmental - Waterloo	Water	APHA 5310 B (mod)	Preparation for Dissolved Organic Carbon



<i>Preparation Methods</i>	<i>Method / Lab</i>	<i>Matrix</i>	<i>Method Reference</i>	<i>Method Descriptions</i>
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Waterloo	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Waterloo	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO ₃ .
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

<p>Work Order : WT2528023</p> <p>Client : City of Orillia</p> <p>Contact : Ian Acheson</p> <p>Address : 50 Andrew St. S. Suite 300 Orillia ON Canada L3V 7T5</p> <p>Telephone : ----</p> <p>Project : WASTE DIVERSION SITE</p> <p>PO : 86912</p> <p>C-O-C number : ----</p> <p>Sampler : IA</p> <p>Site : ----</p> <p>Quote number : Waste Diversion Site</p> <p>No. of samples received : 19</p> <p>No. of samples analysed : 19</p>	<p>Page : 1 of 28</p> <p>Laboratory : ALS Environmental - Waterloo</p> <p>Account Manager : Karanpartap Singh</p> <p>Address : 60 Northland Road, Unit 1 Waterloo, Ontario Canada N2V 2B8</p> <p>Telephone : 19055076910</p> <p>Date Samples Received : 02-Oct-2025 14:00</p> <p>Date Analysis Commenced : 03-Oct-2025</p> <p>Issue Date : 14-Oct-2025 14:34</p>
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This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

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

Signatories

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

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
David Tremblett	VOC Section Supervisor	Waterloo VOC, Waterloo, Ontario
Hannah Lewis	Inorganics Analyst	Waterloo Inorganics, Waterloo, Ontario
Jon Fisher	Laboratory Manager - Environmental	Waterloo Centralized Prep, Waterloo, Ontario
Jon Fisher	Laboratory Manager - Environmental	Waterloo Inorganics, Waterloo, Ontario
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Walt Kippenhuck	Supervisor - Inorganic	Waterloo Inorganics, Waterloo, Ontario

Page : 2 of 28
Work Order : WT2528023
Client : City of Orillia
Project : WASTE DIVERSION SITE



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: 2256067)											
HA2503935-002	Anonymous	Conductivity	----	E100	1.0	µS/cm	36.0	35.5	1.40%	10%	----
Physical Tests (QC Lot: 2256068)											
HA2503935-002	Anonymous	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	3.1	3.1	0	Diff <2x LOR	----
Physical Tests (QC Lot: 2256069)											
HA2503935-002	Anonymous	pH	----	E108	0.10	pH units	6.30	6.25	0.797%	4%	----
Physical Tests (QC Lot: 2258217)											
WT2528023-005	OW2-I	Conductivity	----	E100	2.0	µS/cm	1920	1830	4.70%	10%	----
Physical Tests (QC Lot: 2258218)											
WT2528023-005	OW2-I	Alkalinity, total (as CaCO3)	----	E290	10.0	mg/L	1310	1280	2.37%	20%	----
Physical Tests (QC Lot: 2258219)											
WT2528023-005	OW2-I	pH	----	E108	0.10	pH units	7.21	7.30	1.24%	4%	----
Physical Tests (QC Lot: 2261805)											
WT2528023-001	BH28-II	pH	----	E108	0.10	pH units	7.57	7.62	0.658%	4%	----
Physical Tests (QC Lot: 2261806)											
WT2528023-001	BH28-II	Alkalinity, total (as CaCO3)	----	E290	10.0	mg/L	880	851	3.41%	20%	----
Physical Tests (QC Lot: 2261807)											
WT2528023-001	BH28-II	Conductivity	----	E100	2.0	µS/cm	1690	1690	0.0590%	10%	----
Anions and Nutrients (QC Lot: 2256071)											
HA2503841-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0064	0.0065	0.00005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2256072)											
HA2503935-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	0.020	mg/L	<0.020	<0.020	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2256073)											
HA2503935-002	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	<0.020	<0.020	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2256074)											
HA2503935-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2256075)											
HA2503935-002	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	5.51	5.24	4.91%	20%	----
Anions and Nutrients (QC Lot: 2256076)											
HA2503935-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	1.80	1.51	0.28	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2258211)											



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: 2258211) - continued											
WT2527691-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	0.020	mg/L	<0.020	<0.020	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2258212)											
WT2527691-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2258213)											
WT2527691-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	15.7	15.6	0.389%	20%	----
Anions and Nutrients (QC Lot: 2258214)											
WT2527691-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	25.0	24.7	1.11%	20%	----
Anions and Nutrients (QC Lot: 2258215)											
WT2527691-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.088	0.085	0.002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2258220)											
HA2503839-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0063	0.0062	0.0001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2261796)											
WT2528054-001	Anonymous	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.126	0.127	0.001	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2261797)											
WT2528054-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	0.020	mg/L	2.15	2.14	0.520%	20%	----
Anions and Nutrients (QC Lot: 2261798)											
WT2528054-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2261799)											
WT2528054-001	Anonymous	Chloride	16887-00-6	E235.Cl	0.50	mg/L	43.5	43.3	0.651%	20%	----
Anions and Nutrients (QC Lot: 2261800)											
WT2528054-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	68.1	68.1	0.0365%	20%	----
Anions and Nutrients (QC Lot: 2261803)											
WT2528023-001	BH28-II	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0100	mg/L	0.911	0.917	0.735%	20%	----
Anions and Nutrients (QC Lot: 2262984)											
WT2528023-008	OW4-I	Kjeldahl nitrogen, total [TKN]	----	E318	0.050	mg/L	3.89	3.72	4.53%	20%	----
Anions and Nutrients (QC Lot: 2262985)											
WT2528023-009	OW4-II	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.191	0.197	3.24%	20%	----
Anions and Nutrients (QC Lot: 2262986)											
WT2528023-010	OW5-I	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	0.210	0.214	1.46%	20%	----
Anions and Nutrients (QC Lot: 2264183)											
WT2528023-001	BH28-II	Kjeldahl nitrogen, total [TKN]	----	E318	1.00	mg/L	47.4	47.7	0.630%	20%	----
Anions and Nutrients (QC Lot: 2264184)											
WT2528023-003	OW1-II	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0325	0.0327	0.766%	20%	----



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: 2264185)											
WT2528023-002	OW1-I	Ammonia, total (as N)	7664-41-7	E298	0.500	mg/L	18.0	17.9	0.217%	20%	----
Anions and Nutrients (QC Lot: 2268794)											
WT2528023-007	OW3	Kjeldahl nitrogen, total [TKN]	----	E318	0.500	mg/L	31.3	31.5	0.876%	20%	----
Organic / Inorganic Carbon (QC Lot: 2261962)											
WT2528023-001	BH28-II	Carbon, dissolved inorganic [DIC]	----	E353-L	0.50	mg/L	189	191	1.31%	20%	----
Organic / Inorganic Carbon (QC Lot: 2264142)											
WT2528023-001	BH28-II	Carbon, dissolved organic [DOC]	----	E358-L	2.50	mg/L	19.5	20.1	0.58	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 2264161)											
HA2504238-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	2.50	mg/L	<2.50	<2.50	0	Diff <2x LOR	----
Total Metals (QC Lot: 2255485)											
BF2500340-001	Anonymous	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.213	0.218	2.19%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0167	0.0170	1.66%	20%	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	0.0000500	0.0000498	0.0000002	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.050	mg/L	41.5	41.6	0.211%	20%	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	0.00099	0.00104	0.00004	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00066	0.00068	0.00002	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00193	0.00195	0.00002	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	0.310	0.313	1.02%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000218	0.000215	0.000003	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	37.0	37.4	1.18%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	0.0337	0.0344	2.20%	20%	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	0.00113	0.00114	0.00004	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	7.47	7.51	0.506%	20%	----
		Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000565	0.000609	7.56%	20%	----
Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----		
Sodium, total	7440-23-5	E420	0.050	mg/L	6.30	6.37	1.13%	20%	----		
Zinc, total	7440-66-6	E420	0.0030	mg/L	0.0030	0.0030	0.00002	Diff <2x LOR	----		
Dissolved Metals (QC Lot: 2256991)											
WT2528054-001	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0014	0.0016	0.0001	Diff <2x LOR	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.0760	0.0760	0.0167%	20%	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	58.0	57.7	0.418%	20%	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	0.00067	0.00064	0.00003	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	<0.00010	<0.00010	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
Dissolved Metals (QC Lot: 2256991) - continued											
WT2528054-001	Anonymous	Copper, dissolved	7440-50-8	E421	0.00020	mg/L	0.00072	0.00070	0.00002	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	20.1	20.2	0.119%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	0.766	0.762	0.488%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	0.000136	0.000158	0.000021	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	8.08	8.10	0.196%	20%	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	0.0016	0.0018	0.0002	Diff <2x LOR	----
Aggregate Organics (QC Lot: 2256335)											
WT2527836-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	3.0	mg/L	<3.0	<3.0	0.0%	30%	----
Aggregate Organics (QC Lot: 2257301)											
WT2528023-003	OW1-II	Biochemical oxygen demand [BOD]	----	E550	10.0	mg/L	<10.0	<10.0	0.0%	30%	----
Aggregate Organics (QC Lot: 2258643)											
WT2528024-001	Anonymous	Biochemical oxygen demand [BOD]	----	E550	3.0	mg/L	<3.0	<3.0	0.0%	30%	----
Aggregate Organics (QC Lot: 2262987)											
WT2528023-011	OW6-I	Phenols, total (4AAP)	----	E562	0.0050	mg/L	<0.0050	0.0073	0.0023	Diff <2x LOR	----
Aggregate Organics (QC Lot: 2264186)											
TY2511196-003	Anonymous	Phenols, total (4AAP)	----	E562	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Aggregate Organics (QC Lot: 2264784)											
HA2504182-001	Anonymous	Chemical oxygen demand [COD]	----	E559-L	10	mg/L	39	43	4	Diff <2x LOR	----
Aggregate Organics (QC Lot: 2264828)											
WT2528023-005	OW2-I	Chemical oxygen demand [COD]	----	E559-L	10	mg/L	98	99	1	Diff <2x LOR	----
Volatile Organic Compounds (QC Lot: 2260973)											
WT2528023-002	OW1-I	Acetone	67-64-1	E611D	20	µg/L	<20	<20	0	Diff <2x LOR	----
		Benzene	71-43-2	E611D	0.50	µg/L	3.84	3.67	4.53%	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 disulfide	75-15-0	E611D	1.0	µg/L	<1.0	<1.0	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	7.63	7.20	5.80%	30%	----



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: 2260973) - continued											
WT2528023-002	OW1-I	Chloroethane	75-00-3	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	----
		Chloromethane	74-87-3	E611D	2.0	µg/L	<2.0	<2.0	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	0.73	0.68	0.05	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	4.60	4.41	4.22%	30%	----
		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	0.51	<0.50	0.01	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	----
		Hexanone, 2-	591-78-6	E611D	20	µg/L	<20	<20	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, 1,1,1,2,2-	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	1.33	1.28	0.05	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: 2260973) - continued											
WT2528023-002	OW1-I	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: 2261072)											
WT2527958-001	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 disulfide	75-15-0	E611D	1.0	µg/L	6.2	6.1	0.1	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	----
		Chloroethane	75-00-3	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	----
		Chloromethane	74-87-3	E611D	2.0	µg/L	<2.0	<2.0	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	----
Hexanone, 2-	591-78-6	E611D	20	µg/L	<20	<20	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	----		



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: 2261072) - continued											
WT2527958-001	Anonymous	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 (QCLot: 2256067)						
Conductivity	---	E100	1	µS/cm	1.3	---
Physical Tests (QCLot: 2256068)						
Alkalinity, bicarbonate (as CaCO3)	---	E290	1	mg/L	<1.0	---
Alkalinity, carbonate (as CaCO3)	---	E290	1	mg/L	<1.0	---
Alkalinity, hydroxide (as CaCO3)	---	E290	1	mg/L	<1.0	---
Alkalinity, total (as CaCO3)	---	E290	1	mg/L	<1.0	---
Physical Tests (QCLot: 2258217)						
Conductivity	---	E100	1	µS/cm	1.5	---
Physical Tests (QCLot: 2258218)						
Alkalinity, bicarbonate (as CaCO3)	---	E290	1	mg/L	1.1	---
Alkalinity, carbonate (as CaCO3)	---	E290	1	mg/L	<1.0	---
Alkalinity, hydroxide (as CaCO3)	---	E290	1	mg/L	<1.0	---
Alkalinity, total (as CaCO3)	---	E290	1	mg/L	1.1	---
Physical Tests (QCLot: 2261806)						
Alkalinity, bicarbonate (as CaCO3)	---	E290	1	mg/L	<1.0	---
Alkalinity, carbonate (as CaCO3)	---	E290	1	mg/L	<1.0	---
Alkalinity, hydroxide (as CaCO3)	---	E290	1	mg/L	<1.0	---
Alkalinity, total (as CaCO3)	---	E290	1	mg/L	<1.0	---
Physical Tests (QCLot: 2261807)						
Conductivity	---	E100	1	µS/cm	1.6	---
Anions and Nutrients (QCLot: 2256071)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	---
Anions and Nutrients (QCLot: 2256072)						
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	<0.020	---
Anions and Nutrients (QCLot: 2256073)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	---
Anions and Nutrients (QCLot: 2256074)						
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	<0.010	---
Anions and Nutrients (QCLot: 2256075)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	---
Anions and Nutrients (QCLot: 2256076)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	---



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 2258211)						
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 2258212)						
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 2258213)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 2258214)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 2258215)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 2258220)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2261796)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 2261797)						
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 2261798)						
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 2261799)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 2261800)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 2261803)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2262984)						
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 2262985)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 2262986)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2264183)						
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 2264184)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 2264185)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 2268794)						
Kjeldahl nitrogen, total [TKN]	---	E318	0.05	mg/L	<0.050	---
Organic / Inorganic Carbon (QCLot: 2261962)						
Carbon, dissolved inorganic [DIC]	---	E353-L	0.5	mg/L	<0.50	---
Organic / Inorganic Carbon (QCLot: 2264142)						
Carbon, dissolved organic [DOC]	---	E358-L	0.5	mg/L	<0.50	---
Organic / Inorganic Carbon (QCLot: 2264161)						
Carbon, dissolved organic [DOC]	---	E358-L	0.5	mg/L	<0.50	---
Total Metals (QCLot: 2255485)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	---
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	---
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	---
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	---
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	---
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	---
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	---
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	---
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	---
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	---
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	---
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	---
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	---
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	---
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	---
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	---
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	---
Dissolved Metals (QCLot: 2256991)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	---
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	---
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	---
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	---
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	---
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	---
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	---



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 2256991) - continued						
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
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	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Aggregate Organics (QCLot: 2256335)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 2257301)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 2258643)						
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	<2.0	----
Aggregate Organics (QCLot: 2262987)						
Phenols, total (4AAP)	----	E562	0.001	mg/L	<0.0010	----
Aggregate Organics (QCLot: 2264186)						
Phenols, total (4AAP)	----	E562	0.001	mg/L	<0.0010	----
Aggregate Organics (QCLot: 2264784)						
Chemical oxygen demand [COD]	----	E559-L	10	mg/L	<10	----
Aggregate Organics (QCLot: 2264828)						
Chemical oxygen demand [COD]	----	E559-L	10	mg/L	<10	----
Volatile Organic Compounds (QCLot: 2260973)						
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 disulfide	75-15-0	E611D	1	µg/L	<1.0	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	<0.20	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	<0.50	----
Chloroethane	75-00-3	E611D	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611D	0.5	µg/L	<0.50	----
Chloromethane	74-87-3	E611D	2	µg/L	<2.0	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	<0.50	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 2260973) - continued						
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	----
Hexanone, 2-	591-78-6	E611D	20	µg/L	<20	----
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	----
Volatile Organic Compounds (QCLot: 2261072)						
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: 2261072) - 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 disulfide	75-15-0	E611D	1	µg/L	<1.0	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	<0.20	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	<0.50	----
Chloroethane	75-00-3	E611D	0.5	µg/L	<0.50	----
Chloroform	67-66-3	E611D	0.5	µg/L	<0.50	----
Chloromethane	74-87-3	E611D	2	µg/L	<2.0	----
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	----
Hexanone, 2-	591-78-6	E611D	20	µg/L	<20	----
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, 1,1,1,2,2-	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	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Volatile Organic Compounds (QCLot: 2261072) - continued						
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	----



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: 2256067)									
Conductivity	----	E100	1	µS/cm	1410 µS/cm	101	90.0	110	----
Physical Tests (QCLot: 2256068)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	150 mg/L	101	85.0	115	----
Physical Tests (QCLot: 2256069)									
pH	----	E108	----	pH units	7 pH units	101	98.0	102	----
Physical Tests (QCLot: 2258217)									
Conductivity	----	E100	1	µS/cm	1410 µS/cm	100	90.0	110	----
Physical Tests (QCLot: 2258218)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	150 mg/L	96.4	85.0	115	----
Physical Tests (QCLot: 2258219)									
pH	----	E108	----	pH units	7 pH units	101	98.0	102	----
Physical Tests (QCLot: 2261805)									
pH	----	E108	----	pH units	7 pH units	101	98.0	102	----
Physical Tests (QCLot: 2261806)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	150 mg/L	104	85.0	115	----
Physical Tests (QCLot: 2261807)									
Conductivity	----	E100	1	µS/cm	1410 µS/cm	101	90.0	110	----
Anions and Nutrients (QCLot: 2256071)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.05 mg/L	97.8	80.0	120	----
Anions and Nutrients (QCLot: 2256072)									
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	99.2	90.0	110	----
Anions and Nutrients (QCLot: 2256073)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 2256074)									
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	98.8	90.0	110	----
Anions and Nutrients (QCLot: 2256075)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	99.8	90.0	110	----
Anions and Nutrients (QCLot: 2256076)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	98.2	90.0	110	----
Anions and Nutrients (QCLot: 2258211)									
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	97.4	90.0	110	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					<i>Spike</i>	<i>Recovery (%)</i>	<i>Recovery Limits (%)</i>		<i>Qualifier</i>
<i>Analyte</i>	<i>CAS Number</i>	<i>Method</i>	<i>LOR</i>	<i>Unit</i>	<i>Target Concentration</i>	<i>LCS</i>	<i>Low</i>	<i>High</i>	
Anions and Nutrients (QCLot: 2258212)									
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	94.9	90.0	110	----
Anions and Nutrients (QCLot: 2258213)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	98.1	90.0	110	----
Anions and Nutrients (QCLot: 2258214)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	99.5	90.0	110	----
Anions and Nutrients (QCLot: 2258215)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 2258220)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.05 mg/L	101	80.0	120	----
Anions and Nutrients (QCLot: 2261796)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 2261797)									
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	99.7	90.0	110	----
Anions and Nutrients (QCLot: 2261798)									
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	96.5	90.0	110	----
Anions and Nutrients (QCLot: 2261799)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 2261800)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 2261803)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.05 mg/L	104	80.0	120	----
Anions and Nutrients (QCLot: 2262984)									
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	4 mg/L	112	75.0	125	----
Anions and Nutrients (QCLot: 2262985)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.333 mg/L	91.5	80.0	120	----
Anions and Nutrients (QCLot: 2262986)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	100.0	85.0	115	----
Anions and Nutrients (QCLot: 2264183)									
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	4 mg/L	106	75.0	125	----
Anions and Nutrients (QCLot: 2264184)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.333 mg/L	92.3	80.0	120	----
Anions and Nutrients (QCLot: 2264185)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	98.6	85.0	115	----
Anions and Nutrients (QCLot: 2268794)									
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	4 mg/L	108	75.0	125	----



Sub-Matrix: **Water**

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Organic / Inorganic Carbon (QCLot: 2261962)									
Carbon, dissolved inorganic [DIC]	---	E353-L	0.5	mg/L	50 mg/L	93.6	80.0	120	---
Organic / Inorganic Carbon (QCLot: 2264142)									
Carbon, dissolved organic [DOC]	---	E358-L	0.5	mg/L	8.57 mg/L	97.0	80.0	120	---
Organic / Inorganic Carbon (QCLot: 2264161)									
Carbon, dissolved organic [DOC]	---	E358-L	0.5	mg/L	8.57 mg/L	95.6	80.0	120	---
Total Metals (QCLot: 2255485)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	0.1 mg/L	95.8	80.0	120	---
Barium, total	7440-39-3	E420	0.0001	mg/L	0.012 mg/L	93.8	80.0	120	---
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.005 mg/L	93.7	80.0	120	---
Calcium, total	7440-70-2	E420	0.05	mg/L	2.5 mg/L	90.6	80.0	120	---
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.012 mg/L	93.9	80.0	120	---
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.012 mg/L	93.0	80.0	120	---
Copper, total	7440-50-8	E420	0.0005	mg/L	0.012 mg/L	92.0	80.0	120	---
Iron, total	7439-89-6	E420	0.01	mg/L	0.05 mg/L	92.6	80.0	120	---
Lead, total	7439-92-1	E420	0.00005	mg/L	0.025 mg/L	92.6	80.0	120	---
Magnesium, total	7439-95-4	E420	0.005	mg/L	2.5 mg/L	94.1	80.0	120	---
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.012 mg/L	91.7	80.0	120	---
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.025 mg/L	91.2	80.0	120	---
Potassium, total	7440-09-7	E420	0.05	mg/L	2.5 mg/L	89.6	80.0	120	---
Selenium, total	7782-49-2	E420	0.00005	mg/L	0.05 mg/L	91.9	80.0	120	---
Silver, total	7440-22-4	E420	0.00001	mg/L	0.005 mg/L	87.9	80.0	120	---
Sodium, total	7440-23-5	E420	0.05	mg/L	2.5 mg/L	95.8	80.0	120	---
Zinc, total	7440-66-6	E420	0.003	mg/L	0.025 mg/L	90.4	80.0	120	---
Dissolved Metals (QCLot: 2256991)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	0.1 mg/L	100	80.0	120	---
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.012 mg/L	109	80.0	120	---
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.005 mg/L	100	80.0	120	---
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	2.5 mg/L	102	80.0	120	---
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.012 mg/L	98.9	80.0	120	---
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.012 mg/L	98.3	80.0	120	---
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.012 mg/L	98.9	80.0	120	---
Iron, dissolved	7439-89-6	E421	0.01	mg/L	0.05 mg/L	99.6	80.0	120	---
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.025 mg/L	106	80.0	120	---



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 (QCLot: 2256991) - continued									
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	2.5 mg/L	97.0	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.012 mg/L	102	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.025 mg/L	98.8	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	2.5 mg/L	97.0	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	0.05 mg/L	98.6	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.005 mg/L	99.8	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	2.5 mg/L	95.6	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.025 mg/L	105	80.0	120	----
Aggregate Organics (QCLot: 2256335)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	104	85.0	115	----
Aggregate Organics (QCLot: 2257301)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	98.0	85.0	115	----
Aggregate Organics (QCLot: 2258643)									
Biochemical oxygen demand [BOD]	----	E550	2	mg/L	198 mg/L	96.0	85.0	115	----
Aggregate Organics (QCLot: 2262987)									
Phenols, total (4AAP)	----	E562	0.001	mg/L	0.02 mg/L	106	85.0	115	----
Aggregate Organics (QCLot: 2264186)									
Phenols, total (4AAP)	----	E562	0.001	mg/L	0.02 mg/L	96.4	85.0	115	----
Aggregate Organics (QCLot: 2264784)									
Chemical oxygen demand [COD]	----	E559-L	10	mg/L	100 mg/L	106	85.0	115	----
Aggregate Organics (QCLot: 2264828)									
Chemical oxygen demand [COD]	----	E559-L	10	mg/L	100 mg/L	104	85.0	115	----
Volatile Organic Compounds (QCLot: 2260973)									
Acetone	67-64-1	E611D	20	µg/L	100 µg/L	106	70.0	130	----
Benzene	71-43-2	E611D	0.5	µg/L	100 µg/L	107	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	112	70.0	130	----
Bromomethane	74-83-9	E611D	0.5	µg/L	100 µg/L	83.6	60.0	140	----
Carbon disulfide	75-15-0	E611D	1	µg/L	100 µg/L	103	70.0	130	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	100 µg/L	107	70.0	130	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	100 µg/L	100	70.0	130	----
Chloroethane	75-00-3	E611D	0.5	µg/L	100 µg/L	110	60.0	140	----
Chloroform	67-66-3	E611D	0.5	µg/L	100 µg/L	105	70.0	130	----
Chloromethane	74-87-3	E611D	2	µg/L	100 µg/L	123	60.0	140	----



Sub-Matrix: **Water**

Laboratory Control Sample (LCS) Report

Analyte	CAS Number	Method	LOR	Unit	Spike		Recovery (%)		Recovery Limits (%)		Qualifier
					Target Concentration	LCS	Low	High			
Volatile Organic Compounds (QCLot: 2260973) - continued											
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	100 µg/L	98.2	70.0	130	----		
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	100 µg/L	87.3	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	108	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	132	60.0	140	----		
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	106	70.0	130	----		
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	100 µg/L	112	70.0	130	----		
Dichloroethylene, cis-1,2-	156-59-2	E611D	0.5	µg/L	100 µg/L	105	70.0	130	----		
Dichloroethylene, trans-1,2-	156-60-5	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----		
Dichloromethane	75-09-2	E611D	1	µg/L	100 µg/L	99.8	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	91.3	70.0	130	----		
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	100 µg/L	87.7	70.0	130	----		
Ethylbenzene	100-41-4	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----		
Hexane, n-	110-54-3	E611D	0.5	µg/L	100 µg/L	114	70.0	130	----		
Hexanone, 2-	591-78-6	E611D	20	µg/L	100 µg/L	94.5	70.0	130	----		
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	100 µg/L	91.2	70.0	130	----		
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	100 µg/L	93.8	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	94.7	70.0	130	----		
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	100 µg/L	94.7	70.0	130	----		
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	100 µg/L	105	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	103	70.0	130	----		
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	100 µg/L	103	70.0	130	----		
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	100 µg/L	89.6	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	116	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	111	70.0	130	----		
Xylene, o-	95-47-6	E611D	0.3	µg/L	100 µg/L	102	70.0	130	----		
Volatile Organic Compounds (QCLot: 2261072)											
Acetone	67-64-1	E611D	20	µg/L	100 µg/L	115	70.0	130	----		
Benzene	71-43-2	E611D	0.5	µg/L	100 µg/L	107	70.0	130	----		



Sub-Matrix: **Water**

Laboratory Control Sample (LCS) Report

Analyte	CAS Number	Method	LOR	Unit	Spike	Recovery (%)	Recovery Limits (%)		Qualifier
					Target Concentration	LCS	Low	High	
Volatile Organic Compounds (QCLot: 2261072) - continued									
Bromodichloromethane	75-27-4	E611D	0.5	µg/L	100 µg/L	105	70.0	130	----
Bromoform	75-25-2	E611D	0.5	µg/L	100 µg/L	111	70.0	130	----
Bromomethane	74-83-9	E611D	0.5	µg/L	100 µg/L	83.6	60.0	140	----
Carbon disulfide	75-15-0	E611D	1	µg/L	100 µg/L	99.2	70.0	130	----
Carbon tetrachloride	56-23-5	E611D	0.2	µg/L	100 µg/L	97.6	70.0	130	----
Chlorobenzene	108-90-7	E611D	0.5	µg/L	100 µg/L	107	70.0	130	----
Chloroethane	75-00-3	E611D	0.5	µg/L	100 µg/L	102	60.0	140	----
Chloroform	67-66-3	E611D	0.5	µg/L	100 µg/L	104	70.0	130	----
Chloromethane	74-87-3	E611D	2	µg/L	100 µg/L	114	60.0	140	----
Dibromochloromethane	124-48-1	E611D	0.5	µg/L	100 µg/L	109	70.0	130	----
Dibromoethane, 1,2-	106-93-4	E611D	0.2	µg/L	100 µg/L	111	70.0	130	----
Dichlorobenzene, 1,2-	95-50-1	E611D	0.5	µg/L	100 µg/L	108	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	106	70.0	130	----
Dichlorodifluoromethane	75-71-8	E611D	0.5	µg/L	100 µg/L	101	60.0	140	----
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	109	70.0	130	----
Dichloroethylene, 1,1-	75-35-4	E611D	0.5	µg/L	100 µg/L	96.4	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	103	70.0	130	----
Dichloromethane	75-09-2	E611D	1	µg/L	100 µg/L	106	70.0	130	----
Dichloropropane, 1,2-	78-87-5	E611D	0.5	µg/L	100 µg/L	108	70.0	130	----
Dichloropropylene, cis-1,3-	10061-01-5	E611D	0.3	µg/L	100 µg/L	109	70.0	130	----
Dichloropropylene, trans-1,3-	10061-02-6	E611D	0.3	µg/L	100 µg/L	110	70.0	130	----
Ethylbenzene	100-41-4	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----
Hexane, n-	110-54-3	E611D	0.5	µg/L	100 µg/L	106	70.0	130	----
Hexanone, 2-	591-78-6	E611D	20	µg/L	100 µg/L	127	70.0	130	----
Methyl ethyl ketone [MEK]	78-93-3	E611D	20	µg/L	100 µg/L	# 137	70.0	130	MES
Methyl isobutyl ketone [MIBK]	108-10-1	E611D	20	µg/L	100 µg/L	# 133	70.0	130	MES
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	102	70.0	130	----
Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	0.5	µg/L	100 µg/L	102	70.0	130	----
Tetrachloroethane, 1,1,2,2-	79-34-5	E611D	0.5	µg/L	100 µg/L	110	70.0	130	----
Tetrachloroethylene	127-18-4	E611D	0.5	µg/L	100 µg/L	86.3	70.0	130	----
Toluene	108-88-3	E611D	0.5	µg/L	100 µg/L	105	70.0	130	----
Trichloroethane, 1,1,1-	71-55-6	E611D	0.5	µg/L	100 µg/L	93.0	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: 2261072) - continued									
Trichloroethane, 1,1,2-	79-00-5	E611D	0.5	µg/L	100 µg/L	110	70.0	130	----
Trichloroethylene	79-01-6	E611D	0.5	µg/L	100 µg/L	99.9	70.0	130	----
Trichlorofluoromethane	75-69-4	E611D	0.5	µg/L	100 µg/L	85.4	60.0	140	----
Vinyl chloride	75-01-4	E611D	0.2	µg/L	100 µg/L	105	60.0	140	----
Xylene, m+p-	179601-23-1	E611D	0.4	µg/L	200 µg/L	103	70.0	130	----
Xylene, o-	95-47-6	E611D	0.3	µg/L	100 µg/L	106	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).



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: 2256071)										
HA2503841-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0203 mg/L	0.02 mg/L	104	70.0	130	----
Anions and Nutrients (QCLot: 2256072)										
HA2503935-002	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	2.89 mg/L	2.5 mg/L	116	75.0	125	----
Anions and Nutrients (QCLot: 2256073)										
HA2503935-002	Anonymous	Fluoride	16984-48-8	E235.F	1.14 mg/L	1 mg/L	114	75.0	125	----
Anions and Nutrients (QCLot: 2256074)										
HA2503935-002	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.584 mg/L	0.5 mg/L	117	75.0	125	----
Anions and Nutrients (QCLot: 2256075)										
HA2503935-002	Anonymous	Chloride	16887-00-6	E235.Cl	115 mg/L	100 mg/L	115	75.0	125	----
Anions and Nutrients (QCLot: 2256076)										
HA2503935-002	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	113 mg/L	100 mg/L	113	75.0	125	----
Anions and Nutrients (QCLot: 2258211)										
WT2527691-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	2.21 mg/L	2.5 mg/L	88.5	75.0	125	----
Anions and Nutrients (QCLot: 2258212)										
WT2527691-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.463 mg/L	0.5 mg/L	92.6	75.0	125	----
Anions and Nutrients (QCLot: 2258213)										
WT2527691-001	Anonymous	Chloride	16887-00-6	E235.Cl	94.5 mg/L	100 mg/L	94.5	75.0	125	----
Anions and Nutrients (QCLot: 2258214)										
WT2527691-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	92.6 mg/L	100 mg/L	92.6	75.0	125	----
Anions and Nutrients (QCLot: 2258215)										
WT2527691-001	Anonymous	Fluoride	16984-48-8	E235.F	0.882 mg/L	1 mg/L	88.2	75.0	125	----
Anions and Nutrients (QCLot: 2258220)										
HA2503839-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0199 mg/L	0.02 mg/L	102	70.0	130	----
Anions and Nutrients (QCLot: 2261796)										
WT2528054-001	Anonymous	Fluoride	16984-48-8	E235.F	0.933 mg/L	1 mg/L	93.3	75.0	125	----
Anions and Nutrients (QCLot: 2261797)										
WT2528054-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	2.41 mg/L	2.5 mg/L	96.4	75.0	125	----
Anions and Nutrients (QCLot: 2261798)										
WT2528054-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.460 mg/L	0.5 mg/L	91.9	75.0	125	----
Anions and Nutrients (QCLot: 2261799)										



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: 2261799) - continued										
WT2528054-001	Anonymous	Chloride	16887-00-6	E235.Cl	97.5 mg/L	100 mg/L	97.5	75.0	125	----
Anions and Nutrients (QCLot: 2261800)										
WT2528054-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	96.0 mg/L	100 mg/L	96.0	75.0	125	----
Anions and Nutrients (QCLot: 2261803)										
WT2528023-001	BH28-II	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 2262984)										
WT2528023-008	OW4-I	Kjeldahl nitrogen, total [TKN]	----	E318	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 2262985)										
WT2528023-009	OW4-II	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 2262986)										
WT2528023-010	OW5-I	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 2264183)										
WT2528023-001	BH28-II	Kjeldahl nitrogen, total [TKN]	----	E318	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 2264184)										
WT2528023-003	OW1-II	Phosphorus, total	7723-14-0	E372-U	0.0966 mg/L	0.1 mg/L	96.6	70.0	130	----
Anions and Nutrients (QCLot: 2264185)										
WT2528023-002	OW1-I	Ammonia, total (as N)	7664-41-7	E298	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 2268794)										
WT2528023-007	OW3	Kjeldahl nitrogen, total [TKN]	----	E318	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 2261962)										
WT2528023-002	OW1-I	Carbon, dissolved inorganic [DIC]	----	E353-L	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 2264142)										
WT2528023-001	BH28-II	Carbon, dissolved organic [DOC]	----	E358-L	ND mg/L	----	ND	70.0	130	----
Organic / Inorganic Carbon (QCLot: 2264161)										
HA2504238-001	Anonymous	Carbon, dissolved organic [DOC]	----	E358-L	24.8 mg/L	25 mg/L	99.2	70.0	130	----
Total Metals (QCLot: 2255485)										
BF2500340-002	Anonymous	Aluminum, total	7429-90-5	E420	0.0928 mg/L	0.1 mg/L	92.8	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00459 mg/L	0.005 mg/L	91.9	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0115 mg/L	0.012 mg/L	92.2	70.0	130	----
		Cobalt, total	7440-48-4	E420	0.0112 mg/L	0.012 mg/L	89.7	70.0	130	----
		Copper, total	7440-50-8	E420	0.0109 mg/L	0.012 mg/L	87.2	70.0	130	----
		Iron, total	7439-89-6	E420	0.043 mg/L	0.05 mg/L	86.6	70.0	130	----
		Lead, total	7439-92-1	E420	0.0216 mg/L	0.025 mg/L	86.2	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----



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
Total Metals (QCLot: 2255485) - continued										
BF2500340-002	Anonymous	Manganese, total	7439-96-5	E420	0.0115 mg/L	0.012 mg/L	91.8	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0220 mg/L	0.025 mg/L	88.2	70.0	130	----
		Potassium, total	7440-09-7	E420	ND mg/L	----	ND	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0462 mg/L	0.05 mg/L	92.4	70.0	130	----
		Silver, total	7440-22-4	E420	0.00433 mg/L	0.005 mg/L	86.7	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Zinc, total	7440-66-6	E420	0.0222 mg/L	0.025 mg/L	88.8	70.0	130	----
Dissolved Metals (QCLot: 2256991)										
WT2528054-002	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.102 mg/L	0.1 mg/L	102	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00517 mg/L	0.005 mg/L	103	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0129 mg/L	0.012 mg/L	104	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0159 mg/L	0.012 mg/L	127	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0153 mg/L	0.012 mg/L	123	70.0	130	----
		Iron, dissolved	7439-89-6	E421	0.065 mg/L	0.05 mg/L	129	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0318 mg/L	0.025 mg/L	127	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	ND mg/L	----	ND	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	0.0126 mg/L	0.012 mg/L	101	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0309 mg/L	0.025 mg/L	124	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	ND mg/L	----	ND	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0546 mg/L	0.05 mg/L	109	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00620 mg/L	0.005 mg/L	124	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.0251 mg/L	0.025 mg/L	100	70.0	130	----
Aggregate Organics (QCLot: 2262987)										
WT2528023-011	OW6-l	Phenols, total (4AAP)	----	E562	0.111 mg/L	0.1 mg/L	111	75.0	125	----
Aggregate Organics (QCLot: 2264186)										
TY2511196-003	Anonymous	Phenols, total (4AAP)	----	E562	0.0944 mg/L	0.1 mg/L	94.4	75.0	125	----
Aggregate Organics (QCLot: 2264784)										
HA2504182-001	Anonymous	Chemical oxygen demand [COD]	----	E559-L	109 mg/L	100 mg/L	109	75.0	125	----
Aggregate Organics (QCLot: 2264828)										
WT2528023-005	OW2-l	Chemical oxygen demand [COD]	----	E559-L	99 mg/L	100 mg/L	99.2	75.0	125	----
Volatile Organic Compounds (QCLot: 2260973)										
WT2528023-002	OW1-l	Acetone	67-64-1	E611D	119 µg/L	100 µg/L	119	60.0	140	----
		Benzene	71-43-2	E611D	106 µg/L	100 µg/L	106	60.0	140	----
		Bromodichloromethane	75-27-4	E611D	112 µg/L	100 µg/L	112	60.0	140	----
		Bromoform	75-25-2	E611D	115 µg/L	100 µg/L	115	60.0	140	----
		Bromomethane	74-83-9	E611D	78.4 µg/L	100 µg/L	78.4	60.0	140	----
		Carbon disulfide	75-15-0	E611D	91.0 µg/L	100 µg/L	91.0	60.0	140	----
		Carbon tetrachloride	56-23-5	E611D	105 µg/L	100 µg/L	105	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: 2260973) - continued										
WT2528023-002	OW1-1	Chlorobenzene	108-90-7	E611D	98.8 µg/L	100 µg/L	98.8	60.0	140	----
		Chloroethane	75-00-3	E611D	104 µg/L	100 µg/L	104	60.0	140	----
		Chloroform	67-66-3	E611D	109 µg/L	100 µg/L	109	60.0	140	----
		Chloromethane	74-87-3	E611D	104 µg/L	100 µg/L	104	60.0	140	----
		Dibromochloromethane	124-48-1	E611D	99.4 µg/L	100 µg/L	99.4	60.0	140	----
		Dibromoethane, 1,2-	106-93-4	E611D	90.3 µg/L	100 µg/L	90.3	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	108 µg/L	100 µg/L	108	60.0	140	----
		Dichlorobenzene, 1,4-	106-46-7	E611D	107 µg/L	100 µg/L	107	60.0	140	----
		Dichlorodifluoromethane	75-71-8	E611D	86.2 µg/L	100 µg/L	86.2	60.0	140	----
		Dichloroethane, 1,1-	75-34-3	E611D	111 µg/L	100 µg/L	111	60.0	140	----
		Dichloroethane, 1,2-	107-06-2	E611D	114 µg/L	100 µg/L	114	60.0	140	----
		Dichloroethylene, 1,1-	75-35-4	E611D	107 µg/L	100 µg/L	107	60.0	140	----
		Dichloroethylene, cis-1,2-	156-59-2	E611D	107 µg/L	100 µg/L	107	60.0	140	----
		Dichloroethylene, trans-1,2-	156-60-5	E611D	106 µg/L	100 µg/L	106	60.0	140	----
		Dichloromethane	75-09-2	E611D	102 µg/L	100 µg/L	102	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	95.6 µg/L	100 µg/L	95.6	60.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	91.8 µg/L	100 µg/L	91.8	60.0	140	----
		Ethylbenzene	100-41-4	E611D	97.0 µg/L	100 µg/L	97.0	60.0	140	----
		Hexane, n-	110-54-3	E611D	104 µg/L	100 µg/L	104	60.0	140	----
		Hexanone, 2-	591-78-6	E611D	97 µg/L	100 µg/L	97.0	60.0	140	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	103 µg/L	100 µg/L	103	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	101 µg/L	100 µg/L	101	60.0	140	----
		Styrene	100-42-5	E611D	91.5 µg/L	100 µg/L	91.5	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	107 µg/L	100 µg/L	107	60.0	140	----
		Tetrachloroethylene	127-18-4	E611D	100 µg/L	100 µg/L	100	60.0	140	----
		Toluene	108-88-3	E611D	98.8 µg/L	100 µg/L	98.8	60.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	104 µg/L	100 µg/L	104	60.0	140	----
		Trichloroethane, 1,1,2-	79-00-5	E611D	91.9 µg/L	100 µg/L	91.9	60.0	140	----
		Trichloroethylene	79-01-6	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Trichlorofluoromethane	75-69-4	E611D	108 µg/L	100 µg/L	108	60.0	140	----
		Vinyl chloride	75-01-4	E611D	100 µg/L	100 µg/L	100	60.0	140	----
		Xylene, m+p-	179601-23-1	E611D	216 µg/L	200 µg/L	108	60.0	140	----
		Xylene, o-	95-47-6	E611D	98.4 µg/L	100 µg/L	98.4	60.0	140	----
Volatile Organic Compounds (QCLot: 2261072)										
WT2527958-001	Anonymous	Acetone	67-64-1	E611D	106 µg/L	100 µg/L	106	60.0	140	----
		Benzene	71-43-2	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Bromodichloromethane	75-27-4	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Bromoform	75-25-2	E611D	105 µg/L	100 µg/L	105	60.0	140	----
		Bromomethane	74-83-9	E611D	74.2 µg/L	100 µg/L	74.2	60.0	140	----
		Carbon disulfide	75-15-0	E611D	92.8 µg/L	100 µg/L	92.8	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: 2261072) - continued										
WT2527958-001	Anonymous	Carbon tetrachloride	56-23-5	E611D	93.3 µg/L	100 µg/L	93.3	60.0	140	----
		Chlorobenzene	108-90-7	E611D	101 µg/L	100 µg/L	101	60.0	140	----
		Chloroethane	75-00-3	E611D	100.0 µg/L	100 µg/L	100.0	60.0	140	----
		Chloroform	67-66-3	E611D	99.0 µg/L	100 µg/L	99.0	60.0	140	----
		Chloromethane	74-87-3	E611D	102 µg/L	100 µg/L	102	60.0	140	----
		Dibromochloromethane	124-48-1	E611D	104 µg/L	100 µg/L	104	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	103 µg/L	100 µg/L	103	60.0	140	----
		Dichlorobenzene, 1,3-	541-73-1	E611D	102 µg/L	100 µg/L	102	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	82.3 µg/L	100 µg/L	82.3	60.0	140	----
		Dichloroethane, 1,1-	75-34-3	E611D	100 µg/L	100 µg/L	100	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	89.8 µg/L	100 µg/L	89.8	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	97.5 µg/L	100 µg/L	97.5	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	102 µg/L	100 µg/L	102	60.0	140	----
		Dichloropropylene, cis-1,3-	10061-01-5	E611D	100 µg/L	100 µg/L	100	60.0	140	----
		Dichloropropylene, trans-1,3-	10061-02-6	E611D	99.6 µg/L	100 µg/L	99.6	60.0	140	----
		Ethylbenzene	100-41-4	E611D	97.0 µg/L	100 µg/L	97.0	60.0	140	----
		Hexane, n-	110-54-3	E611D	98.6 µg/L	100 µg/L	98.6	60.0	140	----
		Hexanone, 2-	591-78-6	E611D	116 µg/L	100 µg/L	116	60.0	140	----
		Methyl ethyl ketone [MEK]	78-93-3	E611D	127 µg/L	100 µg/L	127	60.0	140	----
		Methyl isobutyl ketone [MIBK]	108-10-1	E611D	124 µg/L	100 µg/L	124	60.0	140	----
		Methyl-tert-butyl ether [MTBE]	1634-04-4	E611D	98.8 µg/L	100 µg/L	98.8	60.0	140	----
		Styrene	100-42-5	E611D	96.3 µg/L	100 µg/L	96.3	60.0	140	----
		Tetrachloroethane, 1,1,1,2-	630-20-6	E611D	97.5 µg/L	100 µg/L	97.5	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	82.8 µg/L	100 µg/L	82.8	60.0	140	----
		Toluene	108-88-3	E611D	99.1 µg/L	100 µg/L	99.1	60.0	140	----
		Trichloroethane, 1,1,1-	71-55-6	E611D	88.4 µg/L	100 µg/L	88.4	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	96.0 µg/L	100 µg/L	96.0	60.0	140	----
		Trichlorofluoromethane	75-69-4	E611D	86.8 µg/L	100 µg/L	86.8	60.0	140	----
		Vinyl chloride	75-01-4	E611D	94.3 µg/L	100 µg/L	94.3	60.0	140	----
		Xylene, m+p-	179601-23-1	E611D	197 µg/L	200 µg/L	98.4	60.0	140	----
		Xylene, o-	95-47-6	E611D	100.0 µg/L	100 µg/L	100.0	60.0	140	----



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B 735 MM 534
GC 925 VW 120
N 277

Chain of Custody (COC) / Analytical Request Form

COC Number: 20 -

Canada Toll Free: 1 800 668 9878

Page 1 of 2

Report To Contact and company name below will appear on the final report		Reports / Recipients			Turnaround Time (TAT) Requested																	
Company:	City of Orillia	Select Report Format: <input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL)			<input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply																	
Contact:	Ian Acheson and Zach Gorbell	Merge QC/QCI Reports with COA <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A			<input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minir																	
Phone:	705-325-2227/249-881-0113	<input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked			<input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minir																	
Company address below will appear on the final report		Select Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			<input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minir																	
Street:	40 Kitchener St	Email 1 or Fax: iAcheson@orillia.ca			<input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minir																	
City/Province:	Orillia/ON	Email 2: zgorbell@orillia.ca			<input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge																	
Postal Code:	L3V 6Z9	Email 3: HCURRY@orillia.ca			<input type="checkbox"/> fees may apply to rush resuests on weekends, statutory holiday: routine tests																	
Invoice To	Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Invoice Recipients			Date and Time Required for all E&P TATs: _____																	
	Copy of Invoice with Report <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Select Invoice Distribution: <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX			For tests that can not be performed according to																	
Company:		Email 1 or Fax: iAcheson@orillia.ca			Analysis R																	
Contact:		Email 2: zgorbell@orillia.ca			Indicate Filtered (F), Preserved (P) or Filtered																	
Project Information		Oil and Gas Required Fields (client use)			NUMBER OF CONTAINERS																	
ALS Account # / Quote #:	GMOI100 / Waste Diversion Site	AFE/Cost Center:	PO#																			
Job #:	Waste Diversion Site	Major/Minor Code:	Routing Code:																			
PO / AFE:	86912	Requisitioner:																				
LSD:		Location:																				
ALS Lab Work Order # (lab use only):		ALS Contact:	KSINGH	Sampler:		Ian Acheson																
ALS Sample # (lab use only)	Sample Identification and/or Coordinates (This description will appear on the report)	Date (dd-mm-yy)	Time (hh:mm)	Sample Type																		
	BH28-II	1-Oct-25	13:45	GW		7	R	R	R	R	R	R										
	OW1-I	1-Oct-25	10:35	GW		9	R	R	R	R	R	R										
	OW1-II	1-Oct-25	10:45	GW		9	R	R	R	R	R	R										
	OW1-III	1-Oct-25	11:10	GW	9	R	R	R	R	R	R											
	OW2-I	29-Sep-25	14:30	GW	9	R	R	R	R	R	R											
	OW2-II	29-Sep-25	14:45	GW	9	R	R	R	R	R	R											
	OW3	29-Sep-25	14:05	GW	9	R	R	R	R	R	R											
	OW4-I	29-Sep-25	11:20	GW	9	R	R	R	R	R	R											
	OW4-II	29-Sep-25	11:30	GW	9	R	R	R	R	R	R											
	OW5-I	29-Sep-25	11:00	GW	7	R	R	R	R	R	R											
	OW6-I	29-Sep-25	11:55	GW	9	R	R	R	R	R	R											
	OW6-II	29-Sep-25	12:10	GW	9	R	R	R	R	R	R											
Drinking Water (DW) Samples¹ (client use)		Notes / Specify Limits for result evaluation by selecting from drop-down below (Excel COC only)			SAMPLE RECEIPT DETAILS (lab use only)																	
Are samples taken from a Regulated DW System? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					Cooling Method: <input type="checkbox"/> NONE <input type="checkbox"/> ICE <input checked="" type="checkbox"/> ICE PACKS <input type="checkbox"/> FROZEN <input type="checkbox"/> COOLING INITIATED																	
Are samples for human consumption/ use? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					Submission Comments identified on Sample Receipt Notification: <input type="checkbox"/> YES <input type="checkbox"/> NO																	
					Cooler Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A Sample Custody Seals Intact: <input type="checkbox"/> YES <input type="checkbox"/> N/A																	
					INITIAL COOLER TEMPERATURES °C					FINAL COOLER TEMPERATURES °C												
					9.8 9.6 9.4 9.1					13.0 12.1 12.1 10.9												
SHIPMENT RELEASE (client use)		INITIAL SHIPMENT RECEPTION (lab use only)			FINAL SHIPMENT RECEPTION (lab use only)																	
Released by: I.Acheson	Date: October 2, 2025	Time: 9:30	Received by: AM	Date: 10/02/25	Time: 14:00	Received by: BM	Date: 02/10/25	Time: 17:45														

Environmental Division
Waterloo
Work Order Reference
WT2528023

Telephone: +1 519 886 8910

SAMPLES ON HOLD
EXTENDED STORAGE REI
SUSPECTED HAZARD (see

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

Report To Contact and company name below will appear on the final report		Reports / Recipients			Turnaround Time (TAT) Requested				AFFIX ALS BARCODE LABEL HERE (ALS use only)																																																																																																																																																																																											
Company:	City of Orillia	Select Report Format:	<input checked="" type="checkbox"/> PDF <input checked="" type="checkbox"/> EXCEL <input type="checkbox"/> EDD (DIGITAL) Merge QC/QCI Reports with COA <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A <input type="checkbox"/> Compare Results to Criteria on Report - provide details below if box checked		<input checked="" type="checkbox"/> Routine [R] if received by 3pm M-F - no surcharges apply <input type="checkbox"/> 4 day [P4] if received by 3pm M-F - 20% rush surcharge minimum <input type="checkbox"/> 3 day [P3] if received by 3pm M-F - 25% rush surcharge minimum <input type="checkbox"/> 2 day [P2] if received by 3pm M-F - 50% rush surcharge minimum <input type="checkbox"/> 1 day [E] if received by 3pm M-F - 100% rush surcharge minimum <input type="checkbox"/> Same day [E2] if received by 10am M-S - 200% rush surcharge. Additional fees may apply to rush requests on weekends, statutory holidays and non-routine tests																																																																																																																																																																																															
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Company address below will appear on the final report		Select Invoice Distribution:			Indicate Filtered (F), Preserved (P) or Filtered and Preserved (F/P) below																																																																																																																																																																																															
Street:	40 Kitchener St	<input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> MAIL <input type="checkbox"/> FAX Email 1 or Fax IAcheson@orillia.ca Email 2 zgorbell@orillia.ca			NUMBER OF CONTAINERS	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td></td> <td></td> <td>F/P</td> <td>P</td> <td>F/P</td> <td>P</td> <td>P</td> <td>P</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Major Ions Package (Dissolved Metals)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Major Ions Package (Total Metals)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Dissolved Metals: Trace List</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Total Metals: Trace List</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Dissolved Orthophosphate</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Total Phosphorus</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>BTEX</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>VOCs</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										F/P	P	F/P	P	P	P													Major Ions Package (Dissolved Metals)																				Major Ions Package (Total Metals)																				Dissolved Metals: Trace List																				Total Metals: Trace List																				Dissolved Orthophosphate																				Total Phosphorus																				BTEX																				VOCs																				SAMPLES ON HOLD	EXTENDED STORAGE REQUIRED	SUSPECTED HAZARD (see notes)
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Postal Code:	L3V 6Z9	ALS Lab Work Order # (lab use only): ALS Contact: KSINGH Sampler: Ian Acheson																																																																																																																																																																																																		
Invoice To	Same as Report To <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Project information ALS Account # / Quote #: GMOI100 / Waste Diversion Site Job #: Waste Diversion Site PO / AFE: 86912 LSD:																																																																																																																																																																																																		
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APPENDIX D

2025 Field Notes and Monitoring Procedures

CITY OF ORILLIA
Kitchener Park WDS - Well Sampling & Monitoring
Fall 2025

Borehole ID	Date (dd/mm/yyyy)	Time	Depth to Water (m)	Total Well Depth (m)	Well Purging & Sampling Details						GENERAL COMMENTS (olfactory, colour, well conditions, etc.)
					Calculated		Actual (L)	Parameters			
					Single Well Volume (L)	3x Well Volume (L)		pH	Conductivity (µS)	Temperature (°C)	
OW1-IR	2025-01-10	10:35	1.48	12.36	22	66	66	6.61	1224	8.9	Brush to clear - Cleared
OW1-II	2025-01-10	10:45	1.66	7.08	11	33	33	6.63	1177	9.2	Well pipe heaved; Brush to clear - Cleared
OW1-III	2025-01-10	11:10	1.85	3.17	3	9	9	6.82	1135	11.0	Brush to clear - Cleared
OW2-I	29/9/2025	14:30	2.22	10.27	16	48	48	6.79	1605	10.9	Need to replace tubing; Lots of red ants
OW2-II	29/9/2025	14:45	2.22	7.64	11	33	33	6.71	1249	10.4	Need to replace tubing; Lots of red ants
OW3	29/9/2025	14:05	4.54	5.39	1.7	5.1	5.5	6.71	1071	12.1	
OW4-I	29/9/2025	11:20	1.88	7.50	5.6	17	17	6.68	812	9.8	DUP1
OW4-II	29/9/2025	11:30	1.78	2.91	2.2	6.7	6.7	6.88	534	12.9	
OW5-I	29/9/2025	11:00	2.88	7.84	10	30	30	6.57	1470	9.90	
OW5-II	2025-03-10	11:36	2.84	6.35	Water Level Only						
OW6-I	29/9/2025	11:55	3.49	7.94	9	27	27	6.69	1140	10.0	Need to replace tubing
OW6-II	29/9/2025	12:10	2.97	4.98	4	12	12	6.59	1320	12.5	Need to replace tubing
OW7	29/9/2025	10:30	5.23	10.96	11.5	35	35	6.61	1436	13.2	
OW8	2025-01-10	11:50	Dry	4.00	No water to collect sample						
OW9-I	2025-01-10	12:00	5.40	9.55	8.5	25	25	6.79	1819	9.8	
OW9-II	2025-01-10	12:15	4.82	7.02	4.5	13.5	14	6.71	2140	10.9	DUP2; Need to replace tubing - Replaced
GP-KP2	2025-03-10	11:22	5.04	6.37	Water Level Only						
GP-KP3	2025-03-10	11:29	4.40	5.55	Water Level Only						
GP-KP4	2025-03-10	11:45	2.42	3.69	Water Level Only						
GP-KP7	2025-03-10	11:15	Dry	4.63	Water Level Only						
GP-KP8	2025-02-10	11:18	4.24	5.73	Water Level Only						
GP-KP12	2025-02-10	11:24	3.79	3.80	Water Level Only						
GP-KP13	2025-02-10	11:32	2.96	3.69	Water Level Only						
GP-KP14	2025-02-10	11:37	3.15	3.20	Water Level Only						
GP-KP15	2025-02-10	11:41	2.09	2.73	Water Level Only						
BH28-I	2025-01-10	13:30	Dry	1.02	No water to collect sample						No lock, yet within locked WWTC property; Lots of downed trees - Some clearing for access
BH28-II	2025-01-10	13:45	2.66	3.01	0.70	2.1	2.5	6.62	1218	12.8	No lock, yet within locked WWTC property; Lots of downed trees - Some clearing for access

APPENDIX E

Documentation

AMENDED ENVIRONMENTAL COMPLIANCE APPROVAL

NUMBER 5412-BE7KES
Issue Date: July 18, 2019

The Corporation of the City of Orillia
50 Andrew St S, No. 300
Orillia, Ontario
L3V 7T5

Site Location: 25 Kitchener Street
Orillia City, County of Simcoe
L3V 6Z9

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

- one (1) passive landfill gas venting system, consisting of an underground perforated header pipe discharging to the air through three (3) passive vents equipped with wind turbine ventilators, identified as Sources STCK1-STCK3, each having an exit diameter of 0.1 metre and each extending approximately 6.0 metres above grade;
- fugitive emissions associated with the landfill mound;

all in accordance with the Application for Approval (Air & Noise) submitted by The Corporation of the City of Orillia, dated March 29, 2019, and signed by Andrew Schell, Director of Environmental Services and Operations; and the supporting information, including the Emission Summary and Dispersion Modelling Report, submitted by Golder Associates Ltd., dated April 2, 2019, and signed by Katherine Armstrong, and the additional information submitted by Golder Associates Ltd., dated June 19, 2019 and sent via e-mail by Katherine Armstrong.

For the purpose of this environmental compliance approval, the following definitions apply:

1. "Approval" means this Environmental Compliance Approval, including the application and supporting documentation listed above;
2. "Company" means The Corporation of the City of Orillia, that is responsible for the construction or

operation of the *Facility* and includes any successors and assigns;

3. "*District Manager*" means the District Manager of the appropriate local district office of the *Ministry*, where the *Facility* is geographically located;
4. "*EPA*" means the Environmental Protection Act, R.S.O. 1990, c.E.19, as amended;
5. "*Equipment*" means the equipment and processes described in the *Company*'s application, this *Approval* and in the supporting documentation submitted with the application, to the extent approved by this *Approval*;
6. "*Facility*" means the entire operation located on the property where the *Equipment* is located;
7. "*Manual*" means a document or a set of documents that provide written instructions to staff of the *Company*;
8. "*Ministry*" means the ministry of the government of Ontario responsible for the *EPA* and includes all officials, employees or other persons acting on its behalf;
9. "*Publication NPC-300*" means the *Ministry* Publication NPC-300, "Environmental Noise Guideline, Stationary and Transportation Sources – Approval and Planning, Publication NPC-300", August 2013, as amended.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. MONITORING AND REPORTING

1. The *Company* shall submit, before commencement of operation of the *Equipment*, to the *District Manager* a draft monitoring plan for the gas collected and discharged from the *Equipment*. The *Company* shall finalize the monitoring plan in consultation with the *District Manager*. The monitoring plan shall include, as a minimum, the following:
 - a. The frequency of monitoring, either at least quarterly initially or at a frequency agreed by the *District Manager*;
 - b. methodology to measure the volumetric flow rate of landfill gas discharging up the vertical riser pipes and the concentrations of contaminants in the gas discharging to the air;

- c. procedures to measure and record the wind speed and wind direction at the location where the *Equipment* is installed, at times of monitoring;
 - d. The *Company* shall implement the finalized monitoring plan upon acceptance from the *District Manager*.
2. The *Company* shall submit, not later than **April 30, 2021** and each subsequent year thereafter, to the *District Manager* annual reports on the results of the monitoring plan implementation for the preceding year. Each annual report shall include, as a minimum, the following:
 - a. the frequency of monitoring adopted;
 - b. the measured volumetric flow rates of landfill gas discharging up the vertical riser pipes and the concentrations of contaminants in the gas discharging to the air;
 - c. the wind speeds and wind directions recorded at the times of monitoring; and,
 - d. the results of dispersion calculations, using one of the approved dispersion models listed in section 6 of O. Reg. 419/05 applicable to the *Facility*, indicating the maximum point of impingement concentrations of contaminants in the gas discharging to the air using the results of monitoring.

2. OPERATION AND MAINTENANCE

1. The *Company* shall ensure that the *Equipment* is properly operated and maintained at all times. The *Company* shall:
 - a. prepare, before commencement of operation of the *Equipment*, and update, as necessary, a *Manual* outlining the operating procedures and a maintenance program for the *Equipment*, including:
 - i. routine operating and maintenance procedures in accordance with good engineering practices and as recommended by the *Equipment* suppliers;
 - ii. emergency procedures;
 - iii. procedures for any record keeping activities relating to operation and maintenance of the *Equipment*; and,
 - iv. all appropriate measures to minimize noise and odorous emissions from all potential sources;
 - b. implement the recommendations of the *Manual*.

3. RECORD RETENTION

1. The *Company* shall retain, for a minimum of two (2) years from the date of their creation, all records and information related to or resulting from the recording activities required by this *Approval*, and make these records available for review by staff of the *Ministry* upon request. The *Company* shall retain:
 - a. all records on the maintenance, repair and inspection of the *Equipment*; and
 - b. all records of any environmental complaints, including:
 - i. a description, time and date of each incident to which the complaint relates;
 - ii. wind direction at the time of the incident to which the complaint relates; and
 - iii. a description of the measures taken to address the cause of the incident to which the complaint relates and to prevent a similar occurrence in the future.

4. NOTIFICATION OF COMPLAINTS

1. The *Company* shall notify the *District Manager*, in writing, of each environmental complaint within two (2) business days of the complaint. The notification shall include:
 - a. a description of the nature of the complaint; and
 - b. the time and date of the incident to which the complaint relates.

5. NOISE

1. The *Company* shall, at all times, ensure that the noise emissions from the *Facility* comply with the limits set out in *Ministry Publication NPC-300*.

The reasons for the imposition of these terms and conditions are as follows:

1. Condition No. 1 is included to require the *Company* to gather accurate information so that compliance with the *EPA*, the Regulations and this *Approval* can be verified.
2. Condition No. 2 is included to emphasize that the *Equipment* must be maintained and operated according to a procedure that will result in compliance with the *EPA*, the Regulations and this *Approval*.
3. Condition No. 3 is included to require the *Company* to keep records and to provide information to staff of the *Ministry* so that compliance with the *EPA*, the Regulations and this *Approval* can be

verified.

4. Condition No. 4 is included to require the *Company* to notify staff of the *Ministry* so as to assist the *Ministry* with the review of the site's compliance.
5. Condition No. 5 is included to provide the minimum performance requirements considered necessary to prevent an adverse effect resulting from the operation of the *Facility*.

**Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s).
9023-BDCKBT issued on June 27, 2019**

In accordance with Section 139 of the Environmental Protection Act, you may by written Notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 142 of the Environmental Protection Act provides that the Notice requiring the hearing shall state:

- a. The portions of the environmental compliance approval or each term or condition in the environmental compliance approval in respect of which the hearing is required, and;
- b. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

Pursuant to subsection 139(3) of the Environmental Protection Act, a hearing may not be required with respect to any terms and conditions in this environmental compliance approval, if the terms and conditions are substantially the same as those contained in an approval that is amended or revoked by this environmental compliance approval.

The Notice should also include:

1. The name of the appellant;
2. The address of the appellant;
3. The environmental compliance approval number;
4. The date of the environmental compliance approval;
5. The name of the Director, and;
6. The municipality or municipalities within which the project is to be engaged in.

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5

AND

The Director appointed for the purposes of Part II.1
of the Environmental Protection Act
Ministry of the Environment, Conservation and
Parks
135 St. Clair Avenue West, 1st Floor
Toronto, Ontario
M4V 1P5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 212-6349, Fax: (416) 326-5370 or www.ert.gov.on.ca

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 18th day of July, 2019



Jeffrey McKerrall, P.Eng.
Director
appointed for the purposes of Part II.1 of the
Environmental Protection Act

AB/
c: District Manager, MECP Barrie
Katherine Armstrong, Golder Associates Ltd.

Ministry of the Environment,
Conservation and Parks
Drinking Water and Environmental
Compliance Division

Central Region

Barrie District Office
1201-54 Cedar Pointe Drive
Barrie ON L4N 5R7
Tel: (705) 739-6441
Toll Free: 1-800-890-8511
Fax: (705) 739-6440

Ministère de l'Environnement de la
Protection de la nature et des Parcs
Division de la conformité en matière d'eau
potable et d'environnement

Région du Centre

Bureau du district de Barrie
1201-54 chemin Cedar Pointe
Barrie ON L4N 5R7
Téléphone: (705) 739-6441
Sans frais: 1-800-890-8511
Télec: (705) 739-6440



September 8, 2025

City of Orillia
50 Andrew Street South
Orillia, ON L3V 7T5

RE: Kitchener Park Landfill Gas Monitoring and Assessment Interval Reduction

Dear Greg Preston,

Following review of the 2024 Annual Monitoring Report for the Kitchener Park Landfill, our office is pleased to accept the conclusions in section 9. 7) and 8). Specifically, the landfill gas control system is effectively preventing migration to businesses located to the North and based on Emission Summary Dispersion Modeling all Air Contaminant Benchmarks identified are being met.

Based on the recommendation in section 10.3) we would like to provide confirmation, in accordance with Environmental Compliance Approval 5412-BE7KES issued July 18, 2019 condition 1.a), that the passive venting system sampling and modeling interval may be reduced to a single annual event. Please ensure monitoring is representative of the worst-case conditions and scenarios. Please update the monitoring plan and submit a revised copy to environment.barrie@ontario.ca at your earliest convenience.

Sincerely,

A handwritten signature in blue ink, appearing to read "Chris Hyde".

Chris Hyde
District Manager
Ministry of Environment, Conservation and Parks, Barrie District Office

APPENDIX F

Passive Venting

Table F1
Summary of the Landfill Gas Chemistry Results

	Location Units/Date	GVP 1	GVP 2 2/19/2025	GVP 3	GVP 1	GVP 2 11/12/2025	GVP 3
Matrix gases							
Methane	ppm	4.0	2.0	2.0	3.0	570.0	3.0
Oxygen	% v/v	21.6	21.8	21.8	19.4	19.1	21.8
Carbon Monoxide	% v/v	<0.1	<0.1	<0.1	-	-	-
Carbon Dioxide	% v/v	0.20	<0.1	<0.1	1.8	1.9	<0.1
Hydrogen sulfide	ppmv	<0.8	<0.8	<0.8	<0.3	<0.3	<0.3
Calculated Parameters							
Dichlorodifluoromethane (FREON 12)	µg/m³	2.43	2.26	2.64	12.80	12.90	2.67
1,2-Dichlorotetrafluoroethane	µg/m³	<1.2	<1.2	<1.2	1.20	8.70	<1.2
Chloromethane	µg/m³	1.32	1.29	1.33	<0.62	<0.62	0.81
Vinyl Chloride	µg/m³	<0.26	<0.26	<0.26	<0.26	<0.26	<0.26
Chloroethane	µg/m³	<0.79	<0.79	<0.79	<0.79	<0.79	<0.79
1,3-Butadiene	µg/m³	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Trichlorofluoromethane (FREON 11)	µg/m³	1.30	1.30	7.20	1.10	1.40	1.20
Ethanol (ethyl alcohol)	µg/m³	43.60	13.40	16.10	43.00	17.20	9.50
Trichlorotrifluoroethane	µg/m³	<1.2	<1.2	<1.2	<1.2	<1.2	<1.2
2-propanol	µg/m³	<2.5	10.10	7.80	8.10	3.50	4.30
2-Propanone	µg/m³	6.80	23.30	18.00	13.50	9.90	9.90
Methyl Ethyl Ketone (2-Butanone)	µg/m³	0.95	1.61	1.17	6.62	5.58	9.09
Methyl Isobutyl Ketone	µg/m³	<0.82	11.90	4.70	0.97	<0.82	<0.82
Methyl Butyl Ketone (2-Hexanone)	µg/m³	<4.1	<4.1	<4.1	<4.1	<4.1	<4.1
Methyl t-butyl ether (MTBE)	µg/m³	<0.72	<0.72	<0.72	<0.72	<0.72	<0.72
Ethyl Acetate	µg/m³	<3.6	<3.6	<3.6	16.20	9.60	9.00
1,1-Dichloroethylene	µg/m³	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
cis-1,2-Dichloroethylene	µg/m³	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
trans-1,2-Dichloroethylene	µg/m³	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Methylene Chloride(Dichloromethane)	µg/m³	<2.1	<2.1	<2.1	5.10	<2.1	2.20
Chloroform	µg/m³	<0.49	<0.49	<0.49	1.99	4.19	<0.49
Carbon Tetrachloride	µg/m³	<0.63	<0.63	<0.63	<0.63	<0.63	<0.63
1,1-Dichloroethane	µg/m³	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
1,2-Dichloroethane	µg/m³	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Ethylene Dibromide	µg/m³	<0.77	<0.77	<0.77	<0.77	<0.77	<0.77
1,1,1-Trichloroethane	µg/m³	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55
1,1,2-Trichloroethane	µg/m³	<0.55	<0.55	<0.55	<0.55	<0.55	<0.55
1,1,2,2-Tetrachloroethane	µg/m³	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69
cis-1,3-Dichloropropene	µg/m³	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45
trans-1,3-Dichloropropene	µg/m³	<0.45	<0.45	<0.45	<0.45	<0.45	<0.45
1,2-Dichloropropane	µg/m³	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46
Bromomethane	µg/m³	<0.39	<0.39	<0.39	<0.39	<0.39	<0.39
Bromoform	µg/m³	<2.1	<2.1	<2.1	<2.1	<2.1	<2.1
Bromodichloromethane	µg/m³	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3
Dibromochloromethane	µg/m³	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
Trichloroethylene	µg/m³	<0.54	<0.54	<0.54	<0.54	<0.54	<0.54
Tetrachloroethylene	µg/m³	<0.68	<0.68	<0.68	0.76	1.72	<0.68
Benzene	µg/m³	0.82	0.84	1.03	0.56	0.43	0.55
Toluene	µg/m³	4.89	4.39	6.15	8.77	5.91	4.44

Table F1
Summary of the Landfill Gas Chemistry Results

	Location Units/Date	GVP 1	GVP 2 2/19/2025	GVP 3	GVP 1	GVP 2 11/12/2025	GVP 3
Ethylbenzene	µg/m³	0.44	0.61	0.68	0.87	0.71	0.61
p+m-Xylene	µg/m³	1.86	3.17	3.67	3.08	2.39	2.13
o-Xylene	µg/m³	0.55	0.87	0.87	0.97	0.92	0.71
Styrene	µg/m³	<0.43	<0.43	<0.43	<0.43	<0.43	<0.43
4-ethyltoluene	µg/m³	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
1,3,5-Trimethylbenzene	µg/m³	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
1,2,4-Trimethylbenzene	µg/m³	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Chlorobenzene	µg/m³	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46
Benzyl chloride	µg/m³	<2.6	<2.6	<2.6	<2.6	<2.6	<2.6
1,3-Dichlorobenzene	µg/m³	<2.4	<2.4	<2.4	<2.4	<2.4	<2.4
1,4-Dichlorobenzene	µg/m³	<0.60	<0.60	<0.60	0.85	0.63	<0.60
1,2-Dichlorobenzene	µg/m³	<0.60	<0.60	<0.60	<0.60	<0.60	<0.60
1,2,4-Trichlorobenzene	µg/m³	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7
Hexachlorobutadiene	µg/m³	<5.3	<5.3	<5.3	<5.3	<5.3	<5.3
Hexane	µg/m³	1.04	1.00	1.23	3.35	1.59	1.07
Heptane	µg/m³	<1.2	1.50	<1.2	1.40	<1.2	<1.2
Cyclohexane	µg/m³	<0.69	<0.69	<0.69	<0.69	1.90	<0.69
Tetrahydrofuran	µg/m³	<1.2	<1.2	<1.2	4.80	<1.2	<1.2
1,4-Dioxane	µg/m³	<3.6	<3.6	<3.6	<3.6	<3.6	<3.6
Naphthalene	µg/m³	1.10	<1.0	<1.0	<1.0	<1.0	<1.0
Total Xylenes	µg/m³	2.40	4.00	4.50	4.00	3.30	2.80
1,1,1,2-Tetrachloroethane	µg/m³	<0.69	<0.69	<0.69	<0.69	<0.69	<0.69
Vinyl Bromide	µg/m³	<0.87	<0.87	<0.87	<0.87	<0.87	<0.87
Propene	µg/m³	<3.4	<1.7	<1.7	<2.6	<1.7	<2.6
2,2,4-Trimethylpentane	µg/m³	<0.93	<0.93	<0.93	<0.93	<0.93	<0.93
Carbon Disulfide	µg/m³	<1.6	3.20	2.10	<1.6	<1.6	<1.6
Vinyl Acetate	µg/m³	<0.70	<0.70	<0.70	<0.70	<1.4	<0.70

Table F-2
Sources and Contaminants Identification Table

Source Information			Expected Contaminants	Significant (Yes or No)?	Modelled (Yes or No)?	Rationale
Source ID	Source Description or Title	General Location				
GVP1, GVP2, GVP3	Gas Venting Stack	Site	Landfill Gas Constituents	No	No	Emission rates of all contaminants found to be below negligibility criteria (Section 7.1.2 of ESDM Procedure Document)
MOUND	Landfill mound	Site	Landfill Gas Constituents	No	No	

Table F-3
Source Summary Table

Source Identifier	Source Description	Stack ID	Source Parameters				Stack Location [X]	Stack Location [Y]	Emission Data						
			Stack Volumetric Flow Rate [Am³/s]	Stack Exit Gas Temperature [°C]	Stack Inner Diameter [m]	Stack Height Above Grade [m]			Contaminant	CAS No.	Maximum Emission Rate [g/s]	Averaging Period [hours]	Emission Estimating Technique	Emissions Data Quality	Percentage of Overall Emissions [%]
GVP1	Gas Venting Stack	STCK1	0.0028	Ambient	0.10	6.0	626208.82	4938716.94	Methane	74-82-8	7.42E-06	1.24, Annual	EF	Average	<1%
									Carbon Monoxide	630-08-0	3.24E-03	1.24, Annual	EF	Average	18%
									Hydrogen sulfide	7783-06-4	3.15E-06	1.24, Annual	EF	Average	26%
									Dichlorodifluoromethane (FREON 12)	75-71-8	3.62E-08	1.24, Annual	EF	Average	22%
									1,2-Dichlorotetrafluoroethane	76-14-2	3.39E-09	1.24, Annual	EF	Average	4%
									Chloromethane	74-87-3	3.73E-09	1.24, Annual	EF	Average	18%
									Vinyl Chloride	75-01-4	7.35E-10	1.24, Annual	EF	Average	18%
									Chloroethane	75-00-3	2.23E-09	1.24, Annual	EF	Average	18%
									1,3-Butadiene	106-99-0	3.11E-09	1.24, Annual	EF	Average	18%
									Trichlorofluoromethane (FREON 11)	75-69-4	3.68E-09	1.24, Annual	EF	Average	8%
									Ethanol (ethyl alcohol)	64-17-5	1.23E-07	1.24, Annual	EF	Average	34%
									Trichlorotrifluoroethane	26523-64-8	3.39E-09	1.24, Annual	EF	Average	18%
									2-propanol	67-83-0	2.29E-08	1.24, Annual	EF	Average	16%
									2-Propanone	67-64-1	3.82E-08	1.24, Annual	EF	Average	12%
									Methyl Ethyl Ketone (2-Butanone)	78-93-3	1.87E-08	1.24, Annual	EF	Average	17%
									Methyl Isobutyl Ketone	108-10-1	2.74E-09	1.24, Annual	EF	Average	2%
									Methyl Butyl Ketone (2-Hexanone)	591-78-6	1.16E-08	1.24, Annual	EF	Average	18%
									Methyl t-butyl ether (MTBE)	1634-04-4	2.04E-09	1.24, Annual	EF	Average	18%
									Ethyl Acetate	141-78-6	4.58E-08	1.24, Annual	EF	Average	26%
									1,1-Dichloroethylene	75-35-4	1.13E-09	1.24, Annual	EF	Average	18%
									cis-1,2-Dichloroethylene	156-59-2	1.13E-09	1.24, Annual	EF	Average	18%
									trans-1,2-Dichloroethylene	156-60-5	1.13E-09	1.24, Annual	EF	Average	18%
									Methylene Chloride(Dichloromethane)	75-09-2	1.44E-08	1.24, Annual	EF	Average	32%
									Chloroform	67-66-3	5.63E-09	1.24, Annual	EF	Average	13%
									Carbon Tetrachloride	56-23-5	1.78E-09	1.24, Annual	EF	Average	18%
									1,1-Dichloroethane	75-34-3	1.13E-09	1.24, Annual	EF	Average	18%
									1,2-Dichloroethane	107-06-2	1.13E-09	1.24, Annual	EF	Average	18%
									Ethylene Dibromide	106-93-4	2.18E-09	1.24, Annual	EF	Average	18%
									1,1,1-Trichloroethane	71-55-6	1.55E-09	1.24, Annual	EF	Average	18%
									1,1,2-Trichloroethane	79-00-5	1.55E-09	1.24, Annual	EF	Average	18%
									1,1,2,2-Tetrachloroethane	79-34-5	1.95E-09	1.24, Annual	EF	Average	18%
									cis-1,3-Dichloropropene	10061-01-5	1.27E-09	1.24, Annual	EF	Average	18%
									trans-1,3-Dichloropropene	10061-02-6	1.27E-09	1.24, Annual	EF	Average	18%
									1,2-Dichloropropane	78-87-5	1.30E-09	1.24, Annual	EF	Average	18%
									Bromomethane	74-83-9	1.10E-09	1.24, Annual	EF	Average	18%
									Bromoform	75-25-2	5.94E-09	1.24, Annual	EF	Average	18%
									Bromodichloromethane	75-27-4	3.68E-09	1.24, Annual	EF	Average	18%
									Dibromochloromethane	124-48-1	4.81E-09	1.24, Annual	EF	Average	18%
									Trichloroethylene	79-01-6	1.53E-09	1.24, Annual	EF	Average	18%
									Tetrachloroethylene	127-18-4	2.15E-09	1.24, Annual	EF	Average	11%
									Benzene	71-43-2	2.32E-09	1.24, Annual	EF	Average	16%
									Toluene	108-88-3	2.48E-08	1.24, Annual	EF	Average	23%
									Ethylbenzene	100-41-4	2.46E-09	1.24, Annual	EF	Average	21%
									p+m-Xylene	106-42-3	8.71E-09	1.24, Annual	EF	Average	16%
									o-Xylene	95-47-6	2.74E-09	1.24, Annual	EF	Average	19%
									Styrene	100-42-5	1.22E-09	1.24, Annual	EF	Average	18%
									4-ethyltoluene	622-96-8	7.07E-09	1.24, Annual	EF	Average	18%
									1,3,5-Trimethylbenzene	108-67-8	7.07E-09	1.24, Annual	EF	Average	18%
									1,2,4-Trimethylbenzene	95-63-6	7.07E-09	1.24, Annual	EF	Average	18%
									Chlorobenzene	108-90-7	1.30E-09	1.24, Annual	EF	Average	18%
									Benzyl chloride	100-44-7	7.35E-09	1.24, Annual	EF	Average	18%
									1,3-Dichlorobenzene	541-73-1	6.78E-09	1.24, Annual	EF	Average	18%
1,4-Dichlorobenzene	106-46-7	2.40E-09	1.24, Annual	EF	Average	22%									
1,2-Dichlorobenzene	95-50-1	1.70E-09	1.24, Annual	EF	Average	18%									
1,2,4-Trichlorobenzene	120-82-1	1.05E-08	1.24, Annual	EF	Average	18%									
Hexachlorobutadiene	87-68-3	1.50E-08	1.24, Annual	EF	Average	18%									
Hexane	110-54-3	9.47E-09	1.24, Annual	EF	Average	31%									
Heptane	142-82-5	3.96E-09	1.24, Annual	EF	Average	18%									
Cyclohexane	110-82-7	1.95E-09	1.24, Annual	EF	Average	9%									
Tetrahydrofuran	109-99-9	1.36E-08	1.24, Annual	EF	Average	42%									
1,4-Dioxane	123-91-1	1.02E-08	1.24, Annual	EF	Average	18%									
Naphthalene	91-20-3	3.11E-09	1.24, Annual	EF	Average	19%									
Total Xylenes	1330-20-7	1.13E-08	1.24, Annual	EF	Average	17%									
1,1,1,2-Tetrachloroethane	630-20-6	1.95E-09	1.24, Annual	EF	Average	18%									
Vinyl Bromide	593-60-2	2.46E-09	1.24, Annual	EF	Average	18%									
Propene	115-07-1	7.35E-09	1.24, Annual	EF	Average	18%									
2,2,4-Trimethylpentane	540-84-1	2.63E-09	1.24, Annual	EF	Average	18%									
Carbon Disulfide	75-15-0	4.52E-09	1.24, Annual	EF	Average	11%									
Vinyl Acetate	108-05-4	1.98E-09	1.24, Annual	EF	Average	18%									

Table F-3
Source Summary Table

Source Identifier	Source Description	Stack ID	Source Parameters				Stack Location [X]	Stack Location [Y]	Emission Data						
			Stack Volumetric Flow Rate [Am³/s]	Stack Exit Gas Temperature [°C]	Stack Inner Diameter [m]	Stack Height Above Grade [m]			Contaminant	CAS No.	Maximum Emission Rate [g/s]	Averaging Period [hours]	Emission Estimating Technique	Emissions Data Quality	Percentage of Overall Emissions [%]
GVP2	Gas Venting Stack	STCK2	0.0067	Ambient	0.10	6.0	626294.93	4938791.07	Methane	74-82-8	2.52E-03	1,24, Annual	EF	Average	80%
									Carbon Monoxide	630-08-0	7.71E-03	1,24, Annual	EF	Average	42%
									Hydrogen sulfide	7783-06-4	2.82E-06	1,24, Annual	EF	Average	23%
									Dichlorodifluoromethane (FREON 12)	75-71-8	8.68E-08	1,24, Annual	EF	Average	53%
									1,2-Dichlorotetrafluoroethane	76-14-2	5.86E-08	1,24, Annual	EF	Average	71%
									Chloromethane	74-87-3	8.68E-09	1,24, Annual	EF	Average	41%
									Vinyl Chloride	75-01-4	1.75E-09	1,24, Annual	EF	Average	42%
									Chloroethane	75-00-3	5.32E-09	1,24, Annual	EF	Average	42%
									1,3-Butadiene	106-99-0	7.41E-09	1,24, Annual	EF	Average	42%
									Trichlorofluoromethane (FREON 11)	75-69-4	9.43E-09	1,24, Annual	EF	Average	20%
									Ethanol (ethyl alcohol)	64-17-5	1.16E-07	1,24, Annual	EF	Average	32%
									Trichlorotrifluoroethane	26523-64-8	8.08E-09	1,24, Annual	EF	Average	42%
									2-propanol	67-63-0	6.80E-08	1,24, Annual	EF	Average	47%
									2-Propanone	67-64-1	1.57E-07	1,24, Annual	EF	Average	49%
									Methyl Ethyl Ketone (2-Butanone)	78-93-3	3.76E-08	1,24, Annual	EF	Average	35%
									Methyl Isobutyl Ketone	108-10-1	8.01E-08	1,24, Annual	EF	Average	65%
									Methyl Butyl Ketone (2-Hexanone)	591-78-6	2.76E-08	1,24, Annual	EF	Average	42%
									Methyl t-butyl ether (MTBE)	1634-04-4	4.85E-09	1,24, Annual	EF	Average	42%
									Ethyl Acetate	141-78-6	6.46E-08	1,24, Annual	EF	Average	37%
									1,1-Dichloroethylene	75-35-4	2.69E-09	1,24, Annual	EF	Average	42%
									cis-1,2-Dichloroethylene	156-59-2	2.69E-09	1,24, Annual	EF	Average	42%
									trans-1,2-Dichloroethylene	156-60-5	2.69E-09	1,24, Annual	EF	Average	42%
									Methylene Chloride(Dichloromethane)	75-09-2	1.41E-08	1,24, Annual	EF	Average	31%
									Chloroform	67-66-3	2.82E-08	1,24, Annual	EF	Average	64%
									Carbon Tetrachloride	56-23-5	4.24E-09	1,24, Annual	EF	Average	42%
									1,1-Dichloroethane	75-34-3	2.69E-09	1,24, Annual	EF	Average	42%
									1,2-Dichloroethane	107-06-2	2.69E-09	1,24, Annual	EF	Average	42%
									Ethylene Dibromide	106-93-4	5.18E-09	1,24, Annual	EF	Average	42%
									1,1,1-Trichloroethane	71-55-6	3.70E-09	1,24, Annual	EF	Average	42%
									1,1,2-Trichloroethane	79-00-5	3.70E-09	1,24, Annual	EF	Average	42%
									1,1,2,2-Tetrachloroethane	79-34-5	4.65E-09	1,24, Annual	EF	Average	42%
									cis-1,3-Dichloropropene	10061-01-5	3.03E-09	1,24, Annual	EF	Average	42%
									trans-1,3-Dichloropropene	10061-02-6	3.03E-09	1,24, Annual	EF	Average	42%
									1,2-Dichloropropane	78-87-5	3.10E-09	1,24, Annual	EF	Average	42%
									Bromomethane	74-83-9	2.63E-09	1,24, Annual	EF	Average	42%
									Bromoform	75-25-2	1.41E-08	1,24, Annual	EF	Average	42%
									Bromodichloromethane	75-27-4	8.75E-09	1,24, Annual	EF	Average	42%
									Dibromochloromethane	124-48-1	1.14E-08	1,24, Annual	EF	Average	42%
									Trichloroethylene	79-01-6	3.64E-09	1,24, Annual	EF	Average	42%
									Tetrachloroethylene	127-18-4	1.16E-08	1,24, Annual	EF	Average	58%
									Benzene	71-43-2	5.66E-09	1,24, Annual	EF	Average	40%
									Toluene	108-88-3	3.98E-08	1,24, Annual	EF	Average	37%
									Ethylbenzene	100-41-4	4.78E-09	1,24, Annual	EF	Average	40%
									p+m-Xylene	106-42-3	2.13E-08	1,24, Annual	EF	Average	40%
									o-Xylene	95-47-6	6.19E-09	1,24, Annual	EF	Average	42%
									Styrene	100-42-5	2.89E-09	1,24, Annual	EF	Average	42%
									4-ethyltoluene	622-96-8	1.68E-08	1,24, Annual	EF	Average	42%
									1,3,5-Trimethylbenzene	108-67-8	1.68E-08	1,24, Annual	EF	Average	42%
									1,2,4-Trimethylbenzene	95-63-6	1.68E-08	1,24, Annual	EF	Average	42%
									Chlorobenzene	108-90-7	3.10E-09	1,24, Annual	EF	Average	42%
									Benzyl chloride	100-44-7	1.75E-08	1,24, Annual	EF	Average	42%
									1,3-Dichlorobenzene	541-73-1	1.62E-08	1,24, Annual	EF	Average	42%
									1,4-Dichlorobenzene	106-46-7	4.24E-09	1,24, Annual	EF	Average	39%
1,2-Dichlorobenzene	95-50-1	4.04E-09	1,24, Annual	EF	Average	42%									
1,2,4-Trichlorobenzene	120-82-1	2.49E-08	1,24, Annual	EF	Average	42%									
Hexachlorobutadiene	87-68-3	3.57E-08	1,24, Annual	EF	Average	42%									
Hexane	110-54-3	1.07E-08	1,24, Annual	EF	Average	35%									
Heptane	142-82-5	1.01E-08	1,24, Annual	EF	Average	45%									
Cyclohexane	110-82-7	1.28E-08	1,24, Annual	EF	Average	60%									
Tetrahydrofuran	109-99-9	8.08E-09	1,24, Annual	EF	Average	25%									
1,4-Dioxane	123-91-1	2.42E-08	1,24, Annual	EF	Average	42%									
Naphthalene	91-20-3	6.73E-09	1,24, Annual	EF	Average	41%									
Total Xylenes	1330-20-7	2.69E-08	1,24, Annual	EF	Average	40%									
1,1,1,2-Tetrachloroethane	630-20-6	4.65E-09	1,24, Annual	EF	Average	42%									
Vinyl Bromide	593-60-2	5.86E-09	1,24, Annual	EF	Average	42%									
Propene	115-07-1	1.75E-08	1,24, Annual	EF	Average	42%									
2,2,4-Trimethylpentane	540-84-1	6.26E-09	1,24, Annual	EF	Average	42%									
Carbon Disulfide	75-15-0	2.15E-08	1,24, Annual	EF	Average	52%									
Vinyl Acetate	108-05-4	4.71E-09	1,24, Annual	EF	Average	42%									

Table F-3
Source Summary Table

Source Identifier	Source Description	Stack ID	Source Parameters				Stack Location [X]	Stack Location [Y]	Emission Data						
			Stack Volumetric Flow Rate [Am³/s]	Stack Exit Gas Temperature [°C]	Stack Inner Diameter [m]	Stack Height Above Grade [m]			Contaminant	CAS No.	Maximum Emission Rate [g/s]	Averaging Period [hours]	Emission Estimating Technique	Emissions Data Quality	Percentage of Overall Emissions [%]
GVP3	Gas Venting Stack	STCK3	0.0033	Ambient	0.10	6.0	626375.14	4938843.37	Methane	74-82-8	6.58E-06	1.24, Annual	EF	Average	<1%
									Carbon Monoxide	630-08-0	3.83E-03	1.24, Annual	EF	Average	21%
									Hydrogen sulfide	7783-06-4	3.73E-06	1.24, Annual	EF	Average	31%
									Dichlorodifluoromethane (FREON 12)	75-71-8	8.93E-09	1.24, Annual	EF	Average	5%
									1,2-Dichlorotetrafluoroethane	76-14-2	4.01E-09	1.24, Annual	EF	Average	5%
									Chloromethane	74-87-3	4.45E-09	1.24, Annual	EF	Average	21%
									Vinyl Chloride	75-01-4	8.69E-10	1.24, Annual	EF	Average	21%
									Chloroethane	75-00-3	2.64E-09	1.24, Annual	EF	Average	21%
									1,3-Butadiene	106-99-0	3.68E-09	1.24, Annual	EF	Average	21%
									Trichlorofluoromethane (FREON 11)	75-69-4	2.41E-08	1.24, Annual	EF	Average	52%
									Ethanol (ethyl alcohol)	64-17-5	5.38E-08	1.24, Annual	EF	Average	15%
									Trichlorotrifluoroethane	26523-64-8	4.01E-09	1.24, Annual	EF	Average	21%
									2-propanol	67-63-0	2.61E-08	1.24, Annual	EF	Average	18%
									2-Propanone	67-64-1	6.02E-08	1.24, Annual	EF	Average	19%
									Methyl Ethyl Ketone (2-Butanone)	78-93-3	3.04E-08	1.24, Annual	EF	Average	28%
									Methyl Isobutyl Ketone	108-10-1	1.57E-08	1.24, Annual	EF	Average	13%
									Methyl Butyl Ketone (2-Hexanone)	591-78-6	1.37E-08	1.24, Annual	EF	Average	21%
									Methyl t-butyl ether (MTBE)	1634-04-4	2.41E-09	1.24, Annual	EF	Average	21%
									Ethyl Acetate	141-78-6	3.01E-08	1.24, Annual	EF	Average	17%
									1,1-Dichloroethylene	75-35-4	1.34E-09	1.24, Annual	EF	Average	21%
									cis-1,2-Dichloroethylene	156-59-2	1.34E-09	1.24, Annual	EF	Average	21%
									trans-1,2-Dichloroethylene	156-60-5	1.34E-09	1.24, Annual	EF	Average	21%
									Methylene Chloride(Dichloromethane)	75-09-2	7.36E-09	1.24, Annual	EF	Average	16%
									Chloroform	67-66-3	1.64E-09	1.24, Annual	EF	Average	4%
									Carbon Tetrachloride	56-23-5	2.11E-09	1.24, Annual	EF	Average	21%
									1,1-Dichloroethane	75-34-3	1.34E-09	1.24, Annual	EF	Average	21%
									1,2-Dichloroethane	107-06-2	1.34E-09	1.24, Annual	EF	Average	21%
									Ethylene Dibromide	106-93-4	2.57E-09	1.24, Annual	EF	Average	21%
									1,1,1-Trichloroethane	71-55-6	1.84E-09	1.24, Annual	EF	Average	21%
									1,1,2-Trichloroethane	79-00-5	1.84E-09	1.24, Annual	EF	Average	21%
									1,1,2,2-Tetrachloroethane	79-34-5	2.31E-09	1.24, Annual	EF	Average	21%
									cis-1,3-Dichloropropene	10061-01-5	1.50E-09	1.24, Annual	EF	Average	21%
									trans-1,3-Dichloropropene	10061-02-6	1.50E-09	1.24, Annual	EF	Average	21%
									1,2-Dichloropropane	78-87-5	1.54E-09	1.24, Annual	EF	Average	21%
									Bromomethane	74-83-9	1.30E-09	1.24, Annual	EF	Average	21%
									Bromoform	75-25-2	7.02E-09	1.24, Annual	EF	Average	21%
									Bromodichloromethane	75-27-4	4.35E-09	1.24, Annual	EF	Average	21%
									Dibromochloromethane	124-48-1	5.68E-09	1.24, Annual	EF	Average	21%
									Trichloroethylene	79-01-6	1.81E-09	1.24, Annual	EF	Average	21%
									Tetrachloroethylene	127-18-4	2.27E-09	1.24, Annual	EF	Average	11%
									Benzene	71-43-2	3.44E-09	1.24, Annual	EF	Average	24%
									Toluene	108-88-3	2.06E-08	1.24, Annual	EF	Average	19%
									Ethylbenzene	100-41-4	2.27E-09	1.24, Annual	EF	Average	19%
									p+m-Xylene	106-42-3	1.23E-08	1.24, Annual	EF	Average	23%
									o-Xylene	95-47-6	2.91E-09	1.24, Annual	EF	Average	20%
									Styrene	100-42-5	1.44E-09	1.24, Annual	EF	Average	21%
									4-ethyltoluene	622-96-8	8.36E-09	1.24, Annual	EF	Average	21%
									1,3,5-Trimethylbenzene	108-67-8	8.36E-09	1.24, Annual	EF	Average	21%
									1,2,4-Trimethylbenzene	95-63-6	8.36E-09	1.24, Annual	EF	Average	21%
									Chlorobenzene	108-90-7	1.54E-09	1.24, Annual	EF	Average	21%
Benzyl chloride	100-44-7	8.69E-09	1.24, Annual	EF	Average	21%									
1,3-Dichlorobenzene	541-73-1	8.02E-09	1.24, Annual	EF	Average	21%									
1,4-Dichlorobenzene	106-46-7	2.01E-09	1.24, Annual	EF	Average	19%									
1,2-Dichlorobenzene	95-50-1	2.01E-09	1.24, Annual	EF	Average	21%									
1,2,4-Trichlorobenzene	120-82-1	1.24E-08	1.24, Annual	EF	Average	21%									
Hexachlorobutadiene	87-68-3	1.77E-08	1.24, Annual	EF	Average	21%									
Hexane	110-54-3	4.11E-09	1.24, Annual	EF	Average	14%									
Heptane	142-82-5	4.01E-09	1.24, Annual	EF	Average	18%									
Cyclohexane	110-82-7	2.31E-09	1.24, Annual	EF	Average	11%									
Tetrahydrofuran	109-99-9	4.01E-09	1.24, Annual	EF	Average	13%									
1,4-Dioxane	123-91-1	1.20E-08	1.24, Annual	EF	Average	21%									
Naphthalene	91-20-3	3.34E-09	1.24, Annual	EF	Average	20%									
Total Xylenes	1330-20-7	1.50E-08	1.24, Annual	EF	Average	23%									
1,1,1,2-Tetrachloroethane	630-20-6	2.31E-09	1.24, Annual	EF	Average	21%									
Vinyl Bromide	593-60-2	2.91E-09	1.24, Annual	EF	Average	21%									
Propene	115-07-1	8.69E-09	1.24, Annual	EF	Average	21%									
2,2,4-Trimethylpentane	540-84-1	3.11E-09	1.24, Annual	EF	Average	21%									
Carbon Disulfide	75-15-0	7.02E-09	1.24, Annual	EF	Average	17%									
Vinyl Acetate	108-05-4	2.34E-09	1.24, Annual	EF	Average	21%									
MOUND	Landfill	MOUND	N/A	N/A	N/A	N/A	N/A	N/A	Methane	74-82-8	6.33E-04	1.24, Annual	EF	Average	20%
									Carbon Monoxide	630-08-0	3.70E-03	1.24, Annual	EF	Average	20%
									Hydrogen sulfide	7783-06-4	2.42E-06	1.24, Annual	EF	Average	20%
									Dichlorodifluoromethane (FREON 12)	75-71-8	3.30E-08	1.24, Annual	EF	Average	20%
									1,2-Dichlorotetrafluoroethane	76-14-2	1.65E-08	1.24, Annual	EF	Average	20%
									Chloromethane	74-87-3	4.22E-09	1.24, Annual	EF	Average	20%
Vinyl Chloride	75-01-4	8.39E-10	1.24, Annual	EF	Average	20%									
Chloroethane	75-00-3	2.55E-09	1.24, Annual	EF	Average	20%									

Table F-3
Source Summary Table

Source Identifier	Source Description	Stack ID	Source Parameters				Stack Location [X]	Stack Location [Y]	Emission Data						
			Stack Volumetric Flow Rate [Am³/s]	Stack Exit Gas Temperature [°C]	Stack Inner Diameter [m]	Stack Height Above Grade [m]			Contaminant	CAS No.	Maximum Emission Rate [g/s]	Averaging Period [hours]	Emission Estimating Technique	Emissions Data Quality	Percentage of Overall Emissions [%]
									1,3-Butadiene	106-99-0	3.55E-09	1,24, Annual	EF	Average	20%
									Trichlorofluoromethane (FREON 11)	75-69-4	9.29E-09	1,24, Annual	EF	Average	20%
									Ethanol (ethyl alcohol)	64-17-5	7.32E-08	1,24, Annual	EF	Average	20%
									Trichlorotrifluoroethane	26523-64-8	3.87E-09	1,24, Annual	EF	Average	20%
									2-propanol	67-63-0	2.92E-08	1,24, Annual	EF	Average	20%
									2-Propanone	67-64-1	6.38E-08	1,24, Annual	EF	Average	20%
									Methyl Ethyl Ketone (2-Butanone)	78-93-3	2.17E-08	1,24, Annual	EF	Average	20%
									Methyl Isobutyl Ketone	108-10-1	2.46E-08	1,24, Annual	EF	Average	20%
									Methyl Butyl Ketone (2-Hexanone)	591-78-6	1.32E-08	1,24, Annual	EF	Average	20%
									Methyl t-butyl ether (MTBE)	1634-04-4	2.32E-09	1,24, Annual	EF	Average	20%
									Ethyl Acetate	141-78-6	3.51E-08	1,24, Annual	EF	Average	20%
									1,1-Dichloroethylene	75-35-4	1.29E-09	1,24, Annual	EF	Average	20%
									cis-1,2-Dichloroethylene	156-59-2	1.29E-09	1,24, Annual	EF	Average	20%
									trans-1,2-Dichloroethylene	156-60-5	1.29E-09	1,24, Annual	EF	Average	20%
									Methylene Chloride(Dichloromethane)	75-09-2	8.98E-09	1,24, Annual	EF	Average	20%
									Chloroform	67-66-3	8.87E-09	1,24, Annual	EF	Average	20%
									Carbon Tetrachloride	56-23-5	2.03E-09	1,24, Annual	EF	Average	20%
									1,1-Dichloroethane	75-34-3	1.29E-09	1,24, Annual	EF	Average	20%
									1,2-Dichloroethane	107-06-2	1.29E-09	1,24, Annual	EF	Average	20%
									Ethylene Dibromide	106-93-4	2.48E-09	1,24, Annual	EF	Average	20%
									1,1,1-Trichloroethane	71-55-6	1.77E-09	1,24, Annual	EF	Average	20%
									1,1,2-Trichloroethane	79-00-5	1.77E-09	1,24, Annual	EF	Average	20%
									1,1,2,2-Tetrachloroethane	79-34-5	2.23E-09	1,24, Annual	EF	Average	20%
									cis-1,3-Dichloropropene	10061-01-5	1.45E-09	1,24, Annual	EF	Average	20%
									trans-1,3-Dichloropropene	10061-02-6	1.45E-09	1,24, Annual	EF	Average	20%
									1,2-Dichloropropane	78-87-5	1.48E-09	1,24, Annual	EF	Average	20%
									Bromomethane	74-83-9	1.26E-09	1,24, Annual	EF	Average	20%
									Bromoform	75-25-2	6.77E-09	1,24, Annual	EF	Average	20%
									Bromodichloromethane	75-27-4	4.19E-09	1,24, Annual	EF	Average	20%
									Dibromochloromethane	124-48-1	5.48E-09	1,24, Annual	EF	Average	20%
									Trichloroethylene	79-01-6	1.74E-09	1,24, Annual	EF	Average	20%
									Tetrachloroethylene	127-18-4	4.00E-09	1,24, Annual	EF	Average	20%
									Benzene	71-43-2	2.85E-09	1,24, Annual	EF	Average	20%
									Toluene	108-88-3	2.13E-08	1,24, Annual	EF	Average	20%
									Ethylbenzene	100-41-4	2.38E-09	1,24, Annual	EF	Average	20%
									p+m-Xylene	106-42-3	1.06E-08	1,24, Annual	EF	Average	20%
									o-Xylene	95-47-6	2.96E-09	1,24, Annual	EF	Average	20%
									Styrene	100-42-5	1.39E-09	1,24, Annual	EF	Average	20%
									4-ethyltoluene	622-96-8	8.06E-09	1,24, Annual	EF	Average	20%
									1,3,5-Trimethylbenzene	108-67-8	8.06E-09	1,24, Annual	EF	Average	20%
									1,2,4-Trimethylbenzene	95-63-6	8.06E-09	1,24, Annual	EF	Average	20%
									Chlorobenzene	108-90-7	1.48E-09	1,24, Annual	EF	Average	20%
									Benzyl chloride	100-44-7	8.39E-09	1,24, Annual	EF	Average	20%
									1,3-Dichlorobenzene	541-73-1	7.74E-09	1,24, Annual	EF	Average	20%
									1,4-Dichlorobenzene	106-46-7	2.16E-09	1,24, Annual	EF	Average	20%
									1,2-Dichlorobenzene	95-50-1	1.94E-09	1,24, Annual	EF	Average	20%
									1,2,4-Trichlorobenzene	120-82-1	1.19E-08	1,24, Annual	EF	Average	20%
									Hexachlorobutadiene	87-68-3	1.71E-08	1,24, Annual	EF	Average	20%
									Hexane	110-54-3	6.07E-09	1,24, Annual	EF	Average	20%
									Heptane	142-82-5	4.52E-09	1,24, Annual	EF	Average	20%
									Cyclohexane	110-82-7	4.26E-09	1,24, Annual	EF	Average	20%
									Tetrahydrofuran	109-99-9	6.42E-09	1,24, Annual	EF	Average	20%
									1,4-Dioxane	123-91-1	1.16E-08	1,24, Annual	EF	Average	20%
									Naphthalene	91-20-3	3.30E-09	1,24, Annual	EF	Average	20%
									Total Xylenes	1330-20-7	1.33E-08	1,24, Annual	EF	Average	20%
									1,1,1,2-Tetrachloroethane	630-20-6	2.23E-09	1,24, Annual	EF	Average	20%
									Vinyl Bromide	593-60-2	2.81E-09	1,24, Annual	EF	Average	20%
									Propene	115-07-1	8.39E-09	1,24, Annual	EF	Average	20%
									2,2,4-Trimethylpentane	540-84-1	3.00E-09	1,24, Annual	EF	Average	20%
									Carbon Disulfide	75-15-0	8.27E-09	1,24, Annual	EF	Average	20%
									Vinyl Acetate	108-05-4	2.26E-09	1,24, Annual	EF	Average	20%

Table F-4
Dispersion Modelling Source Summary Table

Modelling ID	Source ID(s)	Source Type	Modelling Source Data						Emissions Data			
			Stack Height [m]	Stack Temperature [K]	Stack Velocity [m/s]	Exit Diameter [m]	Source Coordinate [X]	Source Coordinate [Y]	Contaminant	CAS No.	Maximum Emission Rate [g/s]	Averaging Period [hours]
GVP1	STCK1	Point	6.0	Ambient	0.4070	0.10	626208.82	4938716.94	All contaminants screened out as per MECP Emission Threshold procedure as outlined in Section 7.1.2 of the ESDM Procedure Document (Guideline A-10)			
GVP2	STCK2	Point	6.0	Ambient	0.34	0.10	626294.93	4938791.07	All contaminants screened out as per MECP Emission Threshold procedure as outlined in Section 7.1.2 of the ESDM Procedure Document (Guideline A-10)			
GVP3	STCK3	Point	6.0	Ambient	0.31	0.10	626375.14	4938843.37	All contaminants screened out as per MECP Emission Threshold procedure as outlined in Section 7.1.2 of the ESDM Procedure Document (Guideline A-10)			
Modelling ID	Source ID(s)	Source Type	Modelling Source Data				Emissions Data					
			Release Height [m]	Initial Vertical Dimension [m]	Number of vertices	Area [m ²]	Source Coordinate [X]	Source Coordinate [Y]	Contaminant	CAS No.	Maximum Emission Rate [g/s/m ²]	Averaging Period [hours]
MOUND	Landfill	MOUND	0	0	38	64196	Various	Various	All contaminants screened out as per MECP Emission Threshold procedure as outlined in Section 7.1.2 of the ESDM Procedure Document (Guideline A-10)			

Table F-5
Emission Summary Table

Contaminant	CASNo.	Total Facility Emission Rate [g/s]	Air Dispersion Model Used	Maximum POI Concentration [$\mu\text{g}/\text{m}^3$]	Averaging Period	MECP POI Limit [$\mu\text{g}/\text{m}^3$]	Limiting Effect	Schedule	Source	Benchmark	Percentage of MECP Limit [%]	Version of Date of ACB List
All contaminants determined to be negligible as per the MECP Threshold Emission Calculation outlined in Section 7.1.2 of the ESDM Procedure Document. All values below ACB Version 3.0 (April 2023) values or below de minimus values as applicable.												

Source	Landfill Mound		
Source ID	MOUND		
Source Description	The system includes a barrier and passive venting system, which will incorporate horizontal gas venting trenches, routing the gas produced to three LFG venting stacks.		
Methodology	The Passive venting system is anticipated to have a collection efficiency of 80%, therefore, emissions from the mound were estimated based on the measured emissions from the stacks		
Source Parameters	<table border="1"> <tr> <td>Collection efficiency</td> <td>80%</td> </tr> </table>	Collection efficiency	80%
Collection efficiency	80%		

Sample Calculations

Emission Rate from Mound (Methane):

Emission Rate of Methane (g/s) = Total Emission Rate from vents (g/s) x (1-collection efficiency (%)) /collection efficiency (%)

$$\text{Emission Rate of Methane (g/s)} = \frac{2.531\text{E-}03 \text{ g}}{\text{s}} \left| \frac{20\%}{80\%} \right.$$

$$\text{Emission Rate of Methane (g/s)} = \frac{6.33\text{E-}04 \text{ g}}{\text{s}}$$

Emission Rate

Gas / Pollutant	CAS Number	Total Venting Emission Rate	Mound Emission Rate
		g/s	g/s
Methane	74-82-8	2.53E-03	6.33E-04
Carbon Monoxide	630-08-0	1.48E-02	3.70E-03
Hydrogen sulfide	7783-06-4	9.70E-06	2.42E-06
Dichlorodifluoromethane (FREON 12)	75-71-8	1.32E-07	3.30E-08
1,2-Dichlorotetrafluoroethane	76-14-2	6.60E-08	1.65E-08
Chloromethane	74-87-3	1.69E-08	4.22E-09
Vinyl Chloride	75-01-4	3.35E-09	8.39E-10
Chloroethane	75-00-3	1.02E-08	2.55E-09
1,3-Butadiene	106-99-0	1.42E-08	3.55E-09
Trichlorofluoromethane (FREON 11)	75-69-4	3.72E-08	9.29E-09
Ethanol (ethyl alcohol)	64-17-5	2.93E-07	7.32E-08
Trichlorotrifluoroethane	26523-64-8	1.55E-08	3.87E-09
2-propanol	67-63-0	1.17E-07	2.92E-08
2-Propanone	67-64-1	2.55E-07	6.38E-08
Methyl Ethyl Ketone (2-Butanone)	78-93-3	8.67E-08	2.17E-08
Methyl Isobutyl Ketone	108-10-1	9.86E-08	2.46E-08
Methyl Butyl Ketone (2-Hexanone)	591-78-6	5.29E-08	1.32E-08
Methyl t-butyl ether (MTBE)	1634-04-4	9.29E-09	2.32E-09
Ethyl Acetate	141-78-6	1.41E-07	3.51E-08
1,1-Dichloroethylene	75-35-4	5.16E-09	1.29E-09
cis-1,2-Dichloroethylene	156-59-2	5.16E-09	1.29E-09
trans-1,2-Dichloroethylene	156-60-5	5.16E-09	1.29E-09
Methylene Chloride(Dichloromethane)	75-09-2	3.59E-08	8.98E-09
Chloroform	67-66-3	3.55E-08	8.87E-09
Carbon Tetrachloride	56-23-5	8.13E-09	2.03E-09
1,1-Dichloroethane	75-34-3	5.16E-09	1.29E-09
1,2-Dichloroethane	107-06-2	5.16E-09	1.29E-09
Ethylene Dibromide	106-93-4	9.94E-09	2.48E-09
1,1,1-Trichloroethane	71-55-6	7.10E-09	1.77E-09
1,1,2-Trichloroethane	79-00-5	7.10E-09	1.77E-09
1,1,2,2-Tetrachloroethane	79-34-5	8.90E-09	2.23E-09
cis-1,3-Dichloropropene	10061-01-5	5.81E-09	1.45E-09
trans-1,3-Dichloropropene	10061-02-6	5.81E-09	1.45E-09
1,2-Dichloropropane	78-87-5	5.94E-09	1.48E-09
Bromomethane	74-83-9	5.03E-09	1.26E-09
Bromoform	75-25-2	2.71E-08	6.77E-09
Bromodichloromethane	75-27-4	1.68E-08	4.19E-09
Dibromochloromethane	124-48-1	2.19E-08	5.48E-09
Trichloroethylene	79-01-6	6.97E-09	1.74E-09
Tetrachloroethylene	127-18-4	1.60E-08	4.00E-09
Benzene	71-43-2	1.14E-08	2.85E-09
Toluene	108-88-3	8.51E-08	2.13E-08
Ethylbenzene	100-41-4	9.51E-09	2.38E-09
p+m-Xylene	106-42-3	4.23E-08	1.06E-08
o-Xylene	95-47-6	1.18E-08	2.96E-09
Styrene	100-42-5	5.55E-09	1.39E-09
4-ethyltoluene	622-96-8	3.23E-08	8.06E-09
1,3,5-Trimethylbenzene	108-67-8	3.23E-08	8.06E-09
1,2,4-Trimethylbenzene	95-63-6	3.23E-08	8.06E-09
Chlorobenzene	108-90-7	5.94E-09	1.48E-09
Benzyl chloride	100-44-7	3.35E-08	8.39E-09
1,3-Dichlorobenzene	541-73-1	3.10E-08	7.74E-09
1,4-Dichlorobenzene	106-46-7	8.65E-09	2.16E-09
1,2-Dichlorobenzene	95-50-1	7.74E-09	1.94E-09
1,2,4-Trichlorobenzene	120-82-1	4.77E-08	1.19E-08
Hexachlorobutadiene	87-68-3	6.84E-08	1.71E-08
Hexane	110-54-3	2.43E-08	6.07E-09
Heptane	142-82-5	1.81E-08	4.52E-09
Cyclohexane	110-82-7	1.70E-08	4.26E-09
Tetrahydrofuran	109-99-9	2.57E-08	6.42E-09
1,4-Dioxane	123-91-1	4.65E-08	1.16E-08
Naphthalene	91-20-3	1.32E-08	3.30E-09
Total Xylenes	1330-20-7	5.33E-08	1.33E-08
1,1,1,2-Tetrachloroethane	630-20-6	8.90E-09	2.23E-09
Vinyl Bromide	593-60-2	1.12E-08	2.81E-09
Propene	115-07-1	3.35E-08	8.39E-09
2,2,4-Trimethylpentane	540-84-1	1.20E-08	3.00E-09
Carbon Disulfide	75-15-0	3.31E-08	8.27E-09
Vinyl Acetate	108-05-4	9.03E-09	2.26E-09

Source LFG Collection System
 Source ID GVP1, GVP2, GVP3
 Source Description The system includes a barrier and passive venting system, which will incorporate horizontal gas venting trenches, routing the gas produced to three LFG venting stacks.
 Methodology

Emission rates from the three vents were calculated from the twice annual sampling rounds. The maximum measured concentration from each sampling round was used for modelling. Where a VOC was not measured above the detection limit, the detection limit was used for conservatism

Source Parameters

Date	GVP1		GVP2		GVP3	
	Flow Rate (CFM)	Flow Rate (m ³ /s)	Flow Rate (CFM)	Flow Rate (m ³ /s)	Flow Rate (CFM)	Flow Rate (m ³ /s)
19-Feb-25	0.81	3.82E-04	0.03	1.42E-05	0.14	6.61E-05
12-Nov-25	11.17	5.27E-03	28.50	1.35E-02	14.03	6.62E-03
AVERAGE	5.99	2.83E-03	14.27	6.73E-03	7.09	3.34E-03

Sample Calculations

Emission Rate (Trichlorotrifluoroethane from GVP1):

Emission Rate of Trichlorotrifluoroethane (g/s) =

Emission Rate (µg/m³) x flow rate (m³/s) x conversion to g/s

Emission Rate of Trichlorotrifluoroethane (g/s) =

$$\frac{1.200E+00 \mu\text{g}}{\text{m}^3} \times 0.0028 \frac{\text{m}^3}{\text{s}} \times \frac{1 \text{ g}}{1,000,000 \mu\text{g}}$$

Emission Rate of Trichlorotrifluoroethane (g/s) =

$$\frac{3.39E-09 \text{ g}}{\text{s}}$$

Emission Rate

Gas / Pollutant	CAS Number	Source Testing Results (in ppm)									Molecular weight
		GVP1			GVP2			GVP3			
		Round 1	Round 2	Max	Round 1	Round 2	Max	Round 1	Round 2	Max	
Methane	74-82-8	4.00	3.00	4.00	2.00	570.00	570.00	2.00	3.00	3.00	16.04
Carbon monoxide (%V/V)	7783-06-4	0.10	-	0.10	0.10	-	-	0.10	-	0.10	28.01
Hydrogen sulfide	78-14-2	0.80	0.30	0.80	0.80	0.30	0.80	0.80	0.30	0.80	34.08

Gas / Pollutant	CAS Number	GVP1				GVP2				GVP3			
		Round 1 (µg/m³)	Round 2 (µg/m³)	Max	Emission Rate (g/s)	Round 1 (µg/m³)	Round 2 (µg/m³)	Max	Emission Rate (g/s)	Round 1 (µg/m³)	Round 2 (µg/m³)	Max	Emission Rate (g/s)
Methane	74-82-8	2.62E+03	1.97E+03	2.62E+03	7.42E-06	1.31E+03	3.74E+05	3.74E+05	2.52E-03	1.31E+03	1.97E+03	1.97E+03	6.58E-06
Carbon Monoxide	630-08-0	1.15E+06	-	1.15E+06	3.24E-03	1.15E+06	-	1.15E+06	7.71E-03	1.15E+06	-	1.15E+06	3.83E-03
Hydrogen sulfide	7783-06-4	1.12E+03	4.18E+02	1.12E+03	3.15E-06	6.67E+01	4.18E+02	4.18E+02	2.82E-06	1.12E+03	4.18E+02	4.18E+02	3.73E-06
Dichlorodifluoromethane (FREON 12)	75-71-8	2.43E+00	1.20E+01	1.28E+01	3.62E-08	2.26E+00	1.29E+01	1.29E+01	8.68E-08	2.44E+00	2.67E+00	2.67E+00	8.93E-09
1,2-Dichlorotetrafluoroethane	78-14-2	1.20E+00	1.20E+00	1.20E+00	3.39E-09	1.20E+00	8.70E+00	8.70E+00	5.84E-08	1.20E+00	1.20E+00	1.20E+00	4.01E-09
Chloromethane	74-87-3	1.32E+00	6.20E-01	1.32E+00	3.73E-09	1.29E+00	6.20E-01	1.29E+00	8.68E-09	1.33E+00	8.10E-01	1.33E+00	4.45E-09
Vinyl Chloride	75-01-4	2.60E-01	2.60E-01	2.60E-01	7.35E-10	2.60E-01	2.60E-01	2.60E-01	1.75E-09	2.60E-01	2.60E-01	2.60E-01	8.69E-10
Chloroethane	75-00-3	7.90E-01	7.90E-01	7.90E-01	2.23E-09	7.90E-01	7.90E-01	7.90E-01	5.32E-09	7.90E-01	7.90E-01	7.90E-01	2.64E-09
1,3-Butadiene	106-99-0	1.10E+00	1.10E+00	1.10E+00	3.11E-09	1.10E+00	1.10E+00	1.10E+00	7.41E-09	1.10E+00	1.10E+00	1.10E+00	3.68E-09
Trichlorofluoromethane (FREON 11)	75-69-4	1.30E+00	1.10E+00	1.30E+00	3.68E-09	1.30E+00	1.40E+00	1.40E+00	9.43E-09	1.20E+00	1.20E+00	1.20E+00	2.41E-08
Ethanol (ethyl alcohol)	64-17-5	4.36E+01	4.30E+01	4.36E+01	1.23E-07	1.34E+01	1.72E+01	1.72E+01	1.16E-07	1.61E+01	9.50E+00	1.61E+01	5.38E-08
Trichlorotrifluoroethane	28523-64-8	1.20E+00	1.20E+00	1.20E+00	3.39E-09	1.20E+00	1.20E+00	1.20E+00	8.08E-09	1.20E+00	1.20E+00	1.20E+00	4.01E-09
2-Propanol	67-63-0	2.50E+00	8.10E+00	8.10E+00	2.29E-08	1.01E+01	3.50E+00	1.01E+01	6.80E-08	7.80E+00	4.30E+00	7.80E+00	2.61E-08
2-Propanone	67-64-1	6.80E+00	1.35E+01	1.35E+01	3.82E-08	2.33E+01	9.90E+00	2.33E+01	1.57E-07	1.80E+01	9.90E+00	1.80E+01	6.02E-08
Methyl Ethyl Ketone (2-Butanone)	78-93-3	9.50E-01	6.62E+00	6.62E+00	1.87E-08	1.61E+00	5.58E+00	5.58E+00	3.76E-08	1.17E+00	9.09E+00	9.09E+00	3.04E-08
Methyl Isobutyl Ketone	108-10-1	8.20E-01	9.70E-01	9.70E-01	2.74E-09	1.19E+01	8.20E-01	1.19E+01	8.01E-08	4.70E+00	8.20E-01	4.70E+00	1.57E-08
Methyl Butyl Ketone (2-Hexanone)	591-78-6	4.10E+00	4.10E+00	4.10E+00	1.16E-08	4.10E+00	4.10E+00	4.10E+00	2.76E-08	4.10E+00	4.10E+00	4.10E+00	1.37E-08
Methyl t-Butyl ether (MTBE)	1634-04-4	7.20E-01	7.20E-01	7.20E-01	2.04E-09	7.20E-01	7.20E-01	7.20E-01	4.85E-09	7.20E-01	7.20E-01	7.20E-01	2.41E-09
Ethyl Acetate	141-78-6	3.60E+00	1.62E+01	1.62E+01	4.58E-08	3.60E+00	9.60E+00	9.60E+00	6.46E-08	3.60E+00	9.00E+00	9.00E+00	3.01E-08
1,1-Dichloroethylene	75-35-4	4.00E-01	4.00E-01	4.00E-01	1.13E-09	4.00E-01	4.00E-01	4.00E-01	2.69E-09	4.00E-01	4.00E-01	4.00E-01	1.34E-09
cis-1,2-Dichloroethylene	156-59-2	4.00E-01	4.00E-01	4.00E-01	1.13E-09	4.00E-01	4.00E-01	4.00E-01	2.69E-09	4.00E-01	4.00E-01	4.00E-01	1.34E-09
trans-1,2-Dichloroethylene	156-60-5	4.00E-01	4.00E-01	4.00E-01	1.13E-09	4.00E-01	4.00E-01	4.00E-01	2.69E-09	4.00E-01	4.00E-01	4.00E-01	1.34E-09
Methylene Chloride(Dichloromethane)	75-09-2	2.10E+00	5.10E+00	5.10E+00	1.44E-08	2.10E+00	2.10E+00	2.10E+00	1.41E-08	2.10E+00	2.20E+00	2.20E+00	7.36E-09
Chloroform	67-66-3	4.90E-01	1.99E+00	1.99E+00	5.63E-09	4.90E-01	4.19E+00	4.19E+00	2.82E-08	4.90E-01	4.90E-01	4.90E-01	1.64E-09
Carbon Tetrachloride	56-23-5	6.30E-01	6.30E-01	6.30E-01	1.78E-09	6.30E-01	6.30E-01	6.30E-01	4.24E-09	6.30E-01	6.30E-01	6.30E-01	2.11E-09
1,1-Dichloroethane	75-34-3	4.00E-01	4.00E-01	4.00E-01	1.13E-09	4.00E-01	4.00E-01	4.00E-01	2.69E-09	4.00E-01	4.00E-01	4.00E-01	1.34E-09
1,2-Dichloroethane	107-06-2	4.00E-01	4.00E-01	4.00E-01	1.13E-09	4.00E-01	4.00E-01	4.00E-01	2.69E-09	4.00E-01	4.00E-01	4.00E-01	1.34E-09
Ethylene Dibromide	106-93-4	7.70E-01	7.70E-01	7.70E-01	2.18E-09	7.70E-01	7.70E-01	7.70E-01	5.18E-09	7.70E-01	7.70E-01	7.70E-01	2.57E-09
1,1,1-Trichloroethane	71-55-6	5.50E-01	5.50E-01	5.50E-01	1.55E-09	5.50E-01	5.50E-01	5.50E-01	3.70E-09	5.50E-01	5.50E-01	5.50E-01	1.84E-09
1,1,2-Trichloroethane	79-00-5	5.50E-01	5.50E-01	5.50E-01	1.55E-09	5.50E-01	5.50E-01	5.50E-01	3.70E-09	5.50E-01	5.50E-01	5.50E-01	1.84E-09
1,1,2,2-Tetrachloroethane	79-34-5	6.90E-01	6.90E-01	6.90E-01	1.95E-09	6.90E-01	6.90E-01	6.90E-01	4.65E-09	6.90E-01	6.90E-01	6.90E-01	2.31E-09
cis-1,3-Dichloropropene	10061-01-5	4.50E-01	4.50E-01	4.50E-01	1.27E-09	4.50E-01	4.50E-01	4.50E-01	3.03E-09	4.50E-01	4.50E-01	4.50E-01	1.50E-09
trans-1,3-Dichloropropene	10061-02-6	4.50E-01	4.50E-01	4.50E-01	1.27E-09	4.50E-01	4.50E-01	4.50E-01	3.03E-09	4.50E-01	4.50E-01	4.50E-01	1.50E-09
1,2-Dichloropropane	78-87-5	4.60E-01	4.60E-01	4.60E-01	1.30E-09	4.60E-01	4.60E-01	4.60E-01	3.10E-09	4.60E-01	4.60E-01	4.60E-01	1.54E-09
Bromomethane	74-83-9	3.90E-01	3.90E-01	3.90E-01	1.10E-09	3.90E-01	3.90E-01	3.90E-01	2.63E-09	3.90E-01	3.90E-01	3.90E-01	1.30E-09
Bromoform	75-25-2	2.10E+00	2.10E+00	2.10E+00	5.94E-09	2.10E+00	2.10E+00	2.10E+00	1.41E-08	2.10E+00	2.10E+00	2.10E+00	7.02E-09
Bromodichloromethane	75-27-4	1.30E+00	1.30E+00	1.30E+00	3.68E-09	1.30E+00	1.30E+00	1.30E+00	8.75E-09	1.30E+00	1.30E+00	1.30E+00	4.35E-09
Dibromochloromethane	124-48-1	1.70E+00	1.70E+00	1.70E+00	4.81E-09	1.70E+00	1.70E+00	1.70E+00	1.14E-08	1.70E+00	1.70E+00	1.70E+00	5.68E-09
Trichloroethylene	79-01-6	5.40E-01	5.40E-01	5.40E-01	1.53E-09	5.40E-01	5.40E-01	5.40E-01	3.64E-09	5.40E-01	5.40E-01	5.40E-01	1.81E-09
Tetrachloroethylene	127-18-4	6.80E-01	7.60E-01	7.60E-01	2.15E-09	6.80E-01	1.72E+00	1.72E+00	1.16E-08	6.80E-01	6.80E-01	6.80E-01	2.27E-09
Benzene	71-43-2	8.20E-01	5.60E-01	8.20E-01	2.32E-09	8.40E-01	4.30E-01	8.40E-01	5.66E-09	1.03E+00	5.50E-01	1.03E+00	3.44E-09
Toluene	108-88-3	4.89E+00	8.77E+00	8.77E+00	2.48E-08	4.39E+00	5.91E+00	5.91E+00	3.98E-08	6.15E+00	4.44E+00	6.15E+00	2.06E-08
Ethylbenzene	100-41-4	4.40E-01	8.70E-01	8.70E-01	2.46E-09	6.10E-01	7.10E-01	7.10E-01	4.78E-09	6.80E-01	6.10E-01	6.80E-01	2.27E-09
p-m-Xylene	106-42-3	1.86E+00	3.08E+00	3.08E+00	8.71E-09	3.17E+00	2.39E+00	3.17E+00	2.13E-08	3.67E+00	2.13E+00	3.67E+00	1.23E-08
o-Xylene	95-47-6	5.50E-01	9.70E-01	9.70E-01	2.74E-09	8.70E-01	9.20E-01	9.20E-01	6.19E-09	8.70E-01	7.10E-01	8.70E-01	2.91E-09
Styrene	100-42-5	4.30E-01	4.30E-01	4.30E-01	1.22E-09	4.30E-01	4.30E-01	4.30E-01	2.89E-09	4.30E-01	4.30E-01	4.30E-01	1.44E-09
4-ethyltoluene	622-96-8	2.50E+00	2.50E+00	2.50E+00	7.07E-09	2.50E+00	2.50E+00	2.50E+00	1.68E-08	2.50E+00	2.50E+00	2.50E+00	8.36E-09
1,3,5-Trimethylbenzene	108-67-8	2.50E+00	2.50E+00	2.50E+00	7.07E-09	2.50E+00	2.50E+00	2.50E+00	1.68E-08	2.50E+00	2.50E+00	2.50E+00	8.36E-09
1,2,4-Trimethylbenzene	95-63-6	2.50E+00	2.50E+00	2.50E+00	7.07E-09	2.50E+00	2.50E+00	2.50E+00	1.68E-08	2.50E+00	2.50E+00	2.50E+00	8.36E-09
Chlorobenzene	108-90-7	4.60E-01	4.60E-01	4.60E-01	1.30E-09	4.60E-01	4.60E-01	4.60E-01	3.10E-09	4.60E-01	4.60E-01	4.60E-01	1.54E-09
Benzyl chloride	100-44-7	2.60E+00	2.60E+00	2.60E+00	7.35E-09	2.60E+00	2.60E+00	2.60E+00	1.75E-08	2.60E+00	2.60E+00	2.60E+00	8.69E-09
1,3-Dichlorobenzene	541-73-1	2.40E+00	2.40E+00	2.40E+00	6.78E-09	2.40E+00	2.40E+00	2.40E+00	1.62E-08	2.40E+00	2.40E+00	2.40E+00	8.02E-09
1,4-Dichlorobenzene	106-46-7	6.00E-01	8.50E-01	8.50E-01	2.40E-09	6.00E-01	6.30E-01	6.30E-01	4.24E-09	6.00E-01	6.00E-01	6.00E-01	2.01E-09
1,2-Dichlorobenzene	95-50-1	6.00E-01	8.00E-01	8.00E-01	1.70E-09	6.00E-01	6.00E-01	6.00E-01	4.04E-09	6.00E-01	6.00E-01	6.00E-01	2.01E-09
1,2,4-Trichlorobenzene	120-82-1	3.70E+00	3.70E+00	3.70E+00	1.05E-08	3.70E+00	3.70E+00	3.70E+00	2.49E-08	3.70E+00	3.70E+00	3.70E+00	1.24E-08
Hexachlorobutadiene	87-68-3	5.30E+00	5.30E+00	5.30E+00	1.50E-08	5.30E+00	5.30E+00	5.30E+00	3.57E-08	5.30E+00	5.30E+00	5.30E+00	1.77E-08
Hexane	110-54-3	1.04E+00	3.35E+00	3.35E+00	9.47E-09	1.00E+00	1.59E+00	1.59E+00	1.07E-08	1.23E+00	1.07E+00	1.23E+00	4.11E-09
Heptane	142-82-5	1.20E+00	1.40E+00	1.40E+00	3.96E-09	1.50E+00	1.20E+00	1.50E+00	1.01E-08	1.20E+00	1.20E+00	1.20E+00	4.01E-09
Cyclohexane	110-82-7	6.90E-01	6.90E-01	6.90E-01	1.95E-09	6.90E-01	1.90E+00	1.90E+00	1.28E-08	6.90E-01	6.90E-01	6.90E-01	2.31E-09
Tetrahydrofuran	109-99-9	1.20E+00	4.80E+00	4.80E+00	1.36E-08	1.20E+00	1.20E+00	1.20E+00	8.08E-09	1.20E+00	1.20E+00	1.20E+00	4.01E-09
1,4-Dioxane	123-91-1	3.60E+00	3.60E+00	3.60E+00	1.02E-08	3.60E+00	3.60E+00	3.60E+00	2.42E-08	3.60E+00	3.60E+00	3.60E+00	1.20E-08
Naphthalene	91-20-3	1.10E+00											

Appendix F
Screening for Negligibility Summary

Contaminant	CAS No.	Total Facility Emission Rate [g/s]	Averaging Period	Ministry POI Limit [µg/m³]	Regulation Schedule	Source	Emission Threshold [g/s]	Negligibility Assessment
1,1,1,2-Tetrachloroethane	630-20-6	1.11E-08	24-hour	0.5	Sch. 3	SL-JSL	7.00E-05	Negligible
1,1,1-Trichloroethane	71-55-6	8.87E-09	24-hour	115000	Sch. 3	Standard	1.61E+01	Negligible
1,1,2,2-Tetrachloroethane	79-34-5	1.11E-08	24-hour	0.1	Sch. 3	SL-JSL	1.40E-05	Negligible
1,1,2-Trichloroethane	79-00-5	8.87E-09	24-hour	0.3	Sch. 3	SL-JSL	4.20E-05	Negligible
1,1-Dichloroethane	75-34-3	6.45E-09	24-hour	165	Sch. 3	Standard	2.31E-02	Negligible
1,1-Dichloroethane	75-34-3	6.45E-09	24-hour	1650	Sch. 6	URT	2.31E-01	—
1,1-Dichloroethylene	75-35-4	6.45E-09	24-hour	10	Sch. 3	Standard	1.40E-03	Negligible
1,2,4-Trichlorobenzene	120-82-1	5.97E-08	24-hour	400	Sch. 3	Guideline	5.60E-02	Negligible
1,2,4-Trimethylbenzene	95-63-6	4.03E-08	24-hour	220	Sch. 3	Standard	3.08E-02	Negligible
1,2,4-Trimethylbenzene	95-63-6	4.03E-08	24-hour	2200	Sch. 6	URT	3.08E-01	—
1,2-Dichlorobenzene	95-50-1	9.68E-09	1-hour	30500	Sch. 3	Guideline	1.75E+00	Negligible
1,2-Dichloroethane	107-06-2	6.45E-09	24-hour	2	Sch. 3	Standard	2.80E-04	Negligible
1,2-Dichloroethane	107-06-2	6.45E-09	24-hour	200	Sch. 6	URT	2.80E-02	Negligible
1,2-Dichloropropane	78-87-5	7.42E-09	24-hour	2400	Sch. 3	Guideline	3.36E-01	Negligible
1,2-Dichlorotetrafluoroethane	76-14-2	8.25E-08	24-hour	700000	Sch. 3	Guideline	9.80E+01	Negligible
1,3,5-Trimethylbenzene	108-67-8	4.03E-08	24-hour	220	Sch. 3	Standard	3.08E-02	Negligible
1,3,5-Trimethylbenzene	108-67-8	4.03E-08	24-hour	2200	Sch. 6	URT	3.08E-01	Negligible
1,3-Butadiene	106-99-0	1.77E-08	Annual	2	Sch. 3	Standard	1.46E-03	Negligible
1,3-Butadiene	106-99-0	1.77E-08	24-hour	300	Sch. 6	URT	4.20E-02	Negligible
1,3-Butadiene	106-99-0	1.77E-08	Annual	20	—	AAV	1.46E-02	Negligible
1,3-Dichlorobenzene	541-73-1	3.87E-08	24-hour	50	Sch. 3	SL-JSL	7.00E-03	Negligible
1,4-Dichlorobenzene	106-46-7	1.08E-08	24-hour	95	Sch. 3	Standard	1.33E-02	Negligible
1,4-Dichlorobenzene	106-46-7	1.08E-08	24-hour	950	Sch. 6	URT	1.33E-01	Negligible
1,4-Dioxane	123-91-1	5.81E-08	24-hour	3500	Sch. 3	Guideline	4.90E-01	Negligible
2,2,4-Trimethylpentane	540-84-1	1.50E-08	24-hour	1750	Sch. 3	SL-JSL	2.45E-01	Negligible
2-propanol	67-63-0	1.46E-07	24-hour	7300	Sch. 3	Standard	1.02E+00	Negligible
2-propanol	67-63-0	1.46E-07	24-hour	73000	Sch. 6	URT	1.02E+01	Negligible
2-Propanone	67-64-1	3.19E-07	24-hour	11880	Sch. 3	Standard	1.66E+00	Negligible
2-Propanone	67-64-1	3.19E-07	24-hour	118800	Sch. 6	URT	1.66E+01	Negligible
4-ethyltoluene	622-96-8	4.03E-08	24-hour	625	Sch. 3	SL-JSL	8.75E-02	Negligible
Benzene	71-43-2	1.43E-08	Annual	0.45	Sch. 3	Standard	3.29E-04	Negligible
Benzene	71-43-2	1.43E-08	24-hour	100	Sch. 6	URT	1.40E-02	Negligible
Benzene	71-43-2	1.43E-08	Annual	4.5	—	AAV	3.29E-03	Negligible
Benzyl chloride	100-44-7	4.19E-08	24-hour	0.1	Sch. 3	SL-JSL	1.40E-05	Negligible
Bromodichloromethane	75-27-4	2.10E-08	24-hour	350	Sch. 3	SL-JSL	4.90E-02	Negligible
Bromoform	75-25-2	3.39E-08	24-hour	55	Sch. 3	Guideline	7.70E-03	Negligible
Bromomethane	74-83-9	6.29E-09	24-hour	1350	Sch. 3	Guideline	1.89E-01	Negligible
Carbon dioxide	124-38-9	0.00E+00	24-hour	255800	Sch. 3	SL-PA	3.58E+01	Negligible
Carbon Disulphide	75-15-0	4.14E-08	24-hour	330	Sch. 3	Guideline	4.62E-02	Negligible
Carbon Tetrachloride	56-23-5	1.02E-08	24-hour	2.4	Sch. 3	Standard	3.36E-04	Negligible
Carbon Tetrachloride	56-23-5	1.02E-08	24-hour	24	Sch. 6	URT	3.36E-03	Negligible
Carbon Monoxide	630-08-0	1.85E-02	1/2-hour	6000	Sch. 3	B1	2.84E-01	Negligible
Chlorobenzene	108-90-7	7.42E-09	1-hour	3500	Sch. 3	Guideline	2.01E-01	Negligible
Chlorobenzene	108-90-7	7.42E-09	10-minute	4500	Sch. 3	Guideline	1.57E-01	Negligible
Chloroethane	75-00-3	1.27E-08	24-hour	5600	Sch. 3	Standard	7.84E-01	Negligible
Chloroethane	75-00-3	1.27E-08	24-hour	25000	Sch. 6	URT	3.50E+00	Negligible
Chloroform	67-66-3	4.43E-08	24-hour	1	Sch. 3	Standard	1.40E-04	Negligible
Chloroform	67-66-3	4.43E-08	24-hour	100	Sch. 6	URT	1.40E-02	Negligible
Chloromethane	74-87-3	2.11E-08	24-hour	320	Sch. 3	Standard	4.48E-02	Negligible
Chloromethane	74-87-3	2.11E-08	24-hour	3200	Sch. 6	URT	4.48E-01	Negligible
cis-1,2-Dichloroethylene	156-59-2	6.45E-09	24-hour	105	Sch. 3	Guideline	1.47E-02	Negligible
cis-1,3-Dichloropropene	10061-01-5	7.26E-09	24-hour	22.5	Sch. 3	SL-JSL	3.15E-03	Negligible
Cyclohexane	110-82-7	2.13E-08	24-hour	6100	Sch. 3	Standard	8.54E-01	Negligible
Cyclohexane	110-82-7	2.13E-08	24-hour	61000	Sch. 6	URT	8.54E+00	Negligible
Dibromochloromethane	124-48-1	2.74E-08	24-hour	0.2	Sch. 3	SL-JSL	2.80E-05	Negligible
Dichlorodifluoromethane (FREON12)	75-71-8	1.65E-07	24-hour	500000	Sch. 3	Guideline	7.00E+01	Negligible
Ethanol (ethyl alcohol)	64-17-5	3.66E-07	1-hour	19000	Sch. 3	Guideline	1.09E+00	Negligible
Ethyl Acetate	141-78-6	1.76E-07	1-hour	19000	Sch. 3	Guideline	1.09E+00	Negligible
Ethylbenzene	100-41-4	1.19E-08	24-hour	1000	Sch. 3	Standard	1.40E-01	Negligible
Ethylbenzene	100-41-4	1.19E-08	10-minute	1900	Sch. 3	Guideline	6.61E-02	Negligible
Ethylbenzene	100-41-4	1.19E-08	24-hour	10000	Sch. 6	URT	1.40E+00	Negligible
Ethylene Dibromide	106-93-4	1.24E-08	24-hour	3	Sch. 3	Guideline	4.20E-04	Negligible
Heptane	142-82-5	2.26E-08	24-hour	11000	Sch. 3	Standard	1.54E+00	Negligible
Hexachlorobutadiene	87-68-3	8.55E-08	24-hour	0.225	Sch. 3	SL-JSL	3.15E-05	Negligible
Hexane	110-54-3	3.04E-08	24-hour	7500	Sch. 3	Standard	1.05E+00	Negligible
Hexane	110-54-3	3.04E-08	24-hour	25000	Sch. 6	URT	3.50E+00	Negligible
Hexane	110-54-3	3.04E-08	24-hour	25000	Sch. 6	URT	3.50E+00	Negligible
Hydrogen Sulphide	7783-06-4	1.21E-05	24-hour	7	Sch. 3	Standard	9.80E-04	Negligible
Hydrogen Sulphide	7783-06-4	1.21E-05	10-minute	13	Sch. 3	Standard	4.52E-04	Negligible
Hydrogen Sulphide	7783-06-4	1.21E-05	24-hour	70	Sch. 6	URT	9.80E-03	Negligible
Methane	74-82-8	3.16E-03	24-hour	37330	Sch. 3	SL-PA	5.22E+00	Negligible
Methyl Butyl Ketone (2-Hexanone)	591-78-6	6.61E-08	24-hour	150	Sch. 3	SL-JSL	2.10E-02	Negligible
Methyl Ethyl Ketone (2-Butanone)	78-93-3	1.08E-07	24-hour	1000	Sch. 3	Standard	1.40E-01	Negligible
Methyl Ethyl Ketone (2-Butanone)	78-93-3	1.08E-07	24-hour	10000	Sch. 6	URT	1.40E+00	Negligible
Methyl Isobutyl Ketone	108-10-1	1.23E-07	24-hour	1200	Sch. 3	Guideline	1.68E-01	Negligible
Methyl t-butyl ether (MTBE)	1634-04-4	1.16E-08	24-hour	7000	Sch. 3	Guideline	9.80E-01	Negligible
Methylene Chloride (Dichloromethane)	75-09-2	4.49E-08	24-hour	220	Sch. 3	Standard	3.08E-02	Negligible
Methylene Chloride (Dichloromethane)	75-09-2	4.49E-08	24-hour	22000	Sch. 6	URT	3.08E+00	Negligible
Naphthalene	91-20-3	1.65E-08	24-hour	22.5	Sch. 3	Guideline	3.15E-03	Negligible
Naphthalene	91-20-3	1.65E-08	10-minute	50	Sch. 3	Guideline	1.74E-03	Negligible
o-Xylene	95-47-6	1.48E-08	24-hour	0.1	—	De Minimis	1.40E-05	Negligible
p+m-Xylene	106-42-3	5.29E-08	24-hour	0.1	—	De Minimis	1.40E-05	Negligible
Propene	115-07-1	4.19E-08	24-hour	4000	Sch. 3	Standard	5.60E-01	Negligible
Propene	115-07-1	4.19E-08	24-hour	40000	Sch. 6	URT	5.60E+00	Negligible

**Appendix F
Screening for Negligibility Summary**

Contaminant	CAS No.	Total Facility Emission Rate [g/s]	Averaging Period	Ministry POI Limit [$\mu\text{g}/\text{m}^3$]	Regulation Schedule	Source	Emission Threshold [g/s]	Negligibility Assessment
Styrene	100-42-5	6.94E-09	24-hour	400	Sch. 3	Standard	5.60E-02	Negligible
Tetrachloroethylene	127-18-4	2.00E-08	24-hour	360	Sch. 3	Standard	5.04E-02	Negligible
Tetrachloroethylene	127-18-4	2.00E-08	24-hour	3600	Sch. 6	URT	5.04E-01	Negligible
Tetrahydrofuran	109-99-9	3.21E-08	24-hour	93000	Sch. 3	Guideline	1.30E+01	Negligible
Toluene	108-88-3	1.06E-07	24-hour	2000	Sch. 3	Guideline	2.80E-01	Negligible
Total Xylenes	1330-20-7	6.66E-08	24-hour	730	Sch. 3	Standard	1.02E-01	Negligible
Total Xylenes	1330-20-7	6.66E-08	10-minute	3000	Sch. 3	Guideline	1.04E-01	Negligible
Total Xylenes	1330-20-7	6.66E-08	24-hour	7300	Sch. 6	URT	1.02E+00	Negligible
trans-1,2-Dichloroethylene	156-60-5	6.45E-09	24-hour	105	Sch. 3	Guideline	1.47E-02	Negligible
trans-1,3-Dichloropropene	10061-02-6	7.26E-09	24-hour	22.5	Sch. 3	SL-JSL	3.15E-03	Negligible
Trichloroethylene	79-01-6	8.71E-09	24-hour	12	Sch. 3	Standard	1.68E-03	Negligible
Trichloroethylene	79-01-6	8.71E-09	24-hour	1200	Sch. 6	URT	1.68E-01	Negligible
Trichlorofluoromethane (FREON11)	75-69-4	4.65E-08	24-hour	6000	Sch. 3	Guideline	8.40E-01	Negligible
Trichlorotrifluoroethane	26523-64-8	1.94E-08	24-hour	0.1	—	De Minimus	1.40E-05	Negligible
Vinyl Acetate	108-05-4	1.13E-08	24-hour	1000	Sch. 3	SL-JSL	1.40E-01	Negligible
Vinyl Bromide	593-60-2	1.40E-08	24-hour	0.1	—	De Minimus	1.40E-05	Negligible
Vinyl Chloride	75-01-4	4.19E-09	24-hour	1	Sch. 3	Standard	1.40E-04	Negligible
Vinyl Chloride	75-01-4	4.19E-09	24-hour	100	Sch. 6	URT	1.40E-02	Negligible

Note: Per Section 7.1.2 ii) of the Ministry's Procedure for Preparing an ESDM Report (March 2018), the Emission Threshold calculation cannot be used to screen out contaminants with Assessment Values or with URTs that have averaging periods different than their Standards.

Geographic Area Type	Urban
Distance from Source [m]	20

In accordance with Section 7.1.2 of the Ministry's Procedure for Preparing an ESDM Report (March 2018), in most cases, contaminants that are emitted from a specific facility may be identified as negligible when they are below emission thresholds that are developed using the following formula:

$$\text{Emission Threshold [g/s]} = \frac{0.5 \times \text{Ministry POI Limit } [\mu\text{g}/\text{m}^3]}{\text{Dispersion Factor } [\mu\text{g}/\text{m}^3 \text{ per g/s}]}$$

Averaging Period	Dispersion Factor [$\mu\text{g}/\text{m}^3$ per g/s]
1-hour	8,700
10-minute	14,368
1/2-hour	10,563
24-hour	3,573
Annual	685
30-day	1,379

Aggregate facility-wide emissions of a contaminant that are less than the calculated site-specific Emission Threshold may be considered negligible.

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